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## Alameda Corridor Transportation Authority

*March 10, 2016*

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| **To:** | Governing Board |
| **From:** | James P. Preusch, Chief Financial Officer |
| **Subject:** | ***2016 Bonds – Restructuring 2004A Bonds (APPROVAL)*** |

***Recommendation:***

Adopt the Resolution of the Governing Board of the Alameda Corridor Transportation Authority. This Resolution:

1) Approves and authorizes the issuance and sale of Alameda Corridor Transportation Authority Tax Exempt First Subordinate and Second Subordinate Lien Revenue Refunding Bonds, Series 2016A/B (the 2016 Bonds); and

2) Authorizes (i) the execution and delivery of the Tenth Supplemental Trust Indenture providing the terms of the Series 2016A Bonds; (ii) the execution and delivery of the Eleventh Supplemental Trust Indenture providing the terms of the Series 2016B Bonds; (iii) the preparation and distribution of a Preliminary Official Statement and a Final Official Statement relating to the sale of the 2016 Bonds; (iv) the execution and delivery of a Bond Purchase Agreement, a Continuing Disclosure Certificate, and contracts for credit enhancement relating to the Bonds; (v) the escrow of funds for the future redemption or defeasance of certain outstanding Series 2004A Bonds and the execution and delivery of related documents and notices; and

3) Authorizes such other actions as are necessary or desirable in connection with the issuance of the 2016 Bonds and such escrow and future redemption/defeasance.

***Discussion:***

In recent years following the financial crisis and recession of 2008, San Pedro Bay Port TEU volume has grown marginally. Moreover, the cargo throughput and handling backlog which occurred in 2014 and 2015, lowered ACTA Use Fee and Container Charge Revenue for the first time since 2008. As a result, ACTA staff is proposing to restructure its outstanding debt in order to more closely align its debt service payments with projected revenues and to minimize potential future Port Shortfall Advances. In particular, ACTA staff proposes to restructure all of ACTA's Series 2004A callable Bonds and most of its near term Series 2004A non-callable Bonds through the issuance and sale of the Series 2016 Bonds.

Costs of the transaction such as, but not limited to, insurance, surety fees, transaction fees, rating agency fees, bond, tax and disclosure counsel, offering document preparation and closing would be funded from proceeds of the transaction. Total costs are anticipated to be on the order of $1,500,000 excluding insurance, surety fees, and underwriting charges and expenses.

***Principal 2016 Bond Transaction Documents***

There are a number of transaction documents related to the 2016 Bond financing which are attached in substantially final form for consideration by ACTA's Governing Board as follows:

- Governing Board Resolution: Approves and authorizes the issuance and sale of the 2016 Bonds in an aggregate principal amount not to exceed $715 million; Approves the forms of the primary financing documents and delegates to the CEO and CFO the ability to execute and deliver such documents with such changes as the CEO and CFO shall require or approve; Authorizes municipal bond insurance and debt service reserve surety policies for the 2016 Bonds; Authorizes the defeasance of the 2004A Bonds with proceeds from the sale of the 2016 Bonds.

- 10th Supplemental Trust Indenture: Authorizes the issuance of ACTA's Series 2016A Bonds which will be first subordinate lien bonds under ACTA's existing Master Trust Indenture; the Series 2016A Bonds are expected to defease approximately $100 million of outstanding Series 2004A Bonds. The 10th Supplement contemplates that, subject to market conditions, a debt service reserve surety will be provided by a bond insurer.

- 11th Supplemental Trust Indenture: Authorizes the issuance of ACTA's Series 2016B Bonds which will be second subordinate lien bonds under ACTA's existing Master Trust Indenture; the Series 2016B Bonds are expected to defease approximately $300 million of outstanding Series 2004A Bonds. This is the first time ACTA is accessing this lien, and the Series 2016B Bonds will be subordinate to all other outstanding bonds including the RRIF loan and the 2016A Bonds. The 11th Supplement will provide an "Additional Bonds Test" for future new money or refunding bonds issued at this lien level which will require that ACTA meet either certain revenue projection tests or debt service requirements before new bonds can be issued. The 11th Supplement also contemplates that, subject to market conditions, a debt service reserve surety will be provided by a bond insurer.

- Bond Purchase Agreement: Provides for the sale and distribution of the 2016 Bonds by the underwriters designated therein; Designates Merrill Lynch, Pierce, Fenner & Smith Incorporated as lead underwriter; Sets an outside limit for the true interest cost of the 2016 Bonds to 5.00% and a maximum underwriters' discount of 1.25% of the aggregate par amount of the 2016 Bonds.

- Preliminary Official Statement and Final Official Statement: Discloses to investors the terms of the 2016 Bonds and other material information concerning ACTA's Bonds and the Alameda Corridor Project, including the Ports' and Railroads' obligations under the Use and Operating Agreement and other relevant documents.

- Escrow Agreement: Provides for the establishment and funding of an escrow account for the purpose of defeasing the 2004A Bonds. Requires the delivery of a verification report by an independent certified public accountant verifying that the amounts deposited in the escrow account (and earnings thereon) will be sufficient to defease the 2004A Bonds upon redemption or maturity, as applicable.

- Continuing Disclosure Agreement: Provides that ACTA, and each Port, will provide certain financial and operating information to bondholders annually in accordance with SEC Rule 15c2-12. Similar agreements will be entered into by BNSF and UP.

## ***Schedule***

Following the March 10, 2016 meeting of ACTA's Governing Board, and assuming approval of the Resolution, the Harbor Commissions of each Port will consider approval of a Resolution, Letter of Representation, and Continuing Disclosure Agreement in connection with the restructuring transaction. In addition, ACTA and its consultants are scheduled to meet with rating agencies, negotiate terms for bond insurance and a debt service reserve fund surety, and take other actions set forth in the Resolution with respect to the offering and sale of the 2016 Bonds. In the event it is necessary to make substantial amendments to any document, that document will be presented to ACTA's Governing Board at the April 14, 2016 meeting for final approval of such document and ratification of the transaction. The 2016 Bond sale will most likely occur before the end of April, and close before the end of May 2016.

## ***Budget Impact***

No budget appropriation is necessary at this time.

## RESOLUTION NO. JPA-16-2

**A RESOLUTION OF THE GOVERNING BOARD OF THE ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY APPROVING AND AUTHORIZING THE ISSUANCE AND SALE OF ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY TAX-EXEMPT SUBORDINATE LIEN REVENUE REFUNDING BONDS, SERIES 2016A AND TAX-EXEMPT SECOND SUBORDINATE LIEN REVENUE REFUNDING BONDS, SERIES 2016B; THE EXECUTION AND DELIVERY OF THE TENTH SUPPLEMENTAL TRUST INDENTURE PROVIDING THE TERMS OF THE SERIES 2016A BONDS; THE EXECUTION AND DELIVERY OF THE ELEVENTH SUPPLEMENTAL TRUST INDENTURE PROVIDING THE TERMS OF THE SERIES 2016B BONDS; THE PREPARATION AND DISTRIBUTION OF A PRELIMINARY OFFICIAL STATEMENT AND A FINAL OFFICIAL STATEMENT RELATING TO THE SALE OF THE BONDS; THE EXECUTION AND DELIVERY OF A BOND PURCHASE AGREEMENT, A CONTINUING DISCLOSURE CERTIFICATE, AND CONTRACTS FOR CREDIT ENHANCEMENT RELATING TO THE SERIES 2016A BONDS AND THE SERIES 2016B BONDS; THE DEFEASANCE OF CERTAIN OUTSTANDING SERIES 2004A BONDS AND THE EXECUTION AND DELIVERY OF RELATED DOCUMENTS AND NOTICES, INCLUDING BUT NOT LIMITED TO THE EXECUTION AND DELIVERY OF AN ESCROW AGREEMENT, AND AUTHORIZING SUCH OTHER ACTIONS AS ARE NECESSARY OR DESIRABLE IN CONNECTION WITH THE ISSUANCE OF THE SERIES 2016A BONDS AND THE SERIES 2016B BONDS AND SUCH DEFEASANCE.**

WHEREAS, pursuant to the provisions of Chapter 5, Division 7, Title 1 of the Government Code of the State of California, as amended (the "Joint Powers Act"), the City of Long Beach and the City of Los Angeles, (collectively, the "Cities") entered into the Joint Exercise of Powers Agreement, as amended and restated December 18, 1996 and as further amended on July 1, 2006 (as amended and restated, the "Joint Powers Agreement"), creating the Alameda Corridor Transportation Authority (the "Authority"), a public entity separate and apart from the Cities;

WHEREAS, pursuant to the Joint Powers Act and a Master Trust Indenture dated as of January 1, 1999, as amended and supplemented (the "Master Indenture"), on May 6, 2004, the Authority issued $475,292,386.40 aggregate Initial Amount (as defined in the Master Indenture) of Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2004A (the "Series 2004A Bonds") for the purpose of refinancing Costs of the Project (as defined in the Master Indenture). Capitalized terms used herein which are not defined herein shall have meanings given to such terms in the Master Indenture;

WHEREAS, the Series 2004A Bonds consist of Convertible Capital Appreciation Bonds (the "Series 2004A Convertible Capital Appreciation Bonds") and Capital Appreciation Bonds (the "Series 2004A Capital Appreciation Bonds"). The Series 2004A Convertible Capital Appreciation Bonds converted to current interest bonds on October 1, 2012, and are subject to redemption, at the option of the Authority, on or after October 1, 2017 at a price equal to 100%

of the Accreted Value thereof plus accrued interest. The Series 2004A Capital Appreciation Bonds are not subject to optional redemption prior to maturity;

WHEREAS, Section 2.08 of the Master Indenture provides that the Authority may issue Refunding Bonds from time to time for the purpose, in pertinent part, of providing funds to pay all or a portion of its outstanding Bonds;

WHEREAS, Section 2.09(b) of the Master Indenture provides that such Refunding Bonds may be issued for the purpose of refunding the Series 2004A Bonds provided that certain conditions are satisfied, including, among others, the requirement that Maximum Annual Debt Service on the First Subordinate Lien Bonds following the issuance of such Refunding Bonds will not exceed the Maximum Annual Debt Service on the First Subordinate Lien Bonds prior to such issuance;

WHEREAS, Section 2.09(c) of the Master Indenture provides that the Authority may issue Second Subordinate Lien Bonds without having to meet any debt service coverage test under the Master Indenture provided that such Second Subordinate Lien Bonds may not contain any provisions for acceleration;

WHEREAS, the Authority desires to issue First Subordinate Lien Bonds and Second Subordinate Lien Bonds for the purpose of providing funds to defease a portion of the outstanding Series 2004A Bonds;

WHEREAS, in particular, the Authority proposes to issue, as Refunding Bonds under the Master Indenture, its Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds") and its Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds") in a total aggregate principal amount not to exceed $715,000,000 for the purpose of defeasing a portion of the outstanding Series 2004A Bonds;

WHEREAS, pursuant to Article V of the Master Indenture, the Authority is authorized to defease the Series 2004A Bonds prior to their stated maturities in accordance with the terms set forth in the Master Indenture;

WHEREAS, in connection with the issuance and sale of the Series 2016A Bonds and the Series 2016B Bonds, the Authority wishes to prepare and distribute a Preliminary Official Statement and a Final Official Statement (each as hereinafter defined);

WHEREAS, the Authority wishes to enter into a Bond Purchase Agreement (the "Bond Purchase Agreement"), by and between the Authority and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representative of the underwriters named therein (collectively, the "Underwriters"), pursuant to which the Authority will agree to issue and sell, and the Underwriters will agree to purchase, the Series 2016A Bonds and the Series 2016B Bonds on the terms and conditions contained therein;

WHEREAS, in connection with the issuance and sale of the Series 2016A Bonds and the Series 2016B Bonds, the Authority wishes to execute and deliver a Continuing Disclosure

Certificate (the "Continuing Disclosure Certificate") for the benefit of the holders and beneficial owners of the Series 2016A Bonds and the Series 2016B Bonds;

WHEREAS, the Underwriters under the Bond Purchase Agreement will require that the City of Long Beach, acting by and through its Board of Harbor Commissioners ("POLB"), and the City of Los Angeles, acting by and through its Board of Harbor Commissioners ("POLA"), each execute a letter of representation, a continuing disclosure certificate and certain other documents (collectively, the "Port Documents") prior to and in connection with the issuance of the Series 2016A Bonds and the Series 2016B Bonds; and

WHEREAS, both POLB and POLA will need to take actions to approve the execution and delivery of their respective Port Documents.

NOW, THEREFORE, be it resolved by the Governing Board of the Authority as follows:

1. The issuance and sale of the Series 2016A Bonds and the Series 2016B by the Authority is hereby approved in an aggregate principal amount not to exceed $715,000,000. The Series 2016A Bonds and the Series 2016B Bonds shall be special limited obligations of the Authority secured only by the Trust Estate (as defined in the Master Indenture) and a pledge of Revenues (as defined in the Master Indenture), as provided in the Master Indenture. The proceeds from the sale of the Series 2016A Bonds and the Series 2016B Bonds shall be applied as provided in the Tenth Supplemental Trust Indenture and the Eleventh Supplemental Trust Indenture, respectively, and be used (a) to defease a portion of the Outstanding Series 2004A Bonds, the particular maturities and their Initial Amounts and the date of such defeasance to be determined by the Chief Executive Officer or the Chief Financial Officer of the Authority, or their respective designee(s) in writing (each an "Authorized Authority Representative"), to be in the best interests of the Authority, (b) to pay costs of issuing the Series 2016A Bonds and the Series 2016B Bonds, including any premiums with respect to bond insurance, and (c) to satisfy the debt service reserve requirement with respect to the Series 2016A Bonds and the Series 2016B Bonds, including the cost of obtaining a debt service reserve surety agreement with respect thereto.

2. The draft form of the Tenth Supplemental Trust Indenture attached hereto as Exhibit A is hereby authorized and approved, in substantially the form attached hereto. Each Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the name of and on behalf of the Authority, to execute and deliver the Tenth Supplemental Trust Indenture, substantially in the form attached hereto as Exhibit A, with such changes thereto as the Authorized Authority Representative executing and delivering such Tenth Supplemental Trust Indenture may require or approve (with the concurrence of counsel to the Authority), such requirement or approval (and such concurrence) to be conclusively evidenced by the execution and delivery thereof; and to execute and deliver any additional documents, certificates or instruments related thereto; and to take such other actions as may be deemed necessary or desirable in order to effect the purposes of this Resolution.

3. The draft form of the Eleventh Supplemental Trust Indenture attached hereto as Exhibit B is hereby authorized and approved, in substantially the form attached hereto. Each

Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the name of and on behalf of the Authority, to execute and deliver the Eleventh Supplemental Trust Indenture, substantially in the form attached hereto as Exhibit B, with such changes thereto as the Authorized Authority Representative executing and delivering such Eleventh Supplemental Trust Indenture may require or approve (with the concurrence of counsel to the Authority), such requirement or approval (and such concurrence) to be conclusively evidenced by the execution and delivery thereof; and to execute and deliver any additional documents, certificates or instruments related thereto; and to take such other actions as may be deemed necessary or desirable in order to effect the purposes of this Resolution.

4. The draft form of the Bond Purchase Agreement attached hereto as Exhibit C is hereby authorized and approved, in substantially the form attached hereto. Each Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the name of and on behalf of the Authority, to execute and deliver the Bond Purchase Agreement, substantially in the form attached hereto as Exhibit C, with such changes thereto as the Authorized Authority Representative executing and delivering such Bond Purchase Agreement may require or approve (with the concurrence of counsel to the Authority), such requirement or approval (and such concurrence) to be conclusively evidenced by the execution and delivery thereof; and to execute and deliver any additional documents, certificates or instruments related thereto; and to take such other actions as may be deemed necessary or desirable in order to effect the purposes of this Resolution. In connection with the negotiation, execution and delivery of the Bond Purchase Agreement, each Authorized Authority Representative is further hereby authorized, empowered and directed to negotiate the purchase price, interest rates, redemption provisions, dated dates, maturity dates, principal amounts and prepayment provisions with respect to the Series 2016A Bonds and the Series 2016B Bonds, and are further authorized to negotiate any and all other terms and agreements related to the issuance of the Series 2016A Bonds and the Series 2016B Bonds, as an Authorized Authority Representative, acting individually, may determine to be in the best interest of the Authority, all to be conclusively evidenced by the execution and delivery of the Bond Purchase Agreement; provided, however, that (a) the true interest cost of the Series 2016A Bonds and the Series 2016B Bonds to the Authority shall not exceed five percent (5%), and (b) the aggregate underwriters' discount shall not exceed one and twenty-five hundredths percent (1.25%) of the aggregate par amount of the Series 2016A Bonds and the Series 2016A Bonds.

5. All or any portion of the Series 2016A Bonds and Series 2016B Bonds may be sold with credit enhancement (such as, but not limited to, municipal bond insurance or letters of credit) as any Authorized Authority Representative, acting individually, may determine to be in the best interests of the Authority. Further, the Authority may obtain one or more debt service reserve account surety policies, letters of credit, or similar credit facilities to satisfy the Debt Service Reserve Requirement for all or any portion of the Series 2016A Bonds or the Series 2016B Bonds, as any Authorized Authority Representative, acting individually, may determine to be in the best interests of the Authority. Each Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the name of and on behalf of the Authority, to execute and deliver any documents required to be executed and delivered in connection with such credit enhancement or credit facilities, with such terms and provisions as the Authorized Authority Representative executing and delivering such documents

may require or approve (with the concurrence of counsel to the Authority), such requirement or approval (and such concurrence) to be conclusively evidenced by the execution and delivery thereof; and to execute and deliver any additional documents, certificates or instruments related thereto; and to take such other actions as may be deemed necessary or desirable in order to effect the purposes of this Resolution.

6. The defeasance of certain Series 2004A Bonds as provided in Paragraph 1 hereof is hereby authorized and approved, at such time and using proceeds of the sale of the Series 2016A Bonds and the Series 2016B Bonds and such other funds as may be determined by an Authorized Authority Representative to be in the best interests of the Authority, as provided in Tenth Supplemental Indenture, the Eleventh Supplemental Indenture and the Escrow Agreement. Each Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the name of and on behalf of the Authority, to execute and deliver such defeasance notices (conditional or otherwise), certificates, instruments and documents as are necessary or desirable to defease such Series 2004A Bonds in accordance with the Master Indenture, and to take any and all actions as may be necessary or desirable to effectuate the purposes of this Resolution.

7. The form of the Preliminary Official Statement (as hereinafter defined) attached hereto as Exhibit D is hereby authorized and approved, in substantially the form attached hereto. The Preliminary Official Statement is to be distributed substantially in the form attached hereto as Exhibit D, with such changes thereto as any Authorized Authority Representative may require or approve (with the concurrence of the counsel to the Authority) (together with all supplements and amendments prior to the execution and delivery of the Bond Purchase Agreement, the "Preliminary Official Statement"), which requirement or approval shall be evidenced by the Authority's certification, by its execution of the Bond Purchase Agreement, to the effect that the Preliminary Official Statement is deemed final as of its date, within the meaning of Rule 15c2-12 promulgated under the Securities Exchange Act of 1934, as amended (except for the omission of certain information as permitted by said Rule). Further, each Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the name of and on behalf of the Authority, to execute and deliver the final Official Statement, substantially in the form of the Preliminary Official Statement, with such changes thereto as any Authorized Authority Representative executing and delivering the final Official Statement, may require or approve (with the concurrence of counsel to the Authority) (the "Final Official Statement"), such requirement or approval (and such concurrence) to be conclusively evidenced by the execution and delivery thereof; and to execute and deliver any additional documents, certificates or instruments related thereto, and to take such other actions as may be deemed necessary or desirable in order to effect the purpose of this Resolution. The Underwriters are hereby authorized to distribute copies of the Preliminary Official Statement and the Final Official Statement to persons who may be interested in the purchase of the Series 2016A Bonds and the Series 2016B Bonds, and to deliver the Final Official Statement to the purchasers of the Series 2016A Bonds and the Series 2016B Bonds.

8. The draft form of the Escrow Agreement attached hereto as Exhibit E is hereby authorized and approved, in substantially the form attached hereto. Each Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the

name of and on behalf of the Authority, to execute and deliver the Escrow Agreement, substantially in the form attached hereto as Exhibit E, with such changes thereto as the Authorized Authority Representative executing and delivering such Escrow Agreement may require or approve (with the concurrence of counsel to the Authority), such requirement or approval (and such concurrence) to be conclusively evidenced by the execution and delivery thereof; and to execute and deliver any additional documents, certificates or instruments related thereto; and to take such other actions as may be deemed necessary or desirable in order to effect the purposes of this Resolution.

9. The draft form of the Continuing Disclosure Certificate attached hereto as Exhibit F is hereby authorized and approved, in substantially the form attached hereto. Each Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the name of and on behalf of the Authority, to execute and deliver the Continuing Disclosure Certificate, substantially in the form attached hereto as Exhibit F, with such changes thereto as the Authorized Authority Representative executing and delivering such Continuing Disclosure Certificate may require or approve (with the concurrence of the counsel to the Authority), such requirement or approval (and such concurrence) to be conclusively evidenced by the execution and delivery thereof; and to execute and deliver any additional documents, certificates or instruments related thereto; and to take such other actions as may be deemed necessary or desirable in order to effect the purposes of this Resolution.

10. All actions heretofore taken (a) by any officer or agent of the Authority in connection with or related to the issuance and sale of the Series 2016A Bonds, the Series 2016B Bonds or the defeasance of the Series 2004A Bonds and (b) by the Authority in connection with its authorization of the execution and delivery of, and the performance of its obligations under, the Use and Operating Agreement and the Master Indenture, and its authorization of the performance of its obligations under the Joint Powers Agreement, are hereby approved, confirmed and ratified.

11. Each Authorized Authority Representative, acting individually, is hereby authorized, empowered and directed, for and in the name of and on behalf of the Authority, to take any and all actions and to execute any and all documents, as may be necessary or desirable to effectuate the purposes of this Resolution and the documents and transactions herein authorized and to comply with the terms of the documents herein authorized.

12. This Resolution shall take effect immediately. The Secretary shall certify to the adoption of this Resolution by the Authority and shall cause a copy of this Resolution to be transmitted to the Board of Harbor Commissioners of the City of Long Beach and to the Board of Harbor Commissioners of the City of Los Angeles.

I hereby certify that the foregoing resolution was adopted by the Authority at its meeting this 10th day of March, 2016 by the following vote:

Ayes: ______________________________

______________________________

Noes: ______________________________

______________________________

Absent: ______________________________

______________________________

Not Voting: ______________________________

______________________________

ATTEST:

By: ______________________________
Secretary of Alameda Corridor
Transportation Authority

APPROVED:

By: ______________________________
Authority Co-General Counsel

# Exhibit A

**TENTH SUPPLEMENTAL TRUST INDENTURE**

**by and between the**

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**

**and**

**U.S. BANK NATIONAL ASSOCIATION**
**as Trustee**

**Dated as of May 1, 2016**

**Relating to**

**$[___________]**

**Alameda Corridor Transportation Authority**
**Tax-Exempt Subordinate Lien Revenue Refunding Bonds**
**Series 2016A**

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(This table of contents is not part of the Tenth Supplemental Trust Indenture and is only for convenience of reference. The caption herein are of no legal effect and do not vary the meaning or legal effect of any part of the Tenth Supplemental Trust Indenture.)

[*TO BE UPDATED*]

## TENTH SUPPLEMENTAL TRUST INDENTURE

This TENTH SUPPLEMENTAL TRUST INDENTURE (this "Tenth Supplemental Indenture") dated as of May 1, 2016 is by and between the ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY, a joint powers authority established under Article I, Chapter 5, Division 7, of Title 1 of the California Government Code and pursuant to an Amended and Restated Joint Exercise of Powers Agreement dated as of December 18, 1996, as amended, by and between the City of Long Beach and the City of Los Angeles (the "Authority"), and U.S. BANK NATIONAL ASSOCIATION, as trustee (the "Trustee"), and supplements and amends the Master Trust Indenture dated as of January 1, 1999, by and between the Authority and the Trustee (as amended and supplemented, the "Master Indenture"). Capitalized terms used herein which are not defined herein shall have the meanings set forth in the Master Indenture.

WHEREAS, on May 6, 2004 the Authority issued $475,292,386.40 aggregate principal amount of Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2004A (the "Series 2004A Bonds");

WHEREAS, Section 2.08 of the Master Indenture provides that the Authority may issue Refunding Bonds from time to time for the purpose of providing funds to pay all or a portion of its outstanding Bonds;

WHEREAS, Section 2.09 of the Master Indenture provides that such Refunding Bonds may be issued for the purpose refunding the Series 2004A Bonds provided that certain conditions are satisfied, including, among others, the requirement that Maximum Annual Debt Service on the First Subordinate Lien Bonds following the issuance of such Refunding Bonds will not exceed the Maximum Annual Debt Service on the First Subordinate Lien Bonds prior to such issuance;

WHEREAS, the Authority desires to issue Refunding Bonds for the purpose of providing funds to defease a portion of the outstanding Series 2004A Bonds;

WHEREAS, Section 8.02 of the Master Indenture provides for the execution and delivery of Supplemental Indentures setting forth the terms of such Refunding Bonds; and

WHEREAS, the Authority now, by execution and delivery of this Tenth Supplemental Indenture and in compliance with the provisions of the Master Indenture, sets forth the terms of its Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds"), provides for the deposit and use of the proceeds of the Series 2016A Bonds and makes other provisions relating to the Series 2016A Bonds.

## ARTICLE I
## DEFINITIONS; INTERPRETATIONS

Section 1.01 ***Definitions***. The following definitions shall apply to terms used in this Tenth Supplemental Indenture unless clearly stated otherwise:

"*Authorized Denominations*" shall mean $5,000 or any integral multiple thereof.

"*Book-Entry Series 2016A Bonds*" shall mean the Series 2016A Bonds held by DTC (or its nominee) as the registered owner thereof pursuant to the terms and provisions of Section 2.05 hereof.

"*Cede & Co.*" shall mean Cede & Co., the nominee of DTC, and any successor nominee of DTC with respect to the Book-Entry Series 2016A Bonds.

"*DTC*" shall mean The Depository Trust Company, a limited-purpose trust company organized under the laws of the State of New York, and its successors and assigns.

"*Eleventh Supplemental Indenture*" shall mean the Eleventh Supplemental Trust Indenture dated as of May 1, 2016, between the Authority and the Trustee, as amended and supplemented from time to time in accordance with the Master Indenture.

"*Escrow Agreement*" shall mean the Escrow Agreement dated as of May 1, 2016 between the Authority and the Trustee, as amended and supplemented from time to time in accordance therewith.

"*Escrow Fund*" shall mean the escrow fund established pursuant to the Escrow Agreement in which certain proceeds from the sale of the Series 2016A Bonds and certain other available funds under the Master Indenture shall be deposited and applied to the defeasance of certain Series 2004A Bonds pursuant to Section 4.04(a) hereof and the terms thereof.

"*Master Indenture*" shall mean the Master Trust Indenture dated as of January 1, 1999, between the Authority and the Trustee, as amended and supplemented from time to time (including by this Tenth Supplemental Indenture and the Eleventh Supplemental Indenture) in accordance therewith.

"*Participants*" shall mean the participants of DTC which include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations.

"*Principal Payment Date*" shall mean, with respect to a Series 2016A Bond, October 1 in each of the years in which the principal amount of a Series 2016A Bond is due and payable.

"*Record Date*" shall mean March 15 for any April 1 Interest Payment Date and September 15 for any October 1 Interest Payment Date.

"*Registrar*" for purposes of this Tenth Supplemental Indenture, shall mean the Trustee.

"*Representation Letter*" shall mean the Blanket Letter of Representations dated December 18, 1998 from the Authority and the Trustee to DTC, or such similar letter or agreement filed with DTC from time to time.

"*Series 2004A Bonds*" shall mean the $475,292,386.40 original aggregate principal amount of Bonds issued under the Master Indenture and the Sixth Supplemental Indenture and designated as the "Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2004A".

*"Series 2016A Bonds"* shall mean the $[__________] aggregate principal amount of Bonds issued under the Master Indenture and this Tenth Supplemental Indenture and designated as the "Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A".

["*Series 2016A Bond Insurance Policy*" shall mean the municipal bond insurance policy issued by the Series 2016A Bond Insurer insuring, as provided therein, the payment when due of the principal of and interest on the Series 2016A Insured Bonds.]

["*Series 2016A Bond Insurer*" shall mean Assured Guaranty Municipal Corp., a New York stock insurance company, and its successors and assigns. The Series 2016A Bond Insurer shall constitute a Bond Insurer as such term is defined in the Master Indenture.]

*"Series 2016A Costs of Issuance Fund"* shall mean the fund by that name created in Section 4.01 of this Tenth Supplemental Indenture.

*"Series 2016A Debt Service Fund"* shall mean the fund by that name created in Section 4.01 of this Tenth Supplemental Indenture and into which money shall be deposited to pay debt service on the Series 2016A Bonds.

*"Series 2016A Debt Service Reserve Account"* shall mean the account by that name created in the Debt Service Reserve Fund pursuant to Section 4.01 of this Tenth Supplemental Indenture.

[*"Series 2016A Debt Service Reserve Surety Policy"* shall mean the municipal bond debt service reserve insurance policy issued by the Series 2016A Bond Insurer to be deposited in the Series 2016A Debt Service Reserve Account with the face amount of $[_______________], which is the Debt Service Reserve Requirement applicable to the Series 2016A Bonds, on the date of issuance of the Series 2016A Bonds pursuant to Section 4.04 of this Tenth Supplemental Indenture.]

[*"Series 2016A Insured Bonds"* shall mean [______________].]

*"Series 2016A Rebate Fund"* shall mean the fund by that name created and maintained pursuant to Article V of this Tenth Supplemental Indenture.

"*Tax Certificate*" shall the Tax and Nonarbitrage Certificate executed by the Authority and dated the date of issuance of the Series 2016A Bonds, as amended and supplemented from time to time.

*"Tenth Supplemental Indenture"* shall mean this Tenth Supplemental Trust Indenture dated as of May 1, 2016, between the Authority and the Trustee, as amended and supplemented from time to time in accordance with the Master Indenture.

Section 1.02 ***Incorporation of Definitions Contained in the Master Indenture***. Except as otherwise provided in Section 1.01 of this Tenth Supplemental Indenture, all capitalized words, terms and phrases used in this Tenth Supplemental Indenture shall have the same meanings herein as in the Master Indenture.

Section 1.03 ***Article and Section References***. Except as otherwise indicated, references to Articles and Sections are to Articles and Sections of this Tenth Supplemental Indenture.

## ARTICLE II
## THE SERIES 2016A BONDS

Section 2.01 ***Designation of the Series 2016A Bonds; Principal Amount***. There is hereby authorized and created a Series of Bonds, designated as the "Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A" to be issued in the original aggregate principal amount of $[___________].

Section 2.02 ***Bonds Under The Master Indenture; Security; Parity***. The Series 2016A Bonds are issued under and subject to the terms of the Master Indenture, shall be First Subordinate Lien Bonds as defined pursuant to the Master Indenture and are secured by and payable from the Trust Estate in accordance with the terms of the Master Indenture. The Series 2016A Bonds shall be on a parity with the Authority's outstanding Series 2004A Bonds and the Alameda Corridor Transportation Authority Taxable Subordinate Lien Revenue Funding Bonds, Series 2004B issued by the Authority on May 6, 2004, and any other First Subordinate Lien Bonds issued under the Master Indenture, as and to the extent provided in the Master Indenture.

Section 2.03 ***Terms of the Series 2016A Bonds***. The Series 2016A Bonds shall constitute "Current Interest Bonds" under the Master Indenture and, upon initial issuance, shall be dated their date of initial delivery. Each Series 2016A Bond shall bear interest from the Interest Payment Date next preceding the date of authentication thereof unless such date of authentication is an Interest Payment Date, in which event such Series 2016A Bond shall bear interest from such date authentication, or unless such date authentication is after a Record Date and before the next succeeding Interest Payment Date, in which event such Series 2016A Bond from such succeeding Interest Payment Date, or unless such date of authentication is prior to the first Record Date, in which event such Series 2016A Bond shall bear interest from its date of initial delivery. If interest on the Series 2016A Bonds shall be in default, Series 2016A Bonds issued in exchange for Series 2016A Bonds surrendered for transfer or exchange pursuant to the Master Indenture shall bear interest from the Interest Payment Date to which interest has been paid in full on the Series 2016A Bonds surrendered to their maturity date or date fixed for redemption. The Series 2016A Bonds shall be issued only in Authorized Denominations.

Interest on the Series 2016A Bonds shall be paid on each Interest Payment Date. Principal on the Series 2016A Bonds shall be paid on the applicable Principal Payment Date. Interest on the Series 2016A Bonds shall be calculated on the basis of a year of 360 days and twelve (12) thirty (30)-day months.

The Series 2016A Bonds shall mature, subject to redemption, in the years and in the principal amounts and shall bear interest at the rates, as set forth in the following schedule:

| Maturity Date (October 1) | Principal Amount ($) | Interest Rate (%) |
|---|---|---|

| Maturity Date (October 1) | Principal Amount ($) | Interest Rate (%) |
|---|---|---|

Payment of principal of the Series 2016A Bonds shall be made upon surrender of the Series 2016A Bonds to the Trustee. Payment of interest on the Series 2016A Bonds which are not Book-Entry Series 2016A Bonds shall be paid by check or draft of the Trustee mailed by first-class mail to the person who is the registered Owner thereof on the Record Date, and such payment shall be mailed to such Owner at his address as it appears on the registration books of the Registrar. Payment of interest on Book-Entry Series 2016A Bonds shall be made as provided in Section 2.05 hereof. All payments in respect of the Series 2016A Bonds shall be made by the Trustee in lawful money of the United States of America.

The Series 2016A Bonds shall be executed on behalf of the Authority by either the Chief Executive or the Chief Financial Officer of the Authority and such signature may be a facsimile. The Series 2016A Bonds shall be issued substantially in the form set forth on Exhibit A, which is part of this Tenth Supplemental Indenture.

If the principal of or interest on a Series 2016A Bond becomes due and payable, but shall not have been paid when due, and no provision is made for its payment, then interest on overdue principal and, to the extent lawful, on overdue interest will accumulate at the rate applicable to such Series 2016A Bonds until all overdue amounts (including interest thereon) are paid in full (or payment of such amounts is provided for as set forth in the Master Indenture and in this Tenth Supplemental Indenture).

Section 2.04 ***Exchange of Series 2016A Bonds***. Series 2016A Bonds which are delivered to the Registrar for exchange pursuant to the Master Indenture may be exchanged for an equal total principal amount of Series 2016A Bonds of the same interest rate and maturity date in Authorized Denominations.

Section 2.05 **Book-Entry Series 2016A Bonds**

(a) Upon initial issuance, the registered Owner of all of the Series 2016A Bonds shall be DTC. Payment of principal or redemption price of, and interest on, any Series 2016A Bond registered in the name of Cede & Co. shall be made by wire transfer of New York clearing house or equivalent next day funds or by wire transfer of same day funds to the account of Cede & Co. at the address indicated on the Record Date or special record date for Cede & Co. in the registration books of the Registrar.

(b) Each Series 2016A Bond shall be initially issued in the form of a separate single authenticated fully registered Series 2016A Bond for each separate stated maturity with the same interest rate. Upon initial issuance, the ownership of such Series 2016A Bonds shall be registered in the registration books of the Registrar in the name of Cede & Co., as nominee of DTC. The Trustee, the Registrar, [the Series 2016A Bond Insurer] and the Authority may treat DTC (or its nominee) as the sole and exclusive owner of the Series 2016A Bonds registered in its name for the purposes of payment of principal or redemption price of, and interest on the Series 2016A Bonds, selecting the Series 2016A Bonds or portions thereof to be redeemed, giving any notice permitted or required to be given to Bondholders under the Master Indenture or this Tenth Supplemental Indenture, registering the transfer of Series 2016A Bonds, obtaining any consent or other action to be taken by Bondholders and for all other purposes whatsoever, and none of the Trustee, the Registrar, [the Series 2016A Bond Insurer] or the Authority shall be affected by any notice to the contrary. None of the Trustee, the Registrar, [the Series 2016A Bond Insurer] or the Authority shall have any responsibility or obligation to any Participant, any person claiming a beneficial ownership interest in the Series 2016A Bonds under or through DTC or any Participant, or any other person who is not shown on the registration books as being a Bondholder, with respect to the accuracy of any records maintained by DTC or any Participant; the payment by DTC or any Participant of any amount in respect of principal or redemption price of, and interest on the Series 2016A Bonds; any notice which is permitted or required to be given to Bondholders under the Master Indenture; the selection by DTC or any Participant of any person to receive payment in the event of a partial redemption of the Series 2016A Bonds; any consent given or other action taken by DTC as Bondholder; or any other purpose. The Trustee shall pay principal or the redemption price of, and interest on the Series 2016A Bonds only to or upon the order of DTC, and all such payments shall be valid and effective to fully satisfy and discharge the Authority's obligations with respect to principal or the redemption price of, and interest on the Series 2016A Bonds to the extent of the sum or sums so paid. No person other than DTC shall receive an authenticated Series 2016A Bond evidencing the obligation of the Authority to make payments of principal or the redemption price of, and interest pursuant to the Master Indenture. Upon delivery by DTC to the Trustee of written notice to the effect that DTC has determined to substitute a new nominee in place of Cede & Co., and subject to the provisions herein with respect to Record Dates, the word "Cede & Co." in this Tenth Supplemental Indenture shall refer to such new nominee of DTC.

(c) Notwithstanding any other provision of the Master Indenture and this Tenth Supplemental Indenture to the contrary, so long as any Series 2016A Bond is registered in the name of Cede & Co., as nominee of DTC, all payments with respect to principal or the redemption price of, and interest on such Series 2016A Bond and all notices with respect to such Series 2016A Bond shall be made and given, respectively, to DTC as provided in the Representation Letter.

(d) In connection with any notice or other communication to be provided to Bondholders pursuant to the Master Indenture or this Tenth Supplemental Indenture by the Authority or the Trustee with respect to any consent or other action to be taken by Bondholders, the Authority or the Trustee, as the case may be, shall establish a record date for such consent or other action and give DTC notice of such record date not less than fifteen (15) calendar days in advance of such record date to the extent possible.

(e) NONE OF THE AUTHORITY, THE CITY OF LOS ANGELES, THE CITY OF LONG BEACH, THE REGISTRAR, [THE SERIES 2016A BOND INSURER] OR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO DTC PARTICIPANTS, INDIRECT PARTICIPANTS OR BENEFICIAL OWNERS WITH RESPECT TO: THE PAYMENT BY DTC, ANY DTC PARTICIPANT OR ANY INDIRECT PARTICIPANT OF THE PRINCIPAL OR THE REDEMPTION PRICE OF, AND INTEREST ON THE SERIES 2016A BONDS; THE PROVIDING OF NOTICE TO DTC PARTICIPANTS, INDIRECT PARTICIPANTS OR BENEFICIAL OWNERS; THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC, ANY DTC PARTICIPANT OR ANY INDIRECT PARTICIPANT; OR ANY CONSENT GIVEN OR OTHER ACTION TAKEN BY DTC AS OWNER OF THE SERIES 2016A BONDS.

## ARTICLE III
## REDEMPTION

Section 3.01 ***Notices to Bondholders***. The Trustee shall give notice of redemption (which, in the case of optional redemption, may be conditional), in the name of the Authority, to Bondholders of the Series 2016A Bonds to be redeemed pursuant to this Article III at least thirty (30) days (or at least twenty (20) days for Book-Entry Bonds) but not more than sixty (60) days before each date fixed for redemption. The Trustee shall send such notices of redemption by first-class mail (or with respect to Series 2016A Bonds held by DTC, in accordance with DTC operating procedures) to each Owner of a Series 2016A Bond to be redeemed, each such notice shall be sent to the Owner's registered address.

Each notice of redemption shall specify the Series 2016A Bonds to be redeemed, the date of issue, the maturity date thereof, if less than all Series 2016A Bonds of a maturity are called for redemption, the numbers of the Series 2016A Bonds, the principal amount and the CUSIP numbers assigned to the Series 2016A Bonds to be redeemed, the principal to be redeemed and the interest rate applicable to the Series 2016A Bonds to be redeemed, the date fixed for redemption, the redemption price, the place or places of payment, the Trustee's or Paying Agent's name, that payment will be made upon presentation and surrender of the Series 2016A Bonds to be redeemed to the Trustee, that interest, if any, accrued to the date fixed for redemption and not paid will be paid as specified in said notice, and that on and after said date interest thereon will cease to accrue on the Series 2016A Bonds called for redemption, to the extent that moneys for payment of the redemption price, including accrued interest to the date fixed for redemption, are being held in trust by the Trustee therefor. In the case of optional redemptions pursuant to Section [3.03] of this Tenth Supplemental Indenture, each such notice shall further state that the proposed redemption is conditioned on there being on deposit in the applicable account, on the date fixed for redemption, sufficient money to pay the full redemption price, plus accrued but unpaid interest to the date fixed for redemption, of the Series 2016A Bonds to be redeemed.

Failure to give any required notice of redemption as to any particular Series 2016A Bonds will not affect the validity of the call for redemption of any other Series 2016A Bonds with respect to which such failure does not occur. Any notice sent as provided herein will be conclusively presumed to have been given whether or not actually received by the addressee. When notice of redemption is given, Series 2016A Bonds called for redemption become due and payable on the date fixed for redemption at the applicable redemption price; provided that, in the case of optional redemption, sufficient money to pay the full redemption price of the Series 2016A Bonds to be redeemed is on deposit in the applicable account on the date fixed for redemption. In the event that funds are deposited by the Authority with the Paying Agent sufficient for redemption, interest on the Series 2016A Bonds to be redeemed will cease to accrue as of the redemption date.

Section 3.02 ***[Mandatory Redemption of Series 2016A Bonds.*** [***Note: likely no Term Bonds but keep as placeholder***] The Series 2016A Bonds maturing on October 1, [____] shall be subject to mandatory sinking fund redemption prior to maturity on each October 1 in the years and in the respective principal amounts set forth below, in each case at a redemption price equal to the principal amount thereof, plus accrued interest to the date fixed for such mandatory redemption:

| Year<br>(October 1) | Principal Amount<br>($) |
|---|---|
| | |
| | |

The Series 2016A Bonds maturing on October 1, [____] shall be subject to mandatory sinking fund redemption prior to maturity on each October 1 in the years and in the respective principal amounts set forth below, in each case at a redemption price equal to the principal amount thereof, plus accrued interest to the date fixed for such mandatory redemption:

| Year<br>(October 1) | Principal Amount<br>($) |
|---|---|
| | |
| | |

On or before the 45th day before any mandatory sinking fund payment date for the Series 2016A Bonds, the Authority may deliver to the Trustee for cancellation Series 2016A Bonds of such maturity in any aggregate principal amount desired by the Authority. Each Series 2016A Bond so delivered shall be credited by the Trustee at the principal amount thereof against the obligation of the Authority to make such mandatory sinking fund payment or any future mandatory sinking fund payment with respect to such maturity as the Authority may direct, and the principal amount of Series 2016A Bonds to be so redeemed on such mandatory sinking fund payment date(s) shall be reduced accordingly. [The Authority may also credit against future sinking fund payment obligations for the Series 2016A Bonds the principal amount of any Series 2016A Bonds optionally redeemed pursuant to Section 3.03 below which have not been previously so applied.]]

Section 3.03 ***Optional Redemption of the Series 2016A Bonds.*** **[**The Series 2016A Bonds maturing on or after October 1, 2025 are subject to redemption, on any date on or after October 1, 2024, in whole or in part, at the option of the Authority, from any moneys that may be provided for such purpose, at a redemption price equal to 100% of principal amount of such Series 2016A Bonds so redeemed plus accrued interest to the date fixed for redemption, without premium.] [**Alternatively:** The Series 2016A Bonds are not subject to optional redemption prior to maturity.]

Section 3.04 ***Extraordinary Redemption of the Series 2016A Bonds.*** The Series 2016A Bonds are subject to extraordinary redemption as provided in the Master Indenture.

Section 3.05 ***Payment of Series 2016A Bonds Called for Redemption***. Upon surrender to the Trustee, Series 2016A Bonds called for redemption shall be paid at the redemption price stated in the notice, plus interest accrued to the date fixed for redemption.

Section 3.06 **[*Selection of Series 2016A Bonds for Optional Redemption; Series 2016A Bonds Redeemed in Part*.** Series 2016A Bonds may be selected for optional redemption by the Authority pursuant to Section 3.03 hereof, in whole or in part, in such order of maturity as the Authority may direct and within a maturity by lot, selected in such manner as the Trustee may deem appropriate; provided that Series 2016A Bonds may be redeemed only in Authorized Denominations. Upon surrender of a Series 2016A Bond to be redeemed in part only, the Trustee will authenticate for the holder a new Series 2016A Bond or Series 2016A Bonds of the same maturity equal in principal amount to the unredeemed portion of the Series 2016A Bond surrendered.]

Section 3.07 ***Effect of Redemption***. On the date so designated for redemption, notice having been given in the manner and under the conditions provided herein and moneys for payment of the redemption price including accrued interest to the date fixed for redemption being held in trust to pay the redemption price, (a) the Series 2016A Bonds so called for redemption shall become due and payable on the date fixed for redemption, (b) interest on such Series 2016A Bonds shall cease to accrue from and after such date fixed for redemption, (c) such Series 2016A Bonds shall cease to be entitled to any lien, benefit or security under the Master Indenture and this Tenth Supplemental Indenture, and (d) the owners of such Series 2016A Bonds shall have no rights in respect thereof except to receive payment of the redemption price. Series 2016A Bonds which have been duly called for redemption under the provisions of this Article III and for which moneys for the payment of the redemption price thereof, together with interest accrued to the date fixed for redemption, shall have been set aside and held in trust for the holders of the Series 2016A Bonds to be redeemed, all as provided in this Tenth Supplemental Indenture, shall not be deemed to be Outstanding under the provisions of the Master Indenture.

## ARTICLE IV
## ESTABLISHMENT OF FUNDS
## AND ADMINISTRATION THEREOF

Section 4.01 ***Establishment of Funds and Accounts***. There is hereby established within the Debt Service Reserve Fund established pursuant to Section 3.02(c) of the Master Indenture, the Series 2016A Debt Service Reserve Account, to be held and administered by the Trustee in accordance with the Master Indenture and Section 4.04 of this Tenth Supplemental Indenture. In addition, the following funds are hereby established pursuant to Section 3.02 of the Master Indenture, each of which shall be held and administered by the Trustee as set forth herein:

(a) The Alameda Corridor Transportation Authority Tax-Exempt First Subordinate Lien Revenue Refunding Bonds Costs of Issuance Fund, Series 2016A (the "Series 2016A Costs of Issuance Fund"); and

(b) The Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds Debt Service Fund, Series 2016A (the "Series 2016A Debt Service Fund"), which shall contain an Interest Account, a Principal Account and a Redemption Account for purposes of the Master Indenture.

Section 4.02 ***Application of Funds***.

The net proceeds of the sale of the Series 2016A Bonds, being the amount of $[_____________] [(of which $[____________] shall be paid directly by the initial purchasers to the Series 2016A Bond Insurer for the issuance of the Series 2016A Bond Insurance Policy and the Series 2016A Debt Service Reserve Surety Policy)], shall be received by the Trustee and be deposited as follows:

(a) $[___________] shall be deposited by the Trustee into the Escrow Fund established pursuant to the Escrow Agreement to be used, together with funds held under the Master Indenture and available for such purpose, to defease a portion of the [Series 2004A Convertible Capital Appreciation Bonds maturing on October 1, 2021, October 1, 2022, October 1, 2023, October 1, 2024 and October 1, 2025, until the prior redemption thereof] as provided in the Escrow Agreement.

(b) The balance (being $[_____________]) shall be deposited by the Trustee into the Series 2016A Cost of Issuance Fund.

Section 4.03 ***Series 2016A Debt Service Fund***. The Trustee shall withdraw funds and make payments from the Revenue Fund for deposit in the Series 2016A Debt Service Fund at the times and in the amounts required by Section 3.03(a) - FIFTH of the Master Indenture in respect of the Series 2016A Bonds. With the funds made available to it pursuant to Section 3.03 of the Master Indenture for such purpose, the Trustee shall make deposits or transfers into the Series 2016A Debt Service Fund as follows:

(a) *Interest Account*. The Trustee shall deposit or transfer into the Interest Account of the Series 2016A Debt Service Fund amounts, as provided in the Master Indenture pursuant to Section 3.03(a) and this Tenth Supplemental Indenture, to be used to pay interest due on the Series 2016A Bonds. The Trustee shall also deposit into the Interest Account any other amounts deposited with it for deposit in such Interest Account or transferred from other funds and accounts for deposit therein. Earnings on amounts in the Interest Account shall be credited to such account.

(b) *Principal Account.* The Trustee shall deposit or transfer into the Principal Account of the Series 2016A Debt Service Fund amounts, as provided in the Master Indenture pursuant to Section 3.03(a) and this Tenth Supplemental Indenture, to be used to pay the principal of the Series 2016A Bonds at maturity. The Trustee shall also deposit into the Principal Account any other amounts deposited with it for deposit into such Principal Account or transferred from other funds and accounts for deposit therein. Earnings on amounts in the Principal Account shall be credited to such account.

(c) *Redemption Account.* The Trustee shall deposit or transfer into the Redemption Account of the Series 2016A Debt Service Fund amounts required or, in the case of optional redemption, amounts as instructed by the Authority, to be used to pay the redemption price of Series 2016A Bonds being redeemed as provided in Section 2.12 of the Master Indenture and Article III of this Tenth Supplemental Indenture. The Trustee shall also deposit into the Redemption Account any other amounts deposited with it for deposit into the Redemption Account or transferred from other funds and accounts for deposit therein. Earnings on amounts in the Redemption Account shall be credited to such account, and any remaining earnings or other amounts therein following the applicable date fixed for redemption shall be withdrawn by the Trustee on the Business Day following such date fixed for redemption and deposited into the Revenue Fund, unless an Event of Default exists under the Master Indenture, in which event the earnings shall be retained in such Redemption Account.

Pursuant to Section 3.11 of the Master Indenture, amounts on deposit in the Series 2016A Debt Service Fund and the accounts therein may be invested and reinvested as directed by an Authorized Authority Representative in Permitted Investments.

Section 4.04 ***Series 2016A Debt Service Reserve Account.*** As a condition of issuance of the Series 2016A Bonds, [the Authority shall cause the Series 2016A Bond Insurer to deliver to the Trustee the Series 2016A Debt Service Reserve Surety Policy for deposit into the Series 2016A Debt Service Reserve Account of the Debt Service Reserve Fund in an amount equal to the Debt Service Reserve Requirement for the Series 2016A Bonds. The Series 2016A Debt Service Reserve Surety Policy may be replaced with a substitute Debt Service Reserve Surety Policy and/or cash provided that prior to any such replacement the requirements set forth in Section 3.05(c) of the Master Indenture shall be satisfied.] Any amounts in the Series 2016A Debt Service Reserve Account in excess of the Debt Service Reserve Requirement shall be transferred to the Series 2016A Debt Service Fund, unless an Event of Default exists under the Indenture, in which event the excess amounts shall be retained in the Series 2016A Debt Service Reserve Account, as provided in Section 3.05(d) of the Master Indenture.

[The Trustee is authorized and directed to enter into the Series 2016A Debt Service Reserve Surety Policy in its capacity as Trustee under the Master Indenture and all provisions in the Master Indenture relating to the rights, privileges, powers and protections of the Trustee shall apply with equal force and effect to all actions taken or not taken by the Trustee in connection with the performance of any duties or responsibilities of the Trustee with respect to or under the Series 2016A Debt Service Reserve Surety Policy.]

Section 4.05 ***Series 2016A Costs of Issuance Fund***. There shall be deposited into the Series 2016A Costs of Issuance Fund the amount provided in Section 4.02(b) above. The Trustee shall make payments or disbursements from the Series 2016A Costs of Issuance Fund to pay Costs of Issuance relating to the Series 2016A Bonds upon receipt from the Authority of a Requisition meeting the requirements of Section 3.13 of the Master Indenture. Pursuant to Section 3.11 of the Master Indenture, amounts on deposit in the Series 2016A Costs of Issuance Fund may be invested and reinvested as directed by an Authorized Authority Representative in Permitted Investments. Subject to Section 3.11 of the Master Indenture, earnings on amounts in the Series 2016A Cost of Issuance Fund shall be retained therein. Upon the Trustee's receipt of written instructions from an Authorized Authority Representative, all amounts remaining on deposit in the Series 2016A Costs of Issuance Fund shall be transferred to the Series 2016A Debt Service Fund and the Trustee shall close the Series 2016A Costs of Issuance Fund.

## ARTICLE V
## TAX COVENANTS

The Authority hereby agrees that it will execute the Tax Certificate with respect to the Series 2016A Bonds. There is hereby created and established by the Authority the "Alameda Corridor Transportation Authority Tax-Exempt Senior Lien Revenue Refunding Bonds Rebate Fund, Series 2016A" (the "Series 2016A Rebate Fund") to be held and administered by the Authority. Notwithstanding any other provision contained herein relating to the deposit of investment earnings on amounts on deposit in any fund or account hereunder, at the written direction of the Authority, any earnings which are subject to a federal tax or rebate requirement, as provided in the Tax Certificate, shall be deposited in the Series 2016A Rebate Fund for that purpose.

## ARTICLE VI
## [SERIES 2016A BOND INSURANCE POLICY; SERIES 2016A DEBT SERVICE RESERVE SURETY POLICY; ADDITIONAL COVENANTS FOR THE BENEFIT OF THE SERIES 2016A BOND INSURER

**[*To be included and updated if bond insurance and/or debt service reserve surety bond are obtained*]**

Section 6.01 ***Application of Article VI***.

(a) All provisions herein regarding rights, consents, approvals, directions, appointments or requests by the Series 2016A Bond Insurer shall be deemed to not require or permit such consents, approvals, directions, appointments or requests by the Series 2016A Bond Insurer and shall be read as if the Series 2016A Bond Insurer were not mentioned therein, during any time in which: (i) the Series 2016A Bond Insurer is in default in its obligation to make payments under (A) the Series 2016A Bond Insurance Policy when due, (B) the Series 2016A

Debt Service Reserve Surety Policy when due, or (C) any other municipal bond insurance policy or debt service reserve surety policy issued by the Series 2016A Bond Insurer when due and such failure shall continue for 30 days unless the obligation of the Series 2016A Bond Insurer to pay is being contested by the Series 2016A Bond Insurer in good faith by appropriate proceedings; (ii) the Series 2016A Bond Insurance Policy or the Series 2016A Debt Service Reserve Surety Policy shall at any time for any reason cease to be valid and binding on the Series 2016A Bond Insurer, or shall be declared to be null and void, in each case by a final, non-appealable order of a court of competent jurisdiction, or the validity or enforceability of any provision thereof is being contested by the Series 2016A Bond Insurer or any governmental agency or authority acting as a receiver or similar capacity for the Series 2016A Bond Insurer, or if the Series 2016A Bond Insurer is denying further liability or obligation under the Series 2016A Bond Insurance Policy or Series 2016A Debt Service Reserve Surety Policy; (iii) a proceeding has been instituted in a court having jurisdiction in the premises seeking an order for relief, rehabilitation, reorganization, conservation, liquidation or dissolution in respect of the Series 2016A Bond Insurer under Article 16 of the Insurance Law of the State of New York or any successor provision thereto or similar provision of law and such proceeding is not terminated for a period of 90 consecutive days or such court enters an order granting the relief sought in such proceeding; or (iv) the Series 2016A Insured Bonds are no longer Outstanding and any amounts due or to become due to the Series 2016A Bond Insurer have been paid in full; provided that to the extent that the Series 2016A Bond Insurer has made any payment of principal of or interest on the Series 2016A Bonds under the Series 2016A Bond Insurance Policy or the Series 2016A Debt Service Reserve Surety Policy, it shall retain its rights of subrogation and reimbursement under this Tenth Supplemental Indenture.

(b) Subject to Subsection 6.01(a) hereof, the covenants of the Authority in this Article VI are solely for the benefit of the Series 2016A Bond Insurer and can be modified or waived in whole or in part by the Series 2016A Bond Insurer or otherwise agreed to between the Authority and the Series 2016A Bond Insurer without the consent of the Trustee and the Holders of the Bonds. The failure by the Authority to comply with any such covenants in this Article VI shall constitute an Event of Default under the provisions of the Master Indenture if, and only if, the Series 2016A Bond Insurer gives a written notice of such failure to the Trustee and to the Authority, notwithstanding anything in the Master Indenture to the contrary.

Section 6.02 ***Provisions Relating to the Series 2016A Bond Insurance Policy***.

As long as the Series 2016A Bond Insurance Policy shall be in full force and effect and the Series 2016A Bond Insurer is not in default of its obligation to make payments thereunder, the Authority, the Trustee and any Paying Agent hereby agree to comply with the following provisions:

(a) If, on the third Business Day prior to the related scheduled interest payment date or principal payment date ("Payment Date") on the Series 2016A Insured Bonds, there is not on deposit with the Trustee, after making all transfers and deposits required under the Indenture, moneys sufficient to pay the principal of and interest on the Series 2016A Insured Bonds due on such Payment Date, the Trustee shall give notice to the Series 2016A Bond Insurer and to its designated agent (if any) (the "Series 2016A Bond Insurer's Fiscal Agent") by telephone or telecopy of the amount of such deficiency by 12:00 noon, New York City time, on such Business Day. If, on the second Business Day prior to the related Payment Date, there continues to be a deficiency in the amount available to pay the principal of and interest on the Series 2016A Insured Bonds due on such Payment Date, the Trustee shall make a claim under the Series 2016A Bond Insurance Policy and give notice to the Series 2016A Bond Insurer and the Series 2016A Bond Insurer's Fiscal Agent (if any) by telephone of the amount of such deficiency, and the allocation of such deficiency between the amount required to pay interest on the Series 2016A Insured Bonds and the amount required to pay principal of the Series 2016A Insured Bonds, confirmed in writing to the Series 2016A Bond Insurer and the Series 2016A Bond Insurer's Fiscal Agent by 12:00 noon, New York City time, on such second Business Day by filling in the form of Notice of Claim and Certificate delivered with the Series 2016A Bond Insurance Policy.

(b) The Trustee shall designate any portion of payment of principal on Series 2016A Insured Bonds paid by the Series 2016A Bond Insurer, whether by virtue of mandatory sinking fund redemption, maturity or other advancement of maturity, on its books as a reduction in the principal amount of Series 2016A Insured Bonds registered to the then current Holder of the Series 2016A Insured Bonds, whether DTC or its nominee or otherwise, and shall issue a replacement Series 2016A Bond to the Series 2016A Bond Insurer, registered in the name of Assured Guaranty Municipal Corp., in a principal amount equal to the amount of principal so paid (without regard to authorized denominations); provided that the Trustee's failure to so designate any payment or issue any replacement Series 2016A Insured Bond shall have no effect on the amount of principal or interest payable by the Authority on any Series 2016A Insured Bond or the subrogation rights of the Series 2016A Bond Insurer.

(c) The Trustee shall keep a complete and accurate record of all funds deposited by the Series 2016A Bond Insurer into the Policy Payments Account (defined below) and the allocation of such funds to payment of interest on and principal of any Series 2016A Insured Bond. The Series 2016A Bond Insurer shall have the right to inspect such records at reasonable times upon reasonable notice to the Trustee.

(d) Upon payment of a claim under the Series 2016A Bond Insurance Policy, the Trustee shall establish a separate special purpose trust account for the benefit of holders of the Series 2016A Insured Bonds, which is referred to herein as the "Policy Payments Account," and over which the Trustee shall have exclusive control and sole right of withdrawal. The Trustee shall receive any amount paid under the Series 2016A Bond Insurance Policy in trust on behalf of Holders of the Series 2016A Insured Bonds and shall deposit any such amount in the Policy Payments Account and distribute such amount only for purposes of making the payments for which a claim was made. Such amounts shall be disbursed by the Trustee to Holders of the Series 2016A Insured Bonds in the same manner as principal and interest payments are to be made with respect to the Series 2016A Bonds under the sections of the Master Indenture regarding payment of First Subordinate Lien Bonds. It shall not be necessary for such payments to be made by checks or wire transfers separate from the check or wire transfer used to pay debt service with other funds available to make such payments.

(e) Notwithstanding anything in the Master Indenture to the contrary, the Authority agrees to pay to the Series 2016A Bond Insurer: (i) a sum equal to the total of all amounts paid by the Series 2016A Bond Insurer under the Series 2016A Bond Insurance Policy (the “Insurer Advances”), which Insurer Advances shall be payable with monies deposited into the Series 2016A Debt Service Fund pursuant to Section 3.03(a) paragraph FIFTH of the Master Indenture; and (ii) interest on such Insurer Advances from the date paid by the Series 2016A Bond Insurer until payment thereof in full, payable to the Series 2016A Bond Insurer at the Late Payment Rate per annum (collectively, the “Insurer Reimbursement Amounts”), which Insurer Reimbursement Amounts shall be payable as Financing Fees with monies deposited pursuant to Section 3.03(a) paragraph SEVENTH of the Master Indenture. “Late Payment Rate” means the lesser of: (A) the greater of (I) the per annum rate of interest, publicly announced from time to time by JPMorgan Chase Bank at its principal office in The City of New York, as its prime or base lending rate (any change in such rate of interest to be effective on the date such change is announced by JPMorgan Chase Bank) plus 3%, and (II) the then applicable highest rate of interest on the Series 2016A Insured Bonds, and (B) the maximum rate permissible under applicable usury or similar laws limiting interest rates. The Late Payment Rate shall be computed on the basis of the actual number of days elapsed over a year of 360 days.

(f) Funds held in the Policy Payments Account shall not be invested by the Trustee and may not be applied to satisfy any costs, expenses or liabilities of the Trustee. Any funds remaining in the Policy Payments Account following a Payment Date of the Series 2016A Insured Bonds shall promptly be remitted to the Series 2016A Bond Insurer.

Section 6.03 ***Provisions Relating to Series 2016A Debt Serve Reserve Surety Policy***.

(a) The Trustee shall ascertain the necessity for making a claim upon the Series 2016A Debt Service Reserve Surety Policy in accordance with the provisions of subparagraph (b) hereof and shall provide notice to the Series 2016A Bond Insurer in accordance with the terms of the Series 2016A Debt Service Reserve Surety Policy at least five (5) Business Days prior to each date upon which interest or principal is due on the Series 2016A Bonds. Where deposits are required to be made by the Authority with the Trustee to the Series 2016A Debt Service Fund more often than semi-annually, the Trustee shall give notice to the Series 2016A Bond Insurer of any failure of the Authority to make timely payment in full of such deposits within two Business Days of the due date.

(b) The Authority shall repay, or cause to be repaid, any draws under the Series 2016A Debt Service Reserve Surety Policy and pay all related reasonable expenses incurred by the Series 2016A Bond Insurer and shall pay interest thereon from the date of payment by the Series 2016A Bond Insurer at the Late Payment Rate, which amounts shall be payable as a Debt Service Reserve Surety Repayment Obligation pursuant to Section 3.03(a) paragraph SIXTH of the Master Indenture. “Late Payment Rate means the lesser of: (x) the greater of (i) the per annum rate of interest, publicly announced from time to time by JPMorgan Chase Bank at its principal office in the City of New York, as its prime or base lending rate (“Prime Rate”) (any change in such Prime Rate to be effective on the date such change is announced by JPMorgan Chase Bank) plus 3%, and (ii) the then applicable highest rate of interest on the Series 2016A Bonds, and (y) the maximum rate permissible under applicable usury or similar laws limiting interest rates. The Late Payment Rate shall be computed on the basis of the actual number of days elapsed over a year of 360 days. In the event JPMorgan Chase Bank ceases to announce its Prime Rate publicly, Prime Rate shall be the publicly announced prime or base lending rate of such national bank as the Series 2016A Bond Insurer shall specify.

If the interest provisions of this subparagraph (b) shall result in an effective rate of interest which, for any period, exceeds the limit of the usury or any other laws applicable to the indebtedness created herein, then all sums in excess of those lawfully collectible as interest for the period in question shall, without further agreement or notice between or by any party hereto, be applied as additional interest for any later periods of time when amounts are outstanding hereunder to the extent that interest otherwise due hereunder for such periods plus such additional interest would not exceed the limit of the usury or such other laws, and any excess shall be applied upon principal immediately upon receipt of such moneys by the Series 2016A Bond Insurer, with the same force and effect as if the Authority had specifically designated such extra sums to be so applied and the Series 2016A Bond Insurer had agreed to accept such extra payment(s) as additional interest for such later periods. In no event shall any agreed-to or actual exaction as consideration for the indebtedness created herein exceed the limits imposed or provided by the law applicable to this transaction for the use or detention of money or for forbearance in seeking its collection.

(c) Repayment of draws and payment of expenses and accrued interest thereon at the Late Payment Rate (collectively, "Policy Costs") shall commence in the first month following each draw, and each such monthly payment shall be in an amount at least equal to 1/12 of the aggregate of Policy Costs related to such draw.

Policy Costs constitute Debt Service Reserve Surety Repayment Obligations with respect to the Series 2016A Debt Service Reserve Surety Policy and shall be paid as provided in Section 3.03(a) paragraph SIXTH of the Master Indenture.

Amounts in respect of Policy Costs paid to the Series 2016A Bond Insurer shall be credited: first to interest due, then to the expenses due, and then to principal due. As and to the extent that payments are made to the Series 2016A Bond Insurer on account of principal due, the coverage under the Series 2016A Debt Service Reserve Surety Policy will be increased by a like amount, subject to the terms of the Series 2016A Debt Service Reserve Surety Policy.

(d) All cash and investments in the Series 2016A Debt Service Reserve Account shall be transferred by the Trustee to the Series 2016A Debt Service Fund for payment of debt service on the Series 2016A Bonds before any drawing may be made on the Series 2016A Debt Service Reserve Surety Policy or any other credit facility credited to the Series 2016A Debt Service Reserve Fund in lieu of cash (a "Credit Facility"). Payment of any Policy Costs shall be made prior to replenishment of any such cash amounts. Draws on all Credit Facilities (including the Series 2016A Debt Service Reserve Surety Policy) on which there is available coverage shall be made by the Trustee on a pro-rata basis (calculated by reference to the coverage then available thereunder) after applying all available cash and investments in the Series 2016A Debt Service Reserve Fund, payment of Policy Costs and reimbursement of amounts with respect to other Credit Facilities shall be made on a pro-rata basis prior to replenishment of any cash drawn from the Series 2016A Debt Service Reserve Fund. For the avoidance of doubt, "available coverage" means the coverage then available for disbursement pursuant to the terms of the applicable Credit Facility without regard to the legal or financial ability or willingness of the provider of such instrument to honor a claim or draw thereon or the failure of such provider to honor any such claim or draw.

(e) The Master Indenture shall not be discharged until all Policy Costs owing to the Series 2016A Bond Insurer shall have been paid in full. The Authority's obligation to pay such amounts shall expressly survive payment in full of the Series 2016A Bonds.

Section 6.04 ***Covenants of the Authority For the Benefit of the Series 2016A Bond Insurer; Rights of Series 2016A Bond Insurer***.

(a) The written consent of the Series 2016A Bond Insurer shall be required in lieu of the request, consent, approval, direction or appointment of the Holders of the Series 2016A Insured Bonds whenever a consent, approval, direction or appointment by such Holders are required or permitted under the Indenture, including, without limitation for the purpose of exercising any voting right or privilege or giving any consent or direction or taking any other action which such Holders are entitled to take pursuant to the Indenture pertaining to (i) defaults and remedies, (ii) the duties and obligations of the Trustee and (iii) any amendment, supplement, modifications to, waiver of, the Indenture that requires the consent of Holders of the Series 2016A Bonds or adversely affects the rights and interest of the Series 2016A Bond Insurer. To eliminate any doubt, the Holders of the Series 2016A Insured Bonds shall have no right to give any request, consent, approval, direction or appointment which is required or permitted by the Indenture to be given by such Holders, except when the Series 2016A Bond Insurer has lost its rights to give such consent, approval, direction or appointment pursuant to Section 6.01(a) hereof.

(b) The Authority shall send any request to the Series 2016A Bond Insurer at its address set forth in Section 6.05(b) requesting its consent, in lieu of the consent of the Holders of the Series 2016A Insured Bonds.

(c) The Authority shall not issue any Series of First Subordinate Lien Bonds (other than Refunding Bonds) pursuant to the Master Indenture unless it shall have obtained the prior written consent of the Series 2016A Bond Insurer, which consent, if any, shall be provided in the sole discretion of the Series 2016A Bond Insurer; provided, however, that unless otherwise permitted by the Series 2016A Bond Insurer, no Series of First Subordinate Lien Bonds (including Refunding Bonds) shall be issued (i) if an Event of Default (or any event which, once all notices or grace periods have passed, would constitute an Event of Default) exists, unless such default shall be cured upon the issuance of such Bonds or (ii) unless the Series 2016A Debt Service Reserve Account is fully funded at the Debt Service Reserve Requirement for the Series 2016A Bonds as required by the Master Indenture.

(d) Without the prior written consent of the Series 2016A Bond Insurer, the Authority shall not approve or agree to any amendment, waiver or other modification of the Use and Operating Agreement which could be reasonably expected to result in a material impairment of the security for the Series 2016A Bonds or adversely affect the Series 2016A Bond Insurer's rights and interests under the Master Indenture or its obligations under the Series 2016A Bond Insurance Policy or the Series 2016A Debt Service Reserve Surety Policy.

In addition, no contract shall be entered into by the Authority or any action taken by the Authority which may impair or prejudice in any material respect the rights of the Series 2016A Bond Insurer or security for or sources of payment of the Series 2016A Insured Bonds, except upon obtaining the prior written consent of the Series 2016A Bond Insurer.

(e) The Series 2016A Bond Insurer shall, to the extent it makes any payment of principal of or interest on the Series 2016A Insured Bonds, become subrogated to the rights of the recipients of such payments in accordance with the terms of the Series 2016A Bond Insurance Policy. Each obligation of the Authority to the Series 2016A Bond Insurer under the Master Indenture or any other transaction document, including any underlying security agreement (each, a "Related Document") shall survive discharge or termination of such Related Document.

(f) The Authority shall pay or reimburse, or cause to be paid or reimbursed, the Series 2016A Bond Insurer for any and all charges, fees, costs and expenses that the Series 2016A Bond Insurer may reasonably pay or incur in connection with (i) the administration, enforcement, defense or preservation of any rights or security in any Related Document; (ii) the pursuit of any remedies under the Indenture or any other Related Document or otherwise afforded by law or equity, (iii) any amendment, waiver or other action with respect to, or related to, the Master Indenture or any other Related Document whether or not executed or completed, or (iv) any litigation or other dispute in connection with the Master Indenture or any other Related Document or the transactions contemplated thereby (other than costs resulting from the failure of the Series 2016A Bond Insurer to honor its obligations under the Series 2016A Bond Insurance Policy or Series 2013 Debt Service Reserve Surety Policy), all of which charges, fees, costs and expenses constitute Financing Fees payable pursuant to Section 3.03(a) paragraph SEVENTH of the Master Indenture. The Series 2016A Bond Insurer reserves the right to charge a reasonable fee as a condition to executing any amendment, waiver or consent proposed in respect of the Indenture or any other Related Document.

(g) After payment of reasonable expenses of the Trustee, the application of funds realized upon an Event of Default shall be applied to the payment of expenses of the Authority or rebate only after the payment of past due and current debt service on the Series 2016A Bonds and amounts required to restore the Series 2016A Debt Service Reserve Account to the Debt Service Reserve Requirement for the Series 2016A Bonds.

(h) The Series 2016A Bond Insurer shall be entitled to pay principal or interest on the Series 2016A Insured Bonds that shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Authority (as such terms are defined in the Series 2016A Bond Insurance Policy), whether or not the Series 2016A Bond Insurer has received a Notice of Nonpayment (as such terms are defined in the Series 2016A Bond Insurance Policy) or a claim upon the Series 2016A Bond Insurance Policy.

(i) In determining whether any amendment, consent, waiver or other action to be taken, or any failure to take action, under the Master Indenture would adversely affect the security for the Series 2016A Insured Bonds or the rights of the Holders of the Series 2016A Insured Bonds, the Trustee shall consider the effect of any such amendment, consent, waiver, action or inaction as if there were no Series 2016A Bond Insurance Policy.

(j) The Series 2016A Bond Insurer shall have the right to approve any Swap for the Series 2016A Bonds.

(k) Except for the Series 2016A Debt Service Reserve Surety Policy delivered at the time of the closing of the Series 2016A Bonds, the prior written consent of the Series 2016A Bond Insurer shall be a condition precedent to the deposit of any credit instrument provided in lieu of a cash deposit into the Series 2016A Debt Service Reserve Account.

(l) The Series 2016A Bond Insurer is a third party beneficiary to the Master Indenture.

(m) The exercise of any provision of the Master Indenture which permits the purchase of Series 2016A Insured Bonds in lieu of redemption shall require the prior written approval of the Series 2016A Bond Insurer if any Series 2016A Insured Bond so purchased is not cancelled upon purchase.

(n) In the event of any reorganization or liquidation of the Authority which requires the approval of the Holders of the Series 2016A Insured Bonds, the Series 2016A Bond Insurer shall have the right to vote on behalf of all Holders of the Series 2016A Insured Bonds.

(o) The rights granted to the Series 2016A Bond Insurer under the Master Indenture or any other Related Document to request, consent to or direct any action are rights granted to the Series 2016A Bond Insurer in consideration of its issuance of the Series 2016A Bond Insurance Policy. Any exercise by the Series 2016A Bond Insurer of such rights is merely an exercise of the Series 2016A Bond Insurer's contractual rights and shall not be construed or deemed to be taken for the benefit, or on behalf, of the Holders of the Series 2016A Insured Bonds and such action does not evidence any position of the Series 2016A Bond Insurer, affirmative or negative, as to whether the consent of the Holders of the Series 2016A Insured Bonds or any other person is required in addition to the consent of the Series 2016A Bond Insurer.

(p) To accomplish defeasance of the Series 2016A Insured Bonds pursuant to Article V of the Master Indenture, the Authority shall cause to be delivered to the Series 2016A Bond Insurer: (i) a report of an independent firm of nationally recognized certified public accountants or such other accountant as shall be acceptable to the Series 2016A Bond Insurer ("Accountant') verifying the sufficiency of the escrow established to pay the Series 2016A Insured Bonds in full on their maturity or redemption date ("Verification"), (ii) an escrow deposit agreement (which shall be acceptable in form and substance to the Series 2016A Bond Insurer), (iii) an opinion of nationally recognized bond counsel to the effect that the Series 2016A Insured Bonds are no longer "Outstanding" under the Master Indenture and (iv) a certificate of discharge of the Trustee with respect to the Series 2016A Insured Bonds. Each Verification and defeasance opinion shall be acceptable in form and substance, and addressed, to the Authority, Trustee and Series 2016A Bond Insurer. The Series 2016A Bond Insurer shall be provided with final drafts of the above-referenced documentation not less than five business days prior to the funding of the defeasance escrow.

(q) Series 2016A Insured Bonds shall be deemed "Outstanding" under the Master Indenture unless and until they are in fact paid or defeased in accordance with Article V of the Master Indenture and Subsection(p) above.

(r) Amounts paid by the Series 2016A Bond Insurer under the Series 2016A Bond Insurance Policy shall not be deemed paid for purposes of the Master Indenture and the Series 2016A Insured Bonds relating to such payments shall remain Outstanding and continue to be due and owing until paid by the Authority in accordance with the Master Indenture. The Master Indenture shall not be discharged unless all amounts due or to become due to the Series 2016A Bond Insurer have been paid in full or duly provided for.

(s) Each of the Authority and Trustee covenant and agree to take such action (including, as applicable, filing of UCC financing statements and continuations thereof) as is necessary from time to time to preserve the priority of the pledge of the Trust Estate under applicable law.

Section 6.05 ***Notices to Series 2016A Bond Insurer.***

(a) The Series 2016A Bond Insurer shall be provided with the following information by the Authority or the Trustee, as the case may be:

(i) By the Authority, the annual audited financial statements of the Authority within 180 days after the end of the Authority's fiscal year (together with a certification of the Authority that it is not aware of any default or Event of Default under the Master Indenture), and the Authority's annual budget within 30 days after the approval thereof together with such other information, data or reports as the Series 2016A Bond Insurer shall reasonably request from time to time;

(ii) By the Trustee, notice of any draw upon the Series 2016A Debt Service Reserve Account within two Business Days after such draw other than (i) withdrawals of amounts in excess of the Debt Service Reserve Requirement for the Series 2016A Bonds and (ii) withdrawals in connection with a refunding of Series 2016A Bonds;

(iii) By the Trustee and Authority, notice of any default known to the Trustee or the Authority, within five Business Days after knowledge thereof;

(iv) By the Trustee, prior notice of the advance refunding or redemption of any of the Series 2016A Insured Bonds, including the principal amount, maturities and CUSIP numbers thereof, which notice may be made by providing a copy of the notice provided to the Holders thereof;

(v) By the Trustee, notice of the resignation or removal of the Trustee and Bond Registrar and the appointment of, and acceptance of duties by, any successor thereto;

(vi) By the Authority, notice of the commencement of any proceeding by or against the Authority, the Ports or the Railroads commenced under the United States Bankruptcy Code or any other applicable bankruptcy, insolvency, receivership, rehabilitation or similar law (an "Insolvency Proceeding"), in each case within five Business Days after knowledge thereof;

(vii) By the Authority, notice of the making of any claim in connection with any Insolvency Proceeding seeking the avoidance as a preferential transfer of any payment of principal of, or interest on, the Series 2016A Insured Bonds, in each case within five Business Days after knowledge thereof;

(viii) By the Authority, a full original transcript of all proceedings relating to the execution of any amendment, supplement, or waiver to the Related Documents (as defined in Section 6.04(e) hereof);

(ix) By the Authority, copies of all notices of estimated and actual Shortfall Advances required to be delivered to the Ports by the Authority under Section 7.3(h)(ii) of the Use and Operating Agreement;

(x) By the Authority and Trustee, all reports, notices and correspondence to be delivered to Holders of the Series 2016A Bonds under the terms of the Master Indenture and Related Documents;

(xi) By the Authority, copies of all information filed pursuant to any continuing disclosure agreement entered into with respect to the Series 2016A Bonds, which shall be provided promptly after the filing of such information;

(xii) The Series 2016A Bond Insurer shall have the right to receive such additional information as it may reasonably request; and

(xiii) The Trustee shall notify the Series 2016A Bond Insurer of any failure of the Authority to provide notices, certificates and other information required by the Master Indenture to be provided by the Authority to the Trustee.

(b) All notices to the Series 2016A Bond Insurer shall be provided to the following address: Assured Guaranty Municipal Corp., 31 West 52nd Street, New York, New York 10019, Attention: Managing Director — Surveillance, Re: Policy No. [_________], Telephone: (212) 826-0100, Telecopier: (212) 339-3556.

In each case in which notice or other communication refers to an Event of Default, then a copy of such notice or other communication shall also be sent to the attention of the General Counsel and shall be marked to indicate "URGENT MATERIAL ENCLOSED."

The Authority will permit the Series 2016A Bond Insurer to discuss the affairs, finances and accounts of the Authority or any information the Series 2016A Bond Insurer may reasonably request regarding the security for the Series 2016A Bonds with appropriate officers of the Authority and will use commercially reasonable efforts to enable the Series 2016A Bond Insurer to have access to the facilities, books and records of the Authority on any business day upon reasonable prior notice.]

## ARTICLE VII
## MISCELLANEOUS

Section 7.01 ***Notices***.

(a) Any notice, request, direction, designation, consent, acknowledgment, certification, appointment, waiver or other communication required or permitted by this Tenth Supplemental Indenture or the Series 2016A Bonds must be in writing except as expressly provided otherwise in this Tenth Supplemental Indenture.

(b) Any notice or other communication, unless otherwise specified, shall be sufficiently given and deemed given when (i) mailed by first-class mail, postage prepaid, addressed to the Authority or the Trustee at the addresses provided in the Master Indenture, [or to the Series 2016A Bond Insurer at the address provided in Section 6.05(b) hereof,] (ii) delivered by hand and received by the Authority or the Trustee at the addresses provided in the Master Indenture, or (iii) sent by facsimile to the Authority or the Trustee at the number provided in the Master Indenture, [or to the Series 2016A Bond Insurer at the address provided in Section 6.05(b) hereof,] provided the machine receiving such facsimile is equipped with automatic answer-back capacity. Any addressee may designate additional or different addresses for purposes of this Section.

Section 7.02 ***Modification of this Tenth Supplemental Indenture***. The Authority may, from time to time and at any time, execute and deliver Supplemental Indentures supplementing and/or amending this Tenth Supplemental Indenture in the manner set forth in Article VIII of the Master Indenture.

Section 7.03 ***Severability***. If any provision of this Tenth Supplemental Indenture shall be determined to be unenforceable, that shall not affect any other provision of this Tenth Supplemental Indenture.

Section 7.04 ***Payments or Actions Occurring on Non-Business Days***. If a payment date is not a Business Day at the place of payment or if any action required hereunder is required on a date that is not a Business Day, then payment may be made at that place on the next Business Day or such action may be taken on the next Business Day with the same effect as if payment were made or the action taken on the stated date, and no interest shall accrue on that payment for the intervening period.

Section 7.05 ***Governing Law***. This Tenth Supplemental Indenture shall be governed by and construed in accordance with the laws of the State.

Section 7.06 ***Captions***. The captions in this Tenth Supplemental Indenture are for convenience only and do not define or limit the scope or intent of any provisions or Sections of this Tenth Supplemental Indenture.

Section 7.07 ***Counterparts***. This Tenth Supplemental Indenture may be signed in several counterparts. Each will be an original, but all of them together constitute the same instrument.

IN WITNESS WHEREOF, the parties hereto have caused this Tenth Supplemental Indenture to be duly executed all as of the date first above written.

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**

Attest:

By: ______________________________
Chief Executive Officer

By: ______________________________
Secretary of the
Authority Governing Board

**U.S. BANK NATIONAL ASSOCIATION**
as Trustee

By: ______________________________
Vice President

# EXHIBIT A

## FORM OF SERIES 2016A BOND

[To Come]

# Exhibit B

**ELEVENTH SUPPLEMENTAL TRUST INDENTURE**

**by and between the**

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**

**and**

**U.S. BANK NATIONAL ASSOCIATION**
**as Trustee**

**Dated as of May 1, 2016**

**Relating to**

**$[___________]**

**Alameda Corridor Transportation Authority**
**Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds**
**Series 2016B**

**TABLE OF CONTENTS**

(This table of contents is not part of the Eleventh Supplemental Trust Indenture and is only for convenience of reference. The caption herein are of no legal effect and do not vary the meaning or legal effect of any part of the Eleventh Supplemental Trust Indenture.)

[*TO BE UPDATED*]

## ELEVENTH SUPPLEMENTAL TRUST INDENTURE

This ELEVENTH SUPPLEMENTAL TRUST INDENTURE (this "Eleventh Supplemental Indenture") dated as of May 1, 2016 is by and between the ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY, a joint powers authority established under Article I, Chapter 5, Division 7, of Title 1 of the California Government Code and pursuant to an Amended and Restated Joint Exercise of Powers Agreement dated as of December 18, 1996, as amended, by and between the City of Long Beach and the City of Los Angeles (the "Authority"), and U.S. BANK NATIONAL ASSOCIATION, as trustee (the "Trustee"), and supplements and amends the Master Trust Indenture dated as of January 1, 1999, by and between the Authority and the Trustee (as amended and supplemented, the "Master Indenture"). Capitalized terms used herein which are not defined herein shall have the meanings set forth in the Master Indenture.

WHEREAS, on May 6, 2004 the Authority issued $475,292,386.40 aggregate principal amount of Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2004A (the "Series 2004A Bonds");

WHEREAS, Section 2.08 of the Master Indenture provides that the Authority may issue Refunding Bonds from time to time for the purpose of providing funds to pay all or a portion of its outstanding Bonds;

WHEREAS, Section 2.09(c) of the Master Indenture provides that the Authority may issue Second Subordinate Lien Bonds without having to meet any debt service coverage test under the Master Indenture provided that such Second Subordinate Lien Bonds may not contain any provisions for acceleration;

WHEREAS, the Authority desires to issue Refunding Bonds for the purpose of providing funds to defease a portion of the outstanding Series 2004A Bonds;

WHEREAS, Section 8.02 of the Master Indenture provides for the execution and delivery of Supplemental Indentures setting forth the terms of such Refunding Bonds; and

WHEREAS, the Authority now, by execution and delivery of this Eleventh Supplemental Indenture and in compliance with the provisions of the Master Indenture, sets forth the terms of its Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds"), provides for the deposit and use of the proceeds of the Series 2016B Bonds and makes other provisions relating to the Series 2016B Bonds.

## ARTICLE I
## DEFINITIONS; INTERPRETATIONS

Section 1.01 ***Definitions***. The following definitions shall apply to terms used in this Eleventh Supplemental Indenture unless clearly stated otherwise:

"*Authorized Denominations*" shall mean $5,000 or any integral multiple thereof.

"*Book-Entry Series 2016B Bonds*" shall mean the Series 2016B Bonds held by DTC (or its nominee) as the registered owner thereof pursuant to the terms and provisions of Section 2.05 hereof.

"*Cede & Co.*" shall mean Cede & Co., the nominee of DTC, and any successor nominee of DTC with respect to the Book-Entry Series 2016B Bonds.

"*DTC*" shall mean The Depository Trust Company, a limited-purpose trust company organized under the laws of the State of New York, and its successors and assigns.

"*Eleventh Supplemental Indenture*" shall mean this Eleventh Supplemental Trust Indenture dated as of May 1, 2016, between the Authority and the Trustee, as amended and supplemented from time to time in accordance with the Master Indenture.

"*Escrow Agreement*" shall mean the Escrow Agreement dated as of May 1, 2016 between the Authority and the Trustee, as amended and supplemented from time to time in accordance therewith.

"*Escrow Fund*" shall mean the escrow fund established pursuant to the Escrow Agreement in which certain proceeds from the sale of the Series 2016B Bonds and certain other available funds under the Master Indenture shall be deposited and applied to the defeasance of certain Series 2004A Bonds pursuant to Section 4.04(a) hereof and the terms thereof.

"*Master Indenture*" shall mean the Master Trust Indenture dated as of January 1, 1999, between the Authority and the Trustee, as amended and supplemented from time to time (including by the Tenth Supplemental Indenture and this Eleventh Supplemental Indenture) in accordance therewith.

"*Participants*" shall mean the participants of DTC which include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations.

"*Principal Payment Date*" shall mean, with respect to a Series 2016B Bond, October 1 in each of the years in which the principal amount of a Series 2016B Bond is due and payable.

"*Record Date*" shall mean March 15 for any April 1 Interest Payment Date and September 15 for any October 1 Interest Payment Date.

"*Registrar*" for purposes of this Eleventh Supplemental Indenture, shall mean the Trustee.

"*Representation Letter*" shall mean the Blanket Letter of Representations dated December 18, 1998 from the Authority and the Trustee to DTC, or such similar letter or agreement filed with DTC from time to time.

"*Series 2004A Bonds*" shall mean the $475,292,386.40 original aggregate principal amount of Bonds issued under the Master Indenture and the Sixth Supplemental Indenture and designated as the "Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2004A".

“*Series 2016B Bonds*” shall mean the $[__________] aggregate principal amount of Bonds issued under the Master Indenture and this Eleventh Supplemental Indenture and designated as the “Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B”.

[“*Series 2016B Bond Insurance Policy*” shall mean the municipal bond insurance policy issued by the Series 2016B Bond Insurer insuring, as provided therein, the payment when due of the principal of and interest on the Series 2016B Insured Bonds.]

[“*Series 2016B Bond Insurer*” shall mean Assured Guaranty Municipal Corp., a New York stock insurance company, and its successors and assigns. The Series 2016B Bond Insurer shall constitute a Bond Insurer as such term is defined in the Master Indenture.]

“*Series 2016B Costs of Issuance Fund*” shall mean the fund by that name created in Section 4.01 of this Eleventh Supplemental Indenture.

“*Series 2016B Debt Service Fund*” shall mean the fund by that name created in Section 4.01 of this Eleventh Supplemental Indenture and into which money shall be deposited to pay debt service on the Series 2016B Bonds.

“*Series 2016B Debt Service Reserve Account*” shall mean the account by that name created in the Debt Service Reserve Fund pursuant to Section 4.01 of this Eleventh Supplemental Indenture.

[“*Series 2016B Debt Service Reserve Surety Policy*” shall mean the municipal bond debt service reserve insurance policy issued by the Series 2016B Bond Insurer to be deposited in the Series 2016B Debt Service Reserve Account with the face amount of $[_______________], which is the Debt Service Reserve Requirement applicable to the Series 2016B Bonds, on the date of issuance of the Series 2016B Bonds pursuant to Section 4.04 of this Eleventh Supplemental Indenture.]

[“*Series 2016B Insured Bonds*” shall mean [______________].]

“*Series 2016B Rebate Fund*” shall mean the fund by that name created and maintained pursuant to Article V of this Eleventh Supplemental Indenture.

“*Tax Certificate*” shall the Tax and Nonarbitrage Certificate executed by the Authority and dated the date of issuance of the Series 2016B Bonds, as amended and supplemented from time to time.

“*Tenth Supplemental Indenture*” shall mean the Tenth Supplemental Trust Indenture dated as of May 1, 2016, between the Authority and the Trustee, as amended and supplemented from time to time in accordance with the Master Indenture.

Section 1.02 ***Incorporation of Definitions Contained in the Master Indenture***. Except as otherwise provided in Section 1.01 of this Eleventh Supplemental Indenture, all capitalized words, terms and phrases used in this Eleventh Supplemental Indenture shall have the same meanings herein as in the Master Indenture.

Section 1.03 ***Article and Section References***. Except as otherwise indicated, references to Articles and Sections are to Articles and Sections of this Eleventh Supplemental Indenture.

## ARTICLE II
## THE SERIES 2016B BONDS

Section 2.01 ***Designation of the Series 2016B Bonds; Principal Amount***. There is hereby authorized and created a Series of Bonds, designated as the "Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B" to be issued in the original aggregate principal amount of $[___________].

Section 2.02 ***Bonds Under The Master Indenture; Security; Parity***. The Series 2016B Bonds are issued under and subject to the terms of the Master Indenture, shall be Second Subordinate Lien Bonds as defined pursuant to the Master Indenture and are secured by and payable from the Trust Estate in accordance with the terms of the Master Indenture. The Series 2016B Bonds shall be on a parity with any other Second Subordinate Lien Bonds issued under the Master Indenture, as and to the extent provided in the Master Indenture.

Section 2.03 ***No Acceleration***. Pursuant to Section 2.09(c) of the Master Indenture, upon the occurrence of any Event of Default with respect to the Series 2016B Bonds, and notwithstanding any other provision in the Master Indenture or this Eleventh Supplemental Indenture to the contrary, the principal of, and interest on, any Series 2016B Bond may not be accelerated or otherwise declared due and payable prior to its stated Principal Payment Date and Interest Payment Date. Except as expressly provided in this Section 2.03, the remedies available to the holders of the Series 2016B Bonds upon the occurrence of any Event of Default shall be as set forth in Article VI of the Master Indenture in all respects.

Section 2.04. ***Terms of the Series 2016B Bonds***. The Series 2016B Bonds shall constitute "Current Interest Bonds" under the Master Indenture and, upon initial issuance, shall be dated their date of initial delivery. Each Series 2016B Bond shall bear interest from the Interest Payment Date next preceding the date of authentication thereof unless such date of authentication is an Interest Payment Date, in which event such Series 2016B Bond shall bear interest from such date authentication, or unless such date authentication is after a Record Date and before the next succeeding Interest Payment Date, in which event such Series 2016B Bond from such succeeding Interest Payment Date, or unless such date of authentication is prior to the first Record Date, in which event such Series 2016B Bond shall bear interest from its date of initial delivery. If interest on the Series 2016B Bonds shall be in default, Series 2016B Bonds issued in exchange for Series 2016B Bonds surrendered for transfer or exchange pursuant to the Master Indenture shall bear interest from the Interest Payment Date to which interest has been paid in full on the Series 2016B Bonds surrendered to their maturity date or date fixed for redemption. The Series 2016B Bonds shall be issued only in Authorized Denominations.

Interest on the Series 2016B Bonds shall be paid on each Interest Payment Date. Principal on the Series 2016B Bonds shall be paid on the applicable Principal Payment Date. Interest on the Series 2016B Bonds shall be calculated on the basis of a year of 360 days and twelve (12) thirty (30)-day months.

The Series 2016B Bonds shall mature, subject to redemption, in the years and in the principal amounts and shall bear interest at the rates, as set forth in the following schedule:

| Maturity Date (October 1) | Principal Amount ($) | Interest Rate (%) |
|---|---|---|

Payment of principal of the Series 2016B Bonds shall be made upon surrender of the Series 2016B Bonds to the Trustee. Payment of interest on the Series 2016B Bonds which are not Book-Entry Series 2016B Bonds shall be paid by check or draft of the Trustee mailed by first-class mail to the person who is the registered Owner thereof on the Record Date, and such payment shall be mailed to such Owner at his address as it appears on the registration books of the Registrar. Payment of interest on Book-Entry Series 2016B Bonds shall be made as provided in Section 2.05 hereof. All payments in respect of the Series 2016B Bonds shall be made by the Trustee in lawful money of the United States of America.

The Series 2016B Bonds shall be executed on behalf of the Authority by either the Chief Executive or the Chief Financial Officer of the Authority and such signature may be a facsimile. The Series 2016B Bonds shall be issued substantially in the form set forth on Exhibit A, which is part of this Eleventh Supplemental Indenture.

If the principal of or interest on a Series 2016B Bond becomes due and payable, but shall not have been paid when due, and no provision is made for its payment, then interest on overdue principal and, to the extent lawful, on overdue interest will accumulate at the rate applicable to such Series 2016B Bonds until all overdue amounts (including interest thereon) are paid in full (or payment of such amounts is provided for as set forth in the Master Indenture and in this Eleventh Supplemental Indenture).

Section 2.05 ***Exchange of Series 2016B Bonds***. Series 2016B Bonds which are delivered to the Registrar for exchange pursuant to the Master Indenture may be exchanged for an equal total principal amount of Series 2016B Bonds of the same interest rate and maturity date in Authorized Denominations.

Section 2.06 **Book-Entry Series 2016B Bonds**

(a) Upon initial issuance, the registered Owner of all of the Series 2016B Bonds shall be DTC. Payment of principal or redemption price of, and interest on, any Series 2016B Bond registered in the name of Cede & Co. shall be made by wire transfer of New York clearing house or equivalent next day funds or by wire transfer of same day funds to the account of Cede & Co. at the address indicated on the Record Date or special record date for Cede & Co. in the registration books of the Registrar.

(b) Each Series 2016B Bond shall be initially issued in the form of a separate single authenticated fully registered Series 2016B Bond for each separate stated maturity with the same interest rate. Upon initial issuance, the ownership of such Series 2016B Bonds shall be registered in the registration books of the Registrar in the name of Cede & Co., as nominee of DTC. The Trustee, the Registrar, [the Series 2016B Bond Insurer] and the Authority may treat DTC (or its nominee) as the sole and exclusive owner of the Series 2016B Bonds registered in its name for the purposes of payment of principal or redemption price of, and interest on the Series 2016B Bonds, selecting the Series 2016B Bonds or portions thereof to be redeemed, giving any notice permitted or required to be given to Bondholders under the Master Indenture or this Eleventh Supplemental Indenture, registering the transfer of Series 2016B Bonds, obtaining any consent or other action to be taken by Bondholders and for all other purposes whatsoever, and none of the Trustee, the Registrar, [the Series 2016B Bond Insurer] or the Authority shall be affected by any notice to the contrary. None of the Trustee, the Registrar, [the Series 2016B Bond Insurer] or the Authority shall have any responsibility or obligation to any Participant, any person claiming a beneficial ownership interest in the Series 2016B Bonds under or through DTC or any Participant, or any other person who is not shown on the registration books as being a Bondholder, with respect to the accuracy of any records maintained by DTC or any Participant; the payment by DTC or any Participant of any amount in respect of principal or redemption price of, and interest on the Series 2016B Bonds; any notice which is permitted or required to be given to Bondholders under the Master Indenture; the selection by DTC or any Participant of any person to receive payment in the event of a partial redemption of the Series 2016B Bonds; any consent given or other action taken by DTC as Bondholder; or any other purpose. The Trustee shall pay principal or the redemption price of, and interest on the Series 2016B Bonds only to or upon the order of DTC, and all such payments shall be valid and effective to fully satisfy and discharge the Authority's obligations with respect to principal or the redemption price of, and interest on the Series 2016B Bonds to the extent of the sum or sums so paid. No person other than DTC shall receive an authenticated Series 2016B Bond evidencing the obligation of the Authority to make payments of principal or the redemption price of, and interest pursuant to the Master Indenture. Upon delivery by DTC to the Trustee of written notice to the effect that DTC has determined to substitute a new nominee in place of Cede & Co., and subject to the provisions herein with respect to Record Dates, the word "Cede & Co." in this Eleventh Supplemental Indenture shall refer to such new nominee of DTC.

(c) Notwithstanding any other provision of the Master Indenture and this Eleventh Supplemental Indenture to the contrary, so long as any Series 2016B Bond is registered in the name of Cede & Co., as nominee of DTC, all payments with respect to principal or the redemption price of, and interest on such Series 2016B Bond and all notices with respect to such Series 2016B Bond shall be made and given, respectively, to DTC as provided in the Representation Letter.

(d) In connection with any notice or other communication to be provided to Bondholders pursuant to the Master Indenture or this Eleventh Supplemental Indenture by the Authority or the Trustee with respect to any consent or other action to be taken by Bondholders, the Authority or the Trustee, as the case may be, shall establish a record date for such consent or other action and give DTC notice of such record date not less than fifteen (15) calendar days in advance of such record date to the extent possible.

(e) NONE OF THE AUTHORITY, THE CITY OF LOS ANGELES, THE CITY OF LONG BEACH, THE REGISTRAR, [THE SERIES 2016B BOND INSURER] OR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO DTC PARTICIPANTS, INDIRECT PARTICIPANTS OR BENEFICIAL OWNERS WITH RESPECT TO: THE PAYMENT BY DTC, ANY DTC PARTICIPANT OR ANY INDIRECT PARTICIPANT OF THE PRINCIPAL OR THE REDEMPTION PRICE OF, AND INTEREST ON THE SERIES 2016B BONDS; THE PROVIDING OF NOTICE TO DTC PARTICIPANTS, INDIRECT PARTICIPANTS OR BENEFICIAL OWNERS; THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC, ANY DTC PARTICIPANT OR ANY INDIRECT PARTICIPANT; OR ANY CONSENT GIVEN OR OTHER ACTION TAKEN BY DTC AS OWNER OF THE SERIES 2016B BONDS.

## ARTICLE III
## REDEMPTION

Section 3.01 ***Notices to Bondholders***. The Trustee shall give notice of redemption (which, in the case of optional redemption, may be conditional), in the name of the Authority, to Bondholders of the Series 2016B Bonds to be redeemed pursuant to this Article III at least thirty (30) days (or at least twenty (20) days for Book-Entry Bonds) but not more than sixty (60) days before each date fixed for redemption. The Trustee shall send such notices of redemption by first-class mail (or with respect to Series 2016B Bonds held by DTC, in accordance with DTC operating procedures) to each Owner of a Series 2016B Bond to be redeemed, each such notice shall be sent to the Owner's registered address.

Each notice of redemption shall specify the Series 2016B Bonds to be redeemed, the date of issue, the maturity date thereof, if less than all Series 2016B Bonds of a maturity are called for redemption, the numbers of the Series 2016B Bonds, the principal amount and the CUSIP numbers assigned to the Series 2016B Bonds to be redeemed, the principal to be redeemed and the interest rate applicable to the Series 2016B Bonds to be redeemed, the date fixed for redemption, the redemption price, the place or places of payment, the Trustee's or Paying Agent's name, that payment will be made upon presentation and surrender of the Series 2016B Bonds to be redeemed to the Trustee, that interest, if any, accrued to the date fixed for redemption and not paid will be paid as specified in said notice, and that on and after said date interest thereon will cease to accrue on the Series 2016B Bonds called for redemption, to the extent that moneys for payment of the redemption price, including accrued interest to the date fixed for redemption, are being held in trust by the Trustee therefor. [In the case of optional redemptions pursuant to Section 3.03 of this Eleventh Supplemental Indenture, each such notice shall further state that the proposed redemption is conditioned on there being on deposit in the applicable account, on the date fixed for redemption, sufficient money to pay the full redemption price, plus accrued but unpaid interest to the date fixed for redemption, of the Series 2016B Bonds to be redeemed.]

Failure to give any required notice of redemption as to any particular Series 2016B Bonds will not affect the validity of the call for redemption of any other Series 2016B Bonds with respect to which such failure does not occur. Any notice sent as provided herein will be conclusively presumed to have been given whether or not actually received by the addressee. When notice of redemption is given, Series 2016B Bonds called for redemption become due and payable on the date fixed for redemption at the applicable redemption price; provided that, in the case of optional redemption, sufficient money to pay the full redemption price of the Series 2016B Bonds to be redeemed is on deposit in the applicable account on the date fixed for redemption. In the event that funds are deposited by the Authority with the Paying Agent sufficient for redemption, interest on the Series 2016B Bonds to be redeemed will cease to accrue as of the redemption date.

Section 3.02 ***Mandatory Redemption of Series 2016B Bonds.*** The Series 2016B Bonds maturing on October 1, [____] shall be subject to mandatory sinking fund redemption prior to maturity on each October 1 in the years and in the respective principal amounts set forth below, in each case at a redemption price equal to the principal amount thereof, plus accrued interest to the date fixed for such mandatory redemption:

| Year<br>(October 1) | Principal Amount<br>($) |
|---|---|
| | |
| | |

The Series 2016B Bonds maturing on October 1, [____] shall be subject to mandatory sinking fund redemption prior to maturity on each October 1 in the years and in the respective principal amounts set forth below, in each case at a redemption price equal to the principal amount thereof, plus accrued interest to the date fixed for such mandatory redemption:

| Year<br>(October 1) | Principal Amount<br>($) |
|---|---|
| | |
| | |

On or before the 45th day before any mandatory sinking fund payment date for the Series 2016B Bonds, the Authority may deliver to the Trustee for cancellation Series 2016B Bonds of such maturity in any aggregate principal amount desired by the Authority. Each Series 2016B Bond so delivered shall be credited by the Trustee at the principal amount thereof against the obligation of the Authority to make such mandatory sinking fund payment or any future mandatory sinking fund payment with respect to such maturity as the Authority may direct, and the principal amount of Series 2016B Bonds to be so redeemed on such mandatory sinking fund payment date(s) shall be reduced accordingly. [The Authority may also credit against future sinking fund payment obligations for the Series 2016B Bonds the principal amount of any Series 2016B Bonds optionally redeemed pursuant to Section 3.03 below which have not been previously so applied.]

Section 3.03 ***Optional Redemption of the Series 2016B Bonds.*** **[**The Series 2016B Bonds maturing on or after October 1, 2027 are subject to redemption, on any date on or after October 1, 2026, in whole or in part, at the option of the Authority, from any moneys that may be provided for such purpose, at a redemption price equal to 100% of principal amount of such Series 2016B Bonds so redeemed plus accrued interest to the date fixed for redemption, without premium.]

Section 3.04 ***Extraordinary Redemption of the Series 2016B Bonds.*** The Series 2016B Bonds are subject to extraordinary redemption as provided in the Master Indenture.

Section 3.05 ***Payment of Series 2016B Bonds Called for Redemption***. Upon surrender to the Trustee, Series 2016B Bonds called for redemption shall be paid at the redemption price stated in the notice, plus interest accrued to the date fixed for redemption.

Section 3.06 **[*Selection of Series 2016B Bonds for Optional Redemption; Series 2016B Bonds Redeemed in Part***. Series 2016B Bonds may be selected for optional redemption by the Authority pursuant to Section 3.03 hereof, in whole or in part, in such order of maturity as the Authority may direct and within a maturity by lot, selected in such manner as the Trustee may deem appropriate; provided that Series 2016B Bonds may be redeemed only in Authorized Denominations. Upon surrender of a Series 2016B Bond to be redeemed in part only, the Trustee will authenticate for the holder a new Series 2016B Bond or Series 2016B Bonds of the same maturity equal in principal amount to the unredeemed portion of the Series 2016B Bond surrendered.]

Section 3.07 ***Effect of Redemption***. On the date so designated for redemption, notice having been given in the manner and under the conditions provided herein and moneys for payment of the redemption price including accrued interest to the date fixed for redemption being held in trust to pay the redemption price, (a) the Series 2016B Bonds so called for redemption shall become due and payable on the date fixed for redemption, (b) interest on such Series 2016B Bonds shall cease to accrue from and after such date fixed for redemption, (c) such Series 2016B Bonds shall cease to be entitled to any lien, benefit or security under the Master Indenture and this Eleventh Supplemental Indenture, and (d) the owners of such Series 2016B Bonds shall have no rights in respect thereof except to receive payment of the redemption price. Series 2016B Bonds which have been duly called for redemption under the provisions of this Article III and for which moneys for the payment of the redemption price thereof, together with interest accrued to the date fixed for redemption, shall have been set aside and held in trust for the holders of the Series 2016B Bonds to be redeemed, all as provided in this Eleventh Supplemental Indenture, shall not be deemed to be Outstanding under the provisions of the Master Indenture.

## ARTICLE IV
## ESTABLISHMENT OF FUNDS
## AND ADMINISTRATION THEREOF

Section 4.01 ***Establishment of Funds and Accounts***. There is hereby established within the Debt Service Reserve Fund established pursuant to Section 3.02(c) of the Master Indenture, the Series 2016B Debt Service Reserve Account, to be held and administered by the Trustee in accordance with the Master Indenture and Section 4.04 of this Eleventh Supplemental Indenture. In addition, the following funds are hereby established pursuant to Section 3.02 of the Master Indenture, each of which shall be held and administered by the Trustee as set forth herein:

(a) The Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds Costs of Issuance Fund, Series 2016B (the "Series 2016B Costs of Issuance Fund"); and

(b) The Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds Debt Service Fund, Series 2016B (the "Series 2016B Debt Service Fund"), which shall contain an Interest Account, a Principal Account and a Redemption Account for purposes of the Master Indenture.

Section 4.02 ***Application of Funds***.

The net proceeds of the sale of the Series 2016B Bonds, being the amount of $[______________] [(of which $[_____________] shall be paid directly by the initial purchasers to the Series 2016B Bond Insurer for the issuance of the Series 2016B Bond Insurance Policy and the Series 2016B Debt Service Reserve Surety Policy)], shall be received by the Trustee and be deposited as follows:

(a) $[____________] shall be deposited by the Trustee into the Escrow Fund established pursuant to the Escrow Agreement to be used, together with funds held under the Master Indenture and available for such purpose, to defease [(i) a portion of the Series 2004A Capital Appreciation Bonds maturing on October 1, 2016, October 1, 2017, October 1, 2018, October 1, 2019 and October 1, 2020 until the maturity thereof, and (ii) a portion of the Series 2004A Convertible Capital Appreciation Bonds maturing on October 1, 2021, October 1, 2022, October 1, 2023, October 1, 2024 and October 1, 2025 until the redemption thereof on October 1, 2017], as provided in the Escrow Agreement.

(b) The balance (being $[______________]) shall be deposited by the Trustee into the Series 2016B Cost of Issuance Fund.

Section 4.03 ***Series 2016B Debt Service Fund***. The Trustee shall withdraw funds and make payments from the Revenue Fund for deposit in the Series 2016B Debt Service Fund at the times and in the amounts required by Section 3.03(a) - EIGHTH of the Master Indenture in respect of the Series 2016B Bonds. With the funds made available to it pursuant to Section 3.03 of the Master Indenture for such purpose, the Trustee shall make deposits or transfers into the Series 2016B Debt Service Fund as follows:

(a) *Interest Account*. The Trustee shall deposit or transfer into the Interest Account of the Series 2016B Debt Service Fund amounts, as provided in the Master Indenture pursuant to Section 3.03(a) and this Eleventh Supplemental Indenture, to be used to pay interest due on the Series 2016B Bonds. The Trustee shall also deposit into the Interest Account any other amounts deposited with it for deposit in such Interest Account or transferred from other funds and accounts for deposit therein. Earnings on amounts in the Interest Account shall be credited to such account.

(b) *Principal Account.* The Trustee shall deposit or transfer into the Principal Account of the Series 2016B Debt Service Fund amounts, as provided in the Master Indenture pursuant to Section 3.03(a) and this Eleventh Supplemental Indenture, to be used to pay the principal of the Series 2016B Bonds at maturity. The Trustee shall also deposit into the Principal Account any other amounts deposited with it for deposit into such Principal Account or transferred from other funds and accounts for deposit therein. Earnings on amounts in the Principal Account shall be credited to such account.

(c) *Redemption Account.* The Trustee shall deposit or transfer into the Redemption Account of the Series 2016B Debt Service Fund amounts required or, in the case of optional redemption, amounts as instructed by the Authority, to be used to pay the redemption price of Series 2016B Bonds being redeemed as provided in Section 2.12 of the Master Indenture and Article III of this Eleventh Supplemental Indenture. The Trustee shall also deposit into the Redemption Account any other amounts deposited with it for deposit into the Redemption Account or transferred from other funds and accounts for deposit therein. Earnings on amounts in the Redemption Account shall be credited to such account, and any remaining earnings or other amounts therein following the applicable date fixed for redemption shall be withdrawn by the Trustee on the Business Day following such date fixed for redemption and deposited into the Revenue Fund, unless an Event of Default exists under the Master Indenture, in which event the earnings shall be retained in such Redemption Account.

Pursuant to Section 3.11 of the Master Indenture, amounts on deposit in the Series 2016B Debt Service Fund and the accounts therein may be invested and reinvested as directed by an Authorized Authority Representative in Permitted Investments.

Section 4.04 ***Series 2016B Debt Service Reserve Account***. As a condition of issuance of the Series 2016B Bonds, [the Authority shall cause the Series 2016B Bond Insurer to deliver to the Trustee the Series 2016B Debt Service Reserve Surety Policy for deposit into the Series 2016B Debt Service Reserve Account of the Debt Service Reserve Fund in an amount equal to the Debt Service Reserve Requirement for the Series 2016B Bonds. The Series 2016B Debt Service Reserve Surety Policy may be replaced with a substitute Debt Service Reserve Surety Policy and/or cash provided that prior to any such replacement the requirements set forth in Section 3.05(c) of the Master Indenture shall be satisfied.] Any amounts in the Series 2016B Debt Service Reserve Account in excess of the Debt Service Reserve Requirement shall be transferred to the Series 2016B Debt Service Fund, unless an Event of Default exists under the Indenture, in which event the excess amounts shall be retained in the Series 2016B Debt Service Reserve Account, as provided in Section 3.05(d) of the Master Indenture.

[The Trustee is authorized and directed to enter into the Series 2016B Debt Service Reserve Surety Policy in its capacity as Trustee under the Master Indenture and all provisions in the Master Indenture relating to the rights, privileges, powers and protections of the Trustee shall apply with equal force and effect to all actions taken or not taken by the Trustee in connection with the performance of any duties or responsibilities of the Trustee with respect to or under the Series 2016B Debt Service Reserve Surety Policy.]

Section 4.05 ***Series 2016B Costs of Issuance Fund***. There shall be deposited into the Series 2016B Costs of Issuance Fund the amount provided in Section 4.02(b) above. The Trustee shall make payments or disbursements from the Series 2016B Costs of Issuance Fund to pay Costs of Issuance relating to the Series 2016B Bonds upon receipt from the Authority of a Requisition meeting the requirements of Section 3.13 of the Master Indenture. Pursuant to Section 3.11 of the Master Indenture, amounts on deposit in the Series 2016B Costs of Issuance Fund may be invested and reinvested as directed by an Authorized Authority Representative in Permitted Investments. Subject to Section 3.11 of the Master Indenture, earnings on amounts in the Series 2016B Cost of Issuance Fund shall be retained therein. Upon the Trustee's receipt of written instructions from an Authorized Authority Representative, all amounts remaining on deposit in the Series 2016B Costs of Issuance Fund shall be transferred to the Series 2016B Debt Service Fund and the Trustee shall close the Series 2016B Costs of Issuance Fund.

## ARTICLE V
## TAX COVENANTS

The Authority hereby agrees that it will execute the Tax Certificate with respect to the Series 2016B Bonds. There is hereby created and established by the Authority the "Alameda Corridor Transportation Authority Tax-Exempt Senior Lien Revenue Refunding Bonds Rebate Fund, Series 2016B" (the "Series 2016B Rebate Fund") to be held and administered by the Authority. Notwithstanding any other provision contained herein relating to the deposit of investment earnings on amounts on deposit in any fund or account hereunder, at the written direction of the Authority, any earnings which are subject to a federal tax or rebate requirement, as provided in the Tax Certificate, shall be deposited in the Series 2016B Rebate Fund for that purpose.

## ARTICLE VI
## AMENDMENTS TO MASTER INDENTURE

Section 6.01 ***Amendment to Section 2.09(c) of the Master Indenture.*** Pursuant to Section 8.02(g) of the Master Indenture, Section 2.09(c) of the Master Indenture is hereby amended and supplemented by deleting subsection (c) in its entirety and replacing it as follows:

"(c) the Authority may issue Second Subordinate Lien Bonds from time to time for the purpose of refunding Bonds previously issued under this Master Indenture or for the purpose of providing funds for Costs of the Project, provided that prior to or simultaneously with the original delivery of each Series of Bonds there shall be delivered to the Trustee:

(1) a certificate, dated as of a date between the date of pricing of the Second Subordinate Lien Bond proposed to be issued and the date of delivery of such Second Subordinate Lien Bonds, prepared by an Authorized Authority Representative showing that estimated Dedicated Revenues, as calculated by the Authority in accordance with Section 2.09 of this Master Indenture and generally accepted accounting principles, for each Bond Year from the date of issuance of such Second Subordinate Lien Bonds through the date of final maturity of all Second Subordinate Lien Bonds will be at least equal to 105% of Debt Service for each Bond Year on all Second Subordinate Lien Bonds calculated as if the proposed Series of Second Subordinate Lien Bonds were then Outstanding; or

(2) a certificate, dated as of a date between the date of pricing of the Second Subordinate Lien Bonds proposed to be issued and the date of delivery of such Second Subordinate Lien Bonds, prepared by an Authorized Authority Representative showing that Maximum Annual Debt Service on all Outstanding Second Subordinate Lien Bonds after the issuance of such Second Subordinate Lien Bonds will not exceed Maximum Annual Debt Service on all Outstanding Second Subordinate Lien Bonds prior to the issuance of such Second Subordinate Lien Bonds."

## ARTICLE VII
## [SERIES 2016B BOND INSURANCE POLICY; SERIES 2016B DEBT SERVICE RESERVE SURETY POLICY; ADDITIONAL COVENANTS FOR THE BENEFIT OF THE SERIES 2016B BOND INSURER

**[*To be included and updated if bond insurance and/or debt service reserve surety bond are obtained*]**

Section 7.01 ***Application of Article VI***.

(a) All provisions herein regarding rights, consents, approvals, directions, appointments or requests by the Series 2016B Bond Insurer shall be deemed to not require or permit such consents, approvals, directions, appointments or requests by the Series 2016B Bond Insurer and shall be read as if the Series 2016B Bond Insurer were not mentioned therein, during any time in which: (i) the Series 2016B Bond Insurer is in default in its obligation to make payments under (A) the Series 2016B Bond Insurance Policy when due, (B) the Series 2016B Debt Service Reserve Surety Policy when due, or (C) any other municipal bond insurance policy or debt service reserve surety policy issued by the Series 2016B Bond Insurer when due and such failure shall continue for 30 days unless the obligation of the Series 2016B Bond Insurer to pay is being contested by the Series 2016B Bond Insurer in good faith by appropriate proceedings; (ii) the Series 2016B Bond Insurance Policy or the Series 2016B Debt Service Reserve Surety Policy shall at any time for any reason cease to be valid and binding on the Series 2016B Bond Insurer, or shall be declared to be null and void, in each case by a final, non-appealable order of a court of competent jurisdiction, or the validity or enforceability of any provision thereof is being contested by the Series 2016B Bond Insurer or any governmental agency or authority acting as a receiver or similar capacity for the Series 2016B Bond Insurer, or if the Series 2016B Bond Insurer is denying further liability or obligation under the Series 2016B Bond Insurance Policy or Series 2016B Debt Service Reserve Surety Policy; (iii) a proceeding has been instituted in a court having jurisdiction in the premises seeking an order for relief, rehabilitation, reorganization, conservation, liquidation or dissolution in respect of the Series 2016B Bond Insurer under Article 16 of the Insurance Law of the State of New York or any successor provision thereto or similar provision of law and such proceeding is not terminated for a period of 90 consecutive days or such court enters an order granting the relief sought in such proceeding; or (iv) the Series 2016B Insured Bonds are no longer Outstanding and any amounts due or to become due to the Series 2016B Bond Insurer have been paid in full; provided that to the extent that the Series 2016B Bond Insurer has made any payment of principal of or interest on the Series 2016B Bonds under the Series 2016B Bond Insurance Policy or the Series 2016B Debt Service Reserve Surety Policy, it shall retain its rights of subrogation and reimbursement under this Eleventh Supplemental Indenture.

(b) Subject to Subsection 6.01(a) hereof, the covenants of the Authority in this Article VI are solely for the benefit of the Series 2016B Bond Insurer and can be modified or waived in whole or in part by the Series 2016B Bond Insurer or otherwise agreed to between the Authority and the Series 2016B Bond Insurer without the consent of the Trustee and the Holders of the Bonds. The failure by the Authority to comply with any such covenants in this Article VI shall constitute an Event of Default under the provisions of the Master Indenture if, and only if, the Series 2016B Bond Insurer gives a written notice of such failure to the Trustee and to the Authority, notwithstanding anything in the Master Indenture to the contrary.

Section 7.02 ***Provisions Relating to the Series 2016B Bond Insurance Policy***.

As long as the Series 2016B Bond Insurance Policy shall be in full force and effect and the Series 2016B Bond Insurer is not in default of its obligation to make payments thereunder, the Authority, the Trustee and any Paying Agent hereby agree to comply with the following provisions:

(a) If, on the third Business Day prior to the related scheduled interest payment date or principal payment date ("Payment Date") on the Series 2016B Insured Bonds, there is not on deposit with the Trustee, after making all transfers and deposits required under the Indenture, moneys sufficient to pay the principal of and interest on the Series 2016B Insured Bonds due on such Payment Date, the Trustee shall give notice to the Series 2016B Bond Insurer and to its designated agent (if any) (the "Series 2016B Bond Insurer's Fiscal Agent") by telephone or telecopy of the amount of such deficiency by 12:00 noon, New York City time, on such Business Day. If, on the second Business Day prior to the related Payment Date, there continues to be a deficiency in the amount available to pay the principal of and interest on the Series 2016B Insured Bonds due on such Payment Date, the Trustee shall make a claim under the Series 2016B Bond Insurance Policy and give notice to the Series 2016B Bond Insurer and the Series 2016B Bond Insurer's Fiscal Agent (if any) by telephone of the amount of such deficiency, and the allocation of such deficiency between the amount required to pay interest on the Series 2016B Insured Bonds and the amount required to pay principal of the Series 2016B Insured Bonds, confirmed in writing to the Series 2016B Bond Insurer and the Series 2016B Bond Insurer's Fiscal Agent by 12:00 noon, New York City time, on such second Business Day by filling in the form of Notice of Claim and Certificate delivered with the Series 2016B Bond Insurance Policy.

(b) The Trustee shall designate any portion of payment of principal on Series 2016B Insured Bonds paid by the Series 2016B Bond Insurer, whether by virtue of mandatory sinking fund redemption, maturity or other advancement of maturity, on its books as a reduction in the principal amount of Series 2016B Insured Bonds registered to the then current Holder of the Series 2016B Insured Bonds, whether DTC or its nominee or otherwise, and shall issue a replacement Series 2016B Bond to the Series 2016B Bond Insurer, registered in the name of Assured Guaranty Municipal Corp., in a principal amount equal to the amount of principal so paid (without regard to authorized denominations); provided that the Trustee's failure to so designate any payment or issue any replacement Series 2016B Insured Bond shall have no effect on the amount of principal or interest payable by the Authority on any Series 2016B Insured Bond or the subrogation rights of the Series 2016B Bond Insurer.

(c) The Trustee shall keep a complete and accurate record of all funds deposited by the Series 2016B Bond Insurer into the Policy Payments Account (defined below) and the allocation of such funds to payment of interest on and principal of any Series 2016B Insured Bond. The Series 2016B Bond Insurer shall have the right to inspect such records at reasonable times upon reasonable notice to the Trustee.

(d) Upon payment of a claim under the Series 2016B Bond Insurance Policy, the Trustee shall establish a separate special purpose trust account for the benefit of holders of the Series 2016B Insured Bonds, which is referred to herein as the "Policy Payments Account," and over which the Trustee shall have exclusive control and sole right of withdrawal. The Trustee shall receive any amount paid under the Series 2016B Bond Insurance Policy in trust on behalf of Holders of the Series 2016B Insured Bonds and shall deposit any such amount in the Policy Payments Account and distribute such amount only for purposes of making the payments for which a claim was made. Such amounts shall be disbursed by the Trustee to Holders of the Series 2016B Insured Bonds in the same manner as principal and interest payments are to be made with respect to the Series 2016B Bonds under the sections of the Master Indenture regarding payment of Second Subordinate Lien Bonds. It shall not be necessary for such payments to be made by checks or wire transfers separate from the check or wire transfer used to pay debt service with other funds available to make such payments.

(e) Notwithstanding anything in the Master Indenture to the contrary, the Authority agrees to pay to the Series 2016B Bond Insurer: (i) a sum equal to the total of all amounts paid by the Series 2016B Bond Insurer under the Series 2016B Bond Insurance Policy (the "Insurer Advances"), which Insurer Advances shall be payable with monies deposited into the Series 2016B Debt Service Fund pursuant to Section 3.03(a) paragraph EIGHTH of the Master Indenture; and (ii) interest on such Insurer Advances from the date paid by the Series 2016B Bond Insurer until payment thereof in full, payable to the Series 2016B Bond Insurer at the Late Payment Rate per annum (collectively, the "Insurer Reimbursement Amounts"), which Insurer Reimbursement Amounts shall be payable as Financing Fees with monies deposited pursuant to Section 3.03(a) paragraph TENTH of the Master Indenture. "Late Payment Rate" means the lesser of: (A) the greater of (I) the per annum rate of interest, publicly announced from time to time by JPMorgan Chase Bank at its principal office in The City of New York, as its prime or base lending rate (any change in such rate of interest to be effective on the date such change is announced by JPMorgan Chase Bank) plus 3%, and (II) the then applicable highest rate of interest on the Series 2016B Insured Bonds, and (B) the maximum rate permissible under applicable usury or similar laws limiting interest rates. The Late Payment Rate shall be computed on the basis of the actual number of days elapsed over a year of 360 days.

(f) Funds held in the Policy Payments Account shall not be invested by the Trustee and may not be applied to satisfy any costs, expenses or liabilities of the Trustee. Any funds remaining in the Policy Payments Account following a Payment Date of the Series 2016B Insured Bonds shall promptly be remitted to the Series 2016B Bond Insurer.

Section 7.03 ***Provisions Relating to Series 2016B Debt Serve Reserve Surety Policy***.

(a) The Trustee shall ascertain the necessity for making a claim upon the Series 2016B Debt Service Reserve Surety Policy in accordance with the provisions of subparagraph (b) hereof and shall provide notice to the Series 2016B Bond Insurer in accordance with the terms of the Series 2016B Debt Service Reserve Surety Policy at least five (5) Business Days prior to each date upon which interest or principal is due on the Series 2016B Bonds. Where deposits are required to be made by the Authority with the Trustee to the Series 2016B Debt Service Fund more often than semi-annually, the Trustee shall give notice to the Series 2016B Bond Insurer of any failure of the Authority to make timely payment in full of such deposits within two Business Days of the due date.

(b) The Authority shall repay, or cause to be repaid, any draws under the Series 2016B Debt Service Reserve Surety Policy and pay all related reasonable expenses incurred by the Series 2016B Bond Insurer and shall pay interest thereon from the date of payment by the Series 2016B Bond Insurer at the Late Payment Rate, which amounts shall be payable as a Debt Service Reserve Surety Repayment Obligation pursuant to Section 3.03(a) paragraph NINTH of the Master Indenture. "Late Payment Rate means the lesser of: (x) the greater of (i) the per annum rate of interest, publicly announced from time to time by JPMorgan Chase Bank at its principal office in the City of New York, as its prime or base lending rate ("Prime Rate") (any change in such Prime Rate to be effective on the date such change is announced by JPMorgan Chase Bank) plus 3%, and (ii) the then applicable highest rate of interest on the Series 2016B Bonds, and (y) the maximum rate permissible under applicable usury or similar laws limiting interest rates. The Late Payment Rate shall be computed on the basis of the actual number of days elapsed over a year of 360 days. In the event JPMorgan Chase Bank ceases to announce its Prime Rate publicly, Prime Rate shall be the publicly announced prime or base lending rate of such national bank as the Series 2016B Bond Insurer shall specify.

If the interest provisions of this subparagraph (b) shall result in an effective rate of interest which, for any period, exceeds the limit of the usury or any other laws applicable to the indebtedness created herein, then all sums in excess of those lawfully collectible as interest for the period in question shall, without further agreement or notice between or by any party hereto, be applied as additional interest for any later periods of time when amounts are outstanding hereunder to the extent that interest otherwise due hereunder for such periods plus such additional interest would not exceed the limit of the usury or such other laws, and any excess shall be applied upon principal immediately upon receipt of such moneys by the Series 2016B Bond Insurer, with the same force and effect as if the Authority had specifically designated such extra sums to be so applied and the Series 2016B Bond Insurer had agreed to accept such extra payment(s) as additional interest for such later periods. In no event shall any agreed-to or actual exaction as consideration for the indebtedness created herein exceed the limits imposed or provided by the law applicable to this transaction for the use or detention of money or for forbearance in seeking its collection.

(c) Repayment of draws and payment of expenses and accrued interest thereon at the Late Payment Rate (collectively, "Policy Costs") shall commence in the first month following each draw, and each such monthly payment shall be in an amount at least equal to 1/12 of the aggregate of Policy Costs related to such draw.

Policy Costs constitute Debt Service Reserve Surety Repayment Obligations with respect to the Series 2016B Debt Service Reserve Surety Policy and shall be paid as provided in Section 3.03(a) paragraph NINTH of the Master Indenture.

Amounts in respect of Policy Costs paid to the Series 2016B Bond Insurer shall be credited: first to interest due, then to the expenses due, and then to principal due. As and to the extent that payments are made to the Series 2016B Bond Insurer on account of principal due, the coverage under the Series 2016B Debt Service Reserve Surety Policy will be increased by a like amount, subject to the terms of the Series 2016B Debt Service Reserve Surety Policy.

(d) All cash and investments in the Series 2016B Debt Service Reserve Account shall be transferred by the Trustee to the Series 2016B Debt Service Fund for payment of debt service on the Series 2016B Bonds before any drawing may be made on the Series 2016B Debt Service Reserve Surety Policy or any other credit facility credited to the Series 2016B Debt Service Reserve Fund in lieu of cash (a "Credit Facility"). Payment of any Policy Costs shall be made prior to replenishment of any such cash amounts. Draws on all Credit Facilities (including the Series 2016B Debt Service Reserve Surety Policy) on which there is available coverage shall be made by the Trustee on a pro-rata basis (calculated by reference to the coverage then available thereunder) after applying all available cash and investments in the Series 2016B Debt Service Reserve Fund, payment of Policy Costs and reimbursement of amounts with respect to other Credit Facilities shall be made on a pro-rata basis prior to replenishment of any cash drawn from the Series 2016B Debt Service Reserve Fund. For the avoidance of doubt, "available coverage" means the coverage then available for disbursement pursuant to the terms of the applicable Credit Facility without regard to the legal or financial ability or willingness of the provider of such instrument to honor a claim or draw thereon or the failure of such provider to honor any such claim or draw.

(e) The Master Indenture shall not be discharged until all Policy Costs owing to the Series 2016B Bond Insurer shall have been paid in full. The Authority's obligation to pay such amounts shall expressly survive payment in full of the Series 2016B Bonds.

Section 7.04 ***Covenants of the Authority For the Benefit of the Series 2016B Bond Insurer; Rights of Series 2016B Bond Insurer***.

(a) The written consent of the Series 2016B Bond Insurer shall be required in lieu of the request, consent, approval, direction or appointment of the Holders of the Series 2016B Insured Bonds whenever a consent, approval, direction or appointment by such Holders are required or permitted under the Indenture, including, without limitation for the purpose of exercising any voting right or privilege or giving any consent or direction or taking any other action which such Holders are entitled to take pursuant to the Indenture pertaining to (i) defaults and remedies, (ii) the duties and obligations of the Trustee and (iii) any amendment, supplement, modifications to, waiver of, the Indenture that requires the consent of Holders of the Series 2016B Bonds or adversely affects the rights and interest of the Series 2016B Bond Insurer. To eliminate any doubt, the Holders of the Series 2016B Insured Bonds shall have no right to give any request, consent, approval, direction or appointment which is required or permitted by the Indenture to be given by such Holders, except when the Series 2016B Bond Insurer has lost its rights to give such consent, approval, direction or appointment pursuant to Section 6.01(a) hereof.

(b) The Authority shall send any request to the Series 2016B Bond Insurer at its address set forth in Section 6.05(b) requesting its consent, in lieu of the consent of the Holders of the Series 2016B Insured Bonds.

(c) The Authority shall not issue any Series of Second Subordinate Lien Bonds (other than Refunding Bonds) pursuant to the Master Indenture unless it shall have obtained the prior written consent of the Series 2016B Bond Insurer, which consent, if any, shall be provided in the sole discretion of the Series 2016B Bond Insurer; provided, however, that unless otherwise permitted by the Series 2016B Bond Insurer, no Series of Second Subordinate Lien Bonds (including Refunding Bonds) shall be issued (i) if an Event of Default (or any event which, once all notices or grace periods have passed, would constitute an Event of Default) exists, unless such default shall be cured upon the issuance of such Bonds or (ii) unless the Series 2016B Debt Service Reserve Account is fully funded at the Debt Service Reserve Requirement for the Series 2016B Bonds as required by the Master Indenture.

(d) Without the prior written consent of the Series 2016B Bond Insurer, the Authority shall not approve or agree to any amendment, waiver or other modification of the Use and Operating Agreement which could be reasonably expected to result in a material impairment of the security for the Series 2016B Bonds or adversely affect the Series 2016B Bond Insurer's rights and interests under the Master Indenture or its obligations under the Series 2016B Bond Insurance Policy or the Series 2016B Debt Service Reserve Surety Policy.

In addition, no contract shall be entered into by the Authority or any action taken by the Authority which may impair or prejudice in any material respect the rights of the Series 2016B Bond Insurer or security for or sources of payment of the Series 2016B Insured Bonds, except upon obtaining the prior written consent of the Series 2016B Bond Insurer.

(e) The Series 2016B Bond Insurer shall, to the extent it makes any payment of principal of or interest on the Series 2016B Insured Bonds, become subrogated to the rights of the recipients of such payments in accordance with the terms of the Series 2016B Bond Insurance Policy. Each obligation of the Authority to the Series 2016B Bond Insurer under the Master Indenture or any other transaction document, including any underlying security agreement (each, a "Related Document") shall survive discharge or termination of such Related Document.

(f) The Authority shall pay or reimburse, or cause to be paid or reimbursed, the Series 2016B Bond Insurer for any and all charges, fees, costs and expenses that the Series 2016B Bond Insurer may reasonably pay or incur in connection with (i) the administration, enforcement, defense or preservation of any rights or security in any Related Document; (ii) the pursuit of any remedies under the Indenture or any other Related Document or otherwise afforded by law or equity, (iii) any amendment, waiver or other action with respect to, or related to, the Master Indenture or any other Related Document whether or not executed or completed, or (iv) any litigation or other dispute in connection with the Master Indenture or any other Related Document or the transactions contemplated thereby (other than costs resulting from the failure of the Series 2016B Bond Insurer to honor its obligations under the Series 2016B Bond Insurance Policy or Series 2013 Debt Service Reserve Surety Policy), all of which charges, fees, costs and expenses constitute Financing Fees payable pursuant to Section 3.03(a) paragraph TENTH of the Master Indenture. The Series 2016B Bond Insurer reserves the right to charge a reasonable fee as a condition to executing any amendment, waiver or consent proposed in respect of the Indenture or any other Related Document.

(g) After payment of reasonable expenses of the Trustee, the application of funds realized upon an Event of Default shall be applied to the payment of expenses of the Authority or rebate only after the payment of past due and current debt service on the Series 2016B Bonds and amounts required to restore the Series 2016B Debt Service Reserve Account to the Debt Service Reserve Requirement for the Series 2016B Bonds.

(h) The Series 2016B Bond Insurer shall be entitled to pay principal or interest on the Series 2016B Insured Bonds that shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Authority (as such terms are defined in the Series 2016B Bond Insurance Policy), whether or not the Series 2016B Bond Insurer has received a Notice of Nonpayment (as such terms are defined in the Series 2016B Bond Insurance Policy) or a claim upon the Series 2016B Bond Insurance Policy.

(i) In determining whether any amendment, consent, waiver or other action to be taken, or any failure to take action, under the Master Indenture would adversely affect the security for the Series 2016B Insured Bonds or the rights of the Holders of the Series 2016B Insured Bonds, the Trustee shall consider the effect of any such amendment, consent, waiver, action or inaction as if there were no Series 2016B Bond Insurance Policy.

(j) The Series 2016B Bond Insurer shall have the right to approve any Swap for the Series 2016B Bonds.

(k) Except for the Series 2016B Debt Service Reserve Surety Policy delivered at the time of the closing of the Series 2016B Bonds, the prior written consent of the

Series 2016B Bond Insurer shall be a condition precedent to the deposit of any credit instrument provided in lieu of a cash deposit into the Series 2016B Debt Service Reserve Account.

(l) The Series 2016B Bond Insurer is a third party beneficiary to the Master Indenture.

(m) The exercise of any provision of the Master Indenture which permits the purchase of Series 2016B Insured Bonds in lieu of redemption shall require the prior written approval of the Series 2016B Bond Insurer if any Series 2016B Insured Bond so purchased is not cancelled upon purchase.

(n) In the event of any reorganization or liquidation of the Authority which requires the approval of the Holders of the Series 2016B Insured Bonds, the Series 2016B Bond Insurer shall have the right to vote on behalf of all Holders of the Series 2016B Insured Bonds.

(o) The rights granted to the Series 2016B Bond Insurer under the Master Indenture or any other Related Document to request, consent to or direct any action are rights granted to the Series 2016B Bond Insurer in consideration of its issuance of the Series 2016B Bond Insurance Policy. Any exercise by the Series 2016B Bond Insurer of such rights is merely an exercise of the Series 2016B Bond Insurer's contractual rights and shall not be construed or deemed to be taken for the benefit, or on behalf, of the Holders of the Series 2016B Insured Bonds and such action does not evidence any position of the Series 2016B Bond Insurer, affirmative or negative, as to whether the consent of the Holders of the Series 2016B Insured Bonds or any other person is required in addition to the consent of the Series 2016B Bond Insurer.

(p) To accomplish defeasance of the Series 2016B Insured Bonds pursuant to Article V of the Master Indenture, the Authority shall cause to be delivered to the Series 2016B Bond Insurer: (i) a report of an independent firm of nationally recognized certified public accountants or such other accountant as shall be acceptable to the Series 2016B Bond Insurer ("Accountant') verifying the sufficiency of the escrow established to pay the Series 2016B Insured Bonds in full on their maturity or redemption date ("Verification"), (ii) an escrow deposit agreement (which shall be acceptable in form and substance to the Series 2016B Bond Insurer), (iii) an opinion of nationally recognized bond counsel to the effect that the Series 2016B Insured Bonds are no longer "Outstanding" under the Master Indenture and (iv) a certificate of discharge of the Trustee with respect to the Series 2016B Insured Bonds. Each Verification and defeasance opinion shall be acceptable in form and substance, and addressed, to the Authority, Trustee and Series 2016B Bond Insurer. The Series 2016B Bond Insurer shall be provided with final drafts of the above-referenced documentation not less than five business days prior to the funding of the defeasance escrow.

(q) Series 2016B Insured Bonds shall be deemed "Outstanding" under the Master Indenture unless and until they are in fact paid or defeased in accordance with Article V of the Master Indenture and Subsection(p) above.

(r) Amounts paid by the Series 2016B Bond Insurer under the Series 2016B Bond Insurance Policy shall not be deemed paid for purposes of the Master Indenture and the

Series 2016B Insured Bonds relating to such payments shall remain Outstanding and continue to be due and owing until paid by the Authority in accordance with the Master Indenture. The Master Indenture shall not be discharged unless all amounts due or to become due to the Series 2016B Bond Insurer have been paid in full or duly provided for.

(s) Each of the Authority and Trustee covenant and agree to take such action (including, as applicable, filing of UCC financing statements and continuations thereof) as is necessary from time to time to preserve the priority of the pledge of the Trust Estate under applicable law.

Section 7.05 ***Notices to Series 2016B Bond Insurer.***

(a) The Series 2016B Bond Insurer shall be provided with the following information by the Authority or the Trustee, as the case may be:

(i) By the Authority, the annual audited financial statements of the Authority within 180 days after the end of the Authority's fiscal year (together with a certification of the Authority that it is not aware of any default or Event of Default under the Master Indenture), and the Authority's annual budget within 30 days after the approval thereof together with such other information, data or reports as the Series 2016B Bond Insurer shall reasonably request from time to time;

(ii) By the Trustee, notice of any draw upon the Series 2016B Debt Service Reserve Account within two Business Days after such draw other than (i) withdrawals of amounts in excess of the Debt Service Reserve Requirement for the Series 2016B Bonds and (ii) withdrawals in connection with a refunding of Series 2016B Bonds;

(iii) By the Trustee and Authority, notice of any default known to the Trustee or the Authority, within five Business Days after knowledge thereof;

(iv) By the Trustee, prior notice of the advance refunding or redemption of any of the Series 2016B Insured Bonds, including the principal amount, maturities and CUSIP numbers thereof, which notice may be made by providing a copy of the notice provided to the Holders thereof;

(v) By the Trustee, notice of the resignation or removal of the Trustee and Bond Registrar and the appointment of, and acceptance of duties by, any successor thereto;

(vi) By the Authority, notice of the commencement of any proceeding by or against the Authority, the Ports or the Railroads commenced under the United States Bankruptcy Code or any other applicable bankruptcy, insolvency, receivership, rehabilitation or similar law (an "Insolvency Proceeding"), in each case within five Business Days after knowledge thereof;

(vii) By the Authority, notice of the making of any claim in connection with any Insolvency Proceeding seeking the avoidance as a preferential transfer of any payment of principal of, or interest on, the Series 2016B Insured Bonds, in each case within five Business Days after knowledge thereof;

(viii) By the Authority, a full original transcript of all proceedings relating to the execution of any amendment, supplement, or waiver to the Related Documents (as defined in Section 6.04(e) hereof);

(ix) By the Authority, copies of all notices of estimated and actual Shortfall Advances required to be delivered to the Ports by the Authority under Section 7.3(h)(ii) of the Use and Operating Agreement;

(x) By the Authority and Trustee, all reports, notices and correspondence to be delivered to Holders of the Series 2016B Bonds under the terms of the Master Indenture and Related Documents;

(xi) By the Authority, copies of all information filed pursuant to any continuing disclosure agreement entered into with respect to the Series 2016B Bonds, which shall be provided promptly after the filing of such information;

(xii) The Series 2016B Bond Insurer shall have the right to receive such additional information as it may reasonably request; and

(xiii) The Trustee shall notify the Series 2016B Bond Insurer of any failure of the Authority to provide notices, certificates and other information required by the Master Indenture to be provided by the Authority to the Trustee.

(b) All notices to the Series 2016B Bond Insurer shall be provided to the following address: Assured Guaranty Municipal Corp., 31 West 52nd Street, New York, New York 10019, Attention: Managing Director — Surveillance, Re: Policy No. [_________], Telephone: (212) 826-0100, Telecopier: (212) 339-3556.

In each case in which notice or other communication refers to an Event of Default, then a copy of such notice or other communication shall also be sent to the attention of the General Counsel and shall be marked to indicate "URGENT MATERIAL ENCLOSED."

The Authority will permit the Series 2016B Bond Insurer to discuss the affairs, finances and accounts of the Authority or any information the Series 2016B Bond Insurer may reasonably request regarding the security for the Series 2016B Bonds with appropriate officers of the Authority and will use commercially reasonable efforts to enable the Series 2016B Bond Insurer to have access to the facilities, books and records of the Authority on any business day upon reasonable prior notice.]

## ARTICLE VIII
## MISCELLANEOUS

Section 8.01 ***Notices***.

(a) Any notice, request, direction, designation, consent, acknowledgment, certification, appointment, waiver or other communication required or permitted by this Eleventh Supplemental Indenture or the Series 2016B Bonds must be in writing except as expressly provided otherwise in this Eleventh Supplemental Indenture.

(b) Any notice or other communication, unless otherwise specified, shall be sufficiently given and deemed given when (i) mailed by first-class mail, postage prepaid, addressed to the Authority or the Trustee at the addresses provided in the Master Indenture, [or to the Series 2016B Bond Insurer at the address provided in Section 6.05(b) hereof,] (ii) delivered by hand and received by the Authority or the Trustee at the addresses provided in the Master Indenture, or (iii) sent by facsimile to the Authority or the Trustee at the number provided in the Master Indenture, [or to the Series 2016B Bond Insurer at the address provided in Section 6.05(b) hereof,] provided the machine receiving such facsimile is equipped with automatic answer-back capacity. Any addressee may designate additional or different addresses for purposes of this Section.

Section 8.02 ***Modification of this Eleventh Supplemental Indenture***. The Authority may, from time to time and at any time, execute and deliver Supplemental Indentures supplementing and/or amending this Eleventh Supplemental Indenture in the manner set forth in Article VIII of the Master Indenture.

Section 8.03 ***Severability***. If any provision of this Eleventh Supplemental Indenture shall be determined to be unenforceable, that shall not affect any other provision of this Eleventh Supplemental Indenture.

Section 8.04 ***Payments or Actions Occurring on Non-Business Days***. If a payment date is not a Business Day at the place of payment or if any action required hereunder is required on a date that is not a Business Day, then payment may be made at that place on the next Business Day or such action may be taken on the next Business Day with the same effect as if payment were made or the action taken on the stated date, and no interest shall accrue on that payment for the intervening period.

Section 8.05 ***Governing Law***. This Eleventh Supplemental Indenture shall be governed by and construed in accordance with the laws of the State.

Section 8.06 ***Captions***. The captions in this Eleventh Supplemental Indenture are for convenience only and do not define or limit the scope or intent of any provisions or Sections of this Eleventh Supplemental Indenture.

Section 8.07 ***Counterparts***. This Eleventh Supplemental Indenture may be signed in several counterparts. Each will be an original, but all of them together constitute the same instrument.

IN WITNESS WHEREOF, the parties hereto have caused this Eleventh Supplemental Indenture to be duly executed all as of the date first above written.

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**

Attest:

By: ______________________________
Chief Executive Officer

By: ______________________________
Secretary of the
Authority Governing Board

**U.S. BANK NATIONAL ASSOCIATION**
as Trustee

By: ______________________________
Vice President

**EXHIBIT A**

**FORM OF SERIES 2016B BOND**

[To Come]

# Exhibit C

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**

| | |
|---|---|
| $________ | $________ |
| TAX-EXEMPT SUBORDINATE LIEN REVENUE REFUNDING BONDS, SERIES 2016A | TAX-EXEMPT SECOND SUBORDINATE LIEN REVENUE REFUNDING BONDS, SERIES 2016B |

BOND PURCHASE AGREEMENT

__________, 2016

ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY
3760 Kilroy Airport Way, Suite 200
Long Beach, California 90806

Ladies and Gentlemen:

Merrill Lynch, Pierce, Fenner & Smith Incorporated, on behalf of itself and as representative (the "Representative") of the underwriters listed in Schedule 1 hereto (collectively with the Representative, the "Underwriters"), hereby offers to enter into this Bond Purchase Agreement (the "Purchase Agreement") with the Alameda Corridor Transportation Authority (the "Authority"), whereby the Underwriters will purchase and the Issuer will sell the Bonds (as defined and described below). The offer made hereby is subject to receipt by the Underwriters of (i) the documents referred to in Paragraph 5 hereof and (ii) the letters of representation, dated the date hereof and in the forms attached hereto as Exhibits A through D (collectively, the "Letters of Representation"), from BNSF Railway Company ("BNSF"), the Union Pacific Railroad Company ("Union Pacific" and together with BNSF, the "Railroads"), the City of Los Angeles, acting by and through its Board of Harbor Commissioners (the "Port of Los Angeles"), and the City of Long Beach, acting by and through its Board of Harbor Commissioners (the "Port of Long Beach" and together with the Port of Los Angeles, the "Ports"), and is subject to acceptance by the Authority by execution and delivery of this Purchase Agreement to the Representative at or prior to 5:00 P.M., Los Angeles time, on the date first above written. If such documents are not received or if this offer is not so accepted, this offer will be subject to withdrawal by the Underwriters upon notice delivered to the [Chief Financial/Executive Officer] of the Authority by the Representative at any time prior to such receipt and the acceptance hereof by the Authority. Upon the receipt of such documents and the acceptance of this offer in accordance with the terms hereof, this Purchase Agreement shall be in full force and effect in accordance with its terms and shall bind both the Authority and the Underwriters.

Capitalized terms in this Purchase Agreement that are not otherwise defined shall have the meanings given to such terms in the Indenture herein after mentioned.

1. Purchase and Sale. Upon the terms and conditions and in reliance upon the representations and agreements hereinafter set forth, the Underwriters hereby agree, jointly and severally, to purchase from the Authority for offering to the public, and the Authority hereby agrees to sell and deliver to the Underwriters for such purpose, all (but not less than all) of $________ aggregate principal amount of Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds"), and $________ aggregate principal amount of Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds" and together with the Series 2016A Bonds, the "Bonds"), to be dated the date of the Closing hereinafter mentioned and to mature (subject to prior redemption) on the dates and in the principal amounts and be subject to the redemption at the times and at the prices and bear interest at the rates per annum set forth in Schedule 2 attached hereto.

[Payment when due of the principal of and interest on the Series 2016A Bonds maturing on October 1 of the years [___ through ___, inclusive] and on the Series 2016B Bonds maturing on October 1 of the years [___ through ___, inclusive] (collectively, the "Insured Bonds"), shall be insured by [____________] (the "Insurer").]

The aggregate purchase price for the Series 2016A Bonds (the "Series 2016A Purchase Price") shall be $_________ (representing the aggregate principal amount of the Series 2016A Bonds, plus original issue premium of $________, less original issue discount of $________ and less Underwriters' discount of $_________). The aggregate purchase price for the Series 2016B Bonds (the "Series 2016B Purchase Price" and together with the Series 2016A Purchase Price, the "Purchase Price") shall be $_________ (representing the aggregate principal amount of the Series 2016B Bonds, plus original issue premium of $________, less original issue discount of $________ and less Underwriters' discount of $_________).

2. The Bonds. The Bonds shall be issued under and secured by a Master Trust Indenture, dated as of January 1, 1999 (the "Master Indenture"), as supplemented and amended by the First Supplemental Trust Indenture, the Second Supplemental Trust Indenture, the Third Supplemental Trust Indenture and the Fourth Supplemental Trust Indenture, each dated as of January 1, 1999, the Fifth Supplemental Trust Indenture, dated as of June 1, 2003, the Sixth Supplemental Trust Indenture and the Seventh Supplemental Trust Indenture, each dated as of February 1, 2004, the Eighth Supplemental Trust Indenture, dated as of June 1, 2012, the Ninth Supplemental Trust Indenture, dated as of February 1, 2013 (collectively, the "Prior Supplemental Indentures"), and by the Tenth Supplemental Trust Indenture and the Eleventh Supplemental Trust Indenture, each to be dated as of _________, 2016 (the "Tenth Supplemental Indenture" and the "Eleventh Supplemental Indenture," respectively, and the Master Indenture, as supplemented and amended by the Prior Supplemental Indentures and by the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture, the "Indenture"), each between the Authority and U.S. Bank National Association, as trustee (the "Trustee"), and pursuant to Chapter 5 of Division 7 of Title 1 of the California Government Code, commencing with Section 6500 thereof (the "Act"). The execution and delivery by the Authority of the Master Indenture and the Prior Supplemental Indentures were authorized by the Governing Board of the Authority (the "Board") pursuant to Resolution No. JPA-26-98, adopted by the Board on October 14, 1998, as supplemented by Resolution No. JPA-30-98, adopted by the Board on December 17, 1998, Resolution No. JPA-3-03, adopted by the Board on July 10, 2003,

Resolution No. JPA-1-04, adopted by the Board on February 5, 2004, Resolution No. JPA-12-1, adopted by the Board on June 14, 2012, Resolution No. JPA-12-3, adopted by the Board on November 8, 2012, and Resolution No. JPA-13-1, adopted by the Board on January 10, 2013 (collectively, the "Prior Resolutions"). The issuance of the Bonds and the execution and delivery by the Authority of the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture were authorized by the Board pursuant to Resolution No. JPA-___-__, adopted by the Board on March __, 2016, and Resolution No. JPA-___-__, adopted by the Board on April __, 2016 (together, the "Series 2016 Resolutions" and the Series 2016 Resolutions together with the Prior Resolutions, the "Resolutions").

The Series 2016A Bonds are being issued to, among other purposes, (i) refund [and/or defease to maturity] a portion of the Authority's outstanding Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Bonds, Series 2004A (the "Refunded Bonds"); (ii) purchase a debt service reserve fund surety policy (the "Reserve Account Surety Policy"); [(iii) purchase a municipal bond insurance policy (the "Bond Insurance Policy") for the Insured Bonds]; and (iv) pay costs of issuing the Bonds.

3. Authority of Representative; No Fiduciary Relationship.

(a) The Representative has been duly authorized by the Underwriters to execute this Purchase Agreement and to act hereunder by and on behalf of the Underwriters.

(b) The Authority acknowledges and agrees that: (i) the primary role of the Underwriters, as underwriters, is to purchase securities, for resale to investors, in an arm's length commercial transaction between the Authority and the Underwriters and the Underwriters have financial and other interests that differ from those of the Authority; (ii) the Underwriters are acting solely as principals and are not acting as municipal advisors, financial advisors or fiduciaries to the Authority and have not assumed any advisory or fiduciary responsibility to the Authority with respect to the transaction contemplated herein and the discussions, undertakings and procedures leading thereto (irrespective of whether the Underwriters have provided other services or are currently providing other services to the Authority on other matters); (iii) the only obligations the Underwriters have to the Authority with respect to the transaction contemplated herein expressly are set forth in this Purchase Agreement; and (iv) the Authority has consulted its own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent it has deemed appropriate.

4. Purchase. It shall be a condition to the Authority's obligations to sell and to deliver the Bonds to the Underwriters and to the Underwriters' obligations to purchase, to accept delivery of and to pay for the Bonds at the Closing that the entire aggregate principal amount of the Bonds referred to in Paragraph 1 shall be issued, sold and delivered by the Authority and purchased, accepted and paid for by the Underwriters.

5. Preliminary Official Statement; Official Statement; Verification Report; and Accountants' Letter.

(a) In connection with the public offering and sale of the Bonds, the Authority hereby ratifies, confirms and approves the use and distribution by the Underwriters prior to the date hereof of the Preliminary Official Statement relating to the Bonds, dated _________, 2016, and including the cover page, the Appendices thereto and any documents incorporated therein by reference, the "Preliminary Official Statement"). The Authority has "deemed final" and hereby deems final the Preliminary Official Statement for purposes of Rule 15c2-12 promulgated under the Securities Exchange Act of 1934 ("Rule 15c2-12"), except for information permitted to be omitted therefrom by Rule 15c2-12. [For purposes of this Purchase Agreement, the printed paper form of the Preliminary Official Statement is deemed controlling.] The Representative and the Authority each confirms it agreed to the preparation and distribution of the Preliminary Official Statement in printed and electronic form.

(b) Prior to or simultaneously with the execution and delivery of this Purchase Agreement, the Authority shall have delivered to the Representative one copy of the final Official Statement of the Authority with respect to the Bonds, signed by the Authority's Chief Executive Officer or by his authorized designee and dated as of the date hereof, substantially in the form of the Preliminary Official Statement, with the addition of the pricing information and only such other changes as shall have been accepted by the Representative (such Preliminary Official Statement, with the addition of the pricing information and such other changes (which additions and changes may be handwritten) and including the Appendices thereto and any documents incorporated therein by reference being hereinafter called the "Official Statement"). The Authority shall provide to the Underwriters within seven (7) business days after the date of this Purchase Agreement, but in any event at least three (3) business days prior to the date of the Closing and in sufficient time to accompany any confirmation that requests payment from any customer and in sufficient time to enable the Underwriters to comply with paragraph (b)(4) of Rule 15c2-12 and with the rules of the Municipal Securities Rulemaking Board (the "MSRB"), printed, conformed copies of the Official Statement in the quantities requested by the Underwriters to enable the Underwriters to comply with the requirements of the MSRB and Rule 15c2-12, provided, that the Underwriters shall be responsible for paying the costs of printing Official Statements in excess of 500. The Authority authorizes the Representative to file the Official Statement with the MSRB through its Electronic Municipal Market Access System ("EMMA") within one (1) business day after receipt of printed copies of the Official Statement and if any amendments or supplements to the Official Statement are prepared by the Authority and delivered to the Underwriters in accordance with Paragraph 7(e), the Authority authorizes the Representative to make required filings of such amendments or supplements to the Official Statement with the MSRB or its designee. [For purposes of this Purchase Agreement, the printed paper form of the Official Statement is deemed controlling.] [The Authority hereby agrees to deliver to the Underwriters an electronic copy of the Official Statement in a form that permits the Underwriters to satisfy their obligations under the rules and regulations of the MSRB and the U.S. Securities and Exchange Commission ("SEC").] The Authority and the Representative each confirms that it does not object to the distribution of the Official Statement in electronic form. The Authority hereby authorizes and approves the use and distribution by the Underwriters of the Official Statement in connection with the public offering and sale of the Bonds.

(c) On the date of this Purchase Agreement, the Authority shall deliver or cause to be delivered to the Underwriters verbal confirmation from [Causey Demgen & Moore P.C.], the verification agent (the "Verification Agent"), as to the adequacy of the escrow for the refunding [and/or defeasance to maturity] of the Refunded Bonds.

(d) On or prior to the date of this Purchase Agreement, the Authority shall deliver or cause to be delivered to the Underwriters one copy of the letter of KPMG LLP, dated ________, 2016, in form and substance satisfactory to the Representative consenting to the inclusion of the audited financial statements of the Authority and KPMG's report thereon in Appendix A to the Preliminary Official Statement and to references to its name and to its report in the Preliminary Official Statement.

(e) [On or prior to the date of this Purchase Agreement, the Authority shall deliver or cause to be delivered to the Underwriters one copy of the letter of [Mercator] (the "Ports' Independent Consultant"), dated ________, 2016, in form and substance satisfactory to the Representative consenting to the inclusion of its report entitled *San Pedro Bay Long-Term Unconstrained Cargo Forecast* (the "Independent Cargo Report") in Appendix [__] to the Preliminary Official Statement and to references to its name and to its report in the Preliminary Official Statement.]

6. Offering. The Underwriters intend to make a *bona fide* public offering of all of the Bonds at prices not in excess of the initial public offering prices or at yields not lower than the yields set forth on the inside front cover of the [printed paper form of the] Official Statement; provided that the Bonds may be offered and sold to certain dealers (including dealers depositing the Bonds into unit investment trusts), money market funds (including money market funds sponsored or managed by the Underwriters) and others at prices lower than the initial public offering prices or at yields higher than the initial yields set forth in the Official Statement and provided that the Underwriters may over-allot or effect transactions that stabilize or maintain the market price of the Bonds at levels above those that otherwise would prevail in the open market and may discontinue such stabilizing at any time without prior notice. Following the execution hereof and subject to the foregoing, the offering prices or yields may be changed from time to time by the Underwriters without prior notice. The Representative shall provide to the Authority a certificate setting forth the offering prices of the Bonds in substantially the form set forth in Exhibit [__].

7. Representations and Agreements of the Authority. The Authority represents to and agrees with the Underwriters that, as of the date hereof and as of the date of the Closing:

(a) (i) the Board has full legal right, power and authority to adopt the Series 2016 Resolutions; (ii) the Authority has full legal right, power and authority (A) to accept the Letters of Representation and to enter into and to execute and deliver this Purchase Agreement, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Tax and Compliance Certificate, to be dated the date of Closing (the "Tax Certificate"), the Escrow Agreement, to be dated as of ________, 2016 (the "Escrow Agreement"), between the Authority and U.S. Bank National Association, as escrow agent ("Escrow Agent"), and the Continuing Disclosure Certificate, to be dated the date of Closing (the "Continuing Disclosure Certificate" and together with the Purchase Agreement, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Escrow Agreement, and the Tax Certificate and the Series 2016 Resolutions, the "2016 Documents" and together with the Indenture, the Alameda Corridor Use and Operating Agreement, dated as of October 12, 1998, as amended by the First Amendment to Alameda Corridor Use and Operating Agreement, dated as of July 5, 2006 (collectively, the "Use and Operating Agreement"), among the Authority, the Railroads and the Ports, and the DTC

Letter of Representations mentioned below, the "Transaction Documents"), and to comply with all terms and conditions thereof, to collect and pledge the Revenues to the payment of the Bonds as provided in the Indenture, to collect and apply the M & O Charges (as defined in the Use and Operating Agreement) and to observe, perform and consummate the covenants, agreements and transactions provided for in the Series 2016 Resolutions, the Indenture, this Purchase Agreement and the other Transaction Documents and in the agreements listed in Schedule 3 hereto (the "Operating Agreements" and together with the Transaction Documents, the "Authority Documents") and described in the Preliminary Official Statement and in the Official Statement; (B) to operate the Rail Corridor; and (C) to issue the Bonds for the purposes described in the Official Statement and in the Indenture and to issue, sell and deliver the Bonds to the Underwriters as provided herein; (iii) by all necessary official action, the Authority has authorized, ratified, approved and "deemed final" the Preliminary Official Statement and has duly authorized and approved the Official Statement, has authorized the execution of the Official Statement, has approved and ratified the delivery of the Preliminary Official Statement and the Official Statement to the Underwriters, the distribution of the Preliminary Official Statement by the Underwriters to potential purchasers of the Bonds and the distribution of the Official Statement by the Underwriters to potential purchasers and purchasers of the Bonds; and (iv) the Authority has duly executed the Official Statement.

(b) the Board has duly adopted the Resolutions at meetings duly noticed, called and held pursuant to applicable law and at each of which a quorum was present and acting throughout, and the Resolutions are in full force and effect and have not been amended, modified, rescinded or repealed; the Authority Documents are in full force and effect and have not been amended except as described in the Official Statement; by all necessary official action, the Authority has duly authorized and approved the issuance and sale of the Bonds, the execution and delivery of, and the observance and performance by the Authority of its covenants and agreements contained in, this Purchase Agreement and the other Authority Documents, and the consummation by it of all other transactions contemplated therein to have been performed or consummated at or prior to the Closing; and the Authority has complied, and at the Closing will be in compliance in all respects, with its obligations in connection with the issuance of the Bonds on its part contained in the Authority Documents;

(c) the Preliminary Official Statement was as of its date, and is, as of the date hereof, true and correct, with the exception of information relating to the pricing and sale of the Bonds and other information permitted to be omitted pursuant to the Rule, deemed final pursuant to Rule 15c2-12 and other than information concerning The Depository Trust Company ("DTC") and its book-entry system, the Insurer, the City of Los Angeles, California (the "City of Los Angeles") and the City of Long Beach, California (the "City of Long Beach" and together with the City of Los Angeles, the "Cities") and information under the headings "INTRODUCTION—The Ports" and "—The Railroads," "THE PORTS," "THE RAILROADS," ["THE SERIES 2016 BOND INSURER,"] "RATINGS" (with respect to the ratings assigned to the Insurer), "FINANCIAL STATEMENTS" (with respect to information about the Ports), "CONTINUING DISCLOSURE—The Authority and the Ports" (with respect to information about the Ports) and "—The Railroads" and "UNDERWRITING" and in Appendices B, C, D, F, G, [I and J] (as to all of which no representation is made) and did not, as of its date, and does not, as of the date hereof, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(d) the Official Statement is as of its date, and will be, as of the date of Closing, true and correct, other than information concerning DTC and its book-entry system, the Insurer, the prices or yields on the Bonds stated on the inside front cover of the Official Statement, CUSIP numbers and the Cities and information under the headings "INTRODUCTION—The Ports" and "—The Railroads," "THE PORTS," "THE RAILROADS," ["THE SERIES 2016 BOND INSURER,"] "RATINGS" (with respect to the ratings assigned to the Insurer), "FINANCIAL STATEMENTS" (with respect to information about the Ports), "CONTINUING DISCLOSURE—The Authority and the Ports" (with respect to information about the Ports) and "—The Railroads" and "UNDERWRITING" and in Appendices B, C, D, F, G, [I and J] (as to all of which no representation is made), and does not as of the date hereof and will not as of the date of Closing contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; and if the Official Statement is supplemented or amended pursuant to Paragraph 7(e), the Official Statement, as so amended or supplemented, will be true and correct and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading (except that no representation is or will be made as to the information contained in the Official Statement, as so amended or supplemented, regarding DTC and its book-entry system, the Insurer, the Cities, the prices or yields on the Bonds stated on the inside front cover of the Official Statement, CUSIP numbers, and information under the headings "INTRODUCTION—The Ports" and "—The Railroads," "THE PORTS," "THE RAILROADS," ["THE SERIES 2016 BOND INSURER,"] "RATINGS" (with respect to the ratings assigned to the Insurer), "FINANCIAL STATEMENTS" (with respect to information about the Ports), "CONTINUING DISCLOSURE—The Authority and the Ports" (with respect to information about the Ports) and "—The Railroads" and "UNDERWRITING" and in Appendices B, C, D, F, G, [I and J]);

(e) (A) if, between the date of this Purchase Agreement and the earlier of (i) 90 days following the "end of the underwriting period" (as such term is defined in Rule 15c2-12) or (ii) the time when the Official Statement is available to any person from the MSRB, but in no case less than 25 days following the end of the underwriting period, any event shall occur or any new or pre-existing fact or condition shall become known that might or that would cause the Official Statement, as then supplemented or amended, to contain any untrue statement of a material fact or to omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, the Authority shall promptly notify the Underwriters thereof and if, in the reasonable opinion of the Representative or the Authority, such event, fact or condition requires the preparation and publication of a supplement or amendment to the Official Statement, the Authority at its expense will supplement or amend the Official Statement and shall provide to the Underwriters copies of such amendment or supplement in quantities sufficient to enable the Underwriters to comply with the rules of the MSRB; and, in connection with any such event or any such amendment or supplement, the Authority agrees to provide to the Underwriters prior written notice of any such supplement or amendment and to provide or to cause to be provided such additional certificates and opinions of counsel as the Representative shall request to evidence the accuracy and completeness of the

Official Statement, including any amendment or supplement thereto, and (B) between the date of this Purchase Agreement and the end of the underwriting period, the Authority shall not supplement or amend the Official Statement or cause the Official Statement to be supplemented or amended without prior written notice to the Underwriters. The Authority may assume that the end of the underwriting period has occurred at the time of the Closing unless the Representative or another Underwriter notifies the Authority in writing on or prior to the Closing that there exists an unsold balance of the Bonds for sale to the public, in which case the end of the underwriting period shall be 30 days after the Closing;

(f) the Authority is a validly existing joint powers authority of the State of California (the "State") established under the Act;

(g) between the date hereof and at the time of Closing[, except as disclosed in the Preliminary Official Statement and in the Official Statement], the Authority will not without the prior written [notice to] the Representative offer or issue any bonds or securities with a lien on Revenues on a parity with or superior to the lien of the Bonds, or offer or issue to any party other than the Underwriters any bonds or securities in lieu of the Bonds and will not, without prior written consent of the Representative, offer or issue any other bonds, notes or other obligations for borrowed money or incur any other material liabilities, direct or contingent, other than in the ordinary course of its business;

(h) the Authority is not in breach of or in default under any of the Transaction Documents, the effects of which would affect the financial or business operations of the Authority, the security for the Bonds or the Authority's ability to pay the Bonds, and the Authority is not in material breach of or in material default under any of the other Authority Documents; the Authority is not in material breach of or in material default under (A) any applicable constitutional provision, law or administrative regulation of the State or the United States of America or any agency or instrumentality of either or any applicable judgment or decree or (B) any other loan agreement, note, bond, resolution, indenture, agreement or other instrument to which the Authority is, or on the date of the Closing will be, a party or to which the Authority or any of its properties or assets is otherwise subject; and no event has occurred and is continuing that constitutes or that, with the passage of time or the giving of notice, or both, would constitute a breach of or default under the Transaction Documents or a material breach of or default or event of material default under any other such agreement, law, regulation or instrument, or that would constitute a breach of or a default or an event of default under the Indenture, the Bonds, the Use and Operating Agreement or this Purchase Agreement; the adoption of the Series 2016 Resolutions, the issuance, sale and delivery of the Bonds, and the execution and delivery of this Purchase Agreement, the other 2016 Documents and the Bonds and the observance and performance of the provisions thereof will not conflict with or constitute a breach of or default by the Authority under any constitutional provision, law, administrative regulation, judgment, court decree, loan agreement, indenture, bond, note, resolution, or other material agreement or instrument to which the Authority is subject, or by which it or any of its properties is bound, nor will any such adoption, execution, delivery, observance or performance result in the creation or imposition of any lien, charge or other security interest or encumbrance of any nature whatsoever by the Authority upon any of its properties or under the terms of any such law, regulation or instrument, except as provided by the Bonds, the Indenture and the Series 2016 Resolutions;

(i) there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending with respect to which the Authority has been served with process or, to the best of the Authority's knowledge after due investigation, threatened, against the Authority affecting the existence of the Authority or the Board or the titles of its officers to their respective offices or affecting or seeking to prohibit, restrain or enjoin the issuance, sale or delivery of the Bonds or the collection by the Authority of Revenues pledged or to be pledged to pay the principal of and premium, if any, and interest on the Bonds or the pledge thereof or the application of the proceeds of the sale of the Bonds or the collection and application of M & O Charges, or contesting or affecting the powers of the Authority with respect to, or the validity or enforceability of, or any authority for, any of the Transaction Documents or contesting the powers of the Authority or any authority of the Authority for the issuance of the Bonds or the adoption of the Series 2016 Resolutions or the execution and delivery of the 2016 Documents or performance by the Authority of its obligations under the 2016 Documents and the other Transaction Documents, or seeking to restrain or enjoin or otherwise to affect the operation of the Rail Corridor, or contesting the tax-exempt status of the interest on the Bonds, or contesting or challenging the consummation of the transactions contemplated in the Transaction Documents or any of its obligations under the Transaction Documents, or contesting the completeness or accuracy of the Preliminary Official Statement or the Official Statement or asserting that the Preliminary Official Statement or the Official Statement contained or contains any untrue statement of a material fact or omitted or omits to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading or, except as disclosed in the Preliminary Official Statement and in the Official Statement under the heading "THE RAIL CORRIDOR AND RELATED PROJECTS—Environmental Considerations—Dominguez Channel Oil Release and Encroachment," that might result in a material adverse change in the operations of the Rail Corridor or in the financial condition of the Authority or its ability to pay the Bonds, nor, to the best knowledge of the Authority, is there any basis for any action, suit proceeding, inquiry or investigation of the nature described in this clause; the Authority shall advise the Representative promptly of the institution of any proceedings known to it by any governmental agency prohibiting or otherwise affecting the use of the Preliminary Official Statement or the Official Statement in connection with the offering, sale or distribution of the Bonds;

(j) the Authority shall furnish such information, execute such instruments and take such other action not inconsistent with law in cooperation with the Underwriters as may be requested: (i) to qualify the Bonds for offer and sale under the Blue Sky or other securities laws and regulations of such states and other jurisdictions of the United States of America as may be designated by the Underwriters and (ii) to determine the eligibility of the Bonds for investment under the laws of such states and other jurisdictions, and shall cooperate with the Underwriters to continue such qualifications in effect so long as required for the distribution of the Bonds; provided, however, that the Authority shall not be required to execute any general or special consents to service of process or to qualify to do business in connection with any such qualification or determination in any jurisdiction;

(k) as of the date hereof, the forms of the Indenture and the Bonds, and as of the Closing, the Indenture and the Bonds will, conform to the descriptions thereof in the Official Statement, and the Bonds, when issued and delivered in accordance with the Indenture and the Series 2016 Resolutions and sold to the Underwriters as provided herein, and this Purchase

Agreement and the other 2016 Documents when executed and delivered, will be, and the other Authority Documents are, legal, valid and binding obligations of the Authority, enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium and other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought and to the limitations on the exercise of legal remedies against public agencies in the State of California; the owners of the Bonds will be entitled to the benefits of the Indenture; upon such issuance and delivery of the Bonds, the Indenture will provide, for the benefit of the owners from time to time of the Bonds, a legally valid and binding lien and charge upon Revenues, and none of the Ports, the Railroads or any creditor of any of them have or shall have any claim on payments made or to be made under the Use and Operating Agreement or to any other Revenues except as specifically provided and subject to the terms and conditions of the Indenture;

(l) all authorizations, approvals, licenses, permits, consents and orders of any governmental authority, legislative body, court, board, agency or commission having jurisdiction of the matter which are required to be obtained by the Authority for the due authorization of, which would constitute a condition precedent to, or the absence of which would materially adversely affect, the due observance and performance by the Authority of its obligations in connection with, the issuance and sale of the Bonds under the Indenture and this Purchase Agreement, the execution and delivery of the 2016 Documents, the operation of the Rail Corridor, or the performance by the Authority of its obligations under the Transaction Documents, have been duly obtained, except for such approvals, consents and orders as may be required under the Blue Sky or securities laws of any state in connection with the offering and sale of the Bonds, as to which no representation is made; and all approvals, consents and authorizations related to the issuance and sale of the Bonds and the performance by the Authority of its obligations under the Indenture required to have been obtained pursuant to the Transaction Documents from the Ports, the Railroads and any other person have been obtained;

(m) the financial statements and other historical financial information of the Authority contained in the Preliminary Official Statement and in the Official Statement fairly present the financial position of the Authority as of the dates indicated and the results of its operations, for the periods therein specified, and, as described independent auditor's report, are in conformity with generally accepted accounting principles applicable to the Authority applied on a consistent basis, and there has been no material adverse change in the financial condition or results of operations of the Authority since the respective dates;

(n) any certificate signed by any official of the Authority and delivered to the Representative or to the Underwriters pursuant hereto or in connection herewith shall be deemed to be a representation by the Authority (and not of such official in his or her individual capacity) to each of the Underwriters as to the statements made therein;

(o) the Authority has never defaulted in the payment of principal of or interest on any of its debt obligations

(p) the Authority has not been notified of any listing or proposed listing by the Internal Revenue Service to the effect that the Authority is a bond issuer upon whose arbitrage certificates a bondowner may not rely;

(q) within the past five years, the Authority has not failed to comply in any material respects with its past continuing undertakings pursuant to Paragraph (b)(5) of Rule 15c2-12;

(r) in order to assist the Underwriters in complying with Rule 15c2-12, the Authority will undertake, pursuant to the Indenture and the Continuing Disclosure Certificate, the form of which is included in the Preliminary Official Statement and in the Official Statement as Appendix H, to provide certain annual financial information and to provide notices upon the occurrence of certain events;

(s) the Authority has obtained or caused to be obtained all insurance policies required under the Authority Documents for the Project (as defined in the Indenture), and the premiums thereon have been paid, and the Authority will obtain or cause to be obtained all other insurance policies as and when required under the Authority Documents;

(t) the Authority has obtained all permits required to be obtained for the Project, all of which are in full force and effect, and the Authority has no reason to believe that the permits that cannot be obtained for the Project as of the date hereof or that must be renewed in the future will not be obtained or renewed when required; and

(u) since the date of the latest audited financial statements included in the Preliminary Official Statement and in Official Statement, the Authority has not sustained any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as disclosed in the Preliminary Official Statement and in the Official Statement; and there has not been any material change in the long-term debt of the Authority or any material adverse change, or any development involving a prospective material adverse change, in or affecting the general affairs, management, financial position or results of operations of the Authority, other than as disclosed in the Preliminary Official Statement and in the Official Statement.

8. Closing. At [7:30] A.M., Los Angeles time, on ________, 2016, or at such other date and time as shall have been mutually agreed upon by the Authority and the Representative, and subject to the terms of this Purchase Agreement, the Authority shall deliver or cause to be delivered: (i) to DTC (or to the Trustee in accordance with DTC's Fast Automated Securities Transfer System), the Bonds in definitive form duly executed by the Authority as described below; and (ii) to the Underwriters at the offices of O'Melveny & Myers LLP ("Bond Counsel") in Los Angeles, California (or at such other location as may be designated by the Representative and approved by the Authority), the other documents noted in Paragraph 9(e) hereof, and subject to the terms and conditions contained herein, the Underwriters shall accept such delivery and pay to the Trustee for the account of the Authority the Purchase Price of the Bonds in immediately available funds. Such payment and delivery is referred to herein as the "Closing."

The Representative shall order CUSIP identification numbers, and the Authority shall cause such CUSIP identification numbers to be printed on the Bonds, but neither the failure to print such number on any Bond nor any error with respect thereto shall constitute cause for a failure or refusal by the Underwriters to accept delivery of and to pay for the Bonds in accordance with the terms of this Purchase Agreement. The Bonds shall be prepared and delivered for inspection by the Representative at least one business day prior to the date of the Closing and shall be in the form of one certificate for each series, maturity and interest rate, fully registered in the name of Cede & Co., as nominee of DTC.

9. Closing Conditions. The obligations of the Underwriters hereunder shall be subject to the performance by the Authority of its obligations hereunder at or prior to the Closing and are also subject to the following conditions:

(a) the representations of the Authority contained or incorporated herein shall be true, complete and correct on the date hereof and on and as of the date of the Closing as if made on the date of Closing;

(b) the representations of the Railroads and of the Ports contained or incorporated in the Letters of Representation shall be true, complete and correct on the date hereof and on and as of the date of the Closing as if made on the date of Closing;

(c) at the time of the Closing (i) the Resolutions and the Authority Documents shall be in full force and effect and shall not have been amended, modified or supplemented after the date of the Official Statement except as shall have been agreed to in writing by the Representative; and (ii) the Authority shall have performed its obligations required under or specified in the Resolutions and in the Authority Documents to be performed at or prior to the Closing; and

(d) at or prior to the Closing, the Underwriters shall receive the following documents, in each case reasonably satisfactory in form and substance to the Representative:

(i) the Official Statement, duly executed on behalf of the Authority by the Authority's Chief Executive Officer or by his authorized designee;

(ii) the 2016 Documents, duly executed and delivered by the respective parties thereto;

(iii) certified copies of all of the other Authority Documents with only such changes or amendments thereto after the date hereof as may have been agreed to in writing by the Representative;

(iv) copy of the Authority's Blanket Letter of Representations to DTC;

(v) the legal opinion of Bond Counsel, dated the date of the Closing and addressed to the Authority, substantially in the form set forth in Appendix G of the Official Statement, and a letter or letters addressed to the Trustee, the Insurer and the Underwriters to the effect that the Trustee, the Insurer and the Underwriters may rely upon such opinion as if it were addressed to the Trustee, the Insurer and the Underwriters;

(vi) the legal opinion of Nixon Peabody LLP, Special Tax Counsel, dated the date of the Closing and addressed to the Authority, substantially in the form set forth in Appendix [__] of the Official Statement, and a letter or letters addressed to the Trustee, the

Insurer and the Underwriters to the effect that the Trustee, the Insurer and the Underwriters may rely upon such opinion as if it were addressed to the Trustee, the Insurer and the Underwriters;

(vii) a supplemental opinion, dated the date of the Closing and addressed to the Underwriters and the Insurer, of Bond Counsel substantially in the form attached hereto as Exhibit E;

(viii) an opinion, dated the date of Closing and addressed to the Authority and the Trustee, of Bond Counsel delivered pursuant to Sections 8.02(d) and 8.02(g) of the Master Indenture to the effect that the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture are authorized or permitted by the Master Indenture and shall, upon the execution and delivery thereof, be valid and binding upon the Authority in accordance with its terms, together with a reliance letter addressed to the Underwriters;

(ix) the defeasance opinion of Bond Counsel with respect to the Refunded Bonds, addressed to the Authority and the Underwriters;

(x) an opinion, dated the date of Closing and addressed to the Underwriters, the Trustee and the Insurer, of Co-General Counsel of the Authority, solely in such counsel's official capacity and not in any personal capacity, to the effect that:

(a) the Authority is a joint powers authority of the State duly created under the Act and is in compliance in all respects with the provisions of the Act in respect of the issuance and sale of the Bonds and the execution and delivery of the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Continuing Disclosure Certificate, the Escrow Agreement, and the Purchase Agreement and the performance of its obligations under each of the Transaction Documents;

(b) (1) the Board has power and authority to adopt the Series 2016 Resolutions and (2) the Authority has power and authority (A) to execute and deliver the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Continuing Disclosure Certificate, the Escrow Agreement, and the Purchase Agreement, (B) to issue, sell and deliver the Bonds to the Underwriters as provided in the Indenture and the Purchase Agreement, (C) to authorize and to approve the use and distribution of the Preliminary Official Statement and the execution, use and distribution of the Official Statement and (D) to operate the Rail Corridor, to collect and pledge the Revenues, to collect and apply the M & O Charges and to carry out and consummate all other transactions contemplated in the Authority Documents;

(c) to the best knowledge of such Co-General Counsel, after due investigation, the Authority is not in breach of or in default under the any of the Transaction Documents and is not in material breach of or in material default under any of the other Authority Documents;

(d) to the best knowledge of such Co-General Counsel, after due investigation, the Authority is not in material breach of or in material default under any applicable constitutional provision, law or administrative regulation of the State or the United States of America or any agency or instrumentality of either or any applicable judgment or decree or any other loan agreement, note, bond, resolution, indenture, agreement or other instrument to which the Authority is, or on or after the date of the Closing will be, a party or to which the Authority or any of its properties or assets is otherwise subject, and to the best knowledge of such Co-General Counsel, after due investigation, no event has occurred and is continuing that constitutes or that, with the passage of time or the giving of notice, or both, would constitute a material breach of or material default or event of default by the Authority under any such agreement, law, regulation or instrument;

(e) the adoption of the Series 2016 Resolutions and the execution and delivery of the Bonds, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Continuing Disclosure Certificate, the Escrow Agreement, and the Purchase Agreement and the observance and performance of the provisions thereof will not conflict with or constitute a breach of or default by the Authority under any constitutional provision, law, administrative regulation, judgment, court decree, loan agreement, indenture, bond, note, resolution or other agreement or instrument to which the Authority is subject, or by which it or any of its properties is bound, nor will any such adoption, execution, delivery, observance or performance result in the creation or imposition of any lien, charge or other security interest or encumbrance of any nature whatsoever by the Authority or upon any of its properties or under the terms of any such law, regulation or instrument, except as provided by the Bonds and the Authority Documents;

(f) there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending with respect to which the Authority has been served with process, or, to such Co-General Counsel's knowledge after due investigation, threatened, against the Authority affecting the existence of the Authority or the Board or the titles of its officers to their respective offices; affecting or seeking to prohibit, restrain or enjoin the issuance, sale or delivery of the Bonds, the collection by the Authority of Revenues pledged to pay the principal of and premium, if any, and interest on the Bonds or the pledge thereof, the application of the proceeds of the sale of the Bonds or the collection and application of M & O Charges; contesting or affecting the powers of the Authority with respect to, or the validity or enforceability of, or any authority for, any of the Authority Documents, contesting the powers of the Authority or any authority of the Authority for the issuance of the Bonds or the adoption of the Series 2016 Resolutions or the execution and delivery of the Purchase Agreement, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Escrow Agreement, the Continuing Disclosure Certificate or the performance by the Authority of its obligations under any of the Authority Documents; seeking to restrain or enjoin or otherwise to affect the operation of the Rail Corridor; contesting the tax-exempt status of the interest on the Bonds; contesting or challenging the consummation of the transactions contemplated in the Authority Documents or the Authority's ability to collect and pledge the Revenues to the payment of the Bonds as provided in the Indenture, to collect and apply the M & O Charges or to pay the Bonds or any of its obligations under the Authority Documents; contesting the completeness or accuracy of the Preliminary Official Statement or the Official Statement or asserting that the Preliminary Official Statement or the Official Statement contains or contained any untrue statement of a material fact or omits or omitted to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; or, **[UNDER REVIEW BY ACTA CO-GENERAL COUSNEL:** except as disclosed in the Preliminary Official Statement and in the Official Statement under the heading "THE RAIL CORRIDOR AND RELATED PROJECTS—

Environmental Considerations—Dominguez Channel Oil Release and Encroachment," that might result in a material adverse change in the operations of the Rail Corridor or in the financial condition of the Authority or its ability to pay the Bonds;] nor, to the best knowledge of such counsel, is there any basis for any action, suit proceeding, inquiry or investigation of the nature described in this clause;

(g) all authorizations, approvals, licenses, permits, consents and orders of any governmental authority, legislative body, court, board, agency or commission having jurisdiction of the matter which are required to be obtained by the Authority for the due authorization of, which would constitute a condition precedent to, or the absence of which would materially adversely affect, the due observance and performance by the Authority of its obligations in connection with, the issuance and sale of the Bonds under the Indenture and the Purchase Agreement, the execution and delivery of the Bonds, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Continuing Disclosure Certificate, the Escrow Agreement, the Official Statement or the Purchase Agreement, the operations of the Rail Corridor, or the performance by the Authority of its obligations under the Authority Documents, have been duly obtained (except for such approvals, consents and orders as may be required under the Blue Sky or securities laws of any state in connection with the offering and sale of the Bonds as to which no opinion need be given); and all approvals, consents and authorizations required to have been obtained under the Authority Documents from the Railroads, the Ports and from any other person in connection with the issuance of the Bonds have been obtained;

(h) the execution and delivery by the Authority of, and performance by the Authority of its obligations under, the Bonds, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Continuing Disclosure Certificate, the Escrow Agreement, and the Purchase Agreement were duly authorized, and the Bonds, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Continuing Disclosure Certificate, the Escrow Agreement, and the Purchase Agreement have been duly executed and delivered and the Transaction Documents and the other Authority Documents are legal, valid and binding obligations of the Authority enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium and other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought, to the exercise of judicial discretion in appropriate cases and to the limitations on legal remedies against public agencies in the State of California and, in the case of indemnification provisions in the Purchase Agreement, except as enforcement thereof may be limited by federal securities laws and public policy, and the Series 2016 Resolutions were duly adopted at meetings duly noticed, called and held;

(i) the Authority has duly authorized and ratified the delivery of the Preliminary Official Statement and the Official Statement to the Underwriters and the distribution by the Underwriters of the Preliminary Official Statement to potential purchasers of the Bonds and of the Official Statement to potential purchasers and purchasers of the Bonds, and the Authority has duly executed the Official Statement; and

in addition, such Co-General Counsel shall state in a separate letter or letters dated the date of the Closing and addressed to the Underwriters (1) that the information in the Preliminary Official Statement and the Official Statement (other than the information concerning DTC and its book-entry system, the Insurer, CUSIP numbers, the prices and yields on the Bonds shown on the inside cover of the Official Statement, information concerning the tax treatment of the Bonds, the information under the headings "INTRODUCTION—The Ports," "—The Railroads," "THE PORTS" and "THE RAILROADS," information concerning the Cities, information under the headings ["THE SERIES 2016 BOND INSURER,"] "INVESTOR CONSIDERATIONS—Bankruptcy and Insolvency Risks—The Ports and the Cities" and "—The Railroads," "RATINGS" {but only with respect to the ratings assigned to the Insurer}, "TAX MATTERS," "UNDERWRITING," "CONTINUING DISCLOSURE—The Authority and the Ports" {with respect to information about the Ports}and "—The Railroads" and "FINANCIAL STATEMENTS" {with respect to information about the Ports}, economic, demographic, engineering, statistical, technical, accounting or financial data or information, forecasts, numbers, charts, tables, graphs, estimates, projections, assumptions, management discussion and analysis, expressions of opinion, and the information in Appendices B, C, D, F, G, H, I and J, as to all of which no opinion need be given), is accurate in all material respects, and (2) that, based upon the participation of such counsel in the preparation of the Preliminary Official Statement and the Official Statement as Co-General Counsel of the Authority, such Co-General Counsel has no reason to believe that the Preliminary Official Statement, as of its date and as of the date hereof, and the Official Statement, as of its date and as of the date of Closing, (except for any financial, statistical, demographic or economic data or forecasts, numbers, charts, tables, graphs, estimates, projections, assumptions or expressions of opinion and except for any information concerning DTC and its book-entry system, the Insurer, the tax treatment of the Bonds and information concerning the Cities, CUSIP numbers, the prices and yields on the Bonds shown on the inside cover of the Official Statement, information under the headings "INTRODUCTION—The Ports" and "—The Railroads," "THE PORTS" and "THE RAILROADS," and information under the headings ["THE SERIES 2016 BOND INSURER,"] "RATINGS" {but only with respect to the ratings assigned to the Insurer}, "TAX MATTERS," "UNDERWRITING," "CONTINUING DISCLOSURE—The Authority and the Ports" {with respect to information about the Ports} and "—The Railroads" and "FINANCIAL STATEMENTS" {with respect to information about the Ports} and in Appendices B, C, D, F, G, H, I and J, as to all of which no view need be expressed) contained or contains, any untrue statement of a material fact or omitted or omits to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were or are made, not misleading;

(xi) an opinion, dated the date of Closing and addressed to the Authority, the Insurer and the Underwriters, of counsel to each of the Ports to the effect that: (a) the execution and delivery by the Port of the Letter of Representation and the Continuing Disclosure Certificate, and the performance by the Port of its obligations under the Continuing Disclosure Certificate and the Letter of Representation was duly authorized by the respective City, acting through its Board of Harbor Commissioners, and each of the Letter of Representation and the Continuing Disclosure Certificate was executed and delivered by such City, and the Letter of Representation, the Continuing Disclosure Certificate and each of the Port Agreements (as defined in the applicable Letter of Representation) is the legal, valid and binding obligation of, such City, enforceable in accordance with its respective terms, except as enforcement may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights and remedies generally, to the application of equitable principles where equitable remedies are sought, to the exercise of judicial discretion in appropriate cases and to the limitations on legal remedies against public agencies in the State of California; (b) to the best knowledge of such counsel, the execution and delivery of the Letter of Representation and the Continuing Disclosure Certificate and the performance by the Port of its obligations under the Letter of Representation, the Continuing Disclosure Certificate and each of the Port Agreements do not and will not, in any material respect, conflict with or constitute a breach of, or default by, the Port under any constitutional provision, law, administrative regulation, judgment, court decree, loan agreement, indenture, bond, note, resolution, or other material agreement or instrument to which the Port or the transactions contemplated in the Letter of Representation, the Continuing Disclosure Certificate and in each of the Port Agreements is subject, or by which the Port or any of its properties is bound (and of which such counsel is aware after reasonable investigation); (c) to the best knowledge of such counsel, all authorizations, approvals, consents and orders of any governmental authority, legislative body, court, board, agency or commission having jurisdiction of the matter which are required to be obtained by the Port for the due authorization, execution and delivery of, or which would constitute a condition precedent to, or the absence of which would materially adversely affect, the due observance and performance by the Port of its obligations under or in connection with, the Letter of Representation, the Continuing Disclosure Certificate and each of the Port Agreements have been obtained and are in full force and effect; (d) to such counsel's knowledge after due investigation (which involved only inquiries of the City Clerk and the Executive Secretary of the Board), there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending or threatened against the Port affecting the existence of the Port or the validity or enforceability of, or any authority for, the Letter of Representation, the Continuing Disclosure Certificate or any of the Port Agreements or contesting the performance by the Port of the Letter of Representation, the Continuing Disclosure Certificate or any of the Port Agreements; and (e) to the best knowledge of such counsel, the Port is not in material breach of or in material default under any of the Port Agreements;

(xii) an opinion of Orrick, Herrington & Sutcliffe LLP, counsel to the Underwriters, dated the date of Closing and addressed to the Underwriters, substantially in the form attached hereto as Exhibit F;

(xiii) an opinion, dated the date of Closing and addressed to the Authority, the Insurer and the Underwriters, of counsel to each Railroad to the effect that (a) the execution and delivery by the Railroad and the performance by the Railroad of its obligations under the Continuing Disclosure Agreement and the Letter of Representation, were duly authorized, the Continuing Disclosure Agreement and the Letter of Representation were duly executed and delivered by the Railroad, and the Letter of Representation, the Continuing Disclosure Agreement and each of the Railroad Agreements (as defined in the applicable Letter of Representation) are the legal, valid and binding obligations of, the Railroad, enforceable in accordance with their respective terms, except as enforcement may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought; (b) that the execution and delivery by the Railroad of the Letter of Representation and Continuing Disclosure Agreement and the performance by the Railroad of its obligations under the Letter of Representation and Continuing Disclosure Agreement and each of the Railroad Agreements do not and will not conflict with or constitute a violation or breach of, or default by, such Railroad, under any constitutional provision, law, administrative regulation, judgment, court decree, loan agreement, indenture, bond, note, resolution, or other material agreement or instrument to which the Railroad is subject, or by which the Railroad, or any of its properties is bound, except to the extent such conflict, violation, breach or default would not have a material adverse effect on the Railroad's ability to perform its obligations under the Letter of Representation, the Continuing Disclosure Agreement or under any of the Railroad Agreements, nor will any such execution, delivery or performance result in the creation or imposition of any lien, charge or other security interest or encumbrance of any nature whatsoever by the Railroad, upon any of its properties or under the terms of any such law, regulation or instrument which lien, charge or other security interest or encumbrance would have a material adverse effect on the Railroad's ability to perform its obligations under the Letter of Representation, the Continuing Disclosure Agreement or under any of the Railroad Agreements; (c) no authorizations, approvals, licenses, permits, consents or orders of any governmental authority, legislative body, court, board, agency or commission having jurisdiction of the matter are required to be obtained by the Railroad, for the due authorization, execution and delivery of the Letter of Representation and the Continuing Disclosure Agreement or the performance by the Railroad of its obligations thereunder and under any of the Railroad Agreements; and (d) there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending or, to the best of such counsel's knowledge after due investigation, threatened against the Railroad, affecting the existence of the Railroad, or the validity or enforceability of, or any authority for, the Letter of Representation, the Continuing Disclosure Agreement or any of the Railroad Agreements or contesting the performance by the Railroad of the Letter of Representation, the Continuing Disclosure Agreement or any of the Railroad Agreements; and (e) to the best knowledge of such counsel, the Railroad is not in breach of or in default under any of the Railroad Agreements;

(xiv) a certificate of the Authority, dated the date of the Closing and signed on behalf of the Authority by the Chief Executive Officer of the Authority or by his authorized designee, to the effect that (a) the representations of the Authority contained in the Purchase Agreement are true and correct in all respects on and as of the date of the Closing as if made on the date of the Closing; (b) there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending with respect to which the Authority has been served with process, or, to the best of the Authority's knowledge after due investigation, threatened, against the Authority affecting the existence of the Authority or the Board or the titles of its officers to their respective offices or affecting or seeking to prohibit, restrain or enjoin the issuance, sale or delivery of the Bonds or the collection by the Authority of Revenues pledged to pay the principal of and premium, if any, and interest on the Bonds or the pledge thereof or the application of the proceeds of the sale of the Bonds, the collection and application of M & O Charges or contesting or affecting the powers of the Authority with respect to, or the validity or enforceability of, or any authority for, the Authority Documents or contesting the powers of the Authority or any authority of the Authority for the issuance of the Bonds or the adoption of the Series 2016 Resolutions or the execution and delivery of the Purchase Agreement, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Escrow Agreement, the Continuing Disclosure Certificate, the Official Statement or performance by the Authority of its obligations under the Authority Documents, or seeking to restrain or enjoin or otherwise to affect the operation of the Rail Corridor, or seeking to challenge or revoke any Permit (as defined in the Indenture), or contesting the tax-exempt status of the interest on the Bonds, or contesting or challenging the consummation of the transactions contemplated by the Authority Documents, or contesting the completeness or accuracy of the Preliminary Official Statement or the Official Statement or asserting that the Preliminary Official Statement or the Official Statement contains or contained any untrue statement of a material fact or omits or omitted to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading or, except as disclosed in the Preliminary Official Statement and in the Official Statement under the heading "THE RAIL CORRIDOR AND RELATED PROJECTS—Environmental Considerations—Dominguez Channel Oil Release and Encroachment," that might result in a material adverse change in the operations of the Rail Corridor or in the financial condition of the Authority or its ability to pay the Bonds, nor, to the best of the Authority's knowledge, is there any basis for any action, suit proceeding, inquiry or investigation of the nature described in this clause; (c) from the date of the Preliminary Official Statement through the date of the Official Statement, no material adverse change in the financial condition or prospects of the Authority or the Project and no other event adversely affecting the Authority or the Project occurred that should have been disclosed in the Preliminary Official Statement in order that the Preliminary Official Statement, as of its date and as of the date hereof, not contain an untrue statement of a material fact or omit to state a material fact or necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading; (d) since the date of the Official Statement, no material adverse change in the financial condition or prospects of the Authority or the Project and no other event adversely affecting the Authority or the Project or the Authority's condition, financial or otherwise, or the Authority's ability to collect or pledge the Revenues pledged to pay the principal of and premium, if any, and interest on the Bonds or to collect and apply M & O Charges has occurred, which should be disclosed in the Official Statement in order that the Official Statement not contain an untrue statement of a material fact or omit to state a material fact or necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading; (e) from the date of the Preliminary Official Statement through the date of the Official Statement, no other information came to the attention of the Authority that should have been disclosed in the Preliminary Official Statement in order that the Preliminary Official Statement, as of its date and as of the date hereof, not contain an untrue statement of a material fact or omit to state a material fact or necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading (provided that nothing in this Section 9(e)(xiii)(e) shall be construed to expand the representations of the Authority set forth in Section 7(c) hereof); and (f) since the date of the Official Statement, no other information has come to the attention of the Authority which, as of the date of Closing, should be disclosed in the Official Statement in order that the Official Statement not contain an untrue statement of a material fact or omit to state a material fact or necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading (provided that nothing in this Section 9(e)(xiii)(f) shall be construed to expand the representations of the Authority set forth in Section 7(d) hereof);

(xv) a certificate of each of the Ports, dated the date of the Closing and signed by the Chief Financial Officer, in the case of the Port of Los Angeles, and by the Director of Finance, in the case of the Port of Long Beach, to the effect that representations in such Port's Letter of Representation are true and correct in all respects as of date of Closing;

(xvi) a certificate of each of the Railroads, dated the date of the Closing and signed by the Chief Financial Officer or by a Vice President of such Railroad, to the effect that representations in such Railroad's Letter of Representation are true and correct in all respects as of date of Closing;

(xvii) a letter from KPMG LLP, dated the date of the Closing, consenting to the inclusion in the Official Statement of the report, dated ________, 2016, with respect to the audited financial statements of the Authority for the fiscal year ended June 30, 2015, include as Appendix A to the Official Statement and to the reference to KPMG LLP and to its report under the heading "FINANCIAL STATEMENTS" and elsewhere in the Official Statement;

(xviii) [a letter of the Ports' Independent Consultant, dated ________, 2016, in form and substance satisfactory to the Representative consenting to the inclusion of Independent Cargo Report in Appendix [__] to the Official Statement and to references to its name and to its report in the Official Statement;]

(xix) copies of the items delivered on the date of this Purchase Agreement pursuant to Paragraph 5 hereof;

(xx) a certificate of the Trustee, dated the date of the Closing, in form and substance satisfactory to the Representative;

(xxi) a specimen Bond of each series, maturity and interest rate;

(xxii) a Form 8038-G executed by the Authority;

(xxiii) evidence satisfactory to the Underwriters that the Insured Bonds have been rated "___" by Standard and Poor's Ratings Services, a division of the McGraw–Hill Companies, Inc. ("S&P"), and "___" by Moody's Investors Service ("Moody's"), with the understanding that the municipal bond insurance policy will be delivered on the date of Closing; evidence satisfactory to the Underwriters of the assignment of ratings on the Series 2016A Bonds without taking the municipal bond insurance policy into account, of "__" by S&P and of "___" by Moody's and of "__" by Fitch Ratings, Inc., together with a confirmation from the Authority that there has been no adverse change in or withdrawal of any of such ratings as of the date of the Closing; and evidence satisfactory to the Underwriters of the assignment of ratings on the Series 2016B Bonds without taking the municipal bond insurance policy into account, of "__" by S&P and of "___" by Moody's and of "__" by Fitch Ratings, Inc., together with a confirmation from the Authority that there has been no adverse change in or withdrawal of any of such ratings as of the date of the Closing;

(xxiv) [a copy of the Bond Insurance Policy issued by the Insurer;]

(xxv) a copy of the Reserve Account Surety Policy issued by the Insurer;

(xxvi) an opinion, dated the date of the Closing and addressed to the Authority and the Underwriters, of the General Counsel of the Insurer in form and substance satisfactory to the Representative;

(xxvii) an opinion of Dorsey & Whitney LLP, counsel to the Trustee, dated the date of Closing and addressed to the Underwriters, the Insurer and the Authority, to the effect that the Trustee is authorized to enter into and has duly executed and delivered the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture, that the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture are legal, valid and binding agreements of the Trustee, enforceable against the Trustee in accordance with their terms, that the officers of the Trustee authenticating the Bonds and executing and delivering the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture are duly authorized to authenticate the Bonds and to execute and deliver such Tenth Supplemental Indenture and Eleventh Supplemental Indenture, and that the Bonds have been duly authenticated and delivered by the Trustee;

(xxviii)the Verification Report from the Verification Agent;

(xxix) copies of the Continuing Disclosure Agreements executed by the Railroads;

(xxx) a copy of the Blue Sky Memo with respect to the Bonds;

(xxxi) a copy of the Independent Cargo Report;

(xxxii) such additional legal opinions, certificates, instruments, permits, consents and other documents as the Representative or Bond Counsel may reasonably request to evidence the compliance of the Authority with legal requirements, the truth and accuracy, as of the date hereof and as of the time of the Closing, of the Authority's representations contained herein and of the statements and information contained in the Preliminary Official Statement and in Official Statement, as each may be supplemented or amended, and the due performance and satisfaction by the Authority at or prior to the time of the Closing of all agreements then to be performed and all conditions then to be satisfied by the Authority and all conditions precedent to the issuance of the Bonds pursuant to the Indenture shall have been fulfilled and to evidence the exclusion from gross income for federal and State income tax purposes of the interest and any original issue discount on the Bonds.

10. Termination. **[UNDER REVIEW]** The Underwriters may terminate this Purchase Agreement, without liability therefor, by notification by the Representative in writing to the Authority if at any time subsequent to the date of this Purchase Agreement and at or prior to the Closing:

(a) there shall occur any change or any development involving a prospective change, in or affecting the business, properties or financial condition of the Authority, the Ports, the Railroads[, the Insurer] or the Project, including from any sustained loss of or interference with their respective businesses from fire, explosion, flood or other calamity, whether or not covered by insurance or indemnities, or from any labor dispute or court or governmental action, order or decree, which, in the reasonable opinion of the Representative, materially impairs the investment quality, the marketability or the market price of the Bonds or the ability of the Underwriters to enforce contracts for the sale of the Bonds;

(b) **[UNDER REVIEW]** legislation shall have been enacted by the Congress of the United States, or introduced by amendment or otherwise in or passed by either House of the Congress, or recommended or endorsed to the Congress for passage by the President of the United States, or favorably reported for passage to either House of the Congress of the United States by any committee of such House to which such legislation has been referred for consideration, or recommended or endorsed for passage or presented for consideration by the Chairman or ranking minority member of any such committee or by the Treasury Department of the United States, the Internal Revenue Service or the staff of the Joint Committee on Taxation of the Congress, or a decision shall have been rendered by a court of the United States, or the United States Tax Court, or an order, ruling, regulation (final, temporary or proposed) or official statement shall have been made by or on behalf of the Treasury Department of the United States, the Internal Revenue Service or other governmental agency of appropriate jurisdiction, with respect to federal taxation of interest received on securities of the general character of the Bonds or which would have the effect of changing, directly or indirectly, the federal tax consequences of receipt of interest on securities of the general character of the Bonds in the hands of the owners thereof, which in the reasonable opinion of the Underwriters would materially adversely affect the market price or marketability of the Bonds or the ability of the Underwriters to enforce contracts for the sale of the Bonds;

(c) there shall have occurred a declaration of war by the United States, any new outbreak of hostilities or any escalation in existing hostilities, or any other new national or international emergency, calamity, terrorism or financial crisis or the rating on the sovereign debt of the United States by any major credit rating agency is downgraded or withdrawn or or an actual or imminent default or moratorium in respect of payment of any United States Treasury bills, bonds or notes or a default with respect to debt obligations of, or the institution of proceedings under any federal bankruptcy laws by or against, any state of the United States or any city, county or other political subdivision located in the United States or any city, county or other political subdivision located in the United States having a population of over 1,000,000, the effect of which, in the reasonable opinion of the Representative, would materially adversely affect the market price or marketability of the Bonds or the ability of the Underwriters to enforce contracts for the sale of the Bonds;

(d) [UNDER REVIEW] a general banking moratorium shall have been declared by federal, New York or State authorities or a major financial crisis or material disruption in commercial banking or securities settlement, payment or clearance services shall have occurred;

(e) there shall be in force a general suspension of trading on the New York Stock Exchange or other national securities exchange, or minimum or maximum prices for trading not in force on the date hereof shall have been fixed and be in force, or maximum ranges for prices for securities not in force on the date hereof shall have been required and be in force on any such exchange, whether by virtue of determination by that exchange or by order of the Securities and Exchange Commission or any other governmental authority having jurisdiction;

(f) the New York Stock Exchange or other national securities exchange, the MSRB, the Financial Industry Regulatory Authority, or any other federal or state authority or agency shall impose, as to the Bonds or obligations of the general character of the Bonds, any material restrictions not now in force or not now being enforced, or increase materially those now in force, with respect to the extension of credit by, or the charges to the net capital requirements of, the Underwriters;

(g) any rating of bonds, notes or other obligations of the Authority (including, without limitation, the Bonds), the Ports[, the Insurer] or the Railroads shall have been downgraded, suspended or withdrawn, or placed on credit watch with negative outlook, by Moody's, Fitch or S&P and such action, in the reasonable opinion of the Underwriters, will materially adversely affect the marketability or the market price of the Bonds or the ability of the Underwriters to enforce contracts for the sale of the Bonds;

(h) [UNDER REVIEW] the Official Statement differs from the Preliminary Official Statement other than the inclusion of the pricing information permitted by Rule 15c2-12 to be omitted from the Preliminary Official Statement, or an event, fact or condition described in Paragraph 7(e) hereof shall have occurred or become known (other than any statement provided by the Underwriters for inclusion under the heading "UNDERWRITING"), which requires the preparation and publication of a supplement or amendment to the Official Statement, the effect of which difference, supplement or amendment, in the reasonable opinion of the Underwriters, will materially adversely affect the marketability or the market price of the Bonds or the ability of the Underwriters to enforce contracts for the sale of the Bonds;

(i) any legislation, constitutional amendment, ordinance, rule, regulation or policy shall be introduced in or enacted by or issued by any governmental body, board, department or agency of the State or the United States, or a decision by any court of competent jurisdiction within the State or any court of the United States shall be rendered, affecting the Authority, the Ports, the Railroads or the Insurer which, in the reasonable opinion of the Underwriters, will materially adversely affect the marketability or the market price of the Bonds or the ability of the Underwriters to enforce contracts for the sale of the Bonds; or

(j) [UNDER REVIEW] legislation shall be enacted, or a decision of a court of the United States shall be rendered or any action shall be taken by, or on behalf of, the Securities and Exchange Commission or any other governmental agency having jurisdiction in the subject matter which, in the opinion of Counsel to the Underwriters, has the effect of requiring the contemplated distribution of the Bonds to be registered under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Indenture to be qualified under the Trust Indenture Act or that would make the offering and sale of the Bonds illegal.

11. Expenses.

(a) The Underwriters shall be under no obligation to pay and the Authority shall pay or cause to be paid the expenses incident to the performance of the Authority's obligations hereunder including but not limited to (i) the fees and disbursements of Bond Counsel, Special Tax Counsel, Polsinelli LLP, as Disclosure Counsel, Co-General Counsel, KPMG LLP, the Verification Agent, the Trustee (in its capacity as Trustee for the Bonds and as escrow agent for the Refunded Bonds), Public Financial Management, counsel and financial advisors to the Ports and the Railroads and counsel to the Trustee and any other experts, accountants, lawyers or consultants retained by the Authority or the Ports or the Railroads (to the extent such fees and expenses are to be paid by any party hereto); (ii) the cost of preparation and printing and signing of the definitive Bonds and the registration thereof; (iii) the cost of preparing, printing and distributing the Preliminary Official Statement and the Official Statement and any supplements or amendments thereto; (iv) the premiums charged by the Insurer for the Bond Insurance Policy and the Reserve Account Surety Policy and the fees and costs, if any, of counsel to the Insurer; (v) charges of rating agencies for the ratings of the Bonds; (vi) all costs and expenses incurred in connection with any information or investor meetings held in connection with the Bonds; (vii) the cost of preparing and printing the Transaction Documents (other than this Purchase Agreement); and (viii) all other out-of-pocket expenses and costs incurred by the Authority in connection with the authorization, issuance, sale and distribution of the Bonds. The Authority shall also pay for all incidental costs (including, but not limited to, transportation, lodging, meals and entertainment of Authority personnel) incurred by or on behalf of the Authority in connection with the marketing and pricing of, and securing ratings for, and issuing and delivering the Bonds.

(b) The Underwriters shall pay (i) all advertising expenses incurred by them in connection with the public offering and distribution of the Bonds; and (ii) except as provided above in Paragraph 11(a), all other expenses incurred by them in connection with their public offering and distribution of the Bonds, including the fees and disbursements of Orrick, Herrington & Sutcliffe LLP, counsel to the Underwriters (both of which may be included as an expense component of the Underwriters' discount).

12. Indemnification by the Authority.

[UNDER REVIEW]

(a) The Authority shall indemnify and hold harmless, to the extent permitted by law, the Underwriters and their respective directors, officers, employees and agents and each person who controls any Underwriter within the meaning of Section 15 of the 1933 Act (any such person being therein sometimes called an "Underwriter Indemnitee"), against any and all losses, claims, damages or liabilities, joint or several, (a) to which any such Underwriter Indemnitee may become subject, under any statute or regulation at law or in equity or otherwise, insofar as such losses claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement of a material fact set forth in the Preliminary Official Statement or the Official Statement or any amendment or supplement to either, or arise out of or are based upon the omission to state therein a material fact which is necessary in order to make the statements made therein, in the light of the circumstances in which they were made, not misleading, except such indemnification shall not extend to written information furnished by any Underwriter expressly for use therein under the heading "UNDERWRITING" or in the Preliminary Official Statement or the Official Statement with respect to information regarding DTC and its book-entry system, the Insurer, the Cities, the yields on the Bonds stated on the inside front cover of the Official Statement, CUSIP numbers, and information under the headings "INTRODUCTION—The Ports" and "—The Railroads," "THE PORTS," "THE RAILROADS," ["THE SERIES 2016 BOND INSURER,"] "RATINGS" (with respect to the ratings assigned to the Insurer), "FINANCIAL STATEMENTS" (with respect to information about the Ports), "CONTINUING DISCLOSURE—The Authority and the Ports" (with respect to information about the Ports) and "—The Railroads" and "UNDERWRITING" and in Appendices B, C, D, F, G, [I and J], and (b) to the extent of the aggregate amount paid in any settlement of any litigation commenced or threatened arising from a claim based upon any such untrue statement or omission if such settlement is effected with the written consent of the Authority (which consent shall not be unreasonably withheld); and will reimburse any legal or other expenses reasonably incurred by any such Underwriter Indemnitee in connection with investigating or defending any such loss, claim, damage, liability or action. This indemnity agreement shall not be construed as a limitation on any other liability which the Authority may otherwise have to any Underwriter Indemnitee.

(b) The Underwriters shall indemnify and hold harmless, to the extent permitted by law, the Authority and its directors, officers, members, employees and agents and each person who controls the Authority within the meaning of Section 15 of the 1933 Act (any such person being therein sometimes called an "Authority Indemnitees"), against any and all losses, claims, damages or liabilities, joint or several, to which such Authority Indemnitee may become subject under any statute or at law or in equity or otherwise, and shall promptly reimburse any such Authority Indemnitee for any reasonable legal or other expenses incurred by it in connection with investigating any claims against it and defending any actions, but only to the extent that such losses, claims, damages, liabilities or actions arise out of or are based upon any untrue statement of a material fact contained in, or the omission to state therein a material fact necessary to make the statements therein in light of the circumstances under which they were made not misleading, the Preliminary Official Statement or the Official Statement, or any amendment or supplement thereof, based on written information furnished by any Underwriter expressly for use therein under the heading "UNDERWRITING." This indemnity agreement shall not be construed as a limitation on any other liability which the Underwriters may otherwise have to any Authority Indemnitee. The liability of any Underwriter obligations under this Section 12 shall not exceed the amount of its pro rata compensation under this Purchase Agreement.

(c) For purposes of subsection (a) or (b) above, an "Indemnified Party" means an Underwriter Indemnitee or an Authority Indemnitee as the context dictates and an "Indemnifying Party" means the Authority or an Underwriter who is under the obligation to indemnity an Indemnified Party under this Section 12. An Indemnified Party shall, promptly after the receipt of notice of the commencement of any action against such Indemnified Party in respect of which indemnification may be sought against an Indemnifying Party, notify the Indemnifying Party in writing of the commencement thereof, but the omission to notify the Indemnifying Party of any such action shall not relieve the Indemnifying Party from any liability that it may have to such Indemnified Party otherwise than under the indemnity agreement contained herein. In case any such action shall be brought against an Indemnified Party and such Indemnified Party shall notify the Indemnifying Party of the commencement thereof, the Indemnifying Party may, or if so requested by such Indemnified Party shall, participate therein or assume the defense thereof, with counsel satisfactory to such Indemnified Party, and after notice from the Indemnifying Party to such Indemnified Party of an election so to assume the defense thereof, the Indemnifying Party will not be liable to such Indemnified Party under this paragraph for any legal or other expenses subsequently incurred by such Indemnified Party in connection with the defense thereof other than reasonable costs of investigation. If the Indemnifying Party shall not have employed counsel to manage the defense of any such action or if the Indemnified Party shall have reasonably concluded that there may be defenses available to it or them that are different from or additional to those available to the Indemnifying Party (in which case the

Indemnifying Party shall not have the right to direct the defense of such action on behalf of such Indemnified Party), such Indemnified Party shall have the right to retain legal counsel of its own choosing and the reasonable legal and other expenses incurred by such Indemnified Party shall be borne by the Indemnifying Party.

An Indemnifying Party shall not be liable for any settlement of any such action effected without its consent by any Indemnified Party, which consent shall not be unreasonably withheld, but if settled with the consent of the Indemnifying Party or if there be a final judgment for the plaintiff in any such action against the Indemnifying Party or any Indemnified Party, with or without the consent of the Indemnifying Party, the Indemnifying Party agrees to indemnify and hold harmless such Indemnified Party to the extent provided herein.

(d) If the indemnification provided for in this Section is unavailable or insufficient to hold harmless an Indemnified Party under subsection (a) or (b) above, then each Indemnifying Party shall contribute to the amount paid or payable by such Indemnified Party as a result of the losses, claims, damages, liabilities or expenses referred to in subsection (a) or (b) above (i) in such proportion as is appropriate to reflect the relative benefits received by the Authority on the one hand and the Underwriters on the other from the offering of the Bonds or (ii) if the allocation provided by clause (i) above is not permitted by applicable law in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Authority on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses as well as any other relevant equitable considerations. The relative benefits received by the Authority on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Authority bear to the total underwriting discounts and commissions received by the Underwriters. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Authority or the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The amount paid by an Indemnified Party as a result of the losses, claims, damages, liabilities or expenses referred to in the first sentence of this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such Indemnified Party in connection with investigating or defending any action or claim which is the subject to this subsection (d). Notwithstanding the provisions of this subsection (d), each Underwriter shall not have any obligation under this subsection (d) to contribute an amount in excess of the amount of its pro rata compensation under this Purchase Agreement. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportion to their respective underwriting obligations and not joint.

(e) No agreement or obligation of the Authority contained in this Paragraph 12 shall be deemed to be an obligation or indebtedness of the Ports or of either Port.

13. Notices. Any notice or other communication to be given to the Authority under this Purchase Agreement (other than the acceptance hereof as specified in Paragraph 1 hereof)

may be given by delivering the same in writing to 3760 Kilroy Airport Way, Suite 200, Long Beach, California 90806, Attention: Jim Preusch, Chief Financial Officer; any notice or other communication to be given to the Underwriters under this Purchase Agreement may be given by delivering the same in writing to Merrill Lynch, Pierce, Fenner & Smith Incorporated, [ADDRESS], Attention: [___________, ____________].

14. Use of Documents. The Authority hereby authorizes, ratifies and approves the Underwriters' use, in connection with the public offering and sale of the Bonds, of this Purchase Agreement, the Preliminary Official Statement, the Official Statement and the Authority Documents, and the information contained herein and therein.

15. Governing Law. [UNDER REVIEW] The validity, interpretation and performance of this Purchase Agreement shall be governed by the laws of the State of California.

16. Parties in Interest. This Purchase Agreement when accepted by the Authority in writing as heretofore specified shall constitute the entire agreement between the Authority and the Underwriters and is solely for the benefit of the Authority and the Underwriters (including the successors or assigns thereof but not any holder of Bonds). No other person or entity shall acquire or have any rights hereunder or by virtue hereof. Except as expressly provided herein, all representations and agreements of the Authority in this Purchase Agreement and in any certificates delivered pursuant hereto shall remain operative and in full force and effect, regardless of (a) any investigation made by or on behalf of the Underwriters, (b) delivery of and payment for the Bonds hereunder and (c) any termination of this Purchase Agreement.

[17. Attorneys Fees. In the event of a dispute arising under this Purchase Agreement, the prevailing party shall have the right to collect from the other party its reasonable costs and necessary disbursements and attorneys' fees incurred in enforcing this Purchase Agreement.]

18. Headings. The headings of the Paragraphs of this Purchase Agreement are inserted for convenience of reference only and shall not be deemed to be a part hereof.

19. Effectiveness. This Purchase Agreement shall become effective upon the execution hereof by an authorized representative of the Authority and upon receipt of the Representative of the documents referred to Paragraph 5 hereof and shall be valid and enforceable at the time of such acceptance.

20. Counterparts. This Purchase Agreement may be executed in several counterparts, which together shall constitute one and the same instrument.

Very truly yours,

MERRILL LYNCH, PIERCE, FENNER & SMITH, INCORPORATED
As Representative of the Underwriters

By:_________________________________
Name: [______________]
Title: [______________]

Accepted:

This ____ day of __________, 2016

ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY

By:_____________________________
Name: John Doherty
Title: Chief Executive Officer

Exhibit A

Letterhead of BNSF Railway Company

LETTER OF REPRESENTATION

__________, 2016

Merrill Lynch, Pierce, Fenner & Smith Incorporated,
as Representative of the Underwriters
[ADDRESS]
[ADDRESS]

Alameda Corridor Transportation Authority
3760 Kilroy Airport Way, Suite 200
Long Beach, California 90806

Ladies and Gentlemen:

The Alameda Corridor Transportation Authority (the "Authority") proposes to issue the $________ aggregate principal amount of Alameda Corridor Transportation Authority Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds"), and $________ aggregate principal amount of Alameda Corridor Transportation Authority Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds" and together with the Series 2016A Bonds, the "Bonds"), pursuant to a Master Trust Indenture, dated as of January 1, 1999 (the "Master Indenture"), as supplemented and amended by the First Supplemental Trust Indenture, the Second Supplemental Trust Indenture, the Third Supplemental Trust Indenture and the Fourth Supplemental Trust Indenture, each dated as of January 1, 1999, the Fifth Supplemental Trust Indenture, dated as of June 1, 2003, the Sixth Supplemental Trust Indenture and the Seventh Supplemental Trust Indenture, each dated as of February 1, 2004, the Eighth Supplemental Trust Indenture, dated as of June 1, 2012, the Ninth Supplemental Trust Indenture, dated as of February 1, 2013 (collectively, the "Prior Supplemental Indentures"), and by the Tenth Supplemental Trust Indenture and the Eleventh Supplemental Trust Indenture, each to be dated as of _________, 2016 (the "Tenth Supplemental Indenture" and the "Eleventh Supplemental Indenture," respectively, and the Master Indenture, as supplemented and amended by the Prior Supplemental Indentures and by the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture, the "Indenture"), each between the Authority and U.S. Bank National Association, as trustee (the "Trustee").

The Authority, BNSF Railway Company ("BNSF"), Union Pacific Railroad Company ("Union Pacific" and together with BNSF, the "Railroads"), the City of Los Angeles, acting by and through its Board of Harbor Commissioners (the "Port of Los Angeles"), and the City of Long Beach, acting by and through its Board of Harbor Commissioners (the "Port of Long Beach" and together with the Port of Los Angeles, the "Ports"), have entered into the Alameda Corridor Use and Operating Agreement, dated as of October 12, 1998, as amended by the First Amendment to Alameda Corridor Use and Operating Agreement, dated as of July 5, 2006 (collectively, the “Use and Operating Agreement”), pursuant to which the Railroads have agreed to pay certain fees and charges for the use of the Project and the Ports have agreed to make certain Shortfall Advances on the terms and subject to the conditions set forth therein. Certain revenues and other moneys to be derived by the Authority in connection with the Use and Operating Agreement are being pledged to secure the payment of the principal of, premium, if any, and interest on the Bonds.

The Bonds are being sold pursuant to a Bond Purchase Agreement, dated ________, 2016 (the “Purchase Agreement”), between the Authority and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representative (the “Representative”) of the Underwriters named therein.

Capitalized terms used but not defined herein shall have the meanings given such terms in the Purchase Agreement or in the Use and Operating Agreement.

A Preliminary Official Statement, dated _________, 2016 (the “Preliminary Official Statement”), and an Official Statement, dated ________, 2016 (the “Official Statement”), relating to the Bonds include references to BNSF’s [Annual Report on Form 10-K for the fiscal year ended December 31, 2015, the Quarterly Reports on Form 10-Q for the quarter ended March 31, 2016] and certain Current Reports on Form 8-K. Such documents and all subsequent documents filed by BNSF with the United States Securities and Exchange Commission (the “Commission”) pursuant to Section 13(a), 13(c) or 15(d) of the United States Securities Exchange Act of 1934, as amended (the “Exchange Act”) on or prior to the date of the Preliminary Official Statement or of the Official Statement or on or prior to the date that is 25 days after the date of delivery of the Bonds, as the case may be, are hereinafter called the “Exchange Act Reports.”

1. To induce the Authority and the Representative to enter into the Purchase Agreement and the Underwriters to purchase and reoffer the Bonds as contemplated in the Purchase Agreement, BNSF hereby represents to, and agrees with, each of you as follows:

(a) BNSF intends to continue to be a substantial user of the Project to be refinanced with the proceeds of the Bonds and expects to benefit by the continued operation of the Project;

(b) the Exchange Act Reports, when they were or are filed with the Commission, conformed or will conform in all respects to the applicable requirements of the Exchange Act and the applicable rules and regulations of the Commission thereunder;

(c) since the date of BNSF’s most recent financial statements in the Exchange Act Reports, neither BNSF nor any of its subsidiaries has sustained any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Exchange Act Reports; and, since the respective dates as of which information is given with respect to BNSF in the Exchange Act Reports, there has not been any material change in the capital stock or long-term debt of BNSF or any of its material subsidiaries or any material adverse change, or any development involving a prospective material adverse change, in or affecting the general affairs, management, financial position, shareholders' equity or results of operations of BNSF, otherwise than as set forth in such Exchange Act Reports;

(d) BNSF has been duly incorporated and is validly existing as a corporation in good standing under the laws of Delaware, with power and authority (corporate and other) to own its properties, and to conduct its business as described in the Exchange Act Reports and as provided in the Use and Operating Agreement, the Dispatching Agreement and the Security Services Agreement (collectively, the "Railroad Agreements");

(e) this Letter of Representation and the Continuing Disclosure Agreement, dated ________, 2016 (the "Continuing Disclosure Agreement"), between BNSF and the Trustee, have been duly authorized, executed and delivered by BNSF and, assuming the due execution and delivery thereof by the other parties thereto, this Letter of Representation and the Continuing Disclosure Agreement each constitutes a legal, valid and binding obligation of BNSF enforceable in accordance with its terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought; and the Railroad Agreements constitute legal, valid and binding obligations of BNSF enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought;

(f) the execution and delivery by BNSF of this Letter of Representation and the Continuing Disclosure Agreement, the performance by BNSF of its obligations thereunder and under the Railroad Agreements, and the consummation of the transactions therein contemplated do not and will not (i) conflict with any of the terms, conditions or provisions of its articles of incorporation or bylaws, or (ii) conflict with, result in a breach of or constitute a default under any of the terms or conditions of any indenture, mortgage, deed of trust, lease or other agreement or instrument to which BNSF is a party, or any laws, judgment, decree, rules or regulations applicable to BNSF of any court or other governmental body or any other applicable requirement of law, except for conflicts, breaches or defaults which, individually or in the aggregate, would not materially and adversely affect BNSF's ability to perform its obligations under this Letter of Representation, the Continuing Disclosure Agreement and under the Railroad Agreements; and no further consent, approval, authorization, order, registration or qualification of or with any such court or governmental agency or body is required for the execution and delivery of, and performance by BNSF of its obligations under, this Letter of Representation, the Continuing Disclosure Agreement and the Railroad Agreements or the consummation by BNSF of the transactions contemplated therein;

(g) other than as set forth in the Exchange Act Reports, there are no legal or governmental proceedings pending to which BNSF or any of its subsidiaries is a party or of which any property of BNSF or any of its subsidiaries is the subject, which BNSF has reasonable cause to believe will, either individually or in the aggregate, have a material adverse effect on the current or future financial position, shareholders' equity or results of operations of BNSF and its subsidiaries; and, to the best of BNSF's knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others; and

(h) BNSF is not in breach of or in default under any of the Railroad Agreements, including the Use and Operating Agreement, and to its knowledge, BNSF is not in a material breach of in material default under any loan agreement, note, bond, resolution, indenture, material agreement or other instrument to which BNSF is a party or to which BNSF or any of its properties or assets is otherwise subject, and no event has occurred and is continuing that constitutes or that, with the passage of time or the giving of notice, or both, would constitute a material breach of or material default under any such agreement, law, regulation or instrument;

(i) to the best of BNSF's knowledge, there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending or threatened against BNSF contesting or affecting the powers of BNSF with respect to, or the validity or enforceability of, or its ability to perform under, any of the Railroad Agreements, including the Use and Operating Agreement;

(j) BNSF is subject to Section 13 or 15(d) of the Exchange Act.

2. BNSF will undertake, pursuant to the Use and Operating Agreement and its Continuing Disclosure Agreement, to provide certain annual financial and operating information.

3. BNSF hereby approves the plan of refunding, as described in the Preliminary Official Statement and in the Official Statement under the headings "THE AUTHORITY'S REFINANCING PROGRAM—The Series 2016 Bonds" and "—The Refinancing Program," including the Authority's obtaining of a debt service reserve surety policy, as permitted by the Indenture, in lieu of funding the Debt Service Reserve Account for the Bonds with bond proceeds, by obtaining a surety policy from a surety provider whose credit rating is at least "A" or better from at least one nationally recognized rating agency, for the purpose of achieving present value debt service savings, notwithstanding the provisions of Section 7.3(k) of the Use and Operating Agreement, or any other provision thereof.

[Signature page follows]

4. At the Closing, BNSF shall cause to be delivered to you the opinion of counsel to BNSF referred to in Paragraph 9(e)(xii) of the Purchase Agreement. BNSF further agrees that the fees for counsel representing BNSF with respect to such opinion will be paid in accordance with the provisions of the Use and Operating Agreement.

Very truly yours,

**BNSF Railway Company**

By: ______________________________
Title:

Accepted as of the date hereof:

**Merrill Lynch, Pierce, Fenner & Smith Incorporated**
As Representative of the Underwriters

By:______________________________
Name: [____________]
Title: [____________]

**Alameda Corridor Transportation Authority**

By:______________________________
Name: John Doherty
Title: Chief Executive Officer

Exhibit B

Letterhead of the Union Pacific Railroad Company

LETTER OF REPRESENTATION

__________, 2016

Merrill Lynch, Pierce, Fenner & Smith Incorporated,
as Representative of the Underwriters
[ADDRESS]
[ADDRESS]

Alameda Corridor Transportation Authority
3760 Kilroy Airport Way, Suite 200
Long Beach, California 90806

Ladies and Gentlemen:

The Alameda Corridor Transportation Authority (the "Authority") proposes to issue the $________ aggregate principal amount of Alameda Corridor Transportation Authority Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds"), and $________ aggregate principal amount of Alameda Corridor Transportation Authority Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds and together with the Series 2016A Bonds, the "Bonds"), pursuant to a Master Trust Indenture, dated as of January 1, 1999 (the "Master Indenture"), as supplemented and amended by the First Supplemental Trust Indenture, the Second Supplemental Trust Indenture, the Third Supplemental Trust Indenture and the Fourth Supplemental Trust Indenture, each dated as of January 1, 1999, the Fifth Supplemental Trust Indenture, dated as of June 1, 2003, the Sixth Supplemental Trust Indenture and the Seventh Supplemental Trust Indenture, each dated as of February 1, 2004, the Eighth Supplemental Trust Indenture, dated as of June 1, 2012, the Ninth Supplemental Trust Indenture, dated as of February 1, 2013 (collectively, the "Prior Supplemental Indentures"), and by the Tenth Supplemental Trust Indenture and the Eleventh Supplemental Trust Indenture, each to be dated as of _________, 2016 (the "Tenth Supplemental Indenture" and the "Eleventh Supplemental Indenture," respectively, and the Master Indenture, as supplemented and amended by the Prior Supplemental Indentures and by the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture, the "Indenture"), each between the Authority and U.S. Bank National Association, as trustee (the "Trustee").

The Authority, BNSF Railway Company ("BNSF"), Union Pacific Railroad Company ("Union Pacific" and together with BNSF, the "Railroads"), the City of Los Angeles, acting by and through its Board of Harbor Commissioners (the "Port of Los Angeles"), and the City of Long Beach, acting by and through its Board of Harbor Commissioners (the "Port of Long Beach" and together with the Port of Los Angeles, the "Ports"), have entered into the Alameda Corridor Use and Operating Agreement, dated as of October 12, 1998, as amended by the First Amendment to Alameda Corridor Use and Operating Agreement, dated as of July 5, 2006 (collectively, the "Use and Operating Agreement"), pursuant to which the Railroads have agreed to pay certain fees and charges for the use of the Project and the Ports have agreed to make certain Shortfall Advances on the terms and subject to the conditions set forth therein. Certain revenues and other moneys to be derived by the Authority in connection with the Use and Operating Agreement are being pledged to secure the payment of the principal of, premium, if any, and interest on the Bonds.

The Bonds are being sold pursuant to a Bond Purchase Agreement, dated ________, 2016 (the "Purchase Agreement"), between the Authority and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representative (the "Representative") of the Underwriters named therein.

Capitalized terms used but not defined herein shall have the meanings given such terms in the Purchase Agreement or in the Use and Operating Agreement.

A Preliminary Official Statement, dated _________, 2016 (the "Preliminary Official Statement"), and an Official Statement, dated ________, 2016 (the "Official Statement"), relating to the Bonds includes references to the Annual Report on Form 10-K for the fiscal year ended [December 31, 2015, the Quarterly Reports on Form 10-Q for the quarter ended March 31, 2016] and certain Current Reports on Form 8-K filed by Union Pacific Corporation, the parent of Union Pacific. Such documents and all subsequent documents filed by Union Pacific Corporation with the United States Securities and Exchange Commission (the "Commission") pursuant to Section 13(a), 13(c) or 15(d) of the United States Securities Exchange Act of 1934, as amended (the "Exchange Act"), on or prior to the date of the Preliminary Official Statement or the Official Statement and on or prior to the date that is 25 days after the date of delivery of the Bonds, as the case may be, are hereinafter called the "Exchange Act Reports."

1. To induce the Authority and the Representative to enter into the Purchase Agreement and the Underwriters to purchase and reoffer the Bonds as contemplated in the Purchase Agreement, Union Pacific hereby represents to, and agrees with, each of you as follows:

(a) Union Pacific intends to continue to be a substantial user of the Project to be financed with the proceeds of the Bonds and expects to benefit by the continued operation of the Project;

(b) the Exchange Act Reports, when they were or are filed with the Commission, conformed or will conform in all respects to the applicable requirements of the Exchange Act and the applicable rules and regulations of the Commission thereunder;

(c) since the date of Union Pacific's most recent financial statements in the Exchange Act Reports, neither Union Pacific nor any of its subsidiaries has sustained any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Exchange Act Reports; and, since the respective dates as of which information is given with respect to Union Pacific in the Exchange Act Reports there has not been any material change in the capital stock or long-term debt of Union Pacific or any of its subsidiaries or any material adverse change, or any development involving a prospective material adverse change, in or affecting the general affairs, management, financial position, shareholders' equity or results of operations of Union Pacific and its subsidiaries, otherwise than as set forth in such Exchange Act Reports;

(d) Union Pacific has been duly incorporated and is validly existing as a corporation in good standing under the laws Delaware, with power and authority (corporate and other) to own its properties, and to conduct its business as described in the Exchange Act Reports and as provided in the Use and Operating Agreement, the Dispatching Agreement and the Security Services Agreement (collectively, the "Railroad Agreements");

(e) this Letter of Representation and the Continuing Disclosure Agreement, dated ________, 2016 (the "Continuing Disclosure Agreement"), between Union Pacific and the Trustee, have been duly authorized, executed and delivered by Union Pacific and, assuming the due execution and delivery thereof by the other parties thereto, constitute the legal, valid and binding obligations of Union Pacific enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought; and the Railroad Agreements constitute legal, valid and binding obligations of Union Pacific enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought;

(f) the execution and delivery by Union Pacific of this Letter of Representation and the Continuing Disclosure Agreement, the performance by Union Pacific of its obligations thereunder and under the Railroad Agreements, the performance by Union Pacific of its obligations thereunder and under the Use and Operating Agreement, and the consummation of the transactions therein contemplated do not and will not (i) conflict with any of the terms, conditions or provisions of its articles of incorporation or bylaws, or (ii) conflict with, result in a breach of or constitute a default under any of the terms or conditions of any indenture, mortgage, deed of trust, lease or other agreement or instrument to which Union Pacific is a party, or any laws, judgment, decree, rules or regulations applicable to Union Pacific of any court or other governmental body or any other applicable requirement of law, except for conflicts, breaches or defaults which, individually or in the aggregate, would not materially and adversely affect Union Pacific's ability to perform its obligations under this Letter of Representation, the Continuing Disclosure Agreement and the Railroad Agreements; and no further consent, approval, authorization, order, registration or qualification of or with any such court or governmental agency or body is required for the execution and delivery of, and performance by Union Pacific of its obligations under, this Letter of Representation, the Continuing Disclosure Agreement and the Railroad Agreements or the consummation by Union Pacific of the transactions contemplated therein;

(g) other than as set forth in the Exchange Act Reports, there are no legal or governmental proceedings pending to which Union Pacific or any of its subsidiaries is a party or of which any property of Union Pacific or any of its subsidiaries is the subject, which Union Pacific has reasonable cause to believe will, either individually or in the aggregate, have a material adverse effect on the current or future financial position, shareholders' equity or results of operations of Union Pacific and its subsidiaries; and, to the best of Union Pacific's knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others;

(h) Union Pacific is not in breach of or in default under any of the Railroad Agreements, including the Use and Operating Agreement, and to its knowledge, Union Pacific is not in a material breach of in material default under any loan agreement, note, bond, resolution, indenture, agreement or other instrument to which Union Pacific is, or on or after the date hereof will be, a party or to which Union Pacific or any of its properties or assets is otherwise subject, and no event has occurred and is continuing that constitutes or that, with the passage of time or the giving of notice, or both, would constitute a material breach of or material default under any such agreement, law, regulation or instrument;

(i) to the best of Union Pacific's knowledge, there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending or threatened against Union Pacific contesting or affecting the powers of Union Pacific with respect to, or the validity or enforceability of, or its ability to perform under, any of the Railroad Agreements, including the Use and Operating Agreement;

(j) Union Pacific Corporation, the parent of Union Pacific, is subject to Section 13 or 15(d) of the Exchange Act.

2. Union Pacific will undertake, pursuant to the Use and Operating Agreement and its Continuing Disclosure Agreement, to provide certain annual financial and operating information.

3. Union Pacific hereby approves the plan of refunding, as described in the Preliminary Official Statement and in the Official Statement under the headings "THE AUTHORITY'S REFINANCING PROGRAM—The Series 2016 Bonds" and "—The Refinancing Program," including the Authority's obtaining of a debt service reserve surety policy, as permitted by the Indenture, in lieu of funding the Debt Service Reserve Account for the Bonds with bond proceeds, by obtaining a surety policy from a surety provider whose credit rating is at least "A" or better from at least one nationally recognized rating agency, for the purpose of achieving present value debt service savings, notwithstanding the provisions of Section 7.3(k) of the Use and Operating Agreement, or any other provision thereof.

[Signature page follows]

4. At the Closing, Union Pacific shall cause to be delivered to you the opinion of counsel to Union Pacific referred to in Paragraph 9(e)(xii) of the Purchase Agreement. Union Pacific further agrees that the fees for counsel representing Union Pacific with respect to such opinion will be paid in accordance with the Use and Operating Agreement.

Very truly yours,

**The Union Pacific Railroad Company**

By: ________________________________
Title:

Accepted as of the date hereof:

**Merrill Lynch, Pierce, Fenner & Smith Incorporated**
As Representative of the Underwriters

By:_____________________________
Name: [_____________]
Title: [_____________]

**Alameda Corridor Transportation Authority**

By:_____________________________
Name: John Doherty
Title: Chief Executive Officer

Exhibit C

Letterhead of the Port of Los Angeles

LETTER OF REPRESENTATION

__________, 2016

Merrill Lynch, Pierce, Fenner & Smith Incorporated,
as Representative of the Underwriters
[ADDRESS]
[ADDRESS]

Alameda Corridor Transportation Authority
3760 Kilroy Airport Way, Suite 200
Long Beach, California 90806

Ladies and Gentlemen:

The Alameda Corridor Transportation Authority (the "Authority") proposes to issue the $________ aggregate principal amount of Alameda Corridor Transportation Authority Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds"), $________ aggregate principal amount of Alameda Corridor Transportation Authority Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds" and together with the Series 2016A Bonds, the "Bonds"), pursuant to a Master Trust Indenture, dated as of January 1, 1999 (the "Master Indenture"), as supplemented and amended by the First Supplemental Trust Indenture, the Second Supplemental Trust Indenture, the Third Supplemental Trust Indenture and the Fourth Supplemental Trust Indenture, each dated as of January 1, 1999, the Fifth Supplemental Trust Indenture, dated as of June 1, 2003, the Sixth Supplemental Trust Indenture and the Seventh Supplemental Trust Indenture, each dated as of February 1, 2004, the Eighth Supplemental Trust Indenture, dated as of June 1, 2012, the Ninth Supplemental Trust Indenture, dated as of February 1, 2013 (collectively, the "Prior Supplemental Indentures"), and by the Tenth Supplemental Trust Indenture and the Eleventh Supplemental Trust Indenture, each to be dated as of _________, 2016 (the "Tenth Supplemental Indenture" and the "Eleventh Supplemental Indenture," respectively, and the Master Indenture, as supplemented and amended by the Prior Supplemental Indentures and by the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture, the "Indenture"), each between the Authority and U.S. Bank National Association, as trustee (the "Trustee").

The Authority, BNSF Railway Company ("BNSF"), the Union Pacific Railroad Company ("Union Pacific" and together with BNSF, the "Railroads"), the City of Los Angeles, acting by and through its Board of Harbor Commissioners (the "Port of Los Angeles"), and the City of Long Beach, acting by and through its Board of Harbor Commissioners (the "Port of Long Beach" and together with the Port of Los Angeles, the "Ports"), have entered into the Alameda Corridor Use and Operating Agreement, dated as of October 12, 1998, as amended by the First Amendment to Alameda Corridor Use and Operating Agreement, dated as of July 5, 2006 (collectively, the "Use and Operating Agreement"), pursuant to which the Railroads have agreed to pay certain fees and charges for the use of the Rail Corridor and the Ports have agreed to make certain Shortfall Advances on the terms and subject to the conditions set forth therein. Certain revenues and other moneys to be derived by the Authority in connection with the Use and Operating Agreement are being pledged to secure the payment of the principal of, premium, if any, and interest on the Bonds.

The Bonds are being sold pursuant to a Bond Purchase Agreement, dated ________, 2016 (the "Purchase Agreement"), between the Authority and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representative (the "Representative") of the Underwriters named therein.

Capitalized terms used but not defined herein shall have the meanings given such terms in the Purchase Agreement or in the Use and Operating Agreement.

1. To induce the Authority and the Representative to enter into the Purchase Agreement and the Underwriters to purchase and reoffer the Bonds as contemplated in the Purchase Agreement, the Port of Los Angeles hereby represents and agrees with each of you as follows:

(a) the information relating to the Port of Los Angeles in the Preliminary Official Statement relating to the Bonds, dated _________, 2016, of the Alameda Corridor Transportation Authority (collectively, the "Preliminary Official Statement"), and in the Official Statement relating to the Bonds, dated ________, 2016 (the "Official Statement"), under the headings "INTRODUCTION—The Ports," "AUTHORITY REVENUES—Recent and Budgeted Cargo Throughput and Revenue Collections," "THE PORTS" and "CONTINUING DISCLOSURE—The Authority and the Ports" and in Appendix B, has been provided to the Authority by the Port of Los Angeles for use in the Preliminary Official Statement and the Official Statement and is true and correct, and such information includes certain financial statements and other historical information with respect to the Port of Los Angeles, which fairly present the financial position of the Port of Los Angeles as of the dates indicated and the results of its operations, for the periods therein specified, and are in conformity with generally accepted accounting principles applicable to the Port of Los Angeles applied on a consistent basis, and there has been no material adverse change in the financial condition or results of operations of the Port of Los Angeles since the date thereof;

(b) since the date of the Port of Los Angeles's audited financial statements included in the Preliminary Official Statement and in the Official Statement, the Port of Los Angeles has not sustained any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as disclosed in the Preliminary Official Statement and in the Official Statement; and there has not been any material adverse change affecting the financial position or results of operations of Port of Los Angeles, otherwise than as disclosed in the Preliminary Official Statement and in the Official Statement;

(c) the City of Los Angeles has been duly incorporated and is a validly existing charter city under the laws of the State of California, with power and authority vested in its Board of Harbor Commissioners to manage its properties, and to conduct its business as described in the Preliminary Official Statement and in the Official Statement;

(d) this Letter of Representation and the Continuing Disclosure Certificate have been duly authorized, executed and delivered by the Port of Los Angeles and, assuming the due execution and delivery thereof by the other parties thereto, as applicable, constitute the legal, valid and binding obligations of the Port of Los Angeles enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought; and the Use and Operating Agreement and the Use Permit (collectively, the "Port Agreements") constitute legal, valid and binding obligations of the Port of Los Angeles enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought;

(e) the execution and delivery by the Port of Los Angeles of this Letter of Representation and the Continuing Disclosure Certificate, the performance by the Port of Los Angeles of its obligations hereunder and under the Continuing Disclosure Certificate and the Port Agreements, and the consummation of the transactions herein and therein contemplated do not and will not (i) conflict with any of the terms, conditions or provisions of the Charter of the City of Los Angeles, or (ii) conflict with, result in a material breach of or constitute a material default under any of the terms or conditions of any indenture, mortgage, deed of trust, lease or other agreement or instrument to which the Port of Los Angeles is a party, or any laws, judgment, decree, rules or regulations applicable to Port of Los Angeles of any court or other governmental body or any other applicable requirement of law, except for conflicts, breaches or defaults which, individually or in the aggregate, would not materially and adversely affect the Port of Los Angeles's ability to perform its obligations under this Letter of Representation, the Continuing Disclosure Certificate and the Port Agreements; and no consent, approval, authorization, order, registration or qualification of or with any such court or governmental agency or body was or is required for the execution and delivery of, and performance by the Port of Los Angeles of its obligations under this Letter of Representation, the Continuing Disclosure Certificate and the Port Agreements or the consummation by the Port of Los Angeles of the transactions contemplated herein or therein;

(f) there are no legal or governmental proceedings pending to which the Port of Los Angeles is a party or of which any property of the Port of Los Angeles is the subject, which the Port of Los Angeles has reasonable cause to believe will, either individually or in the aggregate, have a material adverse effect on the current or future financial position or results of operations of the Port of Los Angeles; and, to the best of the Port of Los Angeles's knowledge, no such proceedings are threatened by governmental authorities or threatened by others;

(g) there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending or, to the best of the Port of Los Angeles's knowledge, threatened against the Port of Los Angeles contesting or affecting the powers of the Port of Los Angeles with respect to, or the validity or enforceability of, or any authority for, this Letter of Representation, the Continuing Disclosure Certificate and the Port Agreements;

(g) the Port of Los Angeles is not in material breach of or in material default under any of the Port Agreements, and to its knowledge, the Port of Los Angeles is not in material breach of or in material default under any loan agreement, note, bond, resolution, indenture, agreement or other instrument to which the Port of Los Angeles is, or on or after the date of the Closing will be, a party or to which the Port of Los Angeles or any of its properties or assets is otherwise subject, and no event has occurred and is continuing that constitutes or that, with the passage of time or the giving of notice, or both, would constitute a material breach of or material default or event of default under any such agreement, law, regulation or instrument.

2. The Port of Los Angeles will undertake, pursuant to the Use and Operating Agreement and the Continuing Disclosure Certificate, to provide certain annual financial and operating information and to provide notices upon the occurrence of certain enumerated events. The form of this undertaking is set forth in the Continuing Disclosure Certificate included as Appendix D in the Preliminary Official Statement and in the Official Statement. During the previous five years, the Port of Los Angeles has not failed to comply in any material respect with any of its previous undertakings under Rule 15c2-12.

3. The Port of Los Angeles hereby approves the Authority's obtaining of a debt service reserve surety policy, as permitted by the Indenture, in lieu of funding the Debt Service Reserve Account for the Bonds with bond proceeds, by obtaining a surety policy from a surety provider whose credit rating is at least "A" or better from at least one nationally recognized rating agency, for the purpose of achieving present value debt service savings, notwithstanding the provisions of Section 7.3(k) of the Use and Operating Agreement, or any other provision thereof.

4. The Port of Los Angeles acknowledges and agrees that (i) in connection with the purchase and sale of the Bonds and with the discussions, undertakings and procedures leading up to the consummation of such transaction, the Underwriters are and have been acting solely as principals and not as the agents or fiduciaries of the Port of Los Angeles; (ii) the Underwriters have not assumed a fiduciary responsibility in favor of the Port of Los Angeles with respect to: (a) the offering of the Bonds or the process leading thereto (whether or not the Underwriters, or any affiliates of the Underwriters, have advised or are currently advising the Port of Los Angeles on other matters) or (b) any other obligation to the Port of Los Angeles except the obligations expressly set forth in the Bond Purchase Agreement and in this Letter of Representation; and (iii) the Port of Los Angeles has consulted its own legal, financial and other advisors to the extent it has deemed appropriate in connection with this transaction.

5. At the Closing, the Port of Los Angeles shall cause to be delivered to you the opinion of counsel to the Port of Los Angeles referred to in Paragraph 9(e)(x) of the Purchase Agreement.

[Signature page follows]

6. No representation or covenant herein shall be deemed to be the representation or covenant of any official, officer, agent or employee of the Port of Los Angeles in his or her individual capacity.

Very truly yours,

**THE CITY OF LOS ANGELES, BY ITS BOARD OF HARBOR COMMISSIONERS**

By: ________________________________
Title:

Accepted as of the date hereof:

**Merrill Lynch, Pierce, Fenner & Smith Incorporated**
As Representative of the Underwriters

By:_____________________________
Name: [___________]
Title: [___________]

**Alameda Corridor Transportation Authority**

By:_____________________________
Name: John Doherty
Title: Chief Executive Officer

Exhibit D

Letterhead of the Port of Long Beach

LETTER OF REPRESENTATION

_________, 2016

Merrill Lynch, Pierce, Fenner & Smith Incorporated,
as Representative of the Underwriters
[ADDRESS]
[ADDRESS]

Alameda Corridor Transportation Authority
3760 Kilroy Airport Way, Suite 200
Long Beach, California 90806

Ladies and Gentlemen:

The Alameda Corridor Transportation Authority (the "Authority") proposes to issue the $________ aggregate principal amount of Alameda Corridor Transportation Authority Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds"), and $________ aggregate principal amount of Alameda Corridor Transportation Authority Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds" and together with the Series 2016A Bonds, the "Bonds"), pursuant to a Master Trust Indenture, dated as of January 1, 1999 (the "Master Indenture"), as supplemented and amended by the First Supplemental Trust Indenture, the Second Supplemental Trust Indenture, the Third Supplemental Trust Indenture and the Fourth Supplemental Trust Indenture, each dated as of January 1, 1999, the Fifth Supplemental Trust Indenture, dated as of June 1, 2003, the Sixth Supplemental Trust Indenture and the Seventh Supplemental Trust Indenture, each dated as of February 1, 2004, the Eighth Supplemental Trust Indenture, dated as of June 1, 2012, the Ninth Supplemental Trust Indenture, dated as of February 1, 2013 (collectively, the "Prior Supplemental Indentures"), and by the Tenth Supplemental Trust Indenture and the Eleventh Supplemental Trust Indenture, each to be dated as of _________, 2016 (the "Tenth Supplemental Indenture" and the "Eleventh Supplemental Indenture," respectively, and the Master Indenture, as supplemented and amended by the Prior Supplemental Indentures and by the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture, the "Indenture"), each between the Authority and U.S. Bank National Association, as trustee (the "Trustee").

The Authority, BNSF Railway Company ("BNSF"), the Union Pacific Railroad Company ("Union Pacific" and together with BNSF, the "Railroads"), the City of Los Angeles, acting by and through its Board of Harbor Commissioners (the "Port of Los Angeles"), and the City of Long Beach, acting by and through its Board of Harbor Commissioners (the "Port of Long Beach" and together with the Port of Los Angeles, the "Ports") have entered into the Alameda Corridor Use and Operating Agreement, dated as of October 12, 1998, as amended by the First Amendment to Alameda Corridor Use and Operating Agreement, dated as of July 5, 2006 (collectively, the "Use and Operating Agreement"), pursuant to which the Railroads have agreed to pay certain fees and charges for the use of the Rail Corridor and the Ports have agreed to make certain Shortfall Advances on the terms and subject to the conditions set forth therein. Certain revenues and other moneys to be derived by the Authority in connection with the Use and Operating Agreement are being pledged to secure the payment of the principal of, premium, if any, and interest on the Bonds.

The Bonds are being sold pursuant to a Bond Purchase Agreement, dated ________, 2016 (the "Purchase Agreement"), between the Authority and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as representative (the "Representative") of the Underwriters named therein.

Capitalized terms used but not defined herein shall have the meanings given such terms in the Purchase Agreement or in the Use and Operating Agreement.

1. To induce the Authority and the Representative to enter into the Purchase Agreement and the Underwriters to purchase and reoffer the Bonds as contemplated in the Purchase Agreement, the Port of Long Beach hereby represents and agrees with each of you as follows:

(a) the information relating to the Port of Long Beach in the Preliminary Official Statement relating to the Bonds, dated _________, 2016, of the Alameda Corridor Transportation Authority (collectively, the "Preliminary Official Statement"), and in the Official Statement relating to the Bonds, dated ________, 2016 (the "Official Statement"), under the headings "INTRODUCTION—The Ports," "AUTHORITY REVENUES—Recent and Budgeted Containerized Cargo Throughput and Revenue Collections," "THE PORTS" and "CONTINUING DISCLOSURE—The Authority and the Ports" and in Appendix C, has been provided to the Authority by the Port of Long Beach for use in the Preliminary Official Statement and the Official Statement and is true and correct, and such information includes certain financial statements and other historical information with respect to the Port of Long Beach, which fairly present the financial position of the Port of Long Beach as of the dates indicated and the results of its operations, for the periods therein specified, and are in conformity with generally accepted accounting principles applicable to the Port of Long Beach applied on a consistent basis, and there has been no material adverse change in the financial condition or results of operations of the Port of Long Beach since the date thereof;

(b) since the date of the Port of Long Beach's audited financial statements included in the Preliminary Official Statement and in the Official Statement, the Port of Long Beach has not sustained any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as disclosed in the Preliminary Official Statement and in the Official Statement; and, there has not been any material adverse change affecting the financial position or results of operations of Port of Long Beach, otherwise than as disclosed in the Preliminary Official Statement and in the Official Statement;

(c) the City of Long Beach has been duly incorporated and is a validly existing charter city under the laws of the State of California, with power and authority vested in its Board of Harbor Commissioners to manage its properties, and to conduct its business as described in the Preliminary Official Statement and in the Official Statement;

(d) this Letter of Representation and the Continuing Disclosure Certificate have been duly authorized, executed and delivered by the Port of Long Beach and, assuming the due execution and delivery thereof by the other parties thereto, as applicable, constitute the legal, valid and binding obligations of the Port of Long Beach enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought; and the Use and Operating Agreement and the Use Permit (collectively, the "Port Agreements") constitute legal, valid and binding obligations of the Port of Long Beach enforceable in accordance with their terms, except to the extent that enforceability is subject to bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights and remedies generally and to the application of equitable principles where equitable remedies are sought;

(e) the execution and delivery by the Port of Long Beach of this Letter of Representation and the Continuing Disclosure Certificate, the performance by the Port of Long Beach of its obligations hereunder and under the Continuing Disclosure Certificate and the Port Agreements, and the consummation of the transactions herein and therein contemplated do not and will not (i) conflict with any of the terms, conditions or provisions of the Charter of the City of Long Beach, or (ii) conflict with, result in a material breach of or constitute a material default under any of the terms or conditions of any indenture, mortgage, deed of trust, lease or other agreement or instrument to which the Port of Long Beach is a party, or any laws, judgment, decree, rules or regulations applicable to Port of Long Beach of any court or other governmental body or any other applicable requirement of law, except for conflicts, breaches or defaults which, individually or in the aggregate, would not materially and adversely affect the Port of Long Beach's ability to perform its obligations under this Letter of Representation, the Continuing Disclosure Certificate and the Port Agreement; and no consent, approval, authorization, order, registration or qualification of or with any such court or governmental agency or body was or is required for the execution and delivery of, and performance by the Port of Long Beach of its obligations under this Letter of Representation, the Continuing Disclosure Certificate and the Port Agreements or the consummation by the Port of Long Beach of the transactions contemplated herein or therein;

(f) there are no legal or governmental proceedings pending to which the Port of Long Beach is a party or of which any property of the Port of Long Beach is the subject, which the Port of Long Beach has reasonable cause to believe will, either individually or in the aggregate, have a material adverse effect on the current or future financial position or results of operations of the Port of Long Beach; and, to the best of the Port of Long Beach's knowledge, no such proceedings are threatened by governmental authorities or threatened by others;

(g) there is no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body, pending or, to the best of the Port of Long Beach's knowledge, threatened against the Port of Long Beach contesting or affecting the powers of the Port of Long Beach with respect to, or the validity or enforceability of, or any authority for, this Letter of Representation, the Continuing Disclosure Certificate or the Port Agreements;

(h) the Port of Long Beach is not in material breach of or in material default under the Port Agreements, and to its knowledge, the Port of Long Beach is not in material breach of or in material default under any loan agreement, note, bond, resolution, indenture, agreement or other instrument to which the Port of Long Beach is, or on or after the date of the Closing will be, a party or to which the Port of Long Beach or any of its properties or assets is otherwise subject, and no event has occurred and is continuing that constitutes or that, with the passage of time or the giving of notice, or both, would constitute a material breach of or material default or event of default under any such agreement, law, regulation or instrument.

2. The Port of Long Beach will undertake, pursuant to the Use and Operating Agreement and the Continuing Disclosure Certificate, to provide certain annual financial and operating information and to provide notices upon the occurrence of certain enumerated events. The form of this undertaking is set forth in the Continuing Disclosure Certificate included as Appendix D in the Preliminary Official Statement and in the Official Statement. During the previous five years, the Port of Long Beach has not failed to comply in any material respect with any of its previous undertakings under Rule 15c2-12.

3. The Port of Long Beach hereby approves the Authority's obtaining of a debt service reserve surety policy, as permitted by the Indenture, in lieu of funding the Debt Service Reserve Account for the Bonds with bond proceeds, by obtaining a surety policy from a surety provider whose credit rating is at least "A" or better from at least one nationally recognized rating agency, for the purpose of achieving present value debt service savings, notwithstanding the provisions of Section 7.3(k) of the Use and Operating Agreement, or any other provision thereof.

4. The Port of Long Beach acknowledges and agrees that (i) in connection with the purchase and sale of the Bonds and with the discussions, undertakings and procedures leading up to the consummation of such transaction, the Underwriters are and have been acting solely as principals and not as the agents or fiduciaries of the Port of Long Beach; (ii) the Underwriters have not assumed a fiduciary responsibility in favor of the Port of Long Beach with respect to: (a) the offering of the Bonds or the process leading thereto (whether or not the Underwriters, or any affiliates of the Underwriters, have advised or are currently advising the Port of Long Beach on other matters) or (b) any other obligation to the Port of Long Beach except the obligations expressly set forth in the Bond Purchase Agreement and in this Letter of Representation; and (i) the Port of Long Beach has consulted its own legal, financial and other advisors to the extent it has deemed appropriate in connection with this transaction.

5. At the Closing, the Port of Long Beach shall cause to be delivered to you the opinion of counsel to the Port of Long Beach referred to in Paragraph 9(e)(x) of the Purchase Agreement.

[Signature page follows]

6. No representation or covenant herein shall be deemed to be the representation or covenant of any official, officer, agent or employee of the Port of Long Beach in his or her individual capacity.

Very truly yours,

**City of Long Beach, California, acting by and through its Board of Harbor Commissioners**

By: ______________________________
Title:

Accepted by:

**Merrill Lynch, Pierce, Fenner & Smith Incorporated**
As Representative of the Underwriters

By:______________________________
Name: [___________]
Title: [___________]

**Alameda Corridor Transportation Authority**

By:______________________________
Name: John Doherty
Title: Chief Executive Officer

**EXHIBIT E**
**PROPOSED FORM OF SUPPLEMENTAL OPINION OF BOND COUNSEL**

**[TO BE UPDATED BY BOND COUNSEL]**

[Closing]

Alameda Corridor Transportation Authority
Long Beach, California 90806

Merrill Lynch, Pierce, Fenner & Smith Incorporated,
as Representative of the Underwriters (defined below)
[ADDRESS]
[ADDRESS]

We have served as bond counsel to our client the Alameda Corridor Transportation Authority (the "Authority") and not as counsel to any other person in connection with the issuance by the Authority of its $________ aggregate principal amount of Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds"), $________ aggregate principal amount of Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds") and $________ aggregate principal amount of Taxable Second Subordinate Lien Revenue Refunding Bonds, Series 2016C (the "Series 2016C Bonds" and together with the Series 2016A Bonds and the Series 2016B Bonds, the "2016 Bonds"), dated the date of this letter.

We have rendered on this date our legal opinion as bond counsel concerning the 2016 Bonds (the "Legal Opinion"). This supplemental opinion letter is rendered pursuant to Section 9(e)(vi) of the Bond Purchase Agreement, dated ___________, 2016 (the "Purchase Agreement"), among the Authority and the Underwriters therein named. The Underwriters may rely on the Legal Opinion as if addressed to them.

Capitalized terms not otherwise defined in this letter are used as defined in the Purchase Agreement.

In our capacity as bond counsel, we have examined the transcript of proceedings relating to the issuance of the 2016 Bonds, the Indenture, the Purchase Agreement, the Amended and Restated Joint Exercise of Powers Agreement, dated as of December 18, 1996, between the City of Long Beach and the City of Los Angeles (including all amendments thereto, the "JPA Agreement"), the Use and Operating Agreement and such other documents, matters and law as we deem necessary to render the opinions and advice set forth in this letter.

Based on that examination and subject to the limitations stated below, we are of the opinion that under existing law:

1. The Authority is a joint powers authority of the State duly created under the Act, and is in compliance with the provisions of the Act in respect of the issuance and sale of the 2016 Bonds, the execution and delivery of the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Escrow Agreement, the Continuing Disclosure Certificate and the Purchase Agreement, the adoption of the Series 2016 Resolutions and the performance of its obligations under each of the Transaction Documents.

2. The Authority has the power and authority under the Act and the JPA Agreement (a) to adopt the Series 2016 Resolutions, (b) to execute and deliver the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Escrow Agreement, the Continuing Disclosure Certificate, the Purchase Agreement and the Official Statement, (c) to issue, sell and deliver the 2016 Bonds to the Underwriters as provided in the Purchase Agreement, (d) to approve and authorize the distribution of the Preliminary Official Statement, (e) to approve and authorize the execution and distribution of the Official Statement and (f) to collect and pledge the Revenues, to grant the liens and security interests and to collect and apply the M & O Charges, all as described in the Indenture, and (g) to perform all other obligations required to be performed by the Authority as described in the Transaction Documents.

3. The Authority has (a) duly authorized and adopted the Series 2016 Resolutions, (b) duly authorized and approved the execution and delivery of, and the performance by the Authority of its obligations contained in, the 2016 Bonds, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Escrow Agreement, the Continuing Disclosure Certificate and the Purchase Agreement, (c) duly authorized and ratified the delivery of the Preliminary Official Statement to the Underwriters and the distribution by the Underwriters of the Preliminary Official Statement to potential purchasers of the 2016 Bonds and (d) duly authorized and approved the execution of, and the delivery to the Underwriters of, the Official Statement and the distribution by the Underwriters of the Official Statement to potential purchasers and purchasers of the 2016 Bonds.

4. The Official Statement, 2016 Bonds, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Escrow Agreement, the Continuing Disclosure Certificate and the Purchase Agreement have each been duly executed by the Authority.

5. The Escrow Agreement, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Continuing Disclosure Certificate and the Purchase Agreement each constitute the valid and binding obligation of the Authority.

6. No recording, registration or filing of any of the 2016 Bonds or the Indenture, or any financing statement or other instrument with respect thereto, is necessary to create the pledge of Revenues or the liens created under the Indenture or is required for the validity and enforceability thereof.

7. The Authority has complied with all applicable consent provisions expressly set forth in the Use and Operating Agreement and the Indenture relating to the consummation of each of the transactions contemplated in the 2016 Bonds, the Tenth Supplemental Indenture, the Eleventh Supplemental Indenture, the Escrow Agreement, the Series 2016 Resolutions, the Purchase Agreement and the Continuing Disclosure Certificate.

8. The 2016 Bonds are exempt from registration under the Securities Act of 1933, as amended, and the Indenture is exempt from qualification under the Trust Indenture Act of 1939, as amended.

We also advise you that the statements in the Official Statement under the captions "INTRODUCTION—Authority for the Series 2016 Bonds" and "—Security and Sources of Payment for the Bonds," "DESCRIPTION OF THE SERIES 2016 BONDS" (other than the information relating to DTC and its book-entry system, as to which we express no view), "THE AUTHORITY'S REFINANCING PROGRAM—The Series 2016 Bonds," "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS," and in APPENDIX C—"SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—The Indenture" and "—The Use and Operating Agreement," excluding any material that may be treated as included under such captions by cross reference, insofar as such statements describe certain provisions of the Indenture and Use and Operating Agreement, and the statements under the caption "TAX MATTERS," are accurate and fairly present the information purported to be shown.

The opinions and advice stated above are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. In rendering all such opinions, we assume, without independent verification, and rely upon: (i) the accuracy of the factual matters represented, warranted or certified in the proceedings and documents we have examined, (ii) the due and legal authorization, execution and delivery of those documents by, and the valid, binding and enforceable nature of those documents upon, any parties other than the Authority and (iii) the correctness of the legal conclusions contained in the legal opinion letters of the Co-General Counsel to the Authority delivered in connection with this matter.

The rights of the Underwriters under the Purchase Agreement, the rights of the Owners and the beneficial owners of the 2016 Bonds under the Continuing Disclosure Certificate, and the rights of the parties under the [Fourth] Amendment, and the enforceability of each of these documents, are subject to bankruptcy, insolvency, arrangement, fraudulent conveyance or transfer, reorganization, moratorium and other laws relating to or affecting creditors' rights, to the application of equitable principles, to the exercise of judicial discretion, and to limitations on legal remedies against public entities. We express no opinion with respect to any indemnification, contribution, penalty, choice of law, choice of forum, choice of venue, waiver or severability provisions contained in these documents.

This letter is furnished to the Underwriters solely for their benefit in their capacity as Underwriters and in connection with the original issuance of the 2016 Bonds, and may not be relied upon for any other purpose or by any other person, including the holders, owners or beneficial owners of the 2016 Bonds. The opinions and advice in this letter are stated only as of this date, and no other opinion or advice shall be implied or inferred as a result of anything contained in or omitted from this letter. Our engagement as bond counsel with respect to the 2016 Bonds has concluded on this date.

Respectfully submitted,

**EXHIBIT F**

**FORM OF OPINION OF UNDERWRITERS' COUNSEL**

**[TO BE PROVIDED]**

UNDERWRITERS

Merrill Lynch, Pierce, Fenner & Smith Incorporated

Barclays Capital Inc.

Citigroup Global Markets Inc.

RBC Capital Markets, LLC

Stifel Nicolaus & Company, Incorporated

BOND TERMS

**$_______**
**TAX-EXEMPT SUBORDINATE LIEN REVENUE REFUNDING BONDS**
**SERIES 2016A**

| Maturity Date (October 1) | Principal Amount | Interest Rate | Yield | Price |
|---|---|---|---|---|

* Insured Bonds.
** Priced to a par call date of October 1, 20__.

**$_______**
**TAX-EXEMPT SECOND SUBORDINATE LIEN REVENUE REFUNDING BONDS**
**SERIES 2016B**

| Maturity Date (October 1) | Principal Amount | Interest Rate | Yield | Price |
|---|---|---|---|---|

* Insured Bonds.
** Priced to a par call date of October 1, 20__.

**Redemption Provisions:**

***Optional Redemption of Series 2016A Bonds and Series 2016B Bonds.*** The Series 2016 Tax-Exempt Bonds of each Series maturing on or after **[**October 1, 2027**]** are redeemable at the option of the Authority on or after **[**April 1, 2026**]** in whole or in part at any time, from any moneys that may be provided for such purpose and at a redemption price equal to ____% of the principal amount of Series 2016 Tax-Exempt Bonds to be redeemed, plus interest accrued to the date fixed for redemption.

***Mandatory Sinking Fund Redemption.*** The Bonds are not subject to mandatory sinking fund redemption.

***Extraordinary Redemption.*** The Bonds are subject to extraordinary redemption as provided for in the Master Indenture and as described in the Preliminary Official Statement and in the Official Statement.

## OPERATING AGREEMENTS

**[UNDER REVIEW]**

Amended and Restated Joint Exercise of Powers Agreement, dated as of December 18, 1996, between the City of Long Beach, California and the City of Los Angeles, California, as amended by the First Amendment to Amended and Restated Joint Exercise of Powers Agreement, dated as of July 1, 2006 (collectively, the "Joint Powers Agreement")

Use Permit, dated October 12, 1998 (the "Use Permit"), between the Authority and the Ports

Alameda Corridor Project Definition Memorandum of Agreement, dated as of May 22, 2002, executed by the Authority, the Ports, and the Railroads, as amended (collectively, "MOA")

Alameda Corridor Dispatching Agreement, dated as of January 30, 2002, by and among the Authority and the Railroads, as amended (the "Dispatching Agreement")

[Alameda Corridor Maintenance Agreement (Rail Corridor and Non-Rail Components), dated as of dated as of April 15, 2007, by and between the Authority and Balfour Beatty Rail Inc., as subdivision of Balfour Beatty Industries ("Balfour"), as amended (collectively, the "Maintenance Agreement")]

Alameda Corridor Police and Security Services Agreement, dated as of October 15, 2002, between the Authority and the Railroads, as amended (the "Security Services Agreement")

Agreement Between the Alameda Corridor Transportation Authority and the Alameda Corridor Engineering Team, dated as of January 1, 1996, as amended (collectively, the "ACET Agreement")

RRIF Financing Agreement, dated as of June 21, 2012 (the "2012 Financing Agreement"), between the Authority and the United States of America, represented by the Secretary of Transportation acting through the Administrator of the Federal Railroad Administration

Forward Delivery Agreement for Debt Service Funds, dated July 12, 2000 (as previously amended, the "Forward Delivery Agreement"), among the Authority, the Trustee and Bank of America, N.A.

# Exhibit D

PRELIMINARY OFFICIAL STATEMENT DATED APRIL __, 2016

This Preliminary Official Statement and the information contained herein are subject to completion and amendment. Under no circumstances shall this Preliminary Official Statement constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of these Series 2016 Bonds in any jurisdiction in which such offer, solicitation or sale would be unlawful under the securities laws of such jurisdiction.

**NEW ISSUE - BOOK-ENTRY ONLY** **RATINGS: See "Ratings" herein.**

*In the opinion of Nixon Peabody LLP, Special Tax Counsel, under existing law and assuming compliance with the tax covenants described herein, and the accuracy of certain representations and certifications made by the Authority described herein, interest on the Series 2016 Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"). Special Tax Counsel is also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code with respect to individuals and corporations. Special Tax Counsel is further of the opinion that interest on the Series 2016 Bonds is exempt from personal income taxes of the State of California under present State law. See "TAX MATTERS" herein regarding certain other tax considerations.*

# Alameda Corridor Transportation Authority

| | |
|---|---|
| **$____________*** | **$_______________*** |
| **Tax-Exempt Subordinate Lien Revenue Refunding Bonds Series 2016A** | **Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds Series 2016B** |

**Dated: Date of Delivery** **Due: As shown on inside cover page**

The Alameda Corridor Transportation Authority (the "Authority") is issuing its Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds") and its Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds" and together with the Series 2016A Bonds, the "Series 2016 Bonds"), among other purposes (i) to refund, and/or to defease to maturity, a portion of the Authority's Tax-Exempt Subordinate Lien Revenue Bonds, Series 2004A (the "Refunded Series 2004A Bonds"); (ii) to purchase debt service reserve fund surety policies; [(iii) to purchase a municipal bond insurance policy;] and (iv) to pay costs of issuing the Series 2016 Bonds. **The issuance of the Series 2016 Bonds and the refunding and defeasance of the Refunded Series 2004A Bonds are subject to market conditions.**

The Series 2016 Bonds are being issued pursuant to the Joint Exercise of Powers Act, California Government Code Sections 6500, *et seq*., and pursuant to a Master Trust Indenture, as amended and supplemented, between the Authority and U.S. Bank National Association, as trustee. Except as described herein, the Series 2016 Bonds are payable solely from and are secured solely by a pledge of the Trust Estate, which consists primarily of Revenues. In general, Revenues include, among other things, Use Fees and Container Charges to be paid by the Union Pacific Railroad Company and BNSF Railway Company (together, the "Railroads") and Shortfall Advances to be paid under certain circumstances by the City of Los Angeles, acting by and through its Board of Harbor Commissioners (the "Port of Los Angeles"), and the City of Long Beach, acting by and through its Board of Harbor Commissioners (the "Port of Long Beach" and together with the Port of Los Angeles, the "Ports"), as described herein. The Railroads and the Ports are obligated only to make certain payments required by the Alameda Corridor Use and Operating Agreement, dated as of October 12, 1998, as amended, among the Authority, the Ports and the Railroads, and are not responsible for paying, and are not guaranteeing the payment of, the principal of, premium, if any, or interest on the Series 2016 Bonds.

The Series 2016 Bonds are being issued as fully registered bonds in the name of Cede & Co., as registered owner and nominee of The Depository Trust Company ("DTC"), New York, New York. Individual purchases and sales of the Series 2016 Bonds may be made in book-entry form only, in denominations of $5,000 and integral multiples thereof. Purchasers will not receive certificates representing their interests in the Series 2016 Bonds. Interest on the Series 2016 Bonds will be payable on **[**April 1 and October 1**]**, commencing **[**October 1, 2016]. So long as the Series 2016 Bonds are held by DTC, the principal of and the interest on the Series 2016 Bonds will be payable to DTC, which in turn will be required to remit such principal and interest to the DTC participants for subsequent disbursement to beneficial owners of the Series 2016 Bonds.

**The Series 2016 Bonds are subject to extraordinary redemption and the Series 2016B Bonds are subject to optional redemption prior to maturity as described herein.**

The scheduled payment of principal of and the interest on the Series 2016 Bonds maturing on **[**October 1 of the years _______ through ________**]** (collectively, the "Insured Series 2016 Bonds") when due will be guaranteed under an insurance policy to be issued concurrently with the delivery of the Series 2016 Bonds by __________________________.

**[logo to come]**

***There are risks associated with the purchase of the Series 2016 Bonds. Potential purchasers are advised to review carefully this entire Official Statement, including the appendices, to obtain information essential to making an informed investment decision.***

THE SERIES 2016 BONDS ARE SPECIAL, LIMITED OBLIGATIONS OF THE AUTHORITY AND, EXCEPT AS DESCRIBED HEREIN, ARE PAYABLE SOLELY FROM AND ARE SECURED SOLELY BY A LIEN ON THE TRUST ESTATE. THE SERIES 2016 BONDS ARE NOT OBLIGATIONS OF THE STATE OF CALIFORNIA OR ANY POLITICAL SUBDIVISION OF THE STATE OF CALIFORNIA AND ARE NOT OBLIGATIONS OF THE CITY OF LONG BEACH OR THE CITY OF LOS ANGELES (COLLECTIVELY, THE "CITIES"), THE PORTS OR THE RAILROADS. THE PROJECT DESCRIBED IN THIS OFFICIAL STATEMENT IS NOT SECURITY FOR THE SERIES 2016 BONDS, AND THE SERIES 2016 BONDS ARE NOT SECURED BY A LIEN ON ANY PROPERTIES OR IMPROVEMENTS OF THE AUTHORITY, THE CITIES, THE PORTS OR THE RAILROADS OR BY A PLEDGE OF ANY REVENUES OF THE CITIES, THE PORTS OR THE RAILROADS.

*The Series 2016 Bonds are offered when, as and if issued, subject to receipt of the legal opinions of O'Melveny & Myers LLP, Los Angeles, California, Bond Counsel to the Authority, and Nixon Peabody LLP, Special Tax Counsel to the Authority. Certain legal matters will be passed upon for the Authority by one of its Co-General Counsel. Certain legal matters will be passed upon for the Port of Los Angeles by the Office of the Los Angeles City Attorney and for the Port of Long Beach by the Office of the Long Beach City Attorney. Certain legal matters will be passed upon for the Underwriters by their counsel, Orrick, Herrington & Sutcliffe LLP. Polsinelli LLP, Los Angeles, California, serves as Disclosure Counsel to the Authority in connection with certain of the Authority's disclosure matters. See "LEGAL MATTERS." It is expected that delivery of the Series 2016 Bonds will be made through DTC on or about May __, 2016.*

**BofA Merrill Lynch** **Barclays**

**Citigroup** **RBC Capital Markets** **Stifel Nicolaus**

________________, 2016

* Preliminary, subject to change.

**$_____________________***

**TAX-EXEMPT SUBORDINATE LIEN REVENUE REFUNDING BONDS**
**SERIES 2016A**

| Maturity Date (October 1) | Principal Amount | Interest Rate | Yield | CUSIP No. (010869)† |
|---|---|---|---|---|
| 2021 | | | | |
| 2022 | | | | |
| 2023 | | | | |
| 2024 | | | | |
| 2025 | | | | |

**$______________________***

**TAX-EXEMPT SECOND SUBORDINATE LIEN REVENUE REFUNDING BONDS**
**SERIES 2016B**

| Maturity Date (October 1) | Principal Amount | Interest Rate | Yield | CUSIP No. ([______])† |
|---|---|---|---|---|
| 2034 | | | | |
| 2035 | | | | |
| 2036 | | | | |
| 2037 | | | | |

* Preliminary, subject to change.

† CUSIP® is a registered trademark of the American Bankers Association. CUSIP Global Services (“CGS”) is managed on behalf of the American Bankers Association by S&P Capital IQ. Copyright© 2016 CUSIP Global Services. All rights reserved. CUSIP® data provided herein is not intended to create a database and does not serve in any way as a substitute for the CGS database. CUSIP® numbers are provided for convenience of reference only. The CUSIP numbers for specific series and maturity or maturities are subject to change after the issuance of the Series 2016 Bonds. None of the Authority, the Ports, the Railroads or the Underwriters takes responsibility for the accuracy of such numbers.

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**

3760 Kilroy Airport Way, Suite 200
Long Beach, California 90806
Telephone (562) 247-7777

**GOVERNING BOARD**

Lena Gonzalez, *Chair*
*Councilmember, City of Long Beach*

Joe Buscaino, *Vice Chair*
*Councilmember, City of Los Angeles*

Don Knabe
*Los Angeles County Supervisor, representing Los Angeles County Metropolitan Transportation Authority*

Rich Dines
*Commissioner, Port of Long Beach*

Edward Renwick
*Commissioner, Port of Los Angeles*

John W. Slangerup
*Chief Executive Officer, Port of Long Beach*

Eugene O. Seroka
*Executive Director, Port of Los Angeles*

**EXECUTIVE STAFF**

John T. Doherty, P.E., *Chief Executive Officer*

James P. Preusch, *Chief Financial Officer*

Marla Bleavins, *Treasurer*

Heather M. McCloskey, *Co-General Counsel*

Charles Gale, *Co-General Counsel*

**BOND COUNSEL**

O'Melveny & Myers LLP
Los Angeles, California

**SPECIAL TAX COUNSEL**

Nixon Peabody LLP
San Francisco, California

**DISCLOSURE COUNSEL**

Polsinelli LLP
Los Angeles, California

**TRUSTEE**

U.S. Bank National Association
Los Angeles, California

**FINANCIAL ADVISOR**

Public Financial Management, Inc.
Los Angeles, California

**VERIFICATION AGENT**

[Causey Demgen & Moore P.C.]
Denver, Colorado

**INDEPENDENT AUDITOR**

Moss Adams LLP
Irvine, California

**No dealer, broker, salesperson or any other person has been authorized to give any information or to make any representations, other than the information and representations contained in this Official Statement, in connection with the offering of the Series 2016 Bonds and, if given or made, such information or representations must not be relied upon as having been authorized by the Authority, the Ports, the Railroads or the Underwriters. This Official Statement does not constitute an offer to sell or a solicitation of sale of the Series 2016 Bonds in any jurisdiction in which such offer or sale would be unlawful.**

The information contained in this Official Statement is subject to change without notice, and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Authority, the Ports, the Railroads **[**or the Series 2016 Bond Insurer**]** since the date hereof.

The information about the Ports in this Official Statement was provided by the Ports. The Authority makes no representation concerning such information.

The information contained in this Official Statement has not been provided by or reviewed by the Railroads, and the information about the Railroads set forth herein has been obtained from publicly available information filed with the Securities and Exchange Commission. The Authority makes no representation concerning the information about the Railroads. See Appendix D.

**[____________________________** makes no representation regarding the Series 2016 Bonds or the advisability of investing in the Series 2016 Bonds. In addition, **________** has not independently verified, makes no representation regarding, and does not accept any responsibility for the accuracy or completeness of this Official Statement or any information or disclosure contained herein, or omitted herefrom, other than with respect to the accuracy of the information regarding **______** supplied by **______** and presented under the heading "THE SERIES 2016 BOND INSURER" and Appendix I—"Specimen Municipal Bond Insurance Policy."**]**

**[**As described herein, **____________** is insuring a portion of the Series 2016 Bonds. The information about **_______** was provided by **_________**. None of the Authority or the Underwriters makes any representation as to the accuracy or completeness of this information.**]**

**CERTAIN STATEMENTS CONTAINED IN THIS OFFICIAL STATEMENT ARE NOT INTENDED TO REFLECT HISTORICAL FACTS BUT ARE ESTIMATES AND "FORWARD-LOOKING STATEMENTS." NO ASSURANCE CAN BE GIVEN THAT THE FUTURE RESULTS DISCUSSED HEREIN WILL BE ACHIEVED, AND ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THE EXPECTATIONS AND FORECASTS DESCRIBED HEREIN. IN THIS RESPECT, THE WORDS "ESTIMATE," "PROJECT," "FORECAST," "ANTICIPATE," "EXPECT," "ASSUME," "INTEND," "BELIEVE" AND SIMILAR EXPRESSIONS ARE INTENDED TO IDENTIFY FORWARD-LOOKING STATEMENTS. ALL PROJECTIONS, FORECASTS, ASSUMPTIONS, EXPRESSIONS OF OPINION, ESTIMATES AND OTHER FORWARD-LOOKING STATEMENTS ARE EXPRESSLY QUALIFIED IN THEIR ENTIRETY BY THE CAUTIONARY STATEMENTS SET FORTH IN THIS OFFICIAL STATEMENT.**

The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their respective responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

**In connection with this offering, the Underwriters may overallot or effect transactions that stabilize or maintain the market price of the Series 2016 Bonds at a level above that which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time.**

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# OFFICIAL STATEMENT

## Alameda Corridor Transportation Authority

**$____________* Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A**

**$_______________* Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B**

## INTRODUCTION

The purpose of this Official Statement, which includes the cover page, inside cover pages, table of contents and appendices, is to provide information concerning the Alameda Corridor Transportation Authority (the "Authority") and the proposed issuance by the Authority of $___________* aggregate principal amount of its Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds") and $___________* aggregate principal amount of its Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "Series 2016B Bonds" and together with the Series 2016A Bonds, the "Series 2016 Bonds").

Proceeds to be received from the sale of the Series 2016 Bonds are to be applied, [together with other available funds, among other purposes, to refund, and/or defease to maturity, a portion of the Authority's outstanding Tax-Exempt Subordinate Lien Revenue Bonds, Series 2004A (the "Series 2004A Bonds" and the refunded and/or defeased portions of the Series 2004A Bonds, the "Refunded Series 2004A Bonds"). The Series 2004A Bonds maturing on October 1 in years 2021 through 2025, inclusive, were issued as convertible capital appreciation bonds and converted to current interest bonds on October 1, 2012 (the "Series 2004A Current Interest Bonds"). The balance of the Series 2004A Bonds are capital appreciation bonds (the "Series 2004A Capital Appreciation Bonds"). If refunded, the Series 2004A Current Interest Bonds would be redeemed on October 1, 2017. A portion of the proceeds of the Series 2016 Bonds of each series also would be applied to purchase debt service reserve fund surety policies and to pay costs of issuing the Series 2016 Bonds and of effecting the refunding and defeasance of the Refunded Series 2004A Bonds.

The Series 2016A Bonds, the Authority's outstanding Subordinate Lien Bonds and any additional Subordinate Lien Bonds issued on a parity therewith are referred to in this Official Statement as "First Subordinate Lien Bonds." The Series 2016B Bonds would be the initial second Subordinate Lien Bonds to be issued by the Authority, and the Series 2016B Bonds and any additional second Subordinate Lien Bonds issued on a parity therewith are referred to in this Official Statement as "Second Subordinate Lien Bonds." The outstanding Senior Lien Bonds and First Subordinate Lien Bonds, together with the Series 2016 Bonds and any Senior Lien Bonds, First Subordinate Lien Bonds and Second Subordinate Lien Bonds that may be issued in the future, are referred to in this Official Statement as the "Bonds." See "THE AUTHORITY'S OUTSTANDING BONDS" and "THE AUTHORITY'S RESTRUCTURING PROGRAM."

In addition to the $__________ aggregate principal amount of outstanding Series 2004A Current Interest Bonds and $__________ aggregate accreted value of Series 2004A Capital Appreciation Bonds, as of ___________ __, 2016, $__________ aggregate principal amount or accreted value of Senior Lien Bonds and $___________ aggregate principal amount or accreted value of Subordinate Lien Bonds are outstanding under the Indenture. After giving effect to the issuance of the Series 2016 Bonds, and the refunding and defeasance of the Refunded Series 2004A Bonds, the First Subordinate Lien Bonds will be outstanding in the aggregate principal amount or accreted value of $___________.

---

* Preliminary, subject to change.

The Authority is issuing the Series 2016 Bonds and refunding and defeasing a portion of the Series 2004A Bonds to restructure a portion of its outstanding indebtedness (i) to better align Authority costs, including debt service on its Bonds, with projected Revenues and (ii) to reduce the frequency and amount of projected future Shortfall Advances. The issuance of the Series 2016 Bonds and the refunding and defeasance of the Series 2004A Bonds are subject to market conditions. If in the opinion of Authority management the Authority's financial goals will not be achieved by such issuance, refunding and defeasance, some or all of the Series 2016 Bonds may not be offered or sold and some of the Series 2004A Bonds may not be refunded or defeased. See "THE AUTHORITY'S RESTRUCTURING PROGRAM."

**Authority for the Series 2016 Bonds**

The Authority's outstanding Bonds were issued pursuant to the Act described below and pursuant to a Master Trust Indenture, dated as of January 1, 1999, as amended and supplemented (the "Master Indenture"), between the Authority and U.S. Bank National Association, as trustee (the "Trustee"). The Series 2016A Bonds are being issued pursuant to the Act and pursuant to the Master Indenture as supplemented by a Tenth Supplemental Trust Indenture, by and between the Authority and the Trustee, and the Series 2016B Bonds are being issued pursuant to the Act and pursuant to the Master Indenture as supplemented by an Eleventh Supplemental Trust Indenture, by and between the Authority and the Trustee. The Master Indenture, as previously amended and supplemented and as supplemented by the Tenth Supplemental Indenture and the Eleventh Supplemental Indenture, each to be dated as of May 1, 2016, is referred to in this Official Statement as the "Indenture." The issuance of the Series 2016 Bonds, the execution and delivery by the Authority of the Tenth and Eleventh Supplemental Indentures and certain other matters related to the issuance of the Series 2016 Bonds and the refunding and defeasance of the Refunded Series 2004A Bonds were authorized by the Governing Board of the Authority (the "Governing Board") pursuant to Resolution No. ______________, adopted by the Governing Board on [March 10], 2016[, and Resolution No. ______________, adopted by the Governing Board on [April __], 2016.

Capitalized terms used in this Official Statement but not otherwise defined herein are defined in the Indenture or in the Operating Agreement described below. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—Definitions" and "—USE AND OPERATING AGREEMENT—Certain Definitions" in Appendix E.

**The Authority**

The Authority is a joint exercise of powers authority created by the City of Long Beach, California and the City of Los Angeles, California (collectively, the "Cities") pursuant to the Joint Exercise of Powers Act, California Government Code Section 6500 and following (as it may be amended and supplemented, the "Act"), and organized under an Amended and Restated Joint Exercise of Powers Agreement, dated as of December 18, 1996, as amended (the "Joint Powers Agreement"), between the Cities. The Authority was created primarily for the purpose of acquiring, constructing, financing and operating a consolidated transportation corridor, which includes the Rail Corridor described below. See "THE AUTHORITY."

**The Ports, the Railroads and the Rail Corridor**

In 1998, the Authority entered into the Alameda Corridor Use and Operating Agreement, dated as of October 12, 1998 (as amended as of July 5, 2006, the "Operating Agreement"), with the City of Los Angeles, acting by and through its Board of Harbor Commissioners (the "Port of Los Angeles" or "POLA"), the City of Long Beach, acting by and through its Board of Harbor Commissioners (the "Port of Long Beach" or "POLB" and together with POLA, the "Ports"), Union Pacific Railroad Company ("Union Pacific") and BNSF Railway Company, formerly known as The Burlington Northern and Santa Fe Railway Company ("BNSF" and, together with Union Pacific, the "Railroads"). In the Operating Agreement, the Authority agreed to undertake the design and construction of the Rail Corridor, described below, and related improvements and the operation and maintenance thereof at the direction of an Operating Committee. See "THE RAIL CORRIDOR AND RELATED PROJECTS—Maintenance and Operation of the Rail Corridor." The Operating Agreement also provides for the operation, repair and maintenance of the Rail Corridor and related projects (collectively, the "Project") and certain other matters. See "—The Railroads," "THE RAIL CORRIDOR AND RELATED PROJECTS—The Use Permit and the Operating Agreement" and "__________________."

The Rail Corridor consists of an approximately 20-mile long, multiple-track rail system that links the rail yards and tracks at the Ports' facilities with the transcontinental rail routes near downtown Los Angeles and includes certain bridges, underpasses, overpasses, roadways and related street improvements. The Rail Corridor consists of three segments: the South End (the "South End Segment"), the North End (the "North End Segment") and connecting the North End Segment and the South End Segment, the Mid-Corridor or the "trench" (the "Mid-Corridor Segment"). The Mid-Corridor Segment includes an approximately 10-mile long, 50-feet wide, triple-track segment built approximately 33 feet below street level and parallel to Alameda Street. The Rail Corridor consolidated freight rail traffic from approximately 90 miles of pre-existing rail lines onto an integrated system separated from non-rail traffic. Operations on the Rail Corridor began in April 2002. See "THE RAIL CORRIDOR AND RELATED PROJECTS."

**Revenues from the Rail Corridor**

Pursuant to the Operating Agreement, the Railroads are required to pay Use Fees and Container Charges in connection with the use of the Rail Corridor and the movement of Waterborne Containers (containers that are loaded onto or discharged from a vessel or barge at the Ports) that originate or terminate at the Ports and are transported by rail into or out of Southern California and on Non-Waterborne Containers that originate or terminate at the Ports. In the event the amount of Use Fees and Container Charges collected is not sufficient to pay certain of the Authority's obligations, including debt service on the Bonds, the Operating Agreement also obligates each Port, severally and not jointly, to pay Shortfall Advances to cover up to 20% of the Annual Amount, which is comprised, among other things, of debt service then due on the Bonds, including the Series 2016 Bonds. To date, the Ports have been required to pay Shortfall Advances twice, once in calendar year 2011 and once in calendar year 2012. The Ports' obligations to pay Shortfall Advances are subordinate to all of the Ports' other obligations, including the payment of operation and maintenance costs and debt service on the respective Ports' outstanding debt obligations. See "AUTHORITY REVENUES—Shortfall Advances," "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" and "BONDHOLDERS' RISKS —Shortfall Advances Are Limited Subordinate Obligations of the Ports."

Service on the Rail Corridor began in April 2002. In early 2003, after several months of operations and revenue collections, the Authority became aware that revenues were less than originally forecast and were being collected on a smaller-than-expected percentage of Port container throughput, approximately 31% of the containers passing through the Ports instead of the expected 50%. Consultants commissioned by the Authority determined that in the years after the original Operating Agreement was signed and the first Bonds were issued, an industry practice known as "transloading" had taken hold. Cargo that formerly would have left the Southern California area by rail in their original containers increasingly was being trucked to distribution centers for consolidation in larger containers before leaving the area. The Authority's consultants estimated that for every three 20-foot equivalent units ("TEUs," the standard international measurement for cargo containers) leaving the Southern California area, two were leaving in their original containers (referred to as "intact") and one was leaving after being transloaded. Since then, the percentage of transloaded containers has grown from approximately 33% to approximately 45%.

The Authority determined that transloading was responsible for most of the reduction in the portion of Port cargo for which the Authority was collecting fees under the Operating Agreement and estimated that if the ratio of intact to transloaded cargo continued, the Authority would lose approximately $1.5 billion in revenue between 2003 and 2025. The Railroads disputed the Authority's position that reloaded containers were subject to charges under the Operating Agreement, and between November 2004 and May 2006, negotiations and then formal mediation proceedings ensued to resolve the dispute. In 2006, a settlement was reached and the Operating Agreement was amended to provide for a permanent $0.90/TEU increase in the Use Fees and Container Charges, an increase in the maximum annual inflation adjustment, an additional fee in the event Shortfall Advances had to be paid and a 25-year extension of the term of the Operating Agreement. See "AUTHORITY REVENUES" and "BONDHOLDERS' RISKS—Uncertainties of the Shipping Industry."

Authority revenue increased after the Operating Agreement was amended but, as described below, the recession and the slow economic recovery resulted in reduced cargo transported through the Ports and on the Rail Corridor (non-containerized cargo as well as containerized cargo) and thus in lower revenue from Use Fees and Container Charges. Annual Revenues dropped from approximately $92.5 million in calendar year 2008 to approximately $77.9 million in calendar year 2009, for example, and although cargo volumes and revenues recovered since then (totaling approximately $94 million in calendar year 2011 and approximately $98.35 million in calendar year 2012), the Ports were required to make Shortfall Advances to help the Authority pay debt service on the Bonds in October 2011 and in October 2012. Revenues from Use Fees and Container Charges totaled approximately $109.6 million in calendar year 2014 and approximately $95.9 million in calendar year 2015, which reflects the impact on containerized cargo movements at both Ports between September 2014 and **[**June**]** 2015 as a result of congestion and contract issues at the Ports generally. See "AUTHORITY REVENUES—Shortfall Advances" and "—Recent and Budgeted Cargo Throughput and Revenue Collection."

A substantial portion of the Authority's Outstanding Bonds are capital appreciation Bonds, and the amount of debt service that will become due on the Outstanding Bonds is scheduled to grow significantly as the accreted value of the capital appreciation Bonds grows, particularly over the next 10 years. For the Authority to be able to pay scheduled debt service on its Outstanding Bonds, even with Shortfall Advances, additional growth in cargo volume and revenues will be required. See "AUTHORITY REVENUES—Recent and Budgeted Cargo Throughput and Revenue Collections." To minimize the need for sizeable Shortfall Advances in the future, the Authority instituted a program to reduce costs by reducing or freezing staff costs through the fiscal year ended June 30, 2015, by postponing or cancelling some of its planned capital projects, by implementing a program to reduce debt service by refinancing a portion of its Outstanding Bonds and by applying unexpended bond proceeds and available Revenues to retire portions of the Outstanding Bonds. The Authority issued Senior Bonds in 2012 and 2013 to refund a portion of Bonds issued in 1999. Issuing the Series 2016 Bonds to refund and/or defease the Refunded Series 2004A Bonds is a continuation of that program. See "THE AUTHORITY'S OUTSTANDING BONDS," "THE AUTHORITY'S RESTRUCTURING PROGRAM" and "AUTHORITY REVENUES."

**Security and Sources of Payment for the Bonds**

**The Bonds, including the Series 2016 Bonds, are special, limited obligations of the Authority and except as described herein are payable solely from and are secured solely by a lien on the Trust Estate, which consists primarily of Revenues. "Revenues" includes Use Fees, Container Charges and Shortfall Advances. The Bonds are not obligations of the State of California or any political subdivision of the State of California and are not obligations of any of the Cities, the Ports or the Railroads. The Project is not security for the Bonds, and the Bonds are not secured by a lien on any properties or improvements of the Authority, the Cities, the Ports or the Railroads or by a pledge of any revenues of the Cities, the Ports or the Railroads.**

**The Railroads and the Ports are obligated only to make certain payments required by the Operating Agreement and are not responsible for paying, and are not guaranteeing the payment of,**

**the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds.** See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations."

The Indenture provides that the liens and security interests created thereby for the benefit of the Trustee are a first and senior priority for the benefit of the owners of the Senior Lien Bonds, a second priority for the benefit of the owners of the First Subordinate Lien Bonds and a third priority for the benefit of the owners of the Second Subordinate Lien Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS."

When issued, the Series 2016A Bonds will be secured and payable on a parity with the Authority's outstanding First Subordinate Lien Bonds and any First Subordinate Lien Bonds that may be issued in the future in accordance with the Indenture. When issued, the Series 2016B Bonds will be the initial Second Subordinate Lien Bonds to be issued under the Indenture and will be secured and payable on a parity with any Second Subordinate Lien Bonds issued in the future.

The Tenth Supplemental Indenture provides that only the Series 2016A Bonds will have a claim on the Series 2016A Debt Service Reserve Account within the Subordinate Lien Debt Service Reserve Fund, and the Eleventh Supplemental Indenture provides that only the Series 2016B Bonds will have a claim on the Series 2016 Second Subordinate Lien Debt Service Reserve Account within the Second Subordinate Lien Debt Service Reserve Fund. See "THE AUTHORITY'S OUTSTANDING BONDS" and "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Debt Service Reserve Accounts."

**[Series 2016 Bond Insurance Policy**

**[to come, perhaps]**

**The Railroads**

Union Pacific and BNSF are the largest railroads in North America. Union Pacific operates across approximately 32,000 route miles serving 23 states in the western two-thirds of the United States and cooperating with other carriers, handles freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada and Mexico. BNSF operates across approximately 32,500 route miles, reaching 28 states and three Canadian provinces. **The information about the Railroads included or referred to in this Official Statement is derived solely from public information filed by BNSF and by the Union Pacific Corporation, the parent of Union Pacific, with the Securities and Exchange Commission.** See "THE RAILROADS" and "BONDHOLDERS' RISKS" below and "THE RAILROADS" in Appendix D.

The Railroads have agreed to pay Use Fees, Container Charges and M & O Charges in accordance with the Operating Agreement. Although the Use Fees and Container Charges (but not M & O Charges) paid by the Railroads are the primary source of Revenues pledged to the payment of the Bonds, the Railroads are obligated only to make the payments required by the Operating Agreement and are not responsible for paying, and are not guaranteeing the payment of, the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds. Use Fees and Container Charges may be increased only in accordance with the terms of the Operating Agreement; the Authority cannot unilaterally increase Use Fees and Container Charges to address Revenue shortfalls, including to pay debt service on its Bonds. The Bonds and the Railroads' payment obligations under the Operating Agreement are not secured by a lien on any properties or improvements of the Railroads or by a pledge of any revenues of the Railroads. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations" and "AUTHORITY REVENUES." Although other railroad companies may in the future use the Rail Corridor under certain circumstances, the Railroads are currently, and are expected to remain, the sole users of the Rail Corridor.

**The Ports**

**[To be updated]**According to statistics compiled by the [World Shipping Council/Journal of Commerce], POLA and POLB, combined, formed the [ninth/tenth] busiest container port complex in the world in calendar year 2014 (the last year for which such information has been reported).**]** POLA is located in San Pedro Bay, approximately 20 miles south of downtown Los Angeles, California, and comprises approximately 7,500 acres of land and water, approximately 43 miles of waterfront berthing and 27 passenger and cargo terminal facilities. According to the [American Association of Port Authorities], during calendar year 2014, POLA was the busiest container port in North America in terms of cargo volume, handling approximately 8.3 million TEUs. POLA handled approximately 8.2 million TEUs during calendar year 2015. POLA is governed by the Los Angeles Board of Harbor Commissioners. See "THE PORTS" below and "THE PORT OF LOS ANGELES" in Appendix B.

POLB is a harbor complex that covers approximately 7,600 acres of land and water and includes all of the harbor facilities of the City of Long Beach, California. POLB includes 31.5 miles of waterfront with approximately 65 deep-water cargo berths. According to the American Association of Port Authorities, during calendar year 2014, the Port of Long Beach was the second busiest container port in North America in terms of cargo volume, handling approximately 6.8 million TEUs. POLB handled approximately 7.2 million TEUs during calendar year 2015. POLB is operated and managed by the Harbor Department of the City of Long Beach. Pursuant to the Charter of the City of Long Beach, exclusive control and management of the Harbor Department of the City of Long Beach has been conferred on the Board of Harbor Commissioners of the City of Long Beach. See "THE PORTS" below and "THE PORT OF LONG BEACH" in Appendix C.

The Operating Agreement provides that under certain circumstances, the Ports will be obligated, severally and not jointly, to pay Shortfall Advances, which are part of the Revenues pledged to the payment of the Bonds, including the Series 2016 Bonds. The Ports are obligated only to make the payments required by the Operating Agreement (not to exceed for each Port in any calendar year 20% of the Annual Amount, as defined in the Operating Agreement). The Ports are not responsible for paying, and are not guaranteeing the payment of, the principal or accreted value of, premium, if any, or interest on the Bonds, and neither Port is responsible for paying more than 20% of the Annual Amount. As described below, in October 2011, the Ports were required to pay Shortfall Advances for the first time, in a total amount of $5.9 million ($2.95 million paid by each Port), and in October 2012, the Ports were required to pay additional Shortfall Advances in the total amount of $5.9 million ($2.95 million paid by each Port). The Authority is issuing the Series 2016 Bonds and refunding and defeasing a portion of the Series 2004A Bonds to restructure a portion of its outstanding indebtedness (i) to better align Authority costs, including debt service on its Bonds, with projected Revenues and (ii) to reduce the frequency and amount of projected future Shortfall Advances. See "AUTHORITY REVENUES—Shortfall Advances." The Bonds are not secured by a lien on any properties or improvements of the Ports or by a pledge of any revenues of the Ports. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations," "AUTHORITY REVENUES—Shortfall Advances" and "BONDHOLDERS' RISKS—Shortfall Advances Are Limited Subordinate Obligations of the Ports."

**San Pedro Bay Cargo Forecasts; Report of the Ports' Independent Consultant**

Mercator International LLC and Oxford Economics (together, the "Ports' Independent Consultant" or the "Consultant") prepared for the Ports a report entitled *San Pedro Bay Long-Term Unconstrained Cargo Forecast* (the "Report of the Ports' Independent Cargo Consultant" or the "Report"), a copy of which is attached hereto as [Appendix K]. The Report of the Ports' Independent Cargo Consultant, incorporated herein by this reference, is part of this Official Statement and should be read in its entirety.

The Report of the Ports' Independent Cargo Consultant was commissioned by the Ports not to forecast use of the Rail Corridor or future Authority Revenues but to assist the Ports in developing their own long-term forecasts of cargo throughput through the Ports. Among other things, the Report identifies key macroeconomic drivers and cost considerations that impact competitiveness and cargo throughput decisions and includes forecasts of long-term U.S. and Canada trade levels and competitiveness for containerized cargo and for non-containerized cargo, including dry- and liquid-bulk cargo, break-bulk cargo and vehicles and other roll-on/roll-off cargo. Included in the Report is an analysis and forecast of containerized cargo volumes that are moved directly from a Port to an interior destination by rail, without transloading (referred to in the Report as "Inland Point Intermodal" or "IPI" cargo). IPI cargo volumes generally are the container volumes that use the Rail Corridor or are trucked around the Rail Corridor, but are eligible for an Authority fee, both of which generate the Authority's Revenues. See "AUTHORITY REVENUES."

The Ports provided the Report of the Ports' Independent Cargo Consultant to the Authority for use by the Authority in this Official Statement. The Ports and the Authority note, however, that any forecast, including the Consultant's forecasts of IPI volumes, is subject to uncertainties. Some or all of the assumptions used to develop the forecasts of cargo volumes, including IPI cargo volumes, and thus the basis of the Authority's forecast Revenues, may not be realized, and unanticipated events and circumstances may occur. There may be differences between the forecasts and actual results, and those differences may be adverse and material. None of the Authority, the Ports, the Ports' Independent Consultant or any other person makes any representation or gives any assurance that the forecasts will reflect actual results. See "___________" and "________" below and "________" in the Report.

[Additional language to come]

**Bondholders' Risks**

There are important investment considerations and other risk factors associated with investment in the Series 2016 Bonds. See "BONDHOLDERS' RISKS" for a discussion of some of these considerations and risks. Any one or more of the risks discussed, and others, could lead to a decrease in the market value and/or in the liquidity of the Series 2016 Bonds**[**, notwithstanding the Series 2016 Bond Insurer's obligations to pay scheduled debt service on the Insured Series 2016 Bonds when due**]**. **Potential purchasers of the Series 2016 Bonds are advised to review this entire Official Statement, including the Report of the Ports' Independent Cargo Consultant, carefully.**

**Continuing Disclosure**

The Authority has covenanted for the benefit of the holders and beneficial owners of the Series 2016 Bonds to provide annually certain financial information and operating data and to provide notice of certain enumerated events. In connection with the Authority's continuing disclosure obligations, each of the Ports has covenanted for the benefit of the holders and beneficial owners of the Series 2016 Bonds to provide the Authority with certain annual financial information and operating data and to provide notice of certain enumerated events relating to the Ports. See "CONTINUING DISCLOSURE" below and the form of the Continuing Disclosure Certificate in Appendix H.

Separately, BNSF has covenanted in a continuing disclosure agreement that if BNSF is no longer subject to the information filing requirements of Section 13 or 15 of the federal Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Union Pacific also has covenanted that if neither Union Pacific nor its parent, Union Pacific Corporation, is subject to the information filing requirements of Section 13 or 15 of the Exchange Act, BNSF or Union Pacific, as applicable, will provide certain financial information and operating data for the benefit of the holders and beneficial owners of the Series 2016 Bonds. See "CONTINUING DISCLOSURE" below and Appendix D.

**Miscellaneous**

Brief descriptions of the Series 2016 Bonds, the Authority, the Railroads, the Ports, the Railroad Corridor and summaries of the Indenture, the Operating Agreement, the Use Permit and certain other documents are included in this Official Statement. Such summaries do not purport to be comprehensive or definitive. All references herein to such documents and to any other documents, statutes, reports or other instruments described herein are qualified in their entirety by reference to each such document, statute, report or other instrument. Copies of such documents are available from the Authority upon written request. See "MISCELLANEOUS."

The information herein is subject to change without notice, and neither the delivery of this Official Statement nor any sale made with respect hereto shall, under any circumstances, create any implication that there has been no change in the affairs of the Authority, the Ports, the Railroads **[**or the Series 2016 Bond Insurer**]** since the date hereof.

This Official Statement is not to be construed as a contract or agreement between the Authority and purchasers or owners of any of the Series 2016 Bonds.

## THE AUTHORITY

The Authority is a joint exercise of powers authority created pursuant to the provisions of the Act and organized under the Joint Powers Agreement between the Cities. The Authority was created primarily for the purpose of acquiring, constructing, financing and operating a consolidated transportation corridor, which includes the Rail Corridor, and is authorized by the terms of the Joint Powers Agreement to conduct such activities (including issuance of the Series 2016 Bonds). As amended in 2006, the Joint Powers Agreement provides that its term will expire on the earlier of June 30, 2064 and June 30 of the second calendar year following the calendar year in which the Use Fees Termination Date (as defined in the Operating Agreement) occurs. See "AUTHORITY REVENUES—Collection of Use Fees and Container Charges; Revenue Verification System."

The Authority is administered by a Governing Board of seven representatives, each serving in his or her individual capacity as a Governing Board member and each having a designated alternate. Two representatives are appointed by POLB, with at least one of the two being a member of its Board of Harbor Commissioners. POLA also appoints two representatives – one representative who is a member of its Board of Harbor Commissioners and the Executive Director of the Los Angeles Harbor Department as its second representative. The fifth representative is the elected councilperson representing the harbor district of the City of Los Angeles, and the sixth representative is a councilperson from the City of Long Beach, appointed by the Mayor of Long Beach. The final representative is appointed by the Los Angeles County Metropolitan Transportation Authority. The current representatives serving on the Governing Board are listed on the second page of this Official Statement.

**Authority Management**

The following individuals serve as officers for the Authority and oversee the day-to-day management of the Authority. In addition, Heather M. McCloskey, Deputy City Attorney of the Los Angeles City Attorney's office, and Charles Gale, Deputy City Attorney of the City of Long Beach, serve as Co-General Counsel of the Authority.

***John T. Doherty, P.E.***, *Chief Executive Officer*. Mr. Doherty was appointed Chief Executive Officer of the Authority in July 2003 and is responsible for overseeing all financial, administrative and strategic planning matters of the Authority. As the Authority's lead engineer, he also supervises all program management, engineering design and construction management firms hired by the Authority.

Mr. Doherty has been affiliated with the Authority in various capacities since 1995. Prior to Mr. Doherty's appointment as Chief Executive Officer, he served as the Authority's Director of Construction and Engineering from February 2003 to July 2003. Before that, he was an Associate Principal with DMJM+HARRIS, serving as Deputy Program Manager of Construction for the Alameda Corridor Engineering Team described below. Prior to his service with the Authority, Mr. Doherty performed various engineering and business development consulting roles for several major transportation programs, including the Los Angeles Metrolink Commuter Rail Project, the California High Speed Rail Study and the Honolulu Rapid Transit System. Before consulting, Mr. Doherty served for 24 years with the Long Island Railroad Company, the largest commuter rail operation in the nation. During his tenure with the Long Island Railroad, Mr. Doherty served in a variety of engineering, construction, operations and administrative positions, including Director of Capital Construction, Chief of Staff and Vice President of Operations. Mr. Doherty has a Master of Science degree in Civil Engineering from the Polytechnic Institute of New York and a Bachelor of Civil Engineering from Villanova University. He is registered as professional engineer in the states of California, Hawaii and New York.

***James P. Preusch***, *Chief Financial Officer.* Mr. Preusch was appointed Chief Financial Officer for the Authority in August 2004. As CFO, Mr. Preusch is responsible for planning, organizing, directing and coordinating financial and administrative management of the Authority. Under the direction of the Chief Executive Officer, he manages the Authority's controllership, treasury and administrative functions, overseeing a staff of six.

Before joining the Authority, Mr. Preusch was Principal Consultant, HNTB Management Consulting, and between 1989 and 1999, served as the Authority's Treasurer and as Chief Financial Officer of the Port of Los Angeles. He also served as Treasurer of the Port of Los Angeles and before that worked with PepsiCo, Rockwell International, Infra-Trans, LLC and AG Edwards. Mr. Preusch received his undergraduate degree from Clarkson University and was awarded a Master's degree in business administration from Lehigh University. He is a CPA and Certified Treasury Professional.

***Marla Bleavins,*** *Treasurer.* In January 2016, Ms. Bleavins was appointed as Treasurer of the Authority. In addition to serving as Treasurer of the Authority, Ms. Bleavins serves as the Deputy Executive Director and Chief Financial Officer of the Port of Los Angeles. In these roles, Ms. Bleavins manages the Port's financial affairs, which include accounting, financial management, debt and treasury, risk management, audit, human resources, and contracts and purchasing functions. She previously served as the Assistant General Manager for Finance and Administration at the City of Los Angeles Department of Convention and Tourism Development. Prior to that, she served as a Project Manager and Debt and Treasury manager at Los Angeles World Airports. Ms. Bleavins began her career at the City of Los Angeles as a Budget Analyst and then as a Finance Specialist in the Office of the City Administrative Officer. During her tenure with the City, she managed approximately $6 billion in bond financings that funded capital projects at Los Angeles International Airport and throughout the City. Ms. Bleavins holds a Bachelor of Arts degree in public policy and political science from Stanford University and a Master's degree in business administration from the Wharton School at the University of Pennsylvania.

**Staffing**

The Authority has periodically adjusted staff count to meet its needs, as its focus moved from construction to operations, maintenance and financial management. Currently, the Authority has 9.6 full-time-equivalent employees and contracts with the Cities, the Railroads and the Alameda Corridor Engineering Team ("ACET") for additional services. ACET is a joint venture comprising DMJM Harris; Moffat & Nichol Engineers; Jenkins, Gales and Martinez, Inc.; and TELACU Construction Management, Inc. and provides day-to-day professional services related to management, engineering, construction support, procurement, coordination and administration of the Authority's construction program. ACET provides approximately 7 full-time-support positions, including environmental engineering, contract administration, utility and right-of-way services and engineering support. The annual required scope of ACET services is approved by the Governing Board as part of the Authority's annual budget process. ACET shares office space with the Authority and pays approximately half the rent. Originally a 10-year agreement, the Authority's contract with ACET has been amended periodically, and an extension of its current term to June 30, 2016 was approved by the Governing Board on June 11, 2015. [On March __, 2016, the Governing Board approved extending the term to June 30, 2017.] See "THE RAIL CORRIDOR AND RELATED PROJECTS—Maintenance and Operation of the Rail Corridor."

## THE AUTHORITY'S OUTSTANDING BONDS

The following table lists the aggregate principal amount of Senior Lien Bonds and First Subordinate Lien Bonds originally issued by the Authority and the aggregate principal amounts or accreted values of Bonds Outstanding under the Indenture (including all of the Outstanding Series 2004A Bonds) as of March 31, 2016. The Series 2016B Bonds will be the Authority's initial Second Subordinate Lien Bonds issued under the Indenture.

### TABLE 1

**Alameda Corridor Transportation Authority**
**Outstanding Senior Lien and First Subordinate Lien Bonds**
(as of March 31, 2016)

| Series | Lien | Interest Convention | Tax Status | Final Maturity (October 1) | Original Principal Amount Issued[1] | Principal/ Accreted Value Outstanding[2] |
|---|---|---|---|---|---|---|
| 1999A | Senior | Capital Appreciation | Tax-Exempt | 2037 | 50,453,617 | 123,991,441 |
| 1999C | Senior | Current Interest | Taxable | 2037 | 430,155,000 | 405,735,000 |
| 1999C | Senior | Capital Appreciation | Taxable | 2037 | 67,298,396 | 214,143,269 |
| 2004A | First Subordinate | Capital Appreciation | Tax-Exempt | 2030 | 200,300,101 | 285,400,941[3] |
| 2004A | First Subordinate | Current Interest | Tax-Exempt | 2025 | 274,992,286 | 428,390,000[3][4] |
| 2004B | First Subordinate | Capital Appreciation | Taxable | 2033 | 210,731,702 | 277,479,566 |
| 2012[5] | Senior | Current Interest | Taxable | 2035 | 83,710,000 | 83,710,000[5] |
| 2013[6] | Senior | Current Interest | Tax-Exempt | 2029 | 248,325,000 | 248,325,000 |
| **Totals** | | | | | $1,736,766,102 | $2,067,175,217 |

(1) Capital Appreciation Bonds listed at original principal amount, rounded to the nearest dollar.
(2) Capital Appreciation Bonds listed at accreted value as of March 31, 2016, rounded to the nearest dollar.
(3) Expected to be refunded or defeased with proceeds of the Series 2016 Bonds.
(4) This portion of the Series 2004A Bonds were initially issued as capital appreciation bonds and converted to Current Interest Bonds on October 1, 2012.
(5) The Series 2012 Senior Lien Bonds are refunding Bonds purchased by the U.S. Department of Transportation, acting through the Federal Railroad Administration. These Bonds refunded a portion of the Authority's Series 1999A current interest Bonds.
(6) The Series 2013 Senior Lien Bonds were issued to refund the Authority's remaining Series 1999A Senior Lien Bonds that were current interest bonds.

*Source: Alameda Corridor Transportation Authority.*

**Outstanding Series 1999 Bonds.** The Authority issued its Tax-Exempt Senior Lien Revenue Bonds, Series 1999A (the "Series 1999A Senior Lien Bonds"), Taxable Senior Lien Revenue Bonds, Series 1999C (collectively with the Series 1999A Senior Lien Bonds, the "Series 1999 Senior Lien Bonds") and Tax-Exempt Subordinate Lien Revenue Bonds, Series 1999B and Taxable Subordinate Lien Bonds, Series 1999D (collectively, the "Series 1999 First Subordinate Lien Bonds" and together with the Series 1999 Senior Lien Bonds, the "Series 1999 Bonds") in February 1999 to pay, together with grants from the Metropolitan Transportation Authority and contributions from both Ports, a portion of the costs of constructing the Rail Corridor. The Authority also borrowed $400 million from the U.S. Department of Transportation, Federal Highway Administration (the "1999 Federal Loan"), to pay additional Rail Corridor Costs. The Outstanding Series 1999 Bonds are insured by MBIA Insurance Corporation (now reinsured and administered by National Public Finance Guarantee Corporation, the "Series 1999 Bond Insurer"). Moneys deposited to each Debt Service Fund in connection with the outstanding Series 1999 Senior Lien Bonds are invested in the Forward Delivery Agreement described below. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Permitted Investments."

**Outstanding Series 2004 First Subordinate Lien Bonds.** On May 6, 2004, the Authority issued its Series 2004A Bonds and its Taxable Subordinate Lien Revenue Refunding Bonds, Series 2004B (collectively, the "Series 2004 Bonds") to prepay the entire outstanding balance (including accrued interest of $172.8 million) of the 1999 Federal Loan. The Series 2004 Bonds are insured by AMBAC Assurance Corporation (the "Series 2004 Bond Insurer"). Subject to market conditions, the Refunded Series 2004A Bonds are to be refunded or defeased to maturity with funds received from the issuance of the Series 2016 Bonds. The Authority made a number of covenants to the Series 2004 Bond Insurer pursuant to the Sixth Supplemental Indenture. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS."

**Outstanding Series 2012 Senior Lien Bonds.** In June 2012, the Authority issued $83,710,000 aggregate principal amount of its Taxable Senior Lien Revenue Refunding Bonds, Series 2012 (the "Series 2012 Senior Lien Bonds") to refund all of the Series 1999A Bonds that were current interest bonds stated to mature on October 1, 2014 through 2018 and a portion of the Series 1999A Bonds that were current interest bonds stated to mature on October 1, 2019. The interest rates on the Series 2012 Senior Lien Bonds are lower and the maturity dates are later than those of the Series 1999A Bonds refunded. The Series 2012 Senior Lien Bonds were purchased by the U.S. Department of Transportation, acting through the Federal Railroad Administration (the "FRA"), pursuant to a Financing Agreement between the FRA and the Authority (the "2012 Financing Agreement") and pursuant to the Eighth Supplemental Indenture. As the registered owner of the Series 2012 Senior Lien Bonds, the FRA is referred to in this Official Statement as the "Series 2012 Lender." The Authority made a number of covenants to the Series 2012 Lender pursuant to the 2012 Financing Agreement and the Eighth Supplemental Indenture. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS."

**Outstanding Series 2013A Senior Lien Bonds.** In February 2013, the Authority issued $248,325,000 aggregate principal amount of its Senior Lien Revenue Refunding Bonds, Series 2013A (the "Series 2013A Bonds"), all of which are current interest bonds, to refund all of the Authority's remaining Series 1999A Bonds that were current interest bonds. A portion of the Series 2013A Bonds are insured by Assured Guaranty Municipal Corp. (the "Series 2013A Bond Insurer"). The Authority made a number of covenants to the Series 2013A Bond Insurer pursuant to the Ninth Supplemental Indenture. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS."

## THE AUTHORITY'S RESTRUCTURING PROGRAM

As part of the Authority's program with the Ports and the Railroads to reduce costs and to minimize or reduce Shortfall Advances, the Authority developed a plan to restructure debt by, among other things, refinancing a portion of its Outstanding Bonds to align Authority expenses, including debt service, more closely with projected Authority Revenues. The issuance of the Series 2016 Bonds and the refunding and defeasance of the Refunded Series 2004A Bonds is part of this program. The issuance of the Series 2016 Bonds and the refunding and defeasance of the Refunded Series 2004A Bonds are subject to market conditions. If in the opinion of Authority management, the Authority's financial objectives may not be achieved, some or all of the Series 2016 Bonds may not be offered or sold. See "—The Restructuring Program."

**The Series 2016 Bonds***

The Series 2016 Bonds are being issued by the Authority, subject to market conditions, (i) together with other available funds, to refund a portion of the 2004A Bonds that are current interest bonds shown in Table 2A below (the "Refunded Series 2004A Current Interest Bonds") and/or to defease to maturity portions of the Series 2004A Bonds that are capital appreciation bonds shown in Table 2B below (the "Refunded Series 2004A Capital Appreciation Bonds"), (ii) to purchase Debt Service Reserve Surety Policies to satisfy the Debt Service Reserve Requirements for the Series 2016 Bonds**[**, (iii) to purchase the Series 2016 Bond Insurance Policy for the Insured Series 2016 Bonds**]** and (iv) to pay costs of issuing the Series 2016 Bonds and of refunding and defeasing the Refunded Series 2004A Bonds.

[If market conditions warrant, the Authority could determine to refund all or a different portion of the Series 2004A Bonds or other of the Authority's Outstanding Bonds.]

**TABLE 2A**

**Refunded Series 2004A Current Interest Bonds***

| Maturity Date (October 1) | Interest Rate | Accreted Value at Conversion | 2004A Redemption Date (October 1) | Redemption Price | CUSIP Number (010869) |
|---|---|---|---|---|---|
| 2021 | 5.25% | $ 74,660,000 | 2017 | 100% | EL5 |
| 2022 | 5.30 | 81,685,000 | 2017 | 100 | EM3 |
| 2023 | 5.30 | 86,015,000 | 2017 | 100 | EN1 |
| 2024 | 5.40 | 90,570,000 | 2017 | 100 | EP6 |
| 2025 | 5.45 | 95,460,000 | 2017 | 100 | EQ4 |
| Total | | $428,390,000 | | | |

Portions of the proceeds of the Series 2016 Bonds, together with amounts then on deposit with the Trustee for the Series 2004A Current Interest Bonds (the "2004A Current Interest Redemption Fund Deposit"), are to be irrevocably deposited on the date of delivery of the Series 2016 Bonds by the Trustee, in its capacity as trustee for the Series 2004A Current Interest Bonds and held in the 2004A Current Interest Redemption Fund, and applied to pay interest on the Series 2004A Current Interest Bonds when due through April 1, 2017 and to redeem on October 1, 2017 (the "2004A Current Interest Redemption Date") the Series 2004A Current Interest Bonds, at a redemption price equal to 100% of the principal amount thereof (the "2004A Current Interest Redemption Price"), plus interest accrued to the 2004A Current Interest Redemption Date. The Indenture provides that upon such deposit, the Series 2004A Current Interest Bonds no longer will be outstanding under the Indenture. Prior to the 2004A Current Interest Redemption Date, moneys on deposit in the 2004A Current Interest Redemption Fund are to be invested in noncallable Government Obligations.

* Preliminary, subject to change.

### TABLE 2B

**Refunded Series 2004A Capital Appreciation Bonds***

| Number of Bonds | Maturity Date (October 1) | Initial Amount | Yield to Maturity | Accreted Value per $5,000 as of April 1, 2016 | Final Compounded Amount | Defeased Final Compounded Amount | CUSIP Number (010869) |
|---|---|---|---|---|---|---|---|
| 6,722 | 2016 | $18,482,475.10 | 4.88% | $4,880.90 | $ | $ | DP7 |
| 8,088 | 2017 | 20,916,376.80 | 4.98 | 4,644.35 | | | DQ5 |
| 9,651 | 2018 | 23,428,767.60 | 5.08 | 4,410.65 | | | DR3 |
| 11,354 | 2019 | 25,823,537.60 | 5.18 | 4,180.55 | | | DS1 |
| 13,156 | 2020 | 28,024,253.40 | 5.27 | 3,956.45 | | | DT9 |
| | Total | $116,675,410.50 | | Total | $ | $ | |

Portions of the proceeds of the Series 2016 Bonds, together with amounts then on deposit with the Trustee for the Series 2004A Capital Appreciation Bonds to be defeased to their respective maturity dates (the "2004A Capital Appreciation Defeasance Fund Deposit" and together with the 2004A Current Interest Redemption Fund Deposit, the "Fund Deposits"), are to be irrevocably deposited on the date of delivery of the Series 2016 Bonds by the Trustee, in its capacity as trustee for the Series 2004A Capital Appreciation Bonds and held in the 2004A Capital Appreciation Defeasance Fund, and applied to pay the Final Compounded Amount of the Refunded Series 2004A Capital Appreciation Bonds when due through their respective maturity dates. The Indenture provides that upon such deposit, the Refunded Series 2004A Capital Appreciation Bonds no longer will be outstanding under the Indenture. Moneys on deposit in the 2004A Capital Appreciation Defeasance Fund are to be invested in noncallable Government Obligations.

See the definition of "Government Obligations" and "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—Defeasance" in Appendix E.

**Verification Report**

As required by the Indenture, an independent verification report (the "Verification Report") will be obtained from **[**Causey Demgen & Moore P.C.**]**, a firm of independent public accountants (the "Verification Agent"), indicating that it has verified, in accordance with attestation standards established by the American Institute of Certified Public Accountants, the mathematical accuracy of the mathematical computations of the adequacy of the Fund Deposits to be held by the Trustee to (i) pay interest on the Current Interest Refunded Bonds when due, (ii) pay the 2004A Current Interest Redemption Price, plus accrued interest to the 2004A Current Interest Redemption Date on the 2004A Current Interest Redemption Date, and (iii) pay the Final Compounded Amount on the Series 2004A Capital Appreciation Defeased Bonds when due on their respective maturity dates. The verification performed by the Verification Agent will be based solely upon data, information and documents provided to the Verification Agent on behalf of the Authority. The Verification Agent has restricted its procedures to recalculating the computations provided to it and has not evaluated or examined the assumptions or information used in the computations.

* Preliminary, subject to change.

## Sources and Uses of Funds

The proceeds of the Series 2016 Bonds, together with other available funds, are expected to be applied as follows:

**TABLE 3**

**Sources and Uses of Funds**

| **Sources of Funds:** | **Series 2016A** | **Series 2016B** |
|---|---|---|
| Principal amount of Series 2016 Bonds | | |
| Net original issue premium/discount | | |
| Other available funds[(1)] | | |
| **Total Sources** | | |
| | | |
| **Uses of Funds**: | | |
| Redemption Fund Deposit | | |
| Defeasance Fund Deposit | | |
| Costs of Issuance[(2)] | | |
| **Total Uses** | | |

[(1)]Represents amounts to be transferred from the Series 2004A Debt Service Account [and Series 2004A Debt Service Reserve Account].

[(2)]Costs of Issuance include, but are not limited to, Trustee, Escrow Agent and legal fees and expenses; Underwriters' discount; rating agency fees; printing costs; and the premiums for the 2016 Debt Service Reserve Surety Policies **[**and the Series 2016 Bond Insurance Policies**]**.

## The Restructuring Program

Refinancing the 1999 Federal Loan in May 2004 was among the first steps the Authority took to reduce debt service costs. In 2011, the Authority also applied approximately $24.295 million of unexpended Series 1999A Bond Construction Fund proceeds to retire a portion of the outstanding Series 1999A Bonds, and in June 2012, the Authority issued the Series 2012 Senior Lien Bonds to refund $83.71 million of the outstanding Series 1999A Senior Lien Bonds. In February 2013, the Authority issued the Series 2013A Bonds to refund $288.95 million of outstanding Series 1999 Senior Lien Bonds.

The issuance of the Series 2016 Bonds is another part of the Authority's plan to reduce debt costs and to reduce the likelihood the Ports will be required in the future to make Shortfall Advances. Together, the Ports made a total of $5.9 million of Shortfall Advances in October 2011 and a total of $5.9 million of Shortfall Advances in October 2012. Although this restructuring is expected to help minimize or reduce future Shortfall Advances, as a result of this restructuring debt service will be greater in some years than it is currently and the Series 2016 Bonds will mature later than, the Refunded Series 2004A Bonds to be refunded and defeased.

As shown in Table 1 above and in Table **[**4**]** below, a substantial amount of the Authority's Bonds that will remain outstanding after the issuance of the Series 2016 Bonds are capital appreciation Bonds, and the amount of debt service that will become due on such Bonds will grow as the accreted value of the capital appreciation Bonds grows. The Authority intends to continue monitoring its outstanding Bonds for additional opportunities to restructure its debt service costs to match more closely its projected Revenues, through future refundings of Bonds and/or through open market purchases of its Bonds and to continue its other efforts to minimize costs.

**Debt Service Schedule**. Table [4 is a debt service schedule for the Outstanding Bonds, excluding the Refunded Series 2004A Bonds that are expected to be refunded or defeased and including the proposed Series 2016 Bonds.

**TABLE [4]**

**DEBT SERVICE SCHEDULE***

| Fiscal Year Ending June 30 | Outstanding Senior Lien Bonds* | Outstanding Series First Subordinate Lien Bonds(1) | **Series 2016A Bonds** | | **Series 2016B Bonds** | | Total Outstanding Debt Service |
|---|---|---|---|---|---|---|---|
| | | | **Principal** | **Interest** | **Principal** | **Interest** | |
| 2016 | | | | | | | |
| 2017 | | | | | | | |
| 2018 | | | | | | | |
| 2019 | | | | | | | |
| 2020 | | | | | | | |
| 2021 | | | | | | | |
| 2022 | | | | | | | |
| 2023 | | | | | | | |
| 2024 | | | | | | | |
| 2025 | | | | | | | |
| 2026 | | | | | | | |
| 2027 | | | | | | | |
| 2028 | | | | | | | |
| 2029 | | | | | | | |
| 2030 | | | | | | | |
| 2031 | | | | | | | |
| 2032 | | | | | | | |
| 2033 | | | | | | | |
| 2034 | | | | | | | |
| 2035 | | | | | | | |
| 2036 | | | | | | | |
| 2037 | | | | | | | |
| 2038 | | | | | | | |
| Total(2) | | | | | | | |

* Preliminary, subject to change.
(1) Excludes debt service on the Refunded Series 2004A Bonds.
(2) Totals may not add up due to rounding.
Source: The Authority.

## DESCRIPTION OF THE SERIES 2016 BONDS

### General

When issued, the Series 2016 Bonds of each Series will be dated the date of their delivery and will bear interest at the rates and will mature, subject to prior redemption, in the principal amounts and on the dates set forth on the inside cover page of this Official Statement. Interest on the Series 2016 Bonds will be payable on April 1 and October 1 of each year, commencing **[**October 1, 2016], and will be calculated on the basis of a 360-day year consisting of twelve 30-day months. The Series 2016 Bonds will be issuable in fully registered form in denominations of $5,000 and integral multiples thereof. When issued, the Series 2016 Bonds will be registered in the name of Cede & Co., as registered owner and nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as securities depository for the Series 2016 Bonds. Individual purchases may be made only in book-entry form. Purchasers will not receive certificates representing their interest in the Series 2016 Bonds purchased. Except as **[**provided in the Tenth Supplemental Indenture in connection with the rights of the Series 2016A Bond Insurer and the Eleventh Supplemental Indenture in connection with the Series 2016B Bonds Bond Insurer and except as**]** described below under "TAX MATTERS," so long as Cede & Co. is the registered owner of the Series 2016 Bonds of a Series, as nominee of DTC, references herein to "Series 2016 Bondholders" or to "registered owners" mean Cede & Co. and not the Beneficial Owners of the Series 2016 Bonds of such Series. In this Official Statement, the term "Beneficial Owner" means the person for whom a DTC Participant acquires an interest in the Series 2016 Bonds.

So long as Cede & Co. (or such other nominee name as an authorized officer of DTC may request) is the registered owner of the Series 2016 Bonds, the principal of, premium, if any, and interest on the Series 2016 Bonds are payable by the Trustee, as paying agent, to Cede & Co., as nominee for DTC which, in turn, is to remit such amounts to the DTC Participants for subsequent disbursement to the Beneficial Owners. See "DTC AND ITS BOOK-ENTRY SYSTEM" in Appendix F.

### Redemption*

**[Subject to change, of course]**

**Optional Redemption.** The Series 2016 Bonds of each series maturing on or after October 1, 20__ are redeemable at the option of the Authority on or after October 1, 20__ in whole or in part at any time, from any moneys that may be provided for such purpose and at a redemption price equal to 100% of the principal amount of Series 2016 Bonds to be redeemed, plus interest accrued to the date fixed for redemption.

**Preferential Optional Redemption Priorities.** As described below, the Authority agreed with the Series 2004 Bond Insurer and with the Series 2012 Lender that to the extent permitted under the Indenture, the Authority would redeem First Subordinate Lien Bonds and then Series 2012 Senior Lien Bonds with Revenues available pursuant to paragraph Seventeenth under the Master Indenture (at the bottom of the flow of funds) before optionally redeeming other Bonds (including the Series 2016 Bonds) with such Revenues. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Flow of Funds—SEVENTEENTH."

**Extraordinary Redemption.** The Master Indenture provides that the Bonds of each series, including the Series 2016 Bonds of each Series, are subject to redemption prior to their stated maturity on any Interest Payment Date in whole or in part from Bond proceeds or Net Proceeds, upon receipt by the Trustee of a Certificate of an Independent Consultant stating that, by virtue of damage or destruction to the

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* Preliminary, subject to change.

Project (as defined in the Indenture and including, among other things, the Rail Corridor and the related improvements), it is not financially feasible to construct, rebuild or replace all or any portion of the Project so as to permit the Project to operate in a financially feasible manner following such destruction or damage, at a redemption price equal to 100% of the principal amount (or accreted value in the case of Bonds that are capital appreciation bonds) of each Series of Bonds to be redeemed, plus accrued interest thereon, on and to the date fixed for redemption and without premium. The Indenture provides that Bonds redeemed pursuant to this provision are to be redeemed in the following order of priority: (i) Senior Lien Bonds, (ii) First Subordinate Lien Bonds (including the Series 2016A Bonds) and (iii) Second Subordinate Lien Bonds (including the Series 2016B Bonds).

If less than all Outstanding Bonds of a particular level of priority are to be redeemed at any one time pursuant to this provision of the Master Indenture, the Trustee is to select Bonds from each Series of that priority level on a proportionate basis and to select Bonds within each such Series to be redeemed from each maturity on a proportionate basis; provided that within each maturity such Bonds are to be selected by lot.

**Notice of Redemption; Conditional Notice of Optional Redemption; Selection of Series 2016 Bonds for Redemption; Effect of Redemption and Cessation of Interest.** The Indenture provides that Series 2016 Bonds subject to optional redemption by the Authority will be redeemed in such order of maturity as the Authority may direct and by lot, selected in such manner as the Trustee deems appropriate, within a Series and maturity, provided that any Series 2016 Bonds are redeemed only in Authorized Denominations.

The Indenture provides that official notice of redemption (which may be conditional) will be given by the Trustee on behalf of the Authority by mailing a copy of an official redemption notice by first-class mail at least 30 days (or, so long as the Series 2016 Bonds are held in the book-entry system with DTC, at least 20 days) and not more than 60 days prior to the date fixed for redemption, to each owner of a Series 2016 Bond to be redeemed at such owner's registered address (DTC, so long as the Series 2016 Bonds are held in the book-entry system with DTC). Any notice sent as provided in the Indenture will be conclusively presumed to have been given whether or not actually received by the addressee. Failure to give any required notice of redemption as to any particular Series 2016 Bonds will not affect the validity of the call for redemption of any other Series 2016 Bonds with respect to which such failure did not occur. Official notice of redemption having been given, the Series 2016 Bonds or portions of Series 2016 Bonds to be redeemed will, on the date fixed for redemption (provided in the case of optional or extraordinary optional redemption sufficient funds are on deposit with the Trustee or paying agent), become due and payable at the redemption price therein specified. From and after the date fixed for redemption (provided sufficient funds are on deposit with the Trustee or paying agent) interest on such Series 2016 Bonds or portions of Series 2016 Bonds will cease to accrue.

**Authority Purchases.** The Authority reserves the right to use available funds to purchase any of the Series 2016 Bonds that are offered to the Authority at any price deemed appropriate by the Authority. Any purchase of Series 2016 Bonds may be made with or without tender of Series 2016 Bonds and at either public or private sale.

## SECURITY AND SOURCES OF PAYMENT FOR THE BONDS

### Limited Obligations

The Series 2016 Bonds are special, limited obligations of the Authority and are payable solely from, and are secured solely by a lien on, the Trust Estate. The Series 2016A Bonds are First Subordinate Lien Bonds, payable and secured on a parity with the Authority's other First Subordinate Lien Bonds and after the Senior Lien Bonds. The Series 2016B Bonds are the Authority's initial Second Subordinate Lien Bonds and are payable and secured on a parity with any Second Subordinate Lien Bonds that may be issued in the future and after the Senior Lien Bonds and First Subordinate Lien Bonds.

Pursuant to the Indenture, the Authority has assigned, and transferred to the Trustee, without recourse, and pledged and assigned to the Trustee and granted to the Trustee liens on and security interests in, the Trust Estate and all of its rights in the Trust Estate and any other rights or remedies granted to the Authority, including rights and remedies against the Ports and the Railroads, provided that the Trustee's exercise of any rights and remedies under the Use and Operating Agreement shall not impair either Railroad's rights to use the Rail Corridor, so long as such Railroad continues to pay Use Fees, Container Charges, M & O Charges and other amounts owed by such Railroad under the Use and Operating Agreement.

As defined in the Indenture, the "Trust Estate" consists of all moneys, assets and rights to which the Authority is entitled, including (a) the Revenues, subject to application as provided in the Indenture, (b) moneys and securities held from time to time by the Trustee or any Paying Agent in certain of the funds and accounts created under the Indenture, (c) earnings on amounts described above, subject to certain limitations, (d) the Authority's rights to payment or otherwise under the Operating Agreement, the Use Permit, the Design-Build Contract and other contracts, agreements, payment or performance bonds and insurance policies relating to the Project or to the construction, use or operation thereof, (e) any liquidated or actual damages or insurance proceeds received by the Authority from any source pursuant to the agreements referred to in clause (d) or otherwise arising from the Project, (f) Net Proceeds, (g) the proceeds of any business interruption insurance or other insurance relating to the Project or to the construction, use or operation thereof, and (h) any and all other funds, assets, rights, properties or interests therein, which may from time to time after the date of the Master Indenture be pledged or assigned to the Trustee as additional security under the Indenture. See "AUTHORITY REVENUES—General" below and "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—The Master Indenture—Granting Clause; Pledge of Revenues" in Appendix E.

The Indenture provides that such liens and security interests are a first and senior priority for the benefit of the owners of the Senior Lien Bonds, a second priority for the benefit of the owners of the First Subordinate Lien Bonds and a third priority for the benefit of the owners of the Second Subordinate Lien Bonds; but funds deposited in the M & O Fund and in the Reserve Account described below under "Eleventh" and in the Rebate Fund and in the Indemnification Fund are not pledged to and do not secure payment of the Bonds. The Indenture also provides that additional security, including any Credit Facility or Debt Service Reserve Surety Policy, provided for specific Bonds or a specific Series of Bonds may, as provided by Supplemental Indenture, secure only such specific Bonds or Series of Bonds and, therefore, will not be included as security for all Bonds under the Indenture. The Indenture further provides that moneys and securities held in trust exclusively for Bonds that have become due and payable and moneys and securities that are held exclusively to pay Bonds that are deemed to have been paid under the Indenture shall be held solely for the payment of such specific Bonds.

The Bonds, including the Series 2016 Bonds, are not obligations of the State of California or any political subdivision of the State of California and are not obligations of any of the Cities, the Ports or the Railroads. The Project, including the Rail Corridor, is not security for the Bonds, and the Bonds are not secured by a lien on any properties or improvements of the Authority, the Cities, the Ports or the Railroads or by a pledge of any revenues of the Cities, the Ports or the Railroads. The Railroads and the Ports are obligated only to make certain payments required by the Operating Agreement and are not responsible for paying, and are not guaranteeing the payment of, the principal or accreted value of, premium, if any, or interest on the Bonds. The Authority cannot unilaterally increase Use Fees and Container Charges to address Revenue shortfalls, including to pay debt service on its Bonds. See "AUTHORITY REVENUES—Shortfall Advances," "BONDHOLDERS' RISKS—Bonds are Limited Obligations of the Authority; Limited Sources of Funds," "—Shortfall Advances are Limited, Subordinate Obligations of the Ports" below, "THE PORT OF LOS ANGELES" in Appendix B and "THE PORT OF LONG BEACH" in Appendix C.

**Flow of Funds**

The Operating Agreement generally describes how Revenues are to be collected and disbursed during each year and includes a specific order of priority for allocation and disbursement of Revenues. See "AUTHORITY REVENUES." As permitted by the Operating Agreement, the Authority modified the order of priority set forth in the Operating Agreement, and described below is the modified order of priority as set forth in the Master Indenture, as amended by the Sixth Supplemental Indenture and the Eighth Supplemental Indenture.

The Indenture provides that Revenues received by the Trustee are to be deposited in the Revenue Fund created under the Indenture and that upon such receipt, such Revenues immediately become subject to the lien and pledge of the Indenture. Moneys in the Revenue Fund are to be set aside and transferred by the Trustee for the uses and in the order required by the Indenture (the "Flow of Funds") as summarized below. The Series 2016A Bonds are "First Subordinate Lien Bonds" within the Flow of Funds, and the Series 2016B Bonds are "Second Subordinate Lien Bonds" within the Flow of Funds. Under the Master Indenture, "Interest Payment Dates" are April 1 and October 1 for Current Interest Bonds, and "Principal Payment Date" is (a) for Current Interest Bonds, October 1 and (b) for Capital Appreciation Bonds, October 1 of any year in which the Final Compounded Amount of any Capital Appreciation Bond is due. See "AUTHORITY REVENUES—General" and "—Debt Service Schedule" below and "INDENTURE—Definitions" in Appendix E.

FIRST: Five Business Days prior to the last Business Day of each month, the Trustee is required to set aside and to transfer to the Debt Service Funds for the Senior Lien Bonds from funds deposited in the Revenue Fund amounts equal to the Debt Service Payment Requirement for the Senior Lien Bonds. The "Debt Service Payment Requirement" is a monthly deposit requirement. See "INDENTURE—Definitions" in Appendix E.

SECOND: Five Business Days prior to the last Business Day of each month, and subject to the transfer described in the paragraph under FIRST above, the Trustee is required to deposit in any Debt Service Reserve Account under a Supplemental Indenture for a Series of Senior Lien Bonds, if there is any deficiency therein, the Debt Service Reserve Fund Replenishment Payment for such Senior Lien Bonds, including, in the case of a Debt Service Reserve Surety Policy, the amount, if any, required to reimburse the Debt Service Reserve Surety Policy provider and in the case of the Series 2012 Debt Service Reserve Surety Agreement (the "Series 2012 Surety"), the amount required to be deposited into the 2012 Debt Service Reserve Account to reduce the amount of the Series 2012 Surety (the "2012 Annual Cash Deposits"). See "—Debt Service Reserve Fund."

THIRD: Five Business Days prior to the last Business Day prior to each October 1, and subject to the transfers required under paragraphs FIRST and SECOND above, and pursuant to Requisitions, the Trustee is to pay the Financing Fees described below for the Senior Lien Bonds for the ensuing Bond Year to the extent the same were not paid out of Costs of Issuance.

FOURTH: Prior to the issuance of the Series 2004 Subordinate Lien Bonds and the prepayment of the 1999 Federal Loan, semiannual deposits to the Federal Loan Fund were to be deposited to provide for the payment of the amount coming due on the 1999 Federal Loan. The 1999 Federal Loan was prepaid with proceeds of the Series 2004 Subordinate Lien Bonds.

FIFTH: Five Business Days prior to each Interest Payment Date and Principal Payment Date during the time that any First Subordinate Lien Bonds are Outstanding, and subject to the transfers described in paragraphs FIRST through FOURTH above, the Trustee is required to set aside and to transfer to the Debt Service Funds for the First Subordinate Lien Bonds amounts equal to the Final Compounded Amount, or to the principal and/or interest to be due and payable on the First Subordinate Lien Bonds on such Interest Payment Date and Principal Payment Date.

SIXTH: Five Business Days prior to each Interest Payment Date and Principal Payment Date during the time that any First Subordinate Lien Bonds are Outstanding, and subject to the transfers described in paragraphs FIRST through FIFTH above, the Trustee is required to (i) pay any Debt Service Reserve Surety Repayment Obligation for any First Subordinate Lien Bonds, and after full repayment of all such Debt Service Reserve Surety Repayment Obligations for the First Subordinate Lien Bonds, (ii) deposit in any Debt Service Reserve Account established under a Supplemental Indenture for the First Subordinate Lien Bonds, if there is any deficiency therein, the amount necessary for the funds in such Debt Service Reserve Accounts to be equal to the Debt Service Reserve Requirement for the First Subordinate Lien Bonds.

SEVENTH: Five Business Days prior to the last Business Day prior to each October 1 and subject to the transfers required under paragraphs entitled FIRST through SIXTH above, and pursuant to Requisitions, the Trustee is required to pay the Financing Fees for the First Subordinate Lien Bonds for the ensuing Bond Year to the extent the same were not paid out of Costs of Issuance.

EIGHTH: Five Business Days prior to each Interest Payment Date and Principal Payment Date during the time that any Second Subordinate Lien Bonds are Outstanding and subject to the transfers described in paragraphs FIRST through SEVENTH above, the Trustee is required to set aside and transfer to the Debt Service Funds for the Second Subordinate Lien Bonds amounts equal to the Final Compounded Amount, or to the principal and/or interest to be due and payable on the Second Subordinate Lien Bonds on such Interest Payment Date or Principal Payment Date.

NINTH: Five Business Days prior to each Interest Payment Date and Principal Payment Date during the time that any Second Subordinate Lien Bonds are Outstanding and subject to the transfers described in paragraphs FIRST through EIGHTH above, the Trustee is required to (i) pay any Debt Service Reserve Surety Repayment Obligation for any Second Subordinate Lien Bonds, and after full repayment of all such Debt Service Reserve Surety Repayment Obligations, (ii) deposit in any Debt Service Reserve Account established for any Second Subordinate Lien Bonds, if there is any deficiency therein, any amount necessary for the funds in such Debt Service Reserve Accounts to be equal to the Debt Service Reserve Requirement for the Second Subordinate Lien Bonds.

TENTH: Five Business Days prior to the last Business Day prior to each October 1 and subject to the transfers described under paragraphs FIRST through NINTH above, and pursuant to Requisitions, the Trustee is required to pay the Financing Fees for the Second Subordinate Lien Bonds for the ensuing Bond Year to the extent the same were not paid from Costs of Issuance.

ELEVENTH: Five Business Days prior to the last Business Day prior to each Principal Payment Date following Substantial Completion and subject to the transfers described under paragraphs FIRST through TENTH above, and pursuant to written instructions from an Authorized Authority Representative, on October 1 of each year, the Trustee is required to transfer an amount up to the Reserve Account Target to the Reserve Account pursuant to the Indenture.

TWELFTH: Five Business Days prior to the last Business Day prior to each October 1 and subject to the transfers described under paragraphs FIRST through ELEVENTH above and pursuant to Requisitions, the Trustee is to pay the Administrative Costs of the Authority in advance for the ensuing Bond Year to the extent the same were not paid from Costs of Issuance.

THIRTEENTH: Upon completion of the Annual Accounting and subject to meeting the requirements with respect thereto, and further subject to the transfers described under paragraphs FIRST through TWELFTH above and pursuant to written instructions from an Authorized Authority Representative and written approval by the Port Representatives for both Ports, the Trustee is required to pay amounts required to reimburse to the Ports the Benefit Amount (as defined in the Operating Agreement) in accordance with the Operating Agreement.

FOURTEENTH: Upon completion of the Annual Accounting and subject to meeting the requirements with respect thereto, and also subject to the transfers described under paragraphs FIRST through THIRTEENTH above, and pursuant to written instructions from an Authorized Authority Representative and written approval by the Port Representatives for both Ports, the Trustee is required to make any payments required to reimburse the Ports for their Port Advances in the following order of priority, with each item to be fully reimbursed before any subsequent items are reimbursed through such payment: (i) Net Project Costs (as defined in the Operating Agreement) advanced by POLA or POLB (either directly or through the Authority) prior to Substantial Completion that have not already been reimbursed to POLA or POLB from the proceeds of the financings or grants received by the Authority; (ii) Shortfall Advances, including Subsequent Shortfall Advances (mentioned below), made by either POLA or POLB pursuant to the Operating Agreement, plus interest thereon at the interest rate borne by six-month U.S. Treasury notes; (iii) amounts, if any, voluntarily advanced by POLA or POLB (either directly or through the Authority) in excess of the Shortfall Advances to pay all or a portion of the Annual Amount or any other obligation or liability of the Authority with respect to the Project; (iv) amounts, if any, voluntarily advanced by POLA or POLB after Substantial Completion, in excess of Shortfall Advances to cover the costs of the Authority specified in the Operating Agreement that have not already been reimbursed to POLA or POLB from the proceeds of the financings or grants received by the Authority; and (v) any amounts advanced by either POLA or POLB pursuant to the Operating Agreement. See "AUTHORITY REVENUES— Shortfall Advances."

FIFTEENTH: Upon completion of the Annual Accounting and subject to meeting the requirements with respect thereto, and further subject to the transfers described under paragraphs FIRST through FOURTEENTH above, and pursuant to written instructions from an Authorized Authority Representative and written approval by the Port Representatives for both Ports, the Trustee is required to pay amounts required to reimburse to the Ports the Property Assembly Reimbursement (as defined in the Operating Agreement) in accordance with the provisions in the Operating Agreement.

SIXTEENTH: Upon completion of the Annual Accounting and subject to meeting the requirements with respect thereto, and further, subject to the transfers described under paragraphs FIRST through FIFTEENTH above, and pursuant to written instructions from an Authorized Authority Representative and the Railroads, the Trustee is required to deposit to the Reserve Account any amounts required under the Operating Agreement to reimburse the Railroads any amounts the Railroads previously paid for the costs of any Additional Capital Improvements (as defined in the Operating Agreement).

SEVENTEENTH: As soon as is practicable after and the end of each Bond Year following Substantial Completion and subject to the transfers described under paragraphs FIRST through SIXTEENTH above, and pursuant to written instructions from an Authorized Authority Representative, the Trustee is to apply Revenues in the following order of priority: (i) first, to prepay, redeem, defease, retire or purchase any Outstanding Bonds; provided the Authority is required at all times to maintain Outstanding Bonds in the principal amount of at least $5,000 until such time as any amounts payable as described under clause (ii) of paragraph SEVENTEENTH are paid in full, and (ii) second, to pay any recovery of monies obtained by the Series 2012 Lender pursuant to the exercise of remedies under the 2012 Financing Agreement following a non-payment event of default under the 2012 Financing Agreement described above. In addition, the Authority covenanted with the Series 2004 Bond Insurer that, unless the Series 2004 Bond Insurer is in default, prepayments from Revenues available as described in this paragraph will be of First Subordinate Bonds before any other Bonds are prepaid, to the extent it is permitted to do so under the Indenture, and the Authority covenanted in the Eighth Supplemental Indenture that the Authority will prepay Series 2012 Senior Lien Bonds after the Subordinate Lien Bonds and before other Outstanding Bonds are prepaid from such Revenues, to the extent it is permitted to do so under the Indenture.

As defined in the Indenture, "Financing Fees" means (a) for the purposes described above under THIRD and TENTH (i) fees and charges of third party trustees, administrators, rating agencies, actuaries, insurance consultants, auditors, consultants, independent engineers, financial advisors, underwriters, attorneys or custodians incurred by the Ports or the Authority in connection with the Senior Lien Bonds and any Second Subordinate Lien Bonds, respectively, but not any Revenue Verification and Monitoring Fees described below and not any Series 2004 Bond Insurer Fees or other Financing Fees payable as described under SEVENTH, (ii) fees and costs incurred to obtain and renew letters of credit, bond insurance and other forms of credit enhancements facilities for such Bonds (including any amounts owed to Credit Providers pursuant to any reimbursement agreement or similar agreement entered into in connection with any Credit Facility) except as payable under SEVENTH, and (iii) any amounts necessary to make any rebate payments to the United States or otherwise comply with the provisions of the Code; and (b) for purposes described above under SEVENTH (i) fees and charges of third party trustees, administrators, rating agencies, actuaries, insurance consultants, auditors, consultants, independent engineers, financial advisors, underwriters, attorneys or custodians incurred by the Ports or the Authority in connection with the First Subordinate Lien Bonds, (ii) fees and costs incurred to obtain and renew letters of credit, bond insurance and other forms of credit enhancement facilities for the Bonds (including any amounts owed to Credit Providers pursuant to any reimbursement agreement or similar agreement entered into in connection with any Credit Facility) and in the case of the Series 2004 Subordinate Lien Bonds, the additional 25-basis point annual premium that would become payable to the Series 2004 Bond Insurer if the underlying ratings on the Series 2004 Subordinate Lien Bonds is lower than BBB- in the case of S&P or lower than Baa3 in the case of Moody's, (iii) any amounts necessary to make any rebate payments to the United States or otherwise to comply with the provisions of the Code and (iv) fees and charges incurred by the Authority or a third party to monitor railcars and containers for purposes of verifying, reconciling and collecting Use Fees and Container Charges as provided in the Use and Operating Agreement (the "Revenue Verification and Monitoring Fees"). See "AUTHORITY REVENUES—Collection of Use Fees and Container Charges; Revenue Verification System."

The following table illustrates the Flow of Funds provided under the Indenture. The table is not intended to be definitive and is qualified in its entirety by reference to the provisions of the Indenture.

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## Summary Flow of Funds Under the Indenture

Use Fees & Container Charges

⇓

Revenue Fund ⇐ Shortfall Advances

⇓

Senior Lien Bonds Debt Service (monthly deposits)

⇓

Debt Service Reserve Accounts for Senior Lien Bonds

⇓

Financing Fees for Senior Lien Bonds

⇓

Federal Loan Repayments (no longer outstanding)

⇓

First Subordinate Lien Bond Debt Service (semiannual deposits)

⇓

Debt Service Reserve Accounts for First Subordinate Lien Bonds

⇓

Financing Fees for First Subordinate Lien Bonds and RAVS Fees

⇓

Second Subordinate Lien Bond Debt Service (none issued to date)

⇓

Debt Service Reserve Accounts for Second Subordinate Lien Bonds

⇓

Financing Fees for Second Subordinate Lien Bonds

⇓

Reserve Account

⇓

Authority Administrative Costs

⇓

Benefit Amount[1]

⇓

Reimbursement of Port Advances[2]

⇓

Property Assembly Reimbursement[3]

⇓

Reimbursement of Costs of Additional Capital Improvements[4]

⇓

Prepayment of Bonds[5] and Reimbursement of the Series 2012 Lender for Certain Costs

(1) As of January 1, 2016, the accrued liability for the Benefit Amount was $100,225,762.06.

(2) As of January 1, 2016, the accrued liability for Shortfall Advances to be reimbursed to the Ports was $11,844,027.12, and there are no other amounts to be reimbursed to the Ports.

(3) As of January 1, 2016, the accrued liability for Property Assembly Reimbursement was $132,000,000.00.

(4) On May 22, 2002, after the third track was added to the Mid-Segment described below, the Railroads waived their respective rights to reimbursement from the Reserve Account for costs incurred in connection with Additional Capital Improvements. See “THE RAIL CORRIDOR AND RELATED PROJECTS—Maintenance and Operation of the Project—Reserve Account.”

(5) The Authority has covenanted with the Series 2004 Bond Insurer and with the Series 2012 Lender to prepay, redeem, defease, retire or purchase First Subordinate Lien Bonds and then the Series 2012 Bonds prior to any other Outstanding Bonds as described above, to the extent it is permitted to do so under the Master Indenture. See “Flow of Funds—Seventeenth.”

**Debt Service Reserve Fund**

The Indenture establishes a Debt Service Reserve Fund for the payment of principal or accreted value of and interest on the Bonds, and provides for a separate debt service reserve account to be created within the Debt Service Reserve Fund for each Series of Bonds. Each Debt Service Reserve Account secures the payment only of the Bonds of that Series. The Indenture requires that for each Debt Service Reserve Account, cash or a Debt Service Reserve Surety Policy be deposited or credited to such Debt Service Reserve Account at the time of issuance of the Bonds of such Series in an amount, as of any date of calculation, equal to the least of (i) Maximum Annual Debt Service for such Series, (ii) 10% of the original principal and Initial Amount of such Series that have been issued, less the amount of original issue discount with respect to any such Bonds if such original issue discount exceeded 2% on such Bonds at the time of its original sale, and (iii) 125% of the average annual Debt Service on Bonds of such Series for each Bond Year in which Bonds of such Series are Outstanding (the "Debt Service Reserve Requirement"). Each Debt Service Reserve Account is to be maintained until there are no longer any Outstanding Bonds of the Series secured by such Debt Service Reserve Account. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—The Master Indenture—Debt Service Reserve Fund" in Appendix E.

The Indenture permits the Authority to satisfy its obligation to fund all or any portion of a Debt Service Reserve Requirement through cash or (except for the Series 2004 Subordinate Lien Bonds) a Debt Service Reserve Surety Policy. The Debt Service Reserve Surety Policy may be an insurance policy, surety bond or surety agreement or a letter of credit deposited with the Trustee for the credit of a Debt Service Reserve Account within the Debt Service Reserve Fund in lieu of or in substitution for all or a portion of the cash or securities on deposit or to be deposited therein. The Indenture does not require the issuer of a Debt Service Reserve Surety Policy to have or to maintain any particular rating and does not require that a Debt Service Reserve Surety Policy be replaced if the original rating is reduced or withdrawn. The Indenture provides that in the event that a Debt Service Reserve Surety Policy is deposited in a Debt Service Reserve Account in lieu of cash and securities then on deposit in such Debt Service Reserve Account, any amounts in such Debt Service Reserve Account in excess of the Debt Service Reserve Requirement will be transferred to the Debt Service Fund for the Bonds of such series, unless an Event of Default exists under the Indenture, in which event the excess amounts are to be retained in such Debt Service Reserve Account. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—The Master Indenture—Debt Service Reserve Fund" in Appendix E.

In connection with the issuance of the Series 1999 Senior Lien Bonds, the Authority deposited surety bonds issued by the Series 1999 Bond Insurer in the total face amount of $90.1 million. In connection with the issuance of the Series 2012 Senior Lien Bonds, the Authority deposited a Series 2012 Surety from the Ports in the total amount of $7.2 million. The Authority has covenanted with the Series 2012 Lender, however, that beginning October 1, 2013, the Trustee will transfer from the Revenue Fund to the Series 2012 Debt Service Reserve Account, as described in "SECOND" under "–Flow of Funds," an Annual Cash Deposit such that the face amount of the Series 2012 Surety will be reduced by the amounts so deposited and to zero by October 1, 2019.

The Debt Service Reserve Account for the Series 2004 Subordinate Lien Bonds is funded with cash deposits that are invested as described below. The Authority has covenanted with the Series 2004 Bond Insurer that each Debt Service Reserve Account for the Series 2004 Subordinate Lien Bonds will be cash-funded at all times unless agreed to in writing by the Series 2004 Bond Insurer and that the Authority will not substitute a Debt Service Reserve Surety Policy for the cash and securities in the Series 2004 Debt Service Reserve Accounts without the prior written consent of the Series 2004 Bond Insurer.

The Debt Service Reserve Requirement for the Series 2013A Bonds at the time of their delivery was $24,832,500 and was satisfied with a Debt Service Reserve Surety Policy issued by Assured Guaranty, the Series 2013A Bond Insurer, purchased with a portion of the proceeds of the Series 2013A Bonds.

The Debt Service Reserve Requirements for the Series 2016 Bonds of each Series are to be satisfied by separate Debt Service Reserve Policies to be issued by ___________ (the "_______").

**Additional Bonds**

The Indenture permits the issuance of additional Bonds, including variable-rate Bonds that may be secured by letters of credit or other credit facilities, payable on a parity with the Senior Lien Bonds or the First Subordinate Lien Bonds and provides that the Authority may also issue Second Subordinate Lien Bonds as described below and in the "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—The Master Indenture—Additional Bonds" in Appendix E.

**Additional Senior Lien Bonds**. In addition to its original covenants in the Master Indenture, the Authority has covenanted with the Series 2012 Lender, with the Series 2004 Bond Insurer and with the Series 2013A Bond Insurer that the Authority will not issue any Senior Lien Bonds (other than refunding Senior Lien Bonds) pursuant to the Master Indenture unless the Authority has obtained the prior written consents of the Series 2012 Lender, the Series 2004 Bond Insurer (so long as the Series 2004 Bond Insurer is not in default) and the Series 2013 Bond Insurer (subject to the limitations set forth in the Ninth Supplemental Indenture), respectively. Refunding Bonds that are Senior Lien Bonds may be issued without complying with the tests described below and without the consent of the Series 2012 Lender, the Series 2004 Bond Insurer or the Series 2013A Bond Insurer, provided that the Authority delivers to the Trustee and to the Series 2012 Lender a certificate of an Authorized Authority Representative showing (1) that Maximum Annual Debt Service after the issuance of such Refunding Bonds will not exceed Maximum Annual Debt Service prior to the issuance of such Refunding Bonds and (2) so long as the Series 2012 Senior Lien Bonds are outstanding, that either (A) aggregate Debt Service on all Senior Lien Bonds will not be increased or (B) that Dedicated Revenues (modified as described below) are equal to at least 125% of Debt Service on Senior Lien Bonds in each year in which the Series 2012 Senior Lien Bonds are outstanding. See "—Modified Calculation of Dedicated Revenues for Additional Bond Tests."

The Authority covenants in the Ninth Supplemental Indenture that, subject to the limitations contained therein, the Authority will not issue any additional Senior Lien Bonds (other than Refunding Bonds) without the consent of the Series 2013A Bond Insurer and that without the consent of the Series 2013A Bond Insurer no Senior Lien Bonds (including Refunding Bonds) will be issued if there exists an Event of Default (except a default that would be cured by the issuance of such refunding Senior Lien Bonds) or if the Series 2013A Debt Service Reserve Account is not fully funded at its Debt Service Reserve Requirement.

The Authority has also covenanted that, as a condition to the issuance of additional Senior Lien Bonds (other than refunding Senior Lien Bonds), the Authority will deliver to the Trustee, in addition to the consents described above: (i) a certificate prepared by an Authorized Authority Representative showing that the Dedicated Revenues, as calculated by an independent consultant acceptable to the Series 2012 Lender and to the Series 2004 Bond Insurer and in accordance with the Indenture and generally accepted accounting principles, for any twelve consecutive months out of the 18 consecutive months immediately preceding the date of issuance of the proposed Series of Senior Lien Bonds were at least equal to 125% of Maximum Annual Debt Service on all Senior Lien Bonds, calculated as if the proposed Series of Senior Lien Bonds were then Outstanding; or (ii) a certificate, dated as of a date between the date of pricing of the Senior Lien Bonds proposed to be issued and the date of delivery of such Senior Lien Bonds, prepared by an Authorized Authority Representative showing that the estimated Dedicated Revenues, as calculated by an independent consultant acceptable to the Series 2012 Lender and to the Series 2004 Bond Insurer in accordance with the

Indenture and generally accepted accounting principles, for each Bond Year from the date of issuance of such Senior Lien Bonds through the date of final maturity of all Senior Lien Bonds, will be at least equal to 125% of Debt Service for each Bond Year on all Senior Lien Bonds, calculated as if the proposed Series of Senior Lien Bonds were then Outstanding. The Authority also is required to deliver to the Trustee a certificate prepared by an Authorized Authority Representative showing that the estimated Dedicated Revenues, as calculated by an independent consultant acceptable to the Series 2012 Lender and the Series 2004 Bond Insurer and in accordance with the Indenture and generally accepted accounting principles, for each Bond Year from the date of issuance of such Senior Lien Bonds through the date of final maturity of all Outstanding Bonds, will be at least equal to 110% of Debt Service on all Outstanding Bonds for each Bond Year calculated as if the proposed Series of Senior Lien Bonds were then Outstanding.

**Calculation of Dedicated Revenues for Additional Bond Tests**. As defined in the Master Indenture, "Dedicated Revenues" means the Use Fees and Container Charges, Contingent Port Obligations and the earnings on all funds and accounts held by the Trustee under the Indenture (but not including the Rebate Fund). The Indenture provides, however, that Dedicated Revenues at a particular level of priority shall only include the sum of interest earnings on the Debt Service Accounts and Debt Service Reserve Funds with respect to such level of priority to the extent such earnings are required to be deposited or retained in such Debt Service Accounts and Debt Service Reserve Funds and that Dedicated Revenues shall not include funds to be deposited in or earnings on the moneys held in the Federal Loan Fund, the M & O Fund or the Reserve Account. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—Definitions" in Appendix E.

**Modified Calculation of Dedicated Revenues for Additional Bond Tests**. The Authority has covenanted with the Series 2012 Lender and with the Series 2004 Bond Insurer (so long as the Series 2004 Bond Insurer is not in default) that for purposes of issuing additional Bonds only, an independent consultant acceptable to the Series 2004 Bond Insurer and to the Series 2012 Lender will be required to calculate Dedicated Revenues as follows: (1) in each Bond Year (October 1 - September 30), Contingent Port Obligations shall be 40% of debt service on all Outstanding Bonds, calculated as if the proposed Series of Bonds to be issued were Outstanding; and (2) Use Fees and Container Charges shall be the Use Fees and Container Charges that were collected in any twelve consecutive months out of the 18 consecutive months immediately preceding the date of issuance of the proposed Series of Bonds, increased each January 1 at a rate of 1.5%, or such other minimum rate of fee escalation specified in the Operating Agreement; provided, however, that (i) if the rating of either Port is (A) less than AA- but higher than BBB+ (in the case of S&P) or (B) less than Aa3 but higher than Baa1 (in the case of Moody's), then "Contingent Port Obligations," for purposes of this calculation only, is to be deemed to be 20% (instead of 40%) of each year's Debt Service on all Outstanding Bonds, calculated as if the proposed Series of Bonds to be issued were Outstanding; and (ii) if the rating of either Port is (A) less than A- (in the case of S&P) or (B) less than A3 (in the case of Moody's), then "Contingent Port Obligations," for purposes of this calculation only, is to be deemed to be 0% (instead of 40%) of each year's Debt Service on all Outstanding Bonds, calculated as if the proposed Series of Bonds to be issued were Outstanding.

**Additional First Subordinate Lien Bonds**. The Authority has covenanted with the Series 2012 Lender and the Series 2004 Bond Insurer (so long as the Series 2004 Bond Insurer is not in default) that so long as Series 2012 Bonds and the Series 2004 Bonds, respectively, are outstanding, as a condition to the issuance of additional First Subordinate Lien Bonds (other than refunding First Subordinate Lien Bonds) the Authority will be required to deliver to the Trustee: (i) a certificate prepared by an Authorized Authority Representative showing that the Dedicated Revenues, calculated by an independent consultant acceptable to the Series 2012 Lender and the Series 2004 Bond Insurer as described above for any twelve consecutive months out of the 18 consecutive months immediately preceding the date of issuance of the proposed Series of First Subordinate Lien Bonds were at least equal to 110% of Maximum Annual Debt Service on all Outstanding Bonds calculated as if the proposed Series of First Subordinate Lien Bonds were then Outstanding; or (ii) a certificate, dated as of a date between the date of pricing of the First Subordinate Lien

Bonds proposed to be issued and the date of delivery of such First Subordinate Lien Bonds, prepared by an Authorized Authority Representative showing that the estimated Dedicated Revenues, as calculated by an independent consultant calculated as described above for each Bond Year from the date of issuance of such First Subordinate Lien Bonds through the date of final maturity of all First Subordinate Lien Bonds will be at least equal to 110% of Debt Service on all Outstanding Bonds for each Bond Year, calculated as if the proposed Series of First Subordinate Lien Bonds were then Outstanding.

In connection with the issuance of the Series 2016A Bonds, the Authority expects to deliver a certificate to the effect that [_________________________________].

**Additional Second Subordinate Lien Bonds**. The Master Indenture permits the Authority to issue Second Subordinate Lien Bonds initially without meeting any debt service coverage test, provided that such Second Subordinate Lien Bonds contain no provisions for acceleration. The Series 2016B Bonds are the initial Second Subordinate Lien Bonds to be issued.

The Eleventh Supplemental Indenture amends the Master Indenture to set forth conditions the Authority must satisfy before issuing any additional Second Subordinate Lien Bonds after the Series 2016B Bonds are issued. As so amended, the Master Indenture permits the issuance of additional Second Subordinate Lien Bonds to refund Bonds previously issued under the Indenture or to pay Costs of the Project, provided that prior to or simultaneously with the delivery of such additional Second Subordinate Lien Bonds of each Series the Authority delivers to the Trustee a certificate prepared by an Authorized Authority Representative showing either (1) that estimated Dedicated Revenues, calculated in accordance with the Master Indenture and generally accepted accounting principles, for each Bond Year through the date of final maturity of all Second Subordinate Lien Bonds will be at least equal to **[**105%**]** of Debt Service on all Second Subordinate Lien Bonds; or (2) that Maximum Annual Debt Service on all Outstanding Second Subordinate Lien Bonds after the issuance of the additional Second Subordinate Lien Bonds will not exceed Maximum Annual Debt Service prior to the issuance of such additional Second Subordinate Lien Bonds. See "___________" in Appendix E.

**Permitted Investments**

Moneys held by the Trustee in the funds and accounts established pursuant to the Indenture (except the Reserve Account) are to be invested and reinvested as directed by the Authority in Permitted Investments, subject to any additional restrictions set forth in a Supplemental Indenture. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—The Master Indenture—Investments" and "—Debt Service Reserve Fund" in Appendix E. The Authority has retained Chandler Asset Management, Inc. as the Authority's investment consultant in connection with the Authority's direction of the investment and reinvestment of moneys held by the Trustee under the Indenture. The investment consultant is responsible for selecting investments based upon the requirements of the Indenture and the Authority's investment policy.

**The Series 1999 Forward Delivery Agreement.** Moneys held by the Trustee in each Debt Service Fund with respect to the Series 1999 Senior Lien Bonds and the Series 2012 Bonds are invested pursuant to a Forward Delivery Agreement dated as of July 12, 2000 (as amended, the "Forward Delivery Agreement"), by and among the Authority, the Trustee and Bank of America, N.A. (the "Provider"). The Provider is an affiliate of Merrill Lynch, Pierce, Fenner & Smith Incorporated, one of the Underwriters. The Forward Delivery Agreement, which has been amended three times since 2000, is a Permitted Investment under the Indenture. Pursuant to the Forward Delivery Agreement, the Trustee is required to purchase, and the Provider is required to deliver to the Trustee as custodian, certain qualified U.S. government securities (the "Qualified Securities"), at a price (the "Purchase Price") that produces an annual 6.7% rate of return on such securities for the period from and including the date of their delivery to (but excluding) their maturity date. The Provider may transfer its rights and obligations under the Forward Delivery Agreement (i) without the consent of the Authority or the Trustee to any subsidiary or affiliate of the Provider, or (ii) with the Authority's prior written consent and upon notice to the Trustee. Unless terminated earlier, the Forward Delivery Agreement expires on the later of (i) October 1, 2023 and (ii) the date on which the Provider, the Authority and the Trustee have satisfied all of their obligations thereunder.

The Authority may, by giving the Provider at least 30 days' prior written notice, redeem, defease, repurchase or refund the Series 1999 Senior Lien Bonds as provided in the Indenture. The Forward Delivery Agreement provides that in the event of such redemption, defeasance, repurchase or refunding, the Forward Delivery Agreement will automatically terminate but that in the event the Series 1999 Senior Lien Bonds are being refunded by a new issuance of bonds, the Provider, at the request of the Authority, will not terminate the Forward Delivery Agreement if certain conditions thereunder are satisfied. The conditions were satisfied when a portion of the Series 1999A Bonds were refunded with proceeds of the Series 2012 Bonds and again in connection with the issuance of the Series 2013A Bonds. In each case, the Provider made a settlement payment to the Authority in connection with the amendment to the Forward Delivery Agreement related to the refunding of the Series 1999A Current Interest Bonds.

The Provider has the right to terminate the Forward Delivery Agreement upon the occurrence of any of the following events (each, an "Issuer Event of Default"): (i) the Authority fails to deposit funds in the Debt Service Fund with respect to the Series 1999 Senior Lien Bonds in accordance with the terms of the applicable Indenture or the Trustee for any other reason fails to purchase the Qualified Securities at the Purchase Price; (ii) the Authority defaults in the performance of any covenant or obligation under the Forward Delivery Agreement and fails to timely cure such defaults; (iii) the Authority fails to comply with its material covenants or agreements under the Indenture, and such failure has an adverse impact on the Provider's rights and/or obligations under the Forward Delivery Agreement; (iv) any representation or warranty of the Authority contained in the Forward Delivery Agreement proves to have been incorrect in any material aspect as of the date on which it was made; (v) the Authority is at any time insolvent; (vi) the interest and principal outstanding for the Series 1999 Senior Lien Bonds are declared due and payable at any time prior to the scheduled maturity thereof; (vii) there is an investment of amounts in the Debt Service Funds with respect to the Series 1999 Senior Lien Bonds that is not expressly permitted under the Forward Delivery Agreement; or (viii) the Authority defaults in its obligations in respect of borrowed money which, in the aggregate, exceed $10 million, and fails to timely cure such defaults.

In the event that the Forward Delivery Agreement is terminated pursuant to a redemption, defeasance, repurchase or refunding of the applicable Series 1999 Senior Lien Bonds or pursuant to an Issuer Event of Default, a Trustee Event of Default or a Provider Event of Default, the Authority may be required to pay a substantial termination payment to the Provider. In the event that the Provider's long-term unsecured credit rating is downgraded as set forth in the Forward Delivery Agreement, the Authority may, at its option, terminate the Forward Delivery Agreement and, depending on market conditions at the time of such termination, may collect from the Provider, or be required to pay to the Provider, a termination payment. In 2012, following a reduction in its ratings, the Provider posted collateral to secure payment of its obligations under the Forward Delivery Agreement. The Forward Delivery Agreement entails risks to the Authority. The counterparty may fail or be unable to perform and the Authority may be required to make significant payments in the event of an early termination of the Forward Delivery Agreement.

**Insurance Covenants**

The Indenture requires the Authority to obtain or cause to be obtained and to keep continuously in force for so long as any Bonds are Outstanding, the following insurance with respect to the Project (as defined in the Indenture and which includes, among other things, the Rail Corridor and the related improvements):

**Liability Insurance**–a commercial general liability insurance policy or policies to protect the Authority, the Trustee and the officers, agents and employees of each from liability for damages from bodily injury or property damage caused by or arising from the acts or omissions of such parties or occasioned by reason of the construction, condition or operation of the Project with limits of not less than $25,000,000 per occurrence. The commercial general liability insurance policy or policies may be subject to deductible clauses in amounts customary for such types of insurance policies, and the Authority may provide other kinds of insurance or methods or plans of protection, including self-insurance, provided such other alternative is approved by an independent insurance consultant. Each liability insurance policy is to name POLA and POLB as additional insureds.

**Property Insurance**–a policy or policies of property insurance on the Project insuring against loss or damage by fire, lightning, explosion, windstorm, riot, aircraft, vehicle damage, smoke, vandalism and malicious mischief and such other perils as are normally covered by such policies, and insurance protecting against loss or damage by flood and earthquake (if and only to the extent available on the open market from reputable insurance companies at a reasonable cost) with limits of not less than the lesser of (i) maximum probable loss with respect to the Project as determined by an independent insurance consultant; or (ii) the principal amount of all Bonds then Outstanding. The Authority has determined that only a minimum amount of flood and earthquake insurance coverage is available under the terms described above. Each property insurance policy is to name the Trustee and the Authority as loss payee as their interest may appear and POLA and POLB as additional insureds. See "THE RAIL CORRIDOR AND RELATED PROJECTS" and "BONDHOLDERS' RISKS—Seismic Risks and Other Events of Force Majeure; Limited or No Insurance Coverage."

**Business Interruption Insurance**–business interruption insurance to cover loss, total or partial, of the use of the Project as a result of any of the hazards covered by the casualty insurance described under "Property Insurance" above in an amount not less than the total Debt Service payable on all Outstanding Bonds for any period of one year following Substantial Completion of the Rail Corridor. Each such policy may be subject to a deductible clause in an amount customary and reasonable for such policies; provided, however, in no event shall any such deductible exceed the maximum amount set forth in the Operating Agreement. See "THE RAIL CORRIDOR AND RELATED PROJECTS" and "BONDHOLDERS' RISKS—Seismic Risks and Other Events of Force Majeure; Limited or No Insurance Coverage."

**Payment of Premiums and Application of Net Proceeds**–The Indenture and the Operating Agreement provide that premiums and any deductible in respect of property insurance, including business interruption insurance, are to be M & O Charges payable by the Railroads and that other insurance premiums and deductibles are to be Administrative Costs payable by the Authority from Revenues.

The Indenture requires that the Trustee use any Net Proceeds of property insurance (excluding any proceeds of business interruption insurance) to (1) repair or replace the damaged or destroyed facilities, (2) redeem Bonds or (3) create an escrow fund pledged to pay specified Bonds and thereby cause such Bonds to be deemed to be paid as provided in the Indenture. See "DESCRIPTION OF THE SERIES 2016 BONDS—Redemption—Extraordinary Redemption."

### Certain Other Covenants of the Authority

The Authority has made certain other covenants in the Indenture with respect to the Rail Corridor and the related improvements. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—The Master Indenture—Covenants of the Authority" in Appendix E.

**Events of Default and Remedies**

The Indenture specifies a number of Events of Defaults and remedies. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—The Master Indenture—Events of Default and Remedies" in Appendix E for a description of Events of Default and remedies.

**Rights of the Series 2012 Lender, the Series 1999 Bond Insurer and the Series 2004 Bond Insurer**

The Authority has made separate covenants with the Series 1999 Bond Insurer, the Series 2004 Bond Insurer and the Series 2012 Lender. These covenants may be enforceable only by the Insurers or the Series 2012 Lender, respectively, and not by the Trustee or the Bondholders, but in some circumstances a breach of the covenants may be an event of default under the Indenture. In addition, the Series 1999 Bond Insurer and the Series 2004 Bond Insurer (so long as they are not in default under their respective policies) have the rights to direct or consent to actions of the Trustee and to direct proceedings under the Indenture to the same extent and in place of the registered owners of the Series 1999 Bonds and the Series 2004 Subordinate Lien Bonds, respectively.

**Rights of the Series 2013A Bond Insurer [and the Series 2016 Bond Insurer]**

The Ninth Supplemental Indenture provides that, subject to the conditions set forth in the Ninth Supplemental Indenture (including that the Series 2013A Bond Insurer not be in default), the written consent of the Series 2013A Bond Insurer will be required in lieu of the consent, approval, direction or appointment of the Holders of the Insured Series 2013A Bonds whenever a consent, approval, direction or appointment by such Holders is required or permitted under the Indenture, including, without limitation, for the purpose of exercising any voting right or privilege or giving any consent or direction or taking any other action that such Holders are entitled to take pursuant to the Indenture pertaining to (i) defaults and remedies, (ii) the duties and obligations of the Trustee and (iii) any amendment, supplement, modifications to, waiver of, the Indenture that requires the consent of Holders of the Insured Series 2013A Bonds or adversely affects the rights and interest of the Series 2013A Bond Insurer. The Ninth Supplemental Indenture also provides that to eliminate any doubt, the Holders of the Insured Series 2013A Bonds will have no right to give any consent, approval, direction or appointment required or permitted by the Indenture to be given by such Holders.

Pursuant to the Ninth Supplemental Indenture, the Authority agrees that, among other things, without the written consent of the Series 2013A Bond Insurer (unless the Series 2013A Bond Insurer is in default), the Authority will not approve or agree to any amendment, waiver or other modification of the Operating Agreement which could be reasonably expected to result in a material impairment of the security for the Series 2013A Bonds or adversely affect the Series 2013A Bond Insurer's rights and interests under the Indenture or its obligations under the Series 2013A Bond Insurance Policy or the Series 2013A Debt Service Reserve Surety Policy. All of the Authority's covenants for the benefit of the Series 2013A Bond Insurer may be waived, modified or otherwise agreed to by the Series 2013A Bond Insurer.

**[More to come if the Series 2016 Bonds are to be insured]**

**[THE SERIES 2016 BOND INSURER**

**[Series 2016 Bond Insurance Policy**

**[To Come (perhaps)]**

**Name of Company**

[**To come]**

## AUTHORITY REVENUES

### General

Under the Indenture, the Authority has pledged the Revenues to the Trustee for payment of the Bonds. As defined in the Indenture, "Revenues" includes Use Fees and Container Charges, Shortfall Advances, proceeds of business interruption insurance received by the Authority (or the Trustee on behalf of the Authority), the earnings on all funds and accounts held by the Trustee under the Indenture (provided that Revenues at a particular level of priority are only to include the interest earnings on the Debt Service Funds and the Debt Service Reserve Accounts with respect to such level of priority to the extent such earnings are required to be deposited or retained in such Debt Service Funds or Debt Service Reserve Accounts). "Revenues" also includes grants and other amounts received under contracts or agreements with governmental or private entities and permitted to be applied as Revenues, but does not include funds to be deposited or retained in or earnings on the moneys held in the M & O Fund, the Reserve Account or the Rebate Fund. Revenues also does not include any Net Proceeds or proceeds from borrowings or any amounts expended by the Railroads for maintenance and operating expenses for the Non-Rail Components or the Drill Track (each as defined in the Operating Agreement). See "—Use Fees" and "—Container Charges" below and "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—INDENTURE—Definitions" and "—USE AND OPERATING AGREEMENT—Certain Definitions" in Appendix E.

The Railroads are required to pay Use Fees and Container Charges, the primary sources of Revenues, in accordance with the Operating Agreement. The Railroads are obligated only to make certain payments required by the Operating Agreement and are not responsible for paying, and are not guaranteeing the payment of, the Bonds, including the Series 2016 Bonds. Following the settlement of the transloading dispute, the Operating Agreement was amended to extend the term by 25 years, to provide for a $0.90/TEU increase in the Use Fees and Container Charges (effective December 1, 2006, the "Fee Increase Date"), to increase the amount of the maximum annual inflation adjustment and to require payment by the Railroads of an additional fee in the event Shortfall Advances are paid after the Fee Increase Date. The Railroads' obligations to make payments under the Operating Agreement terminate on the earlier of (i) April 15, 2062 (60 years after the April 15, 2002 "Commencement Date") and (ii) the date that Net Project Costs and other amounts required to be paid under the Operating Agreement have been repaid in full (including repayment of the Bonds and amounts, if any, required to reimburse Bond Insurers for any payments made under their financial guaranty policies) and the funding of the Reserve Account to the then-current Reserve Account Target). See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT" in Appendix E. Although other railroad companies may in the future use the Rail Corridor, the Railroads currently are, and currently are expected to remain, the sole users of the Rail Corridor.

The Operating Agreement obligates each Port, severally and not jointly, to pay Shortfall Advances in the event the amount of Use Fees and Container Charges collected is not sufficient to pay certain of the Authority's obligations, including debt service on Outstanding Bonds (including the Series 2016 Bonds). The Shortfall Advances are limited in amount and are subordinated obligations of each Port, payable solely from each Port's available net revenues after all of such Port's other obligations are paid. See "—Shortfall Advances" and "BONDHOLDERS' RISKS—Shortfall Advances Are Limited, Subordinate Obligations of the Ports."

**[To be updated]** The amount of Use Fees and Container Charges payable by the Railroads depends in large part upon the amount of cargo, containerized and non-containerized, that passes through the Ports. Historical containerized cargo volumes at the Ports (representing most of the cargo moved along the corridor) are summarized below and in Appendices B and C. See "_________" below and "_________" in Appendix B and "____________" in Appendix C.

Use Fees and Container Charges may be increased only in accordance with the terms of the Operating Agreement; the Authority cannot unilaterally increase Use Fees and Container Charges to address Revenue shortfalls, including to pay debt service on its Bonds.

**Use Fees**

The Operating Agreement provides that each Railroad is required to pay to the Authority a Use Fee on (i) all Through Trains (as defined in the Operating Agreement), regardless of whether the Through Train uses the Rail Corridor (unless such Through Train cannot use the Rail Corridor because of a complete blockage of the Rail Corridor for more than five consecutive days); (ii) all Local Trains (as defined in the Operating Agreement) that actually use all or any portion of the Rail Corridor; and (iii) all railcars and/or containers, as the case may be, that originate or terminate at the facilities of the Ports but which are included on a Local Train that does not use the Rail Corridor (other than certain railcars terminating at the Toyota Distribution Facility located at POLB). There is no charge on empty railcars, although empty containers (waterborne or non-waterborne) do incur a charge. Use Fees are not to be assessed on Repositioning or Crossing Movements or on the switching of railcars at Permitted Switching Locations. A container or railcar transported on the Rail Corridor to a rail-staging or assembly area (and not loaded or unloaded) and then moved on the Rail Corridor again (in the same direction) to a location off of the Rail Corridor will only be charged one Use Fee for the one-way trip.

Table 5 lists Use Fees in effect as of January 1, 2016. Use Fees are to be increased, effective on January 1 of each year, based upon changes in the Consumer Price Index (the “CPI”) for the 12-month period ended the preceding October 31. The Operating Agreement provides, however, that in no event will such an increase be less than 1.5% or greater than 4.5%. See Table 6. The Operating Agreement permits the Authority to increase the amount of Use Fees for Waterborne Containers and the amount of Container Charges (including the annual escalation permitted by the Operating Agreement, a “Temporary Increase” and referred to in this Official Statement as a “Surcharge”) if Shortfall Advances are paid after the Fee Increase Date. See “—Historical Cargo Throughput and Revenue Collections” below and the summary of the Operating Agreement in Appendix E. Shortfall Advances paid after the Fee Increase Date are referred to in the Operating Agreement as “Subsequent Shortfall Advances.” The Use Fees shown in Table 5 include the Surcharge the Authority began charging on December 1, 2011 following payment by the Ports of Shortfall Advances on October 1, 2011 and on October 1, 2012. As described below, the Surcharge is to remain in effect only until all then-outstanding Subsequent Shortfall Advances (plus accrued interest) are reimbursed. The amount of the Surcharge required by the Operating Agreement is $1.00 per TEU, escalated annually from the Fee Increase Date in accordance with the annual CPI adjustments. See paragraph “FOURTEENTH” under “SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Flow of Funds.”

**TABLE 5**

**SCHEDULE OF USE FEES**
(as of January 1, 2016)

| | |
|---|---|
| Waterborne Containers[1][2] | $23.26 per TEU (Loaded) |
| | 5.57 per TEU (Empty) |
| Non-Waterborne Containers[1] | 5.57 per TEU (Loaded or Empty) |
| Automobiles | 11.14 per Railcar |
| Coal | 11.14 per Railcar |
| White Bulk[3] | 11.14 per Railcar |
| Iron & Steel | 11.14 per Railcar |
| Liquid Bulk[4] | 11.14 per Railcar |
| Miscellaneous Carload | 11.14 per Railcar |

(1) The terms "Waterborne Containers" and "Non-Waterborne Containers" are defined below under "—Container Charges." "TEU" is the international measure for containerized cargo is the twenty-foot-long container or twenty-foot-equivalent unit.
(2) The Use Fee for Waterborne Containers includes the Surcharge described above.
(3) White Bulk generally consists of potash, borax, light colored ores and occasionally sulfur.
(4) Liquid Bulk includes, among other cargos, crude oil, gasoline and other miscellaneous chemicals.
*Source: The Authority.*

### Container Charges

The Operating Agreement requires each Railroad to pay to the Authority, in the manner specified in the Operating Agreement and at the same rate per TEU as set forth in the Operating Agreement for Use Fees for loaded Waterborne Containers, a charge (a "Container Charge") on each loaded Waterborne Container, that originates or terminates at the Ports and that is moved by rail into or out of Southern California by such Railroad, unless (i) such Waterborne Container has already been assessed the Use Fee required under the Operating Agreement (which Use Fee is required to be paid regardless of whether such container has traveled on the Rail Corridor) or (ii) a Waterborne Container has been shifted to transport by truck as a result of the complete blockage of the Rail Corridor for more than five consecutive days. There is to be no adjustment in Container Charges for a partial blockage of the Rail Corridor or a complete blockage of less than five days. The Container Charge, as of January 1, 2016, is $23.26 per loaded TEU (the equivalent of the Use Fee for loaded Waterborne Containers). The Operating Agreement provides that as with Use Fees, the Container Charge is to be increased, effective on January 1 of each year, based on changes in the CPI for the 12-month period ended the preceding October 31, but provides that in no event will such an increase be less than 1.5% or greater than 4.5% in any given calendar year.

As defined in the Operating Agreement, "Waterborne Containers" means containers that are loaded onto or discharged from a vessel or barge at the Ports. The Operating Agreement provides that the transportation movement of a container as a Waterborne Container terminates when the container's cargo is unloaded, unless the Waterborne Container is reloaded with the same cargo and/or with cargo from one or more other Waterborne Containers as a Governmental Transfer and not for a substantial commercial purpose. "Non-Waterborne Containers" means all containers that are not Waterborne Containers, regardless of whether the container holds cargo that has been Transloaded from a Waterborne Container. The Operating Agreement provides that the Transloading or other unloading of a Waterborne Container after it has been transported eastbound over the Rail Corridor will not affect the amount of the Use Fee that is due for such transportation over the Rail Corridor. "Transloading," as defined in the Operating Agreement, means practices by which cargo from a container is placed in or transferred to another container, including practices known as "transloading," "cross-docking" or "repackaging" that may involve value-added services on the cargo or combining the cargo with other cargo, except the transfer of cargo from one container to another or unloading and reloading of the same cargo as required by federal or state laws or regulations relating to homeland security or to customs or immigration.

The Operating Agreement also requires that, as with Use Fee Surcharges, if Shortfall Advances are made by the Ports after the Fee Increase Date, the Railroads will be obligated to pay a Surcharge on the Container Charge in an amount equal to $1.00 per TEU, escalated annually from the Fee Increase Date in accordance with the annual CPI adjustments, but only until all Shortfall Advances are repaid, with interest, to the Ports through the Annual Accounting provision in the Flow of Funds. See "FOURTEENTH" under "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Flow of Funds."

**The Use Fees and Container Charges to be paid by the Railroads are based upon the number of containers and railcars transported on the Rail Corridor, or containers that are trucked around the Rail Corridor that are loaded or unloaded at the Ports and transported by rail into or out of Southern California, and are not based upon the debt service payable on the Bonds, including the Series 2016 Bonds, or upon other financial obligations of the Authority. The Ports and the Railroads are obligated only to make certain payments required under the Operating Agreement and are not responsible for paying, and are not guaranteeing the payment of the principal or accreted value of or premium, if any, or interest on, the Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations."**

**Collection of Use Fees and Container Charges; Revenue Verification System**

The Operating Agreement provides that Use Fees and Container Charges are to be assessed by the Authority at their full rates until the Use Fees Termination Date. The Use Fees Termination Date is the earlier of (i) 60 years after the Commencement Date and (ii) the date that Net Project Costs and other amounts required to be paid by the Operating Agreement have been repaid in full (including repayment of the Bonds and any reimbursement obligations to Bond Insurers and the funding of the Reserve Account to the then current Reserve Account Target).

The Operating Agreement provides that, on or before the last day of each month, each Railroad is required to pay to the Authority its Use Fees and Container Charges for the preceding month, based upon the actual number of containers and railcars transported by or on behalf of such Railroad during the immediately preceding month for which the payment of a Use Fee or Container Charge would apply. The Authority has assigned its rights to receive Use Fees and Container Charges to the Trustee pursuant to the Indenture. Accordingly, the Railroads are to pay Use Fees and Container Charges directly to the Trustee for deposit in the Revenue Fund. The Operating Agreement provides that any payment not made when due bears interest at the Overdue Rate until paid (in addition to all of the Authority's other remedies for non-payment). See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—Defaults and Remedies" in Appendix E.

Pursuant to the Operating Agreement, the Authority implemented a revenue verification system to monitor the collection of Use Fees and Container Charges. This system, known as the "Alameda Corridor Revenue Assessment and Verification System" or "RAVS," is designed to calculate independently the Use Fees and Container Charges payable by the Railroads under the Operating Agreement. The RAVS compares the information provided by the data sources itemized below to the amounts actually paid each month by the Railroads to determine whether the proper amounts of Use Fees and Container Charges have been paid. The RAVS was developed by an independent contractor and is based upon five primary data sources, including (i) daily reports prepared by each Railroad describing each rail movement in Southern California during such day; (ii) daily reports prepared by each major terminal operator located at the Ports describing each container movement through the Ports during such day; (iii) minute-by-minute reports of railcars using the Rail Corridor as detected by Automatic Equipment Identification ("AEI") stations installed and maintained by the Authority; (iv) daily terminal gate movements as reported to PierPass (a not-for-profit company created by the marine terminal operators at the Ports) by each major terminal operator located at the Ports, describing each container movement through the Ports during such day; and (v) monthly reports prepared by each Railroad describing each rail movement in Southern California for which Use Fees and Container Charges are owed during such month.

Under the Operating Agreement, the Authority is required at the end of each calendar quarter to reconcile the amount of Use Fees and Container Charges actually paid by each Railroad for such quarter against amounts reported. The Operating Agreement provides that, to the extent the amount of a Railroad's payment for such quarter differs from the amount the Railroad actually should have paid for the quarter based upon the number of containers and railcars actually subject to such charges, such Railroad shall receive a credit for such difference during the next succeeding month(s), or shall pay the shortfall within 30 days after receiving a statement from the Authority, as the case may be.

**[Update]** Table 6 is derived from the Authority's audited financial statements and summarizes Use Fees and Container Charges received for fiscal years ended June 30, 2006 through June 30, 2015. The $3.5 million (3.2%) decrease in the fiscal year ended June 30, 2015 was due primarily to the productivity and labor contract and congestion and issues described below. See "—Recent and Budgeted Cargo Throughput and Revenue Collection—Containerized Cargo Throughput Calendar Years 2006-2015." **[**For the first _____________ months of fiscal years 2015 and 2016, the Authority collected $_______________ and $______________, respectively, of Use Fees and Container Charges.

**TABLE 6**

**USE FEES AND CONTAINER CHARGES**
(As of June 30)

| **Fiscal Year Ended June 30** | **Use Fees and Container Charges**(1) |
|---|---|
| 2006 | $ 80,540,063 |
| 2007 | 95,220,756 |
| 2008 | 94,048,421 |
| 2009 | 85,349,060 |
| 2010 | 80,478,532 |
| 2011 | 93,188,481 |
| 2012(2) | 97,283,963 |
| 2013(3) | 99,358,973 |
| 2014(3) | 108,998,890 |
| 2015(3)(4) | 105,518,770 |

(1) Effective December 1, 2006, includes the $0.90-per TEU increase in Use Fees and Customer Charges agreed to as part of the settlement with the Railroads.
(2) Includes seven months of Surcharges based upon the Subsequent Shortfall Advance payment required for October 1, 2011 debt service.
(3) Revenues include an annual fee increase of 3.0% on January 1, 2013 and an increase of 1.5% on January 1, 2014, on January 1, 2015 and on January 1, 2016.
(4) See "—Recent and Budgeted Cargo Throughput and Revenue Collections" and Table 6 below for a description of the congestion and labor contract issues that affected both Ports during the end of calendar year 2014 and the first six months of calendar year 2015.
*Sources: Extracted by the Authority from its audited financial statements for fiscal years 2006-2015.*

**Shortfall Advances**

The Ports have agreed in the Operating Agreement that in any year in which Use Fees and Container Charges are insufficient to pay debt service on the Bonds and certain other deposits and payments, including certain Financing Fees and deposits to any debt service reserve fund (collectively, the "Annual Amount"), the Ports are to advance to the Authority, from any legally available source, funds (the "Shortfall Advances" or "Subsequent Shortfall Advances") sufficient to pay the positive difference between the Annual Amount due with respect to such year and the amount of other funds available to be applied against the Annual Amount in such year (exclusive of all reserves and other funds specifically pledged for other purposes). The Operating Agreement provides, however, that in no event will the Shortfall Advances required to be made with respect to a calendar year exceed in the aggregate an amount equal to 40% of the total Annual Amount due in such calendar year (defined in the Indenture as the "Contingent Port Obligations"). The Operating Agreement provides that each of the Ports is separately responsible for one-half of the Shortfall Advances due in a year, with neither Port responsible for the contribution required of the other and provides that in no event is either Port individually required to pay in any calendar year an amount in excess of 20% of the Annual Amount due in such year. The obligations to pay Shortfall Advances are limited, subordinate obligations of the Ports and are payable solely from each Port's legally available revenues after all of such Port's other obligations are paid. See "THE PORT OF LOS ANGELES" in Appendix B, "THE PORT OF LONG BEACH" in Appendix C and "BONDHOLDERS' RISKS—Shortfall Advances Are Limited, Subordinate Obligations of the Ports."

The Ports' obligation to make Shortfall Advances continues even if the Railroads' obligation to pay Use Fees is abated as the result of complete blockage of the Rail Corridor for more than five consecutive days. The Operating Agreement requires that the proceeds of any business interruption insurance with respect to an abatement of Use Fees (and, if applicable, Container Charges) that are actually applied to the Annual Amount be taken into account in determining the amount of Shortfall Advances due. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—Shortfall Advances" in Appendix E.

The Operating Agreement requires the Authority to submit to each Port at least 90 days prior to the beginning of each Port's fiscal year the Authority's estimate of the amount of Shortfall Advances that will be required from each Port during such fiscal year. On [_______, 2016], the Authority delivered a Notice to the Ports indicating that Shortfall Advances in the approximate amount of $_______ would be required for the fiscal year ending June 30, 2017.

Each Port has covenanted in the Operating Agreement that it will include its share of the estimated Shortfall Advances in its budget for the fiscal year in which such shortfall may occur and/or that it will set aside existing surplus revenues or other lawfully available funds for the payment of its share of the estimated Shortfall Advance. Neither Port is required under the Operating Agreement to take Shortfall Advances into account when establishing its rates and charges or when incurring additional indebtedness or determining compliance with rate covenants under its existing resolutions or indentures. The Authority is required to notify each Port of the actual amount of a Shortfall Advance at least 45 days prior to the date on which a Shortfall Advance is needed, and each Port is required to pay its respective share of such Shortfall Advance on or before such date. The Operating Agreement provides that in the event a Port fails to pay its Shortfall Advance in the year such payment is due, the amount of such unpaid Shortfall Advance (the "Unpaid Shortfall") will continue to accrue and be payable by such Port.

The Ports were not required to pay Shortfall Advances until calendar year 2011, in part because the Authority was able to postpone some of its capital projects and to allocate unexpended Series 1999 Bond proceeds to the redemption of Outstanding current interest Bonds. Together, the Ports paid a total of $5.9 million of Shortfall Advances for debt service payments due on October 1, 2011 and a total of $5.9 million of

Shortfall Advances for debt service payments due on October 1, 2012. As a result of the payment of Shortfall Advances by the Ports, the Authority began imposing the Surcharges in December 2011.

No assurance can be given that the amount of any Shortfall Advance required to be made by the Ports will be sufficient to satisfy the financial needs of the Authority, including the payment of Bonds when due, or that either Port will have sufficient funds available to make any particular Shortfall Advance when due. As described below, for the Authority to pay scheduled debt service on its Outstanding Bonds, even with Shortfall Advances, some growth in cargo volumes that use the Rail Corridor and revenues will be required if the Authority is to pay all of the outstanding Bonds. The Operating Agreement provides that Shortfall Advances, plus interest, are to be reimbursed to the Ports from Use Fees and Container Charges to the extent available, after the payment of debt service on the Bonds, replenishment of the Debt Service Reserve Account for each Series of Bonds, the funding of the Reserve Account, the payment of Authority expenses and the Benefit Amount and payment of any unreimbursed Net Project Costs advanced by the Ports prior to substantial completion of the Rail Corridor. As described above, the Operating Agreement also permits the Authority to increase the amount of the Use Fees for loaded Waterborne Containers and the amount of Container Charges by a $1.00/TEU Surcharge (including the annual increase in the amount of the Surcharge permitted by the Operating Agreement) so long as Bonds (including any reimbursement obligations to Bond Insurers) are outstanding and until such Shortfall Advances, plus interest, are repaid. See Table 5 and "—Flow of Funds."

**Recent Cargo Throughput and Revenue Collections**

**Containerized Cargo Throughput Calendar Years 2006-2015.** Combined containerized cargo throughput at the Ports, and the Authority's share of Port throughput, peaked in calendar year 2006, when containerized cargo totaled approximately 15.76 million TEUs. Beginning in 2008, the global economic downturn resulted in significant decreases in global trade, including trade through the Ports. As shown in Table 6, from approximately 15.67 million TEUs in calendar year 2007, annual containerized cargo throughput at the Ports decreased approximately 8.5% in calendar year 2008 and another 17.6%, to 11.8 million TEUs, in calendar year 2009. Many terminal operators, ocean carriers and shippers took steps to mitigate costs and the impact of reduced revenues, and both Ports initiated incentive programs for their customers to mitigate some of the effects of the downturn, to maintain market share and to attract additional discretionary cargo.

Containerized cargo throughput increased approximately 19.3% at the Ports in calendar year 2010, decreased slightly in calendar year 2011 and increased slightly in calendar year 2012. Containerized cargo throughput in 2013 and 2014 increased by 3.4% and 3.8%, respectively, and in 2015 decreased by 2.2% to 8.16 million TEUs at POLA and increased by 5.4% to 7.19 million TEUs at POLB, still below the volumes reached in 2007. See "THE PORT OF LOS ANGELES" in Appendix B and "THE PORT OF LONG BEACH" in Appendix C.

Containerized cargo movements at both Ports slowed between September 2014 and **[**June**]** 2015 as a result of congestion issues at the Ports generally and also as a result of disruptions related to contract negotiations between the Pacific Maritime Association (the "Association") and the International Longshore and Warehouse Union (the "ILWU"). The Association represents most of the steamship lines, marine terminal operators, car-loading bureaus and cargo companies on the Pacific Coast, and the ILWU represents employees who contract with the Association. The current contract was entered into on May 21, 2015 and was ratified by the ILWU membership on May 22, 2015, retroactive to July 1, 2014. The previous contract expired on June 30, 2014, and although the Association and the ILWU began negotiating a new contract in May 2014, they did not reach an agreement until February 2015. The protracted negotiations and resulting disruptions had a compounding effect on congestion issues that had slowed container cargo movement through the Ports generally since September 2014, and container volumes and revenues at both Ports were temporarily impacted. Containerized cargo movements increased as the congestion cleared during the second half of calendar year 2015, and full-year volumes were 15.35 million TEUs, compared to 15.16 million TEUs in calendar year 2014. See “_________.”

Table 7 shows (in TEUs) historical full and empty containers that moved through the Ports and full and empty containers for which the Authority received revenues for calendar years 2006 through 2015. In general, the Authority’s share of the containerized cargo that passes through the Ports is intermodal cargo from or destined to areas outside Southern California without transloading, and Authority Revenue from such throughput includes Use Fees on cargo transferred directly by or from railcars and cargo trucked to or from near-dock rail and Container Charges on cargo trucked to or from off-dock rail. As described below, the volumes of containerized cargo handled at the Ports (and the Authority’s Revenues from its share of the Ports’ cargo throughput) vary from year to year and depend upon a variety of local, regional, national and international economic, demographic, political and competitive factors. See “BONDHOLDERS’ RISKS—Recent and Forecast Cargo Throughput and Revenue Collections” below, “THE PORT OF LOS ANGELES” in Appendix B and “THE PORT OF LONG BEACH” in Appendix C.

## TABLE 7

### PORTS OF LONG BEACH AND LOS ANGELES AND AUTHORITY CONTAINER THROUGHPUT CALENDAR YEARS 2006-2015

(TEUs)

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012[1] | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Ports**[3] | | | | | | | | | | |
| **Inbound**[4] | | 8,114,763 | 7,327,953 | 6,059,282 | 7,102,794 | 7,091,732 | 7,154,911 | 7,432,017 | 7,787,274 | 7,784,725 |
| **Outbound**[4] | | 3,181,884 | 3,469,553 | 3,020,965 | 3,403,673 | 3,616,086 | 3,583,264 | 3,625,999 | 3,536,409 | 3,182,237 |
| **Empties** | | 4,370,857 | 3,540,295 | 2,736,345 | 3,588,936 | 3,293,784 | 3,385,201 | 3,541,139 | 3,837,191 | 4,385,562 |
| **Total TEUs** | | 15,667,504 | 14,337,801 | 11,816,592 | 14,095,402 | 14,001,602 | 14,123,376 | 14,599,155 | 15,160,874 | 15,352,524 |
| **% Change From Prior Year** | | -- | -8.5% | -17.6% | 19.3% | -0.7% | 0.9% | 3.4% | 3.8% | 1.3% |
| **Authority**[3] | | | | | | | | | | |
| **Inbound**[4] | | 3,406,714 | 3,087,796 | 2,338,783 | 2,655,783 | 2,766,551 | 2,643,636 | 2,769,596 | 2,959,071 | 2,874,305 |
| **Outbound**[4] | | 1,833,979 | 1,766,917 | 1,587,680 | 1,763,450 | 1,857,205 | 1,704,824 | 1,720,652 | 1,636,401 | 1,472,416 |
| **Empties** | | 714,576 | 524,442 | 285,857 | 375,302 | 363,636 | 333,105 | 342,344 | 505,239 | 702,032 |
| **Total TEUs** | | 5,955,269 | 5,379,155 | 4,212,320 | 4,794,535 | 4,987,392 | 4,681,565 | 4,832,592 | 5,100,711 | 5,048,753 |
| **% Change From Prior Year** | | -- | -9.7% | -21.7% | 13.8% | 4.0% | -6.1% | 3.2% | 5.6% | -1.0% |
| **Authority's % of Ports' Throughput** | | 38% | 37.5% | 35.7% | 34.0% | 35.6% | 33.2% | 33.1% | 33.6% | 32.9% |

[1] Restated.
[2] Estimated.
[3] Includes domestic (the Authority's Non-Waterborne component).
[4] Fully loaded.
*Sources: For Port cargo information, the Ports; and for Authority TEUs, the Authority.*

## Historical Cargo Throughput and Revenue Collections

Table 8 summarizes for calendar years 2007 through 2016 the Authority's Use Fees and Container Charges.

**TABLE 8**

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**
**CONTAINER CHARGES AND USE FEES**
(Effective January 1, 2006-2016)[(1)]

| Year | Loaded Waterborne/TEU | Empty TEU or Loaded Non-Waterborne/TEU | Miscellaneous Full Railcar | CPI Increase[(2)] |
|---|---|---|---|---|
| 2007 | $18.04[(3)] | $4.57 | $9.13 | 2.20% |
| 2008 | 18.67[(3)] | 4.73 | 9.45 | 3.50 |
| 2009 | 19.31[(3)] | 4.89 | 9.77 | 3.43 |
| 2010 | 19.60[(3)] | 4.96 | 9.92 | 1.50 |
| 2011 | 19.89[(3)(4)] | 5.03 | 10.07 | 1.50 |
| 2012 | 21.60[(3)(5)] | 5.17 | 10.35 | 2.80 |
| 2013 | 22.25[(3)(6)] | 5.33 | 10.66 | 3.00 |
| 2014 | 22.58[(3)(6)] | 5.41 | 10.82 | 1.50 |
| 2015 | 22.92[(3)(6)] | 5.49 | 10.98 | 1.50 |
| 2016 | 23.26[(3)(6)] | 5.57 | 11.14 | 1.50 |

(1) Except that the $0.90/Loaded Waterborne TEU increase agreed to in the settlement and the amendments to the Operating Agreement became effective December 1, 2006 and the Surcharge of $1.12/TEU ($1.00, escalated from 2006 by the annual CPI escalator) effective on December 1, 2011 following the Shortfall Advance payment required for the October 1, 2011 debt service payment.

(2) CPI increases are calculated from October 31 to October 31 of the prior calendar year. Under the Operating Agreement, the minimum increase is 1.5%, even if (as in 2009 and 2010) the actual CPI increase was lower than 1.5%.

(3) Includes a one-time, permanent fee increase of $0.90/Loaded Waterborne TEU effective December 1, 2006 pursuant to the Transload settlement. That increase, together with the CPI increase, resulted in an increase of $1.29/Loaded Waterborne TEU in 2007.

(4) Excludes the Surcharge of $1.12/TEU ($1.00, escalated from 2006 by the annual CPI escalator) effective on December 1, 2011 following the Shortfall Advance payment required for the October 1, 2011 debt service payment.

(5) The addition of the Surcharge, plus the CPI increase resulted in a total increase of $1.71/Loaded Waterborne TEU in 2012.

(6) Includes the Surcharge.

*Source: The Authority.*

***[Revise for calendar to be consistent with Table 6].*** Table 9 summarizes revenue collected by the Authority during fiscal years ended June 30, 2006 through 2015. As shown in the table, between 92.79% and 96.58% of the Authority's Container Charge and Use Fee revenues has been derived from full Waterborne containers**.**

### TABLE 9

### ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY
### CONTAINER CHARGE AND USE FEE REVENUE IN FISCAL YEARS 2007-2015[(1)]

(Fiscal Years ended June 30)

***[Revise for calendar years 2006-2015 to be consistent with Table 6].***

| Component | 2007[(2)] | | 2008[(2)] | | 2009[(2)] | | 2010[(2)] | |
|---|---|---|---|---|---|---|---|---|
| | Revenue | % of Total Revenue | Revenue | % of Total Revenue | Revenue | % of Total Revenue | Revenue | % of Total Revenue |
| **Waterborne Full** | $89,831,585 | 94.34% | $89,912,972 | 95.60% | $81,572,924 | 95.58% | $77,722,350 | 96.58% |
| **Waterborne Empty** | 3,824,422 | 4.02 | 2,181,043 | 2.32 | 2,087,658 | 2.45 | 1,202,976 | 1.49 |
| **Non-Waterborne** | 879,106 | 0.92 | 1,108,015 | 1.18 | 987,457 | 1.16 | 803,053 | 1.00 |
| **Misc. Full Railcars** | 685,643 | 0.72 | 846,390 | 0.90 | 701,201 | 0.82 | 750,153 | 0.93 |
| **Totals** | $95,220,756 | 100.00% | $94,048,421 | 100.00% | $85,349,240 | 100.00% | $80,478,532 | 100.00% |

| Component | 2011[(2)] | | 2012[(2)] | | 2013[(2)(3)(4)] | | 2014[(2)(3)(4)] | | 2015[(2)(3)(4)] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Revenue | % of Total Revenue | Revenue | % of Total Revenue | Revenue | % of Total Revenue | Revenue | % of Total Revenue | Revenue | % of Total Revenue |
| **Waterborne Full** | $89,637,086 | 96.19% | $93,771,838 | 96.39% | $95,818,966 | 96.44% | $104,859,129 | 96.20% | $100,128,456 | 94.89% |
| **Waterborne Empty** | 1,966,438 | 2.11 | 1,776,213 | 1.83 | 1,823,295 | 1.84 | 2,149,683 | 1.97 | 3,475,207 | 3.29 |
| **Non-Waterborne** | 689,258 | 0.74 | 740,226 | 0.76 | 672,416 | 0.68 | 685,034 | 0.63 | 730,053 | 0.69 |
| **Misc. Full Railcars** | 895,700 | 0.96 | 995,686 | 1.02 | 1,044,296 | 1.05 | 1,305,044 | 1.20 | 1,185,054 | 1.12 |
| **Totals** | $93,188,481 | 100.00% | $97,283,963 | 100.00% | $99,358,973 | 100.00% | $108,998,890 | 100.00% | $105,518,770 | 100.00% |

(1) Totals may not add due to rounding.

**(2)** Includes a one-time, permanent fee increase of $0.90/Loaded Waterborne TEU effective December 1, 2006 pursuant to the Transload settlement. That increase, together with the CPI increase, resulted in an increase of $1.29/Loaded Waterborne TEU in 2007. See "—Collection of Use Fees and Container Charges; Revenue Verification System."

**(3)** Includes the Surcharge of $1.12/Loaded Waterborne TEU ($1.00, escalated from 2006 by the annual CPI escalator) effective on December 1, 2011 following the Shortfall Advance payment required for the October 1, 2011 debt service payment. See "—Use Fees" and "—Container Charges" and Table 5.

(4) The addition of the Surcharge, plus the CPI increase resulted in a total increase of $1.71/loaded Waterborne TEU in 2012.

*Source: Cargo information compiled by the Authority from information provided by the Ports.*

### Historical Revenues and Expenses

Table 10 is derived from the Authority's audited financial statements for fiscal years ended June 30, 2010 through 2015. ***[Suggest adding stub financial information]***

**TABLE 10**
**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**
**STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS**
(Fiscal Years ended June 30)

| | 2010 | 2011 | 2012[1] | 2013[2] | 2014[2] | 2015 |
|---|---|---|---|---|---|---|
| Operating revenues: | | | | | | |
| Use fees and container charges | $ 80,478,532 | $ 93,188,481 | $ 97,283,963 | $ 99,358,973 | $ 108,998,890 | $ 105,518,770 |
| Maintenance-of-way charges[3] | 3,872,443 | 3,996,449 | 4,408,285 | 4,557,706 | 4,788,030 | 4,856,519 |
| Total operating revenues | 84,350,975 | 97,184,930 | 101,692,248 | 103,916,679 | 113,786,920 | 110,375,289 |
| Operating expenses: | | | | | | |
| Salaries and benefits | 2,204,805 | 1,839,141 | 2,116,405 | 2,154,998 | 1,708,783 | 1,860,394 |
| Administrative expenses | 4,032,709 | 2,215,700 | 1,829,151 | 1,821,842 | 1,524,456 | 1,521,284 |
| Professional services | 1,992,392 | 4,939,826 | 2,962,133 | 736,069 | 949,450 | 744,920 |
| Maintenance-of-way | 4,942,305 | 5,489,127 | 5,984,781 | 6,204,519 | 6,039,975 | 6,738,543 |
| Depreciation | 21,610,672 | 21,701,750 | 21,754,246 | 21,304,024 | 21,308,675 | 21,244,199 |
| Total operating expenses | 34,782,883 | 36,185,544 | 34,646,717 | 32,221,452 | 31,531,339 | 32,109,340 |
| Operating income | 49,568,092 | 60,999,386 | 67,045,531 | 71,695,227 | 82,255,581 | 78,265,949 |
| Nonoperating revenues: | | | | | | |
| Interest and investment revenue, net | 6,603,308 | 5,070,228 | 4,156,696 | 3,111,174 | 2,230,983 | 2,413,719 |
| Grants[4] | 4,906,975 | 6,203,554 | 2,806,482 | 4,168,478 | 8,158,398 | 3,479,593 |
| Miscellaneous revenue | 525,235 | 2,673,181 | 980,469 | 499,967 | 188,533 | 193,220 |
| Total nonoperating revenues | 12,035,518 | 13,946,963 | 7,943,647 | 7,779,619 | 10,577,914 | 6,086,532 |
| Nonoperating expenses: | | | | | | |
| Interest expense | 116,596,579 | 118,156,735 | 118,538,433 | 109,435,367 | 116,183,634 | 111,683,412 |
| Loss on sale and transfers of capital assets held for sale and transfer | - | - | - | - | 13,011,363 | 26,328,348 |
| Expenses for public benefit | - | - | - | 5,216,480 | 3,460,496 | 4,195,569 |
| Bond issuance costs | 3,289,457 | 3,230,361 | - | 4,372,302 | - | - |
| Total nonoperating expenses | 119,886,036 | 121,387,096 | 118,538,433 | 119,024,149 | 132,655,493 | 142,207,329 |
| Change in net position[5] | (58,282,426) | (46,440,747) | (43,549,255) | (39,549,303) | (39,821,998) | (57,854,848) |
| Net position, beginning of the year, as restated | 182,136,459 | 123,854,033 | 24,959,164 | (18,590,091) | (93,327,062) | (133,149,060) |
| Cumulative effect of change in accounting principle | | | | (35,187,668)[6] | | (1,688,512)[7] |
| Net position, beginning of the year, as restated | 182,136,459 | 123,854,033 | 24,959,164 | (53,777,759) | (93,327,062) | (134,837,572) |
| Net position, - end of year[5] | $ 123,854,033 | $ 77,413,286 | $ (18,590,091) | $ (93,327,062) | $ (133,149,060) | $(192,692,420) |

(1) As restated as of June 30, 2014.
(1) As restated as of June 30, 2015. In 2015, certain expenditures recorded in prior years as capital assets were determined to be more appropriately expenses, and certain lands and rights-of-way classified within capital assets were reclassified as assets held for sale and transfer. See Note 12 in Appendix A.
(3) M & O charges are payable by the Railroads as provided by the Operating Agreement and are not pledged to or available for payment of Bonds. See "THE RAIL CORRIDOR AND RELATED PROJECTS—Maintenance and Operation of the Rail Corridor."
(4) Represents proceeds from federal or state grants awarded to reimburse the Authority, the Ports or the California Department of Transportation for costs of Related Improvements.
(5) Decreases in total net assets are primarily because operating income (which takes depreciation into account) is less than interest expense. See Appendix A.
(6) In 2013, the Authority implemented new accounting standards pursuant to Governmental Accounting Standards Board Statement No. 63.
(7) In 2015, the Authority implemented new accounting standards pursuant to Governmental Accounting Standards Board Statement No. 68. See Appendix A.
*Source: The Authority.*

**Forecast Port and Authority Cargo Throughput and Authority Revenues**

In general, the Authority's share of the containerized cargo that passes through the Ports is intermodal cargo from or destined to areas outside Southern California without transloading, and Authority Revenue from such throughput includes Use Fees on cargo transferred directly by or from railcars and cargo trucked to or from near-dock rail and Container Charges on cargo trucked to or from off-dock rail. As described below, the volumes of containerized cargo handled at the Ports (and the Authority's Revenues from its share of the Ports' cargo throughput) vary from year to year and depend upon a variety of local, regional, national and international economic, demographic, political and competitive factors.

**Report of the Ports' Independent Cargo Consultant**

The Report of the Ports' Independent Cargo Consultant was commissioned by the Ports not to forecast use of the Corridor or Authority revenues but to assist the Ports in developing their own long-term forecasts of containerized and non-containerized cargo throughput through the San Pedro Bay Ports. Among other things, the Report identifies key macroeconomic drivers and cost considerations that impact competitiveness and cargo throughput decisions. The Report also and includes forecasts of long-term U.S. and Canada trade levels and competitiveness for containerized cargo and for non-containerized cargo, including dry- and liquid-bulk cargo, break-bulk cargo and vehicles and other roll-on/roll-off cargo.

In the Report, the Consultant identified two primary categories of imported international cargo that passes through the Ports: local cargo and IPI cargo. Local cargo consists of cargo that stays in the Southern California area, including cargo that moves or is transloaded to move by truck as far east as Colorado and New Mexico, and cargo that is transloaded and moves inland by rail, mostly to points beyond the Rocky Mountains. Local cargo, including transloaded cargo, represented approximately 62% of loaded imports for 2014. According to the Consultant, such local cargo is less likely to be diverted to other ports.

IPI cargo, or "Inland Point Intermodal" cargo, consists of the Ports' containerized cargo that is moved directly from or to an interior destination by rail (but does not include cargo that is transloaded and transported by rail to inland destinations) and, according to the Consultant, represented approximately 38% of loaded international containerized cargo imports that moved through the Ports in 2014. IPI volumes generally are the container volumes that use the Rail Corridor or are trucked around the Rail Corridor but still eligible for an Authority fee, both of which generate the Authority's revenues.

In the Report, the Consultant concluded that imported containers that move directly by rail to reach their final destinations (IPI) are highly divertible because there are a number of gateway ports along the Pacific coast that are positioned to handle these volumes and because the increased availability of services between Asia and East/Gulf Coast ports enables all-water routings to be viable alternatives for the lower-value, less time-sensitive commodities moving to inland destinations east of the Mississippi River valley. The Consultant concludes that consequently, IPI volume is the segment that is most vulnerable to the risk of share loss for the Ports. To evaluate how the Ports' competitive position for its existing IPI volumes could evolve over the next 25 years, the Consultant performed analyses that identified and assessed the following factors/trends with potential impact on the Ports' positions.

In the Report, the Ports' Independent the Consultant identified and analyzed the impacts of the following key competitive factors:

- the completion of the expansion of the Panama Canal, which will allow larger vessels to be deployed on all-water services between Northeast Asia and the Atlantic/Gulf Coast ports, enabling ocean carriers to substantially lower costs (but not time) on this route;

- slower growth in vessel capacities to the Ports if the growth of import volumes to the Southern California ports, including the Ports, slows, which could lower the slot cost advantage that transpacific deployments and the Ports have currently over all-water services and the East Coast ports;

- increases in terminal handling costs at the Ports faster than at other competing ports, which could result in higher terminal service charges to carriers and reduce the Ports' attractiveness; and

- increased terminal capacity at ports in British Columbia, particularly at Prince Rupert Sound, which would allow these ports to handle additional services and greater numbers of IPI movements to destinations within the United States.

In the Report, the Ports' Independent Consultant concludes that the three competitive factors that are expected to affect IPI volumes at the Ports are the expansion of the Panama Canal, slow growth in vessel sizes calling at the Ports and differential growth rates of terminal costs.

In considering its restructuring plan, including methods for minimizing the number and amounts of Shortfall Advances, the Authority has focused primarily on two of the nine scenarios included in the Report, identified in the Report as the [Expected Base Case] and the [Low Downside Case][, adjusted as described below under "____________."]

In the Expected Base Case scenario, the Consultant used the following underlying assumptions:

[TO COME]

In the Low Downside Case scenario, the Consultant used the following underlying assumptions:

[TO COME]

[TO BE REVISED] In the Report, the Ports' Independent Consultant identifies the diversion of containerized cargo as the primary competitive risk for the Ports. In the Ports' Independent Consultant's view, IPI is most vulnerable to diversion to other ports, because of expansions in facilities (particularly at Prince Rupert Sound in British Columbia) and because of expanded Panama Canal facilities and improved facilities along the East Coast and Gulf Coast. The Consultant also noted the likelihood of some diversion to the Pacific Northwest ports where costs may be lower and/or to the Port of Oakland, where export volumes are significantly greater.

For descriptions of the various scenarios, including a more complete description of the Expected Base Case and the Low Downside Case, and the related underlying assumptions and identified competitive factors, see the Report of the Ports' Independent Cargo Consultant in Appendix [_].

**Forecast Port Cargo Throughput and Authority Share**

[TO COME]

**Forecast Authority Revenues and Debt Service Coverage**

**[TO BE UPDATED]** The Authority has prepared an estimate of future debt service coverage from Total Dedicated Revenues (Use Fees and Container Charges and Contingent Obligations combined), for fiscal years ending [June 30, 2016 through 2039], assuming that **[new assumptions to be substituted:** (i) revenue from Use Fees and Container Charges after fiscal year [2016] increases only as a result of the minimum permitted CPI inflation factor of 1.5% (and not as a result of growth in cargo); (ii) Debt Service Reserve

Account releases are made and transferred to pay debt service as Bonds mature; and (iii) after the issuance of the Series 2016 Bonds, no other refunding Bonds are issued and no other tender/purchase programs are completed.**]** Using those assumptions, scheduled debt service coverage on the First Subordinate Lien Bonds, including the Series 2016A Bonds, would range from a low of approximately ___ times to a high of approximately ___ times, and scheduled debt service coverage on the Second Subordinate Lien Bonds (the Series 2016B Bonds) would range from a low of approximately __ times to a high of approximately __ times. Using the assumptions described above, scheduled debt service coverage of the Senior Lien Bonds would range from a low of approximately ___ times to a high of approximately ___ times.

Table [11] below sets certain forecast information, including ________________, based on the Expected Base Case forecast and Low Downside Case [as adjusted.]]

**TABLE [11]**
**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**
**FORECASTED DEBT SERVICE COVERAGE TABLE**

**[Assumptions and footnotes to come; discuss adding historical and placement]**

| Fiscal Year Ending | Use Fees and Container Charges | Contingent Port Obligations | Total Dedicated Revenues | Senior Lien Bonds Debt Services | Debt Service Coverage for Senior Lien Bonds | First Subordinate Lien Bond Debt Service | Debt Service Coverage for Senior Lien Bonds and First Subordinate Lien Bonds | Second Subordinate Lien Bond Debt Service | Debt Service Coverage for All Bonds | Total Debt Service | Financing Fees | Projected Shortfall Advances | Operating Expenses | Deposit to Reserve Account | Other Port Advances |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2016 | | | | | | | | | | | | | | | |
| 2017 | | | | | | | | | | | | | | | |
| 2018 | | | | | | | | | | | | | | | |
| 2019 | | | | | | | | | | | | | | | |
| 2020 | | | | | | | | | | | | | | | |
| 2021 | | | | | | | | | | | | | | | |
| 2022 | | | | | | | | | | | | | | | |
| 2023 | | | | | | | | | | | | | | | |
| 2024 | | | | | | | | | | | | | | | |
| 2025 | | | | | | | | | | | | | | | |
| 2026 | | | | | | | | | | | | | | | |
| 2027 | | | | | | | | | | | | | | | |
| 2028 | | | | | | | | | | | | | | | |
| 2029 | | | | | | | | | | | | | | | |
| 2030 | | | | | | | | | | | | | | | |
| 2031 | | | | | | | | | | | | | | | |
| 2032 | | | | | | | | | | | | | | | |
| 2033 | | | | | | | | | | | | | | | |
| 2034 | | | | | | | | | | | | | | | |
| 2035 | | | | | | | | | | | | | | | |
| 2036 | | | | | | | | | | | | | | | |
| 2037 | | | | | | | | | | | | | | | |
| 2038 | | | | | | | | | | | | | | | |
| 2039 | | | | | | | | | | | | | | | |
| 2040 | | | | | | | | | | | | | | | |
| 2041 | | | | | | | | | | | | | | | |
| 2042 | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | |

**Historical Debt Service Coverage**

Table 12 shows for Fiscal Years ended June 30, 2006 through 2015 debt service coverage calculated using Use Fee and Container Charges, plus in Fiscal Years 2012 and 2013, the Shortfall Advances paid in October 2011 and 2012, and Debt Service for Fiscal Years 2006 through 2015. As noted in the notes to Table 12, the amounts shown as available for debt service and the debt service coverage calculations do not take into account amounts (a total of approximately $69.0 million) transferred from investment earnings from post-maturity Debt Service Reserve Account releases and/or from unexpended Series 1999 Bond proceeds in September 2006 and 2008 through 2012. The calculations shown in Table 12 are not required by the Indenture and are shown for information only.

**TABLE 12**

**HISTORICAL REVENUE DEBT SERVICE COVERAGE**
**AUTHORITY FISCAL YEARS 2006-2015**

| Fiscal Year Ending June 30 | Use Fees and Container Charges(1) | Shortfall Advances | Amounts Available for Debt Service(2) | Senior Lien Bonds Debt Service(3) | Debt Service Coverage for Senior Lien Bonds(2) | First Subordinate Lien Bonds Debt Service(4) | Debt Service Coverage for Senior Lien Bonds and First Subordinate Lien Bonds(2)(4) | Additional Funds Used for Debt Service(2) |
|---|---|---|---|---|---|---|---|---|
| 2006 | $80,540,063 | - | $80,540,063 | $50,268,771 | 1.60x | $23,281,072 | 1.10x | $13,112,196 |
| 2007 | 95,220,756 | - | 95,220,756 | 50,989,071 | 1.87x | 28,047,735 | 1.20x | - |
| 2008 | 94,048,421 | - | 94,048,421 | 58,011,471 | 1.62x | 22,395,191 | 1.17x | 2,000,000 |
| 2009 | 85,349,060 | - | 85,349,060 | 58,287,840 | 1.46x | 26,908,538 | 1.00x | 2,150,000 |
| 2010 | 80,478,532 | - | 80,478,532 | 58,577,279 | 1.37x | 30,846,733 | 0.90x | 11,150,000 |
| 2011 | 93,188,481 | - | 93,188,481 | 58,848,536 | 1.58x | 35,813,315 | 0.98x | 1,200,000 |
| 2012(5) | 97,283,963 | $5,900,000 | 103,183,963 | 58,524,916 | 1.66x | 42,659,825 | 0.96x | 5,465,000 |
| 2013 | 99,358,973 | 5,900,000 | 99,358,973 | 43,865,232 | 2.27x | 68,294,588 | 0.89x | 15,000,000 |
| 2014 | 108,998,890 | - | 108,998,890 | 42,106,771 | 2.58x | 57,543,575 | 1.09x | 18,963,799 |
| 2015 | 105,518,770 | - | 105,518,770 | 69,523,600 | 1.52x | 45,135,046 | 0.92x | - |

(1) Derived from the Authority's audited financial statements.
(2) Does not include investment income and transfers of unexpended Series 1999 Bond proceeds and other funds applied to October 1 debt service payments.
(3) Includes debt service on the Series 1999 Senior Lien Bonds.
(4) Includes debt service on the 1999 Subordinate Lien Bonds and Series 2004 First Subordinate Lien Bonds.
(5) The amount of Debt Service shown for Fiscal Year 2012 does not include debt service on the Series 2012 Senior Lien Bonds (issued on June 21, 2012). On July 24, 2012, $83.71 million of Series 1999A Bonds were redeemed with proceeds of the Series 2012 Senior Lien Bonds and on October 1, 2011, $24.295 million of Series 1999A Bonds were redeemed with unexpended proceeds of the Series 1999A Bond Construction Fund.
*Source: The Authority.*

Table 13 shows for Fiscal Years ended June 30, 2006 through 2015 debt service coverage calculated as provided in the Indenture. Table 13 illustrates debt service coverage using Use Fees and Container Charges, plus Contingent Port Obligations (referred to in Table 12 as "Total Dedicated Revenues"). Contingent Port Obligations equals 40% of the Annual Amount (annual debt service, Required Debt Service Reserve Account deposits, if any, and Financing Fees such as trustee and rating agency costs and RAV verification and monitoring fees). Unlike Table 11, Table 13 does not include amounts transferred from investment earnings, Debt Service Reserve Account releases or unexpended Series 1999 Bond proceeds.

**TABLE 13**

**HISTORICAL DEBT SERVICE COVERAGE**
**FISCAL YEARS 2006-2015**

| Fiscal Year Ending June 30 | Use Fees and Container Charges | Contingent Port Obligations[1] | Total Dedicated Revenues[2] | Senior Lien Bonds Debt Service | Debt Service Coverage for Senior Lien Bonds[2] | First Subordinate Lien Bonds Debt Service[3] | Debt Service Coverage for Senior Lien Bonds and First Subordinate Lien Bonds[2] |
|---|---|---|---|---|---|---|---|
| 2006 | $80,540,063 | $29,419,937 | $109,960,000 | $50,268,771 | 2.19x | $23,281,072 | 1.50x |
| 2007 | 95,220,756 | 31,614,722 | 126,835,478 | 50,989,071 | 2.49x | 28,047,735 | 1.60x |
| 2008 | 94,048,421 | 32,162,665 | 126,211,086 | 58,011,471 | 2.18x | 22,395,191 | 1.57x |
| 2009 | 85,349,060 | 34,078,551 | 119,427,611 | 58,287,840 | 2.05x | 26,908,538 | 1.40x |
| 2010 | 80,478,532 | 35,769,605 | 116,248,137 | 58,577,279 | 1.98x | 30,846,733 | 1.30x |
| 2011 | 93,188,481 | 37,864,741 | 131,053,222 | 58,848,536 | 2.23x | 35,813,315 | 1.38x |
| 2012[4] | 97,283,963 | 40,473,896 | 137,757,859 | 58,524,916 | 2.35x | 42,659,825 | 1.36x |
| 2013 | 99,358,973 | 44,863,928 | 144,222,901 | 43,865,232 | 3.29x | 68,294,588 | 1.29x |
| 2014 | 108,998,890 | 39,860,138 | 148,859,028 | 42,106,771 | 3.53x | 57,543,575 | 1.49x |
| 2015 | 105,518,770 | 45,863,458 | 151,382,228 | 69,523,600 | 2.18x | 45,135,046 | 1.32x |

(1) Contingent Port Obligations equals 40% of the Annual Amount, which includes but is not limited to, debt service on the Bonds and Financing Fees Relating to First Subordinate Lien Bonds. Contingent Port Obligations is the maximum amount the Ports may be obligated to pay to the Authority pursuant to the Operating Agreement.

(2) Total Dedicated Revenues equals Use Fees and Container Charges plus Contingent Port Obligations but not investment income, transfers of unexpended Series 1999 Bond proceeds or Debt Service Reserve Account releases.

(3) Includes debt service on the Series 1999B and D, and 2004 Subordinate Lien Bonds.

(4) The amount of Debt Service shown for Fiscal Year 2012 does not include debt service on the Series 2012 Senior Lien Bonds (issued on June 21, 2012). On July 24, 2012, $83.71 million of Series 1999A Bonds were redeemed with proceeds of the Series 2012 Senior Lien Bonds. On October 1, 2011, $24.295 million of Series 1999A Bonds were redeemed with unexpended proceeds of the Series 1999A Bond Construction Fund.

*Source: The Authority.*

## THE RAIL CORRIDOR AND RELATED PROJECTS

The Indenture defines the "Project" as the Rail Corridor and certain related improvements and permits the Authority to undertake from time to time additional extensions, enhancements, related improvements and replacements of the Project approved by the Authority, the Ports and the Railroads. The Rail Corridor became operational on April 15, 2002, and in May 2002 the Authority, the Ports and the Railroads authorized the expansion of the Project to include the development and construction of a number of additional, related improvements. As described below, some of these improvements have been completed or are underway; others have been postponed indefinitely or have been deleted from the scope of the Project.

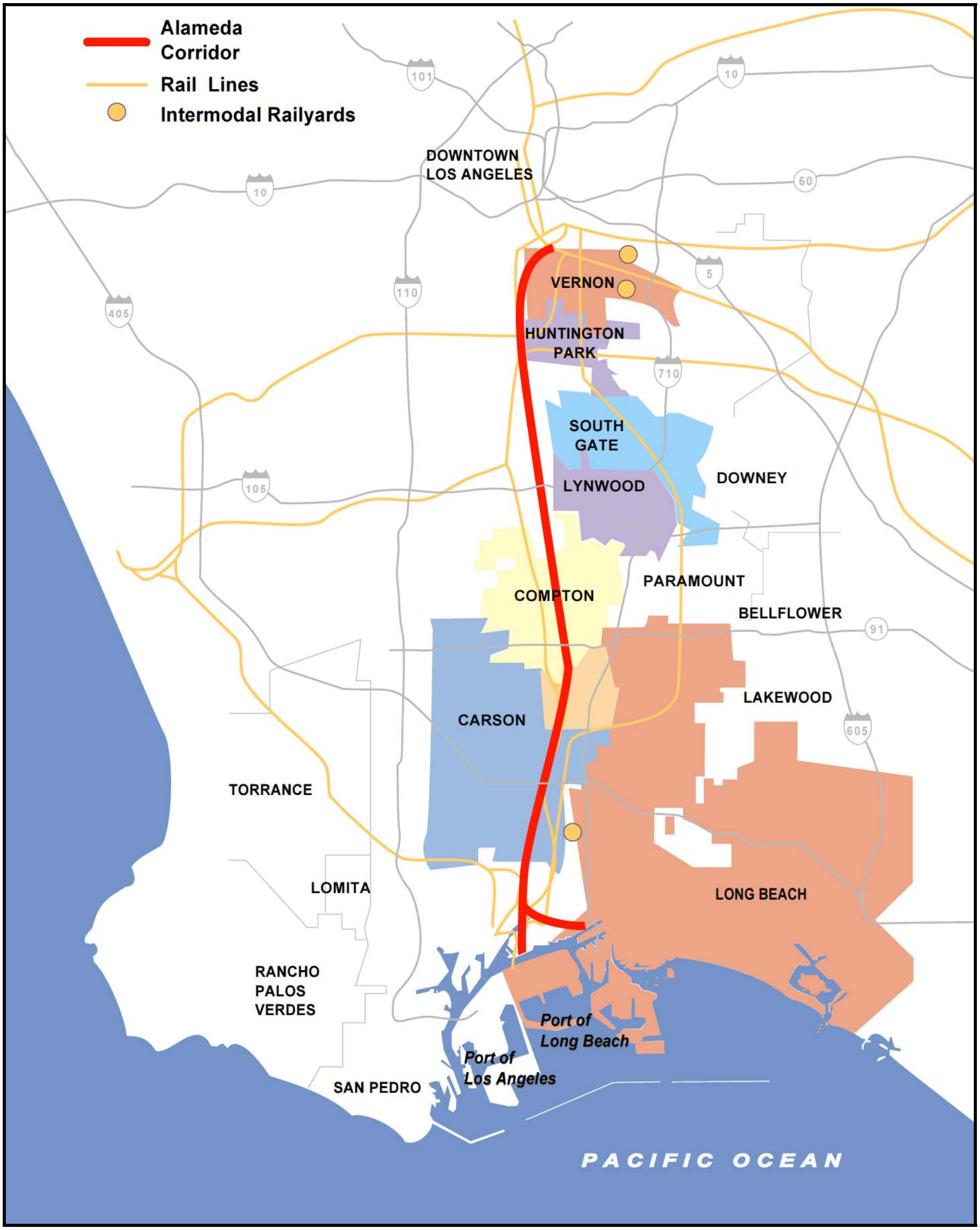
**The Rail Corridor**

The Rail Corridor consists of a 20-mile long, multiple-track rail system that links the rail tracks at the Ports with the transcontinental rail routes near downtown Los Angeles, California and certain structures, roadways and other improvements. The Rail Corridor consolidated the freight rail traffic from 90 miles of pre-existing rail lines onto an integrated system separated from non-rail traffic.

The Rail Corridor consists of three segments. The North End Segment connects the Rail Corridor to the central rail yards near downtown Los Angeles. The North End Segment includes connections to pre-existing Railroad main rail lines near their respective downtown rail yards, grade separations of passenger rail lines that cross the Rail Corridor and roadway bridge structures. The North End Segment also includes the Los Angeles River Bridge.

The South End Segment connects the Rail Corridor to the Ports and extends from State Route 91 (the Artesia Freeway) in the City of Compton to the connections to the Ports. The South End Segment of the Rail Corridor was constructed at grade, with the roadways crossing on bridge structures. The South End Segment also includes a connection to the pre-existing Intermodal Container Transfer Facility (the "ICTF") just south of Interstate 405 and connections to the Ports at three locations: Terminal Island, POLB's facilities and POLA's West Basin area.

The Mid-Corridor Segment, the largest segment of the Rail Corridor extends approximately ten miles from Santa Fe Avenue in Los Angeles, south to State Route 91 (the Artesia Freeway) in the City of Compton. Originally, the Mid-Corridor segment was a double-track segment built in a trench, approximately 30 feet deep and 50 feet wide, parallel to Alameda Street. In December 2002, the Railroads completed construction of a third track in the trench, to be used and operated as part of the Mid-Corridor Segment. See "—The Use Permit and the Operating Agreement—Reserve Account." The trench was designed to allow freight trains to travel at a level completely separated from roadway traffic. In addition, 29 pre-existing cross streets pass over the trench on highway bridges, and two pre-existing rail branch lines cross the trench on rail bridges. The Mid-Corridor Segment also includes a rail line (the "By-pass Track") immediately east of the pre-existing tracks and the trench. The By-pass Track, which the Authority sold to Union Pacific in 2008, runs along approximately six miles of the trench right-of-way from Firestone Boulevard in Los Angeles south to State Route 91. The Authority does not receive any Revenues with respect to the use of the By-pass Track nor is it responsible for maintaining the By-pass Track.


Alameda Corridor
Rail Lines
Intermodal Railyards
101
10
10
60
DOWNTOWN LOS ANGELES
5
110
405
VERNON
HUNTINGTON PARK
710
SOUTH GATE
DOWNEY
105
LYNWOOD
PARAMOUNT
COMPTON
BELLFLOWER
91
LAKEWOOD
CARSON
605
TORRANCE
LOMITA
LONG BEACH
RANCHO PALOS VERDES
Port of Long Beach
Port of Los Angeles
SAN PEDRO
PACIFIC OCEAN

## Related Projects

In May 2002, the Authority, the Ports and the Railroads amended the definition of the "Project" pursuant to the Use and Operating Agreement to include ten additional projects for study or construction. The purpose of the additional projects was to enhance operation of the Corridor.

Two projects, the Intermodal Container Transfer Facility (ICTF) Tail Track and the West Alameda St. Storage Yard, were cancelled. Five projects, the Watson Lead Tracks, the ICTF Lead Tracks, the Thenard Connection, the Thenard Wye Tracks and Additional Port Control Points, were completed. The Pacific Coast Highway Project was completed in 2004, but project close-out awaits final property transfers, which are ongoing. The Cerritos Channel Rail Bridge Project was postponed indefinitely after the feasibility and seismic evaluation was completed and, if resumed, is to be taken over by the Ports. The SR-47 Project is comprised of two segments and initially involved feasibility studies, preliminary engineering and environmental document preparation only, all of which are complete. The construction of one of the two SR-47 Project segments is now underway and is being managed by the California Department of Transportation. The Authority's obligation is limited to providing environmental mitigation and third-party property acquisitions and utility coordination work for the Schuyler Heim Bridge. Construction of the Schuyler Heim Bridge is scheduled for substantial completion in December 2017, with final completion and closeout scheduled for 2018. Construction of the second segment, a four-lane, elevated roadway connection to Alameda Street, was postponed indefinitely because of litigation and funding issues.

Union Pacific is proposing replacement of an existing track connection to its Dolores Yard at the south endo of the Rail Corridor to improve access to and from the Rail Corridor. The project is scheduled to be built in 2017 at Union Pacific's expense.

## Environmental Considerations

**General.** Design, construction and operation of the Project are subject to and influenced by or result in a number of environmental considerations, including the current litigation described below. See "THE PORT OF LOS ANGELES—Environmental and Regulatory Matters" in Appendix B and "THE PORT OF LONG BEACH—Environmental Compliance" in Appendix C.

**Dominguez Channel Oil Release and Encroachment.** On December 21, 2010, a crude oil release from a then-unknown origin was discovered in the Dominguez Channel and nearby storm water drainage system adjacent to the Rail Corridor. The U.S. Environmental Protection Agency (the "EPA"), the California Department of Fish & Game (the "DFG"), the U.S. Coast Guard and others were involved in the initial mitigation, investigation and immediate clean-up efforts and containment of the release.

On January 7, 2011, the EPA issued an order to the Ports and to the Authority to assume responsibility for these activities effective January 14, 2011. The EPA agreed to limit the Authority's and the Ports' roles to maintaining the containment systems and cleaning up the City of Los Angeles pump station and the sewer line leading to the pump station. The Authority and the Ports subsequently completed the work required by the EPA while the EPA and the DFG continued the source investigation.

On March 30, 2011, after identifying an oil pipeline owned and operated by Crimson Pipeline Management Company (the "Crimson") as the source of the release, the EPA issued an order to Crimson for removal, mitigation or prevention of a substantial threat of oil discharge. The Authority has been notified that Crimson has taken over responsibility for the oil release containment facilities effective June 15, 2011, and has assumed financial and operational responsibilities from that date.

In May 2012, Crimson entered into a stipulated judgment with the City of Los Angeles in connection with alleged criminal violations regarding the oil spill and paid a $1.75 million fine. On April 27, 2012, Crimson filed a lawsuit against the City of Los Angeles, the City of Long Beach, the Authority and Herzog Contracting Corporation ("Herzog") alleging that, among other things, Herzog, while performing certain construction work in the late 1990s on behalf of the City of Los Angeles, damaged the casing in which the pipeline was installed at some unspecified time, and further alleging that water entered the damaged casing and eventually corroded the pipeline and further alleging that as a result, quantities of crude oil were released into a storm water drainage system leading to the Dominguez Channel. The complaint sought damages against the City of Los Angeles and Herzog, and a declaration of rights and liabilities of all the parties named in the complaint. The Authority and the Cities sought cost reimbursement from Crimson through counter-complaints in the litigation and sought also other funding sources available for such purpose, including the Oil Spill Liability Trust Fund (established under the Oil Pollution Act of 1990).

Between October 2013 and September 2015, the Authority and other named parties engaged in confidential mediation in regard to this matter and in September 2015, the Authority and the other parties executed a settlement agreement, which includes a payment from Crimson's carrier to the Authority's carrier. The Authority recovered most of its costs associated with the event, and the storm-water discharge is to continue to be contained, monitored and treated by Crimson at its expense for the foreseeable future until there are assurances that no further oil is present. As of the date of this Official Statement, there has been no impact on Use Fees or Container Charges as a result of the release. See Note 6 and the Authority's "Management's Discussion and Analysis—Operating Expenses" in Appendix A.

**The Use Permit and the Operating Agreement**

In connection with the Project, the Ports and the Authority entered into a Use Permit (the "Use Permit") pursuant to which the Ports granted to the Authority use of the Property to develop, construct and operate the Rail Corridor. The term of the Use Permit commenced on December 15, 1998 and is scheduled to expire on the earliest of December 14, 2048 (50 years after the commencement date), the date the Operating Agreement is terminated (but only if payment of the Bonds has been made or provided for) or the date the Authority ceases to exist. As amended in 2006, the Joint Powers Agreement provides that its term will expire on the earlier of June 30, 2064 and June 30 of the second calendar year following the calendar year in which the Use Fees Termination Date occurs. See "THE AUTHORITY" and "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE PERMIT" in Appendix E.

The Operating Agreement, also entered into in 1998, governs the administration, operation and maintenance of the Rail Corridor and, as described above, the collection and application of Use Fees, Container Charges, M & O Charges and Shortfall Advances. The Operating Agreement also provides for access by the Railroads to the Rail Corridor and to certain Port-Owned Tracks; provides for the operation, repair and maintenance of the Rail Corridor; creates an Operating Committee; establishes M & O Charges; provides for the remedies available with respect to a default thereunder; and limits the rights of the parties thereto to assign the Operating Agreement. See "AUTHORITY REVENUES," "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations" and "—Insurance Covenants" and "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT" in Appendix E.

**Maintenance and Operation of the Rail Corridor**

**Operating Committee**. Pursuant to the Operating Agreement, the Operating Committee oversees and administers operation of the Project and is required, among other things, to establish standards and procedures and to prepare and approve an annual budget for maintenance and capital expenditures on a calendar year basis. The Operating Agreement specifies that the Operating Committee is to be comprised of four members, one representative (and one alternate for each representative) from each Port and each Railroad. The Authority is not a member of the Operating Committee.

Unless otherwise specified in the Operating Agreement, any decision to be made by the Operating Committee requires the affirmative votes of a majority of the members of the Operating Committee, and if a majority of the members of the Operating Committee is unable to agree upon any decision or any action to be taken, then any member of the Operating Committee has the right to submit such matter to arbitration. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—The Operating Committee" in Appendix E.

**M & O Charges**. Subject to the limitations specified in the Operating Agreement, each Railroad is charged a Pro Rata Portion of certain maintenance and operation expenses (referred to in the Operating Agreement as "M & O Charges") in connection with its use of the Rail Corridor and the Port-Owned Tracks. M & O Charges include, generally, the annual costs of operating, maintaining and repairing the designated portions of the Rail Corridor and certain Port-Owned Tracks and related facilities and equipment and property taxes and insurance premiums and deductibles, but do not include replacement costs (except to the extent that the Operating Committee determines that such costs are not properly included in Capital Expenses), costs to remediate hazardous material conditions and certain liability insurance premiums or deductibles. As described below, to the extent funds are available, non-rail maintenance costs (approximately $1.9 million in fiscal year 2015) are paid from the reserve account funded by Use Fees and Charges and are not charged to the Railroads. **M & O Charges are not pledged to, and are not available for, payment of the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds.** "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT" in Appendix E.

In addition, the Operating Agreement provides that each Railroad is individually responsible, at its sole cost and expense, for maintaining, repairing and operating facilities, signals, structures and property that are exclusively used or operated by such Railroad or that exclusively benefit such Railroad. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—Use Fees, Container Charges and M & O Charges" in Appendix E.

The Operating Agreement requires that the annual plan and budget prepared by the Operating Committee set forth the estimated M & O Charges for the coming calendar year. These budgeted M & O Charges are to be divided by the number of full or partial calendar months in such calendar year to obtain a monthly amount (the "Monthly Amount"). If the Operating Committee modifies the budgeted M & O Charges during a year, the Monthly Amount is to be adjusted to reflect the revised budget, with any increase or decrease in the budget spread over the remainder of the year.

Each Railroad is required under the Operating Agreement to pay an amount equal to (i) the applicable Monthly Amount, multiplied by (ii) such Railroad's Pro Rata Portion during the immediately preceding calendar year. The Operating Agreement provides that any payment of M & O Charges not made when due shall bear interest at the Overdue Rate until paid.

In calendar years 2015 and 2014, the Monthly Amount was approximately $_________ and $_______, respectively. In addition, the Railroads paid approximately $1.4 million and $1.68 million in calendar years 2015 and 2014 for insurance premiums. The Operating Committee's annual plan and budget estimates M & O Charges of approximately $____ million for calendar year 2016, resulting in a Monthly Amount of $____ in addition to insurance premiums. **[UPDATES NEEDED FOR CALENDAR YEARS]**

Except as expressly provided in the Operating Agreement, neither the Authority nor either of the Ports is responsible for the payment of any M & O Charges. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—Use Fees, Container Charges and M & O Charges" in Appendix E.

**Capital Expenses and Non-Rail Maintenance and Capital Improvement Charges**. The Operating Agreement requires the Operating Committee's annual plan and budget for the Rail Corridor to contain a separate subplan and subbudget for, among other things, Capital Expenses and Non-Rail Maintenance and Capital Improvement Charges.

"Capital Expenses" includes the costs and expenses incurred in making any capital improvements or betterments and, in certain cases, replacements to the Rail Corridor (other than certain "Non-Rail Components" as defined in the Operating Agreement, including the retaining walls, barrier walls, embankments, support structures of and for the trench portion of the Rail Corridor, and the structural portions of the bridges and overpasses over the trench portion of the Rail Corridor). "Non-Rail Maintenance and Capital Improvement Charges" includes, under certain circumstances, annual maintenance and capital improvements and replacements of the Non-Rail Components, together with capital replacement of any rail bridge over the Rail Corridor. Capital Expenses and Non-Rail Maintenance and Capital Improvement Charges are to be paid from the Reserve Account described below, to the extent sufficient funds are available. For fiscal year ended June 30, 2015, Capital Expenses and Non-Rail Maintenance and Capital Improvement Charges were budgeted at $1.48 million, down 20% from fiscal year 2014. Capital costs of $3.6 million (including $1.0 million of capital costs was transferred from the operating budget) were budgeted for fiscal year ending June 30, 2016, and approximately $4.5 million of additional capital costs ae expected to be incurred in fiscal years 2014 and later.

**Reserve Account**. Pursuant to the Operating Agreement, the Authority established the Reserve Account to pay, as provided in the Operating Agreement, Capital Expenses, Non-Rail Maintenance and Capital Improvement Charges and, if approved by the Operating Committee, M & O Charges to the extent such charges have not been paid by the Railroads and sufficient funds are not otherwise available therefor. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Flow of Funds," "AUTHORITY REVENUES" and "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—Reserve Account" in Appendix E. **The Reserve Account is not pledged to, and is not available for, payment of the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds.**

Subject to the limits set forth in the Operating Agreement, the Reserve Account is funded over time from Use Fees and Container Charges remaining each year in accordance with the Flow of Funds until the Reserve Account reaches (or is restored to) the then-current target amount for the Reserve Account (the "Reserve Account Target"). The Reserve Account Target may be adjusted by the Operating Committee as set forth in the Operating Agreement. Once the Reserve Account Target has been met, Use Fees and Container Charges are to be added to the Reserve Account only to the extent necessary to restore the balance therein to the then-current Reserve Account Target. As of December 31, 2015, the cash balance credited to the Reserve Account was approximately $____ million and through [2017 the Reserve Account Target is $15 million]. For calendar year 2016, the Operating Committee has budgeted approximately $1.07 million of capital expenses to be paid from the Reserve Account.

If funds in the Reserve Account are insufficient to cover Capital Expenses, Non-Rail Maintenance and Capital Improvement Charges and certain other types of expenses and charges described in the Operating Agreement, each Railroad is required to pay its Pro Rata Portion of such expenses and/or charges on a gross ton-mile basis. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—Reserve Account" in Appendix E.

Initially, the Railroads had the right to elect to make capital improvements or betterments to the Rail Corridor that the Railroads deemed necessary or appropriate ("Additional Capital Improvements"), provided that the aggregate cost of such improvements did not exceed $15 million to be paid from the Reserve Account. Pursuant to a Waiver and Release of Rights under Section 8.6 of the Use and Operating Agreement, dated as of May 22, 2002 (the "Waiver"), by and between the Railroads and the Authority, the Railroads withdrew approximately $6 million from the Reserve Account (which amount was pre-funded by Port Advances) for the Railroads' construction of the third track in the Mid-Corridor Segment. See "THE RAIL CORRIDOR AND RELATED PROJECTS—The Rail Corridor." As a condition to the pre-funding of the Reserve Account, the

Railroads agreed to waive their right to use any additional funds from the Reserve Account for Additional Capital Improvements.

**Additional Agreements Relating to Maintenance and Operation of the Rail Corridor**. Pursuant to the Operating Agreement, the Authority, at the direction of the Operating Committee, entered into the following agreements with the Railroads and with other third parties relating to the operation and maintenance of the Rail Corridor: (i) an Alameda Corridor Dispatching Agreement dated as of January 30, 2002 (the "Dispatching Agreement"), between the Authority and the Railroads; (ii) an Alameda Corridor Maintenance Agreement (Rail Corridor and Non-Rail Components), dated April 15, 2007 and amended in 2008 (the "Maintenance Agreement") between the Authority and Balfour Beatty Rail Inc., now Balfour Beatty Infrastructure, Inc. ("Balfour"); and (iii) an Alameda Corridor Police and Security Services Agreement dated as of October 15, 2002 (the "Security Services Agreement"), between the Authority and the Railroads. Upon the expiration of such agreements, the Authority may, at the direction of the Operating Committee, enter into replacement agreements or extend the respective terms of the existing agreements in accordance with the Operating Agreement. Except as noted below, all costs and expenses incurred by the Authority pursuant to such agreements are treated as M & O Charges and are required to be paid by the Railroads as part of M & O Charges.

<u>The Maintenance Agreement.</u> Pursuant to the Maintenance Agreement, Balfour provides maintenance services for the Rail Corridor, the real property comprising the Rail Corridor, and for certain Non-Rail Components, including but not limited to (i) the walls, retaining walls, embankments, barrier walls, fence structures and fencing and support structures, drainage facilities (including two storm water pump stations) and emergency drop ladders and related equipment of and for the trench portion of the Rail Corridor, (ii) the structural portions of the Washington Avenue Grade Separation Bridge and the Henry Ford Avenue Grade Separation Bridge, and (iii) the Automatic Equipment Identification reader system equipment. On September 1 of each contract year, Balfour is required to submit to the Authority for approval a proposed maintenance plan and budget with respect to the Rail Corridor and the Non-Rail Components (as approved by the Authority, the "Approved Maintenance Plan"). Services provided by Balfour include, among other things, (i) preventative maintenance of the Rail Corridor and the Non-Rail Components, (ii) repair of damage to the Rail Corridor and the Non-Rail Components caused by vandalism and (iii) the planning, purchasing, storage, distribution and control of all materials required to perform the maintenance services, maintenance of inventories and emergency response activities (the "Services") set forth in the Maintenance Agreement. Balfour is required to perform all Services in accordance with the maintenance standards set forth in the Maintenance Agreement and is paid a maintenance fee as and when expenses are incurred in accordance with the Approved Maintenance Plan. Work not included in the Approved Maintenance Plan is required to be submitted as a Contract Task Order (a "CTO") and is subject to approval by the Authority. The Authority's maximum cumulative payment obligation under the Maintenance Agreement for each contract year is the amount stated in the then-effective Approved Maintenance Plan, as amended and supplemented by the total of all approved CTOs. Unless terminated earlier, the term of the Maintenance Agreement is scheduled to expire on April 14, 2017.

<u>The Dispatching Agreement.</u> The Operating Committee directed the Authority to contract with Union Pacific and BNSF as the Corridor Dispatcher for train and equipment movements along certain portions of the Rail Corridor. Among other duties, the Corridor Dispatcher is responsible for dispatching trains to and from the Rail Corridor in order of priority set forth in the Dispatching Agreement, scheduling closures of certain tracks for maintenance services, and diverting trains to other routes when there is a significant delay on the Rail Corridor. Under the Dispatching Agreement, the Corridor Dispatcher is required to provide the Operating Committee with a monthly report regarding any significant delays on the Rail Corridor during the prior month. The Dispatching Agreement also provides that, on or before August 1 of each year, the Corridor Dispatcher is required to submit to the Operating Committee for approval a budget specifying, among other items, (i) capital expenditures (which, as used in the Dispatching Agreement, has the meaning assigned to the term "Capital Expenses" in the Operating Agreement), if any, that the Corridor Dispatcher expects to be made in the next calendar year, and (ii) an estimated budget for performing the dispatching services. All costs and expenses of

the Corridor Dispatcher are treated as M & O Charges and are to be paid by the Railroads as part of M & O Charges, except that expenses incurred to acquire, upgrade, or replace any dispatching equipment, if approved by the Operating Committee as a capital expenditure (which, as used in the Dispatching Agreement, has the meaning assigned to the term "Capital Expenses" in the Operating Agreement), are to be paid from the Reserve Account. The term of the Dispatching Agreement commenced on April 15, 2002 and a second extension, to April 14, 2017, has been approved by the Operating Committee and the Authority.

The Security Services Agreement. Pursuant to the Security Services Agreement, Union Pacific and BNSF (together, the "Corridor Security Provider") provide police and security services for all aspects of the Rail Corridor, including rail operations, the physical facility and the equipment located therein (the "Secured Facilities"). The Corridor Security Provider conducts daily security patrols of the Secured Facilities. Among other duties, the Corridor Security Provider is responsible for investigating and documenting each incident. Under the Security Services Agreement, the Corridor Security Provider is required to submit a monthly written performance report to the Authority and the Operating Committee summarizing the activities of the Corridor Security Provider on the Secured Facilities during that month. Such performance report includes a summary of (i) all incidents handled by the Corridor Security Provider during the prior month and (ii) any new or on-going investigations and prosecutions with respect to prior incidents on the Secured Facilities. All costs and expenses of the Corridor Security Provider are treated as M & O Charges and are to be paid by the Railroads as part of M & O Charges, except that expenses incurred to acquire, upgrade, or replace any security services equipment, if approved by the Operating Committee as a capital expenditure (which, as used in the Security Services Agreement, has the meaning assigned to the term "Capital Expenses" in the Operating Agreement), are to be paid from the Reserve Account. The term of the Security Services Agreement commenced on September 15, 2002 and an extension of the term to April 14, 2017 has been approved by the Operating Committee and the Authority.

**Rights-of-Way; Local Agencies**

**Rights-of-Way**. Right-of-way acquisition for the Rail Corridor began in 1992, and much of the property required for the Project was obtained in 1994 and 1995 with the Ports' purchase of existing rail rights-of-way from Union Pacific and BNSF and from the former Southern Pacific Transportation Company ("Southern Pacific"). These purchases included the rights-of-way along which most of the Rail Corridor runs and represent more than 80% of all the rights-of-way necessary for the construction of the Rail Corridor. The Authority obtained the right to use and occupy this property for purposes of constructing, developing and operating the Rail Corridor under the terms of the Use Permit. See "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE PERMIT" in Appendix E.

The Authority acquired the remaining rights-of-way required for the Project (approximately 410 parcels) through negotiated purchases or eminent domain proceedings. These acquisitions ranged in size from several square feet to more than one acre and included temporary construction easements as well as full fee acquisitions. The Authority acquired these properties in its own name and anticipates that title will ultimately be conveyed to the Ports, subject to the Use Permit, or to other agencies. The process for making and/or assigning such conveyances has begun and is expected to take several years.

## BONDHOLDERS' RISKS

The Authority's ability to pay the principal of, premium, if any, and interest on the Bonds, including the Series 2016 Bonds, depends upon the timely receipt by the Authority of sufficient Revenues. Particularly because debt service payable on the Bonds increases in future years, the Authority's ability to make such payments, especially without requiring Shortfall Advances from the Ports, will depend upon cargo and Revenue growth. The obligations of the Railroads to pay increased Use Fees and Container Charges and the ability of the Ports to pay Shortfall Advances depend upon, among other factors, the volume of cargo handled at the Ports and the volume of cargo moved by rail without transloading. Growth in cargo volumes, in turn, depends in part upon a number of economic and other factors that are not within the Authority's, the Railroads' or the Ports' control.

The following discussion of considerations is not meant to be an exhaustive list of the risks associated with the purchase of the Series 2016 Bonds and does not necessarily reflect the relative importance of the various risks. Potential purchasers of the Series 2016 Bonds are advised to consider the following factors, among others, and to review all of the other information in this Official Statement in evaluating whether to purchase Series 2016 Bonds. Any one or more of the risks discussed, and others, could lead to a decrease in the market value and/or in the liquidity of the Series 2016 Bonds**[**, notwithstanding the Series 2016 Bond Insurer's obligations to pay scheduled debt service when due**]**. No assurance can be given that other risk factors will not become material in the future.

**[To be revised]**

**Uncertainties of Projections and Assumptions**

This Official Statement contains, and the Authority's and Ports' plans and budgets and the Ports' independent consultant's forecasts are based upon, certain assumptions, estimates, projections and other forward-looking statements. Demonstration of compliance by the Authority with certain of the covenants contained in the Indenture also may be based upon assumptions, estimates and projections. Actual results, however, may differ, perhaps materially, from those projected. The cargo volumes forecast by the Ports' independent consultant and projections that may be contained in any future certificate of the Authority or of a consultant, are not necessarily indicative of future performance. For example, none of the Ports, the Railroads or the Authority predicted the timing or the severity of the global financial and economic downturn in 2008 and 2009 or the severity of the impact thereof on international trade and consumer and governmental spending, and many did not anticipate the extent of the impact of the contraction of the economy in China. Although cargo volumes at the Ports have increased since 2009, such increases have been moderate and no assurances can be given that even moderate increases will continue**.** Similarly, transloading, including transloading of cargo that then moves inland by rail, also has increased since 2009, and no assurance can be given that such trend will not continue.

Similarly, no assurance can be given regarding the possible impacts on trade volumes through the Ports of various companies' decisions to manufacture products in other parts of the world instead of in China, of the recent contraction in China or the possible impacts of significant decreases in federal, State and other governmental spending. No assurances can be given that the impact of such changes will not have a material and adverse effect on trade, on the economic and financial factors that influence consumer and business consumption and trade and thus have a significant adverse impact on Port and Authority revenues.

In addition, certain assumptions with respect to future business and financing decisions, including the decision to undertake, or to postpone or cancel, future capital improvements of the Authority, the Railroads, the Ports or other entities may not occur and are subject to change. No representation is made or intended, nor should any representation be inferred, with respect to the existence of any particular future set of facts or circumstances, and prospective purchasers of the Series 2016 Bonds are cautioned not to place undue reliance upon any forecasts, estimates, plans or projections or requirements for forecasts or projections. If actual results are less favorable than the results budgeted or projected or if the assumptions used in preparing budgets or projections prove to be incorrect, the ability of the Authority to make timely payment of the principal of, premium, if any, and interest on the Bonds, including the Series 2016 Bonds, may be materially and adversely affected.

**Collection of Use Fees and Container Charges**

The ability of the Authority to collect sufficient Use Fees and Container Charges depends upon or may be affected by a number of factors, including growth or decrease in the volume of cargo through the Ports, growth or decrease in the volume of cargo moved by rail, changes in logistics methods and priorities, increased transloading activities, shifts in manufacturing locations, the efficiency and accuracy of the Authority's collection procedures, including the accuracy and completeness of the cargo movement information provided by the Railroads and other sources used in the Authority's RAVS system, the Authority's ability to monitor accurately the railcars and containers subject to the Use Fees and Container Charges and the ability and willingness of the Railroads to pay the Use Fees and Container Charges on the dates and in the amounts required. The Authority and the Railroads have had disputes in the past about fees due to the Authority, particularly in connection with transloading, a dispute that took years to resolve, and no assurance can be given that additional disputes will not occur in the future.

If the number of containers or railcars transported on the Rail Corridor, or loaded or unloaded at the Ports and transported by rail without transloading into or out of Southern California, is significantly below the numbers budgeted by the Authority and the Ports, the amount of Use Fees and Container Charges actually collected by the Authority each year may be less than the amount required to pay the principal or accreted value of, and premium, if any, and interest on the Bonds (including the Series 2016 Bonds). As shown in Table 13, the amount of annual debt service the Authority will be required to pay on the Outstanding Bonds will increase substantially and will require sufficient cargo volumes and/or increasing amounts of Shortfall Advances (but only up to 40% of the Annual Amount). Significant growth in cargo volume and revenues will be required for the Authority to be able to pay scheduled debt service on the Authority's Bonds, even with assistance from the Ports. See "AUTHORITY REVENUES—Debt Service Coverage." The Railroads are not obligated to increase their payments in the event cargo growth falls below the levels required to enable the Authority to pay debt service on the Bonds.

A Railroad may fail to pay Use Fees and Container Charges when and as due and payable. In such case, the Authority's rights against the Railroad may be limited. See "—Limitations on Enforceability" and "—Bankruptcy Risks" below and "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—Defaults and Remedies" in Appendix E.

**Shortfall Advances Are Limited, Subordinate Obligations of the Ports**

The obligation of each Port to make Shortfall Advances is a limited, subordinate obligation of such Port. The Ports' obligations are several obligations (not joint and several), and neither Port is obligated to pay for the Shortfall Advances required of the other Port, even if the other Port fails to make its payment when due. Each Port's obligation to make Shortfall Advances is limited to 20% of the Annual Amount and is payable only to the extent such Port has funds legally available for such purpose. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" and "AUTHORITY REVENUES—Shortfall Advances" above and "SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS—USE AND OPERATING AGREEMENT—Shortfall Advances" in Appendix E. If Revenues (other than Shortfall Advances) received by the Authority are not sufficient to pay at least 60% of all amounts payable by the Authority on the Bonds, Revenues will still be insufficient, and the Authority may be unable, to make debt service payments on the Bonds, including the Series 2016 Bonds.

The Ports were required to make Shortfall Advances during the Authority's 2012 and 2013 fiscal years to enable the Authority to make part of the October 1, 2011 and October 1, 2012 debt service payments, and additional Shortfall Advances could be required in the future. See "AUTHORITY REVENUES—Shortfall Advances." As described in Appendix B and in Appendix C, respectively, as of December 31, 2015, POLA had approximately $___ million aggregate principal amount of POLA Parity Obligations outstanding and as of December 31, 2015, POLB had approximately $___ million aggregate principal amount of POLB Harbor

Revenue Bonds outstanding. See "THE PORT OF LOS ANGELES—Outstanding Indebtedness" in Appendix B and "THE PORT OF LONG BEACH—Outstanding Indebtedness" in Appendix C. Each of the Ports may, and is likely to, incur substantial amounts of additional indebtedness in the future, and as with the current debt, such additional indebtedness would be payable from such Port's revenues prior to the payment of any Shortfall Advances. Both Ports have encouraged the Authority to pursue a restructuring program to reduce the likelihood and amount of any future Shortfall Advances.

The Ports are required to include expected Shortfall Advances in their budgets (based upon information received from the Authority), but Shortfall Advances are subordinate to all of the Ports' other obligations, including payments of operation and maintenance costs, debt service on Port obligations and major maintenance expenses, and neither Port is required to take Shortfall Advances into account when determining whether it may incur additional indebtedness or when calculating compliance with rate covenants under its outstanding bond indentures or resolutions. See "THE PORT OF LOS ANGELES—Source of Funds for Payment of Shortfall Advances" in Appendix B and "THE PORT OF LONG BEACH—Source of Funds for Payment of Shortfall Advances" in Appendix C. Neither the Authority nor any bondholder can require either Port to raise its rates, charges and fees to generate funds sufficient to pay Shortfall Advances.

**Bonds Are Limited Obligations of the Authority; Limited Sources of Funds**

**The Series 2016 Bonds are special, limited obligations of the Authority and except as described herein are payable solely from and are secured solely by a lien on the Trust Estate. The Bonds, including the Series 2016 Bonds, are not obligations of the State of California or of any political subdivision of the State of California and are not obligations of any of the Cities, the Ports or the Railroads. The Project is not security for the Bonds, and the Bonds are not secured by a lien on any properties or improvements of the Authority, the Cities, the Ports or the Railroads or by a pledge of any revenues of the Cities, the Ports or the Railroads.**

**The Railroads and the Ports are obligated only to make certain payments required by the Operating Agreement and are not responsible for paying, and are not guaranteeing the payment of, the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations."**

The Authority has no significant assets other than the Project and may not be able to raise additional funds in the event there are insufficient moneys to operate the Project and to pay debt service on the Bonds. Other than in connection with a Surcharge, the Authority is not authorized under the Operating Agreement to increase Use Fees and Container Charges in the event Revenues are insufficient to pay debt service on the Bonds. The Authority's ability to issue additional Bonds, including additional refunding Bonds, also is limited. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Additional Bonds." In addition, the Authority's ability to find additional lenders or credit enhancement may be limited or even nonexistent.

**Uncertainties of Cargo Volumes**

The Authority's ability to derive Use Fees and Container Charges from its operation of the Project depends in part upon cargo utilization of Port facilities, which in turn depends upon the financial health of the shipping industry, including the financial condition of carriers and their customers and of Port tenants and service providers. The shipping industry was undergoing significant changes even before the most recent economic downturn, including a number of mergers and acquisitions and service alliances among ocean carriers, consolidation of operations among companies and mergers of companies and the shift of a number of logistical responsibilities and costs from ocean carriers to their shipping customers or to independent logistics providers. Investments in much larger ships and increased fuel costs (and related slow-steaming) have had a profound impact on ocean carrier alliances, logistics (including choices of shipping points for discretionary cargo) and pricing.

The Southern California area is the largest primary market in the United States, and a significant amount of cargo handled through the Ports originates or remains in Southern California and is moved by truck, not by rail. Cargo intended to meet demand in the Southern California region (often referred to as "non-discretionary cargo") depends especially on local and regional economic and demographic conditions.

Shippers or carriers of non-discretionary cargo destined for Southern California also may decide that cargo destined for the Midwest and for other parts of the country (referred to as "discretionary cargo") also be unloaded at the Ports and then moved East, predominantly by rail. Waterborne containers that originate or terminate at the Ports to or from Asia represent most of the Revenues collected by the Authority. Although the Ports have a larger share of non-discretionary trade than other West Coast ports, a still-significant number of containers unloaded at the Ports may be discretionary and could be transported via routes that do not go through the Ports at all and an increasing number of containers that do go through the Ports are transloaded and then carried by rail to southeastern destinations without using the Rail Corridor. A significant reduction in the Ports' share of such discretionary trade would be noticeable and would have an adverse impact on Authority Revenues.

A port's share of discretionary trade is a function of a variety of factors, including competition from other ports and from all-water services (services between Asia and the U.S. East and Gulf Coasts via the Suez Canal and especially the Panama Canal). The volume of international cargo that is currently shipped through the Ports could decrease in the future in the event of, among other things, increased competition from ports in Canada (including, in particular, the Port Metro Vancouver and the Prince Rupert Port Authority in British Columbia) and/or from ports in Mexico (including the Mexican Ports of Punta Colonet, Ensenada, Mazatlan and Manzanillo) because of faster transit times, increased efficiencies and increased capacity to handle larger ships, lower labor and other costs and lower fees and taxes; increased competition from other ports in Northern California (especially the Port of Oakland) or in the Pacific Northwest (the Ports of Tacoma and Seattle, which recently combined their cargo operations to form The Northwest Seaport Alliance, and The Port of Portland); increased competition from all-water services from Asia directly to the East Coast and/or Gulf Coast, particularly after 2016, when the expansion of the Panama Canal is scheduled to be completed, or if manufacturing more significantly shifts from China to Southeast Asia and use of the Suez Canal becomes more economical than going to the West Coast ports. Although intermodal transit times to and from the Ports from Asia and to the East and Midwest can be faster than other routes, some observers forecast that half of containerized cargo shipments may be shipped through East Coast ports within the next five years; and even with expedited growth in cargo volumes and capacity there can be no assurance that the Ports' current shares of cargo volumes will be maintained or that expected increases in cargo volumes will occur. Among the other factors that may influence shipper and carrier decisions, and thus cargo volumes, significantly are fuel costs, transit times, costs of complying with additional environmental laws and other regulatory requirements (including regulatory and/or market responses to climate change and global warming and clean-truck costs passed down to shippers), labor disagreements (including slowdowns, strikes and lockouts, such as the disruption on the West Coast at the end of 2014 and first five months of 2015), truck and chassis shortages, increased taxes or fees for use of Port facilities, increases in labor costs and severe weather and other casualty events, such as earthquakes.

**Consolidation of the Containerized Cargo Industry**

During the past 10 years, the containerized cargo industry has been under pressure resulting from a number of factors, including in addition to the world-wide recession, over-capacity of available ships and the costs of acquiring larger ships, decreasing freight rates and volatile fuel costs. In response to these challenges, among others, shipping lines formed strategic alliances and in many cases have merged. In 2014, for example, six shipping companies formed the "G6 Alliance," which has received regulatory approval to cooperate internationally in carrying shipments between the Asia and the U.S. West Coast and between Northern Europe and all U.S. ports, and in the same year Hapag-Lloyd, a member of the G6 Alliance, merged with Compañia Sud Americana de Vapores to form the fourth largest containerized cargo shipping line. Later in 2014, Maersk and Mediterranean Shipping Company (two of the three members of a G-3 Alliance) formed the 2M Alliance;

CMA-CGM, China Shipping Container Lines and United Arab Shipping Co. formed the O3 Alliance; and COSCO, K Line, Yang Ming and Hanjin Shipping received regulatory approval to include Evergreen Line into its vessel-sharing agreement in trans-Pacific and Atlantic routes. COSCO and China Shipping officially merged their fleets in February 2016 and currently are in talks with Evergreen Line and with OOCL to form a new alliance or to become part of the O3 Alliance, reducing the size of the G-06 Alliance. Many of the companies within these alliances operate at one or both of the Ports, and additional consolidation of alliances and/or of shipping lines could occur. Neither the Ports nor the Authority can predict all of the consequences of such realignments and consolidations or how long they will persist. Confusion and inefficiencies, especially in the beginning, have been noted by terminal operators as well as shippers.

**Uncertainties of the Railroad Industry**

As with the shipping industry, the railroad industry has undergone significant strain and consolidation in recent years and, in general, is constantly changing. Both Railroads may be adversely affected, directly and indirectly, by the effects of adverse domestic and global economic conditions and/or volatility or disruptions in the financial and credit markets. Both Railroads have large route structures and face operational difficulties from time to time, particularly in years following mergers with other rail lines and when labor contracts are nearing expiration, and both may undergo other corporate changes that could adversely affect their operations. Both Railroads also face competition from other railroads, motor carriers, ships, barges and pipelines, not only in connection with pricing but also with respect to transit times and quality and reliability of service. Difficulties in moving freight by rail in Southern California have in the past, including in 2003 and 2004, for example, and congestion in Chicago and other inland regions have prompted shippers to divert cargo from the Ports to other ports on the West Coast or to use all-water services to the East Coast. No assurance can be given that congestion or other difficulties will not occur or recur or continue for an extended period of time in the future. Moreover, the Railroads may alter their routes or change (or their customers may change) their businesses and not maintain their current levels of use of the Ports or the Rail Corridor or not use the Ports or the Rail Corridor as frequently as expected. There can be no assurance that the Railroads will continue to use the Rail Corridor or that the Railroads will be able to continue to pay M & O Charges, Use Fees and Container Charges when due even if they do continue to operate at the Ports and to utilize the Rail Corridor.

**Operating Risks and Capacity Constraints**

Continual and efficient operation of the Rail Corridor may be affected by a number of other events. For example, a derailment of one or more trains could block one or all tracks of the Rail Corridor and divert the movement of cargo, potentially reducing the amount of Use Fees that are payable by the Railroads. In addition, at certain times of the year, the Railroads may encounter shortages of available train crews or equipment to move all possible cargo to and from the Ports. Such shortages have occurred, and no assurances can be given that shortages, which can be severe, will not occur in the future. General repair and replacement of equipment and the availability of parts and funds to make such repairs or to replace such equipment also may affect operation of the Rail Corridor.

The capacity of the Rail Corridor and supporting infrastructure could have an additional, significant impact on operation of the Rail Corridor and on the collection of Use Fees. Original projections that the Rail Corridor capacity would be sufficient were based upon certain assumptions regarding the average train size, through-train distribution by the Railroads and estimated departure and arrival times at the various terminals located within the Ports. There can be no assurance that the estimated through-train distribution or the estimated departure and arrival times always will be achieved. The Authority also assumed a nominal amount of time per day for maintenance of the tracks and track-support structures. No assurance can be given that more time will not be needed to keep the Rail Corridor in good repair or that this maintenance period will continue to be available on a regular basis. In addition, certain assumptions with respect to future business and financing decisions, including the decision by the Authority, the Railroads, the Ports or other entities to undertake future capital improvements or replacements, may not occur or may be changed. A number of significant improvements have been postponed indefinitely because of lack of funding, and no assurances can be given that the Authority, the Ports and/or the Railroads will be able or willing to effect changes required to expand capacity or efficiency, to reduce congestion, to meet environmental, safety or other legal or political requirements or to accommodate other changes or demands.

Other operating risks include risks to or failures of train-control technology, including disruptions to the Railroads' technology networks (including computer systems, communications equipment and software), because of cyber-security intrusions, corruption of data or operating disruptions or because of natural events such as severe weather, fires, floods or earthquakes or human error.

**Labor Unrest**

Employees of tenants and contractors that serve at or work for the Ports or the Railroads may have work-related disputes with their employers, and many of such employees belong to unions or to other labor-related organizations. A strike, slow-down or lock-out at one facility can directly or indirectly affect operations at an entire facility or at many facilities at once. A dispute between one tenant and the employees of one union may spread to include workers at some or all facilities at both Ports. During the Fall of 2012, for example, various labor-related events caused shutdowns at each of the major ports on the U.S. West Coast. At the Ports, a strike by members of the Office Clerical Unit ("Unit 63") of the International Longshore and Warehouse Union (the "ILWU") Local 63, was honored by ILWU dock workers and closed each terminal that used Unit 63 workers (seven of eight terminals at POLA and three of six terminals at POLB) for eight days in December 2012, until Unit 63 and the Los Angeles and Long Beach Harbor Employers Association agreed to new contract terms and the terminals reopened. During the strike, 20 ships were diverted to the Port of Oakland or to ports in Mexico and Panama. The Authority estimates that normally it might have collected approximately $2.6 million during that eight-day period and expects that although most of that amount likely will be collected in December, revenue related to the diverted cargo probably will not be collected. Prior to this work stoppage, there had been no prolonged work stoppage at the Ports since October 2002.

Stevedoring and cargo handling at the Ports are provided pursuant to a contract between the Association and the ILWU. In October 2002, after the Association and the ILWU failed to agree upon a new contract, the shipping lines and terminal operators instituted a lock-out of the stevedoring companies, thereby shutting down all Pacific West Coast ports, including all terminals at the Ports, for 10 days. Work resumed when President Bush ordered the ports to re-open pursuant to the Taft-Hartley Act. Prior to the 2002 lock-out, there had not been a prolonged work stoppage since 1971. The current contract between the Association and ILWU expires on June 30, 2019. Although the prior contract expired June 30, 2014, the current contract between the Association and the ILWU was not entered into until May 21, 2015 and was not ratified by the ILWU members until May 22, 2015, retroactive to July 1, 2014. The protracted negotiations and resulting disruptions had a compounding effect on congestion issues that had slowed container cargo movement through the Ports generally [beginning in] September 2014 and throughout the first five months of 2015, and container volumes and revenues at both Ports were temporarily impacted.

No assurance can be given that prolonged disruptions, work slowdowns or stoppages at the Ports will not occur in the future and result in cargo diversions. Significant work stoppages and cargo diversions could adversely affect the Ports' revenues and the Ports' ability to pay any Shortfall Advances and the Authority's traffic and revenues and, thus, the Authority's ability to pay principal or accreted value of and interest on the Bonds, including the Series 2016 Bonds.

**Limitations on Enforceability**

The rights of the owners of the Bonds, including the Series 2016 Bonds, and the enforceability of the Authority's obligation to make payments on the Bonds may be subject to bankruptcy, insolvency, arrangement, fraudulent conveyances or transfer, reorganization, moratorium and other similar laws affecting creditors' rights under currently existing law or laws enacted in the future, and under certain circumstances also may be subject to the exercise of judicial discretion and to limitation on legal remedies against public entities in the State of California. The opinion of Bond Counsel as to the enforceability of the Authority's obligations to make payment on the Bonds will be qualified as to bankruptcy and such other legal events. See "LEGAL MATTERS" below and the proposed form of Bond Counsel opinion in Appendix G. The enforceability of the Authority's rights under the Operating Agreement and under the other agreements discussed in this Official Statement also may be severely limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights under currently existing law or laws enacted in the future and in the case of Port obligations, including the Ports' obligations to pay Shortfall Advances, may also be subject to the exercise of judicial discretion under certain circumstances and to limitations on legal remedies against public entities in the State of California.

**Bankruptcy and Insolvency Risks**

**The Ports and the Cities**. Under existing law, it is unlikely that either Port is eligible to file for bankruptcy by itself. Each of the Cities, however, is eligible to file for bankruptcy under certain circumstances. Should either City file for bankruptcy, there could be adverse effects on the holders of the Series 2016 Bonds. These adverse effects could include, but may not be limited to, one or more of the following. The automatic stay provisions of the Bankruptcy Code could prevent (unless approval of the bankruptcy court were obtained) any action to collect any Shortfall Advances or any other amounts owing by such City or its Port and any action to enforce any obligation of such City or its Port under the Operating Agreement, the Use Permit, or any other agreement to which the City or its Port is a party. These restrictions may also prevent the Trustee from making payments to the holders of the Series 2016 Bonds from funds in the Trustee's possession. The City also may be able to reject the Operating Agreement, the Use Permit, or any other agreement to which such City or its Port is a party and such a rejection could deprive the Authority and the Railroads of their rights to use the Rail Corridor, could excuse the Railroads from making any further payments under the Operating Agreement and could excuse such City from any further obligations under the agreement that has been rejected.

Payments previously made to the holders of the Series 2016 Bonds also could be avoided as preferential payments, and the holders of the Series 2016 Bonds could be required to return such payments to the bankrupt City. In addition, the provisions of the transaction documents that require the Railroads to make payments under the Operating Agreement directly to the Trustee, rather than to the City or the Authority, may no longer be enforceable, and payments by the Railroads may be required to be made to the City. Such City also may be able, with the approval of the bankruptcy court, but without the consent and over the objection of the Authority and the holders of the Series 2016 Bonds, to alter the terms of its obligations to pay Shortfall Advances or any other amounts payable by such City or its Port, or to assign to another entity the City's (and the Port's) rights and obligations under the Use Permit, the Operating Agreement or any other agreement to which the City or its Port is a party. The occurrence of any of these, as well as the occurrence of other possible effects of a bankruptcy of a City, could result in significant delays or in reductions in payments on the Series 2016 Bonds or result in other significant losses to the holders of the Series 2016 Bonds. Regardless of any specific adverse determinations in a City bankruptcy proceeding, the fact of a City bankruptcy proceeding could have an adverse effect on the liquidity and value of the Series 2016 Bonds, notwithstanding the Series 2016 Bond Insurer's obligation to continue to pay scheduled debt service on the Insured Series 2016 Bonds when due.

**The Authority**. The Authority is authorized under California state law to file for bankruptcy under certain circumstances. Should the Authority file for bankruptcy, there could be adverse effects on the holders of the Series 2016 Bonds. If the Use Fees and Container Charges are "special revenues" under the Bankruptcy Code, then Use Fees and Container Charges collected after the date of the bankruptcy filing should continue to be subject to the lien of the Indenture. "Special revenues" are defined to include receipts derived from the ownership or operation of projects or systems that are primarily used to provide transportation services. Although the Use Fees and Container Charges may satisfy this definition and thus may be "special revenues," no assurance can be given that a court would not hold that the Use Fees and Container Charges are not special revenues or are not subject to the lien of the Indenture.

A court could, however, conclude that the Shortfall Advances, Use Fees or Container Charges are not "special revenues." If a court reached that conclusion, any Shortfall Advances, Use Fees or Container Charges, as applicable, collected after the commencement of the bankruptcy case likely would not be subject to the lien of the Indenture. The holders of the Series 2016 Bonds may not be able to assert a claim against any property of the Authority other than the Shortfall Advances, the Use Fees and the Container Charges, and if those amounts were no longer subject to the lien of the Indenture, then there may be no amounts from which the holders of the Series 2016 Bonds are entitled to be paid.

The Bankruptcy Code provides that special revenues can be applied to necessary operating expenses of the project or system, before they are applied to other obligations. This rule applies regardless of the provisions of the transaction documents. Thus, the Authority may be able to use Use Fees and Container Charges to pay necessary operating expenses of the Rail Corridor before the remaining Use Fees and Container Charges are turned over to the Trustee to pay amounts owed to the holders of the Series 2016 Bonds. It is not clear precisely which expenses would constitute necessary operating expenses.

If the Authority is in bankruptcy, the parties (including the holders of the Series 2016 Bonds) may be prohibited from taking any action to collect any amount from the Authority or to enforce any obligation of the Authority, unless the permission of the bankruptcy court is obtained. These restrictions may also prevent the Trustee from making payments to the holders of the Series 2016 Bonds from funds in the Trustee's possession. The Authority may be able to require that all Use Fees and Container Charges be paid directly to it, notwithstanding the provisions of the transaction documents that require the Use Fees and the Container Charges to be paid directly to the Trustee.

The Authority also may be able to reject the Operating Agreement, the Use Permit, or any other agreement to which the Authority is a party; such a rejection could deprive the Railroads of their rights to use the Rail Corridor, could excuse the Railroads from making any further payments under the Operating Agreement and could excuse the Authority from any further obligations under the agreement that has been rejected.

The Authority may be able to borrow additional money that is secured by a lien on any of its property (including the Use Fees and the Container Charges), which lien could have priority over the lien of the Indenture, so long as the bankruptcy court determines that the rights of the Trustee and the holders of the Series 2016 Bonds will be "adequately protected." A court's determination of what is adequate protection may be different than what bondholders would consider to be adequate protection. The Authority also may be able, without the consent and over the objection of the Trustee and the holders of the Series 2016 Bonds, to alter the priority, interest rate, payment terms, collateral, maturity dates, payment sources, covenants (including tax-related covenants) and other terms or provisions of the Indenture and the Series 2016 Bonds, so long as the bankruptcy court determines that the alterations are fair and equitable.

There may be delays in payments on the Series 2016 Bonds while the court considers any of these issues. There may be other possible effects of a bankruptcy of the Authority that could result in delays or reductions in payments on the Series 2016 Bonds, or result in losses to the holders of the Series 2016 Bonds. Regardless of any specific adverse determinations in an Authority bankruptcy proceeding, the fact of an Authority bankruptcy proceeding could have an adverse effect on the liquidity and value of the Series 2016 Bonds, notwithstanding the Series 2016 Bond Insurer's obligation to continue to pay scheduled debt service on the Insured Series 2016 Bonds when due.

**The Railroads**. Each of the Railroads is eligible to file for bankruptcy or to have an involuntary bankruptcy case commenced against it. Should a Railroad become the subject of a bankruptcy case, there could also be adverse effects on the holders of the Series 2016 Bonds. These adverse effects could include, but not be limited to, one or more of the following. The automatic stay provisions of the Bankruptcy Code could prevent (unless approval of the bankruptcy court were obtained) any action to collect any Use Fees, Container Charges, M & O Charges or any other amounts owed by the Railroad and any action to enforce any obligation of the debtor Railroad under the Operating Agreement or any other agreement to which the Railroad is a party. These restrictions also may prevent the Trustee from making payments to the holders of the Series 2016 Bonds from funds in the Trustee's possession. The Railroad may be able to reject the Operating Agreement or any other agreement to which it is a party; such a rejection could excuse the Railroad from any further obligations under the agreement that has been rejected and could excuse the other parties to such agreement from any further obligations. Payments previously made to the holders of the Series 2016 Bonds may be avoidable as preferential payments, so that the holders would be required to return such payments to the Railroad or to a trustee in bankruptcy. The Railroad may be able, with the approval of the bankruptcy court, but without the consent and over the objections of the Authority, the Cities, the Ports and the holders of the Series 2016 Bonds, to alter the terms of its obligations to pay Use Fees, Container Charges or any other amounts payable by the Railroad and/or to assign its rights and obligations under the Operating Agreement, or any other agreement to which the Railroad is a party, to another entity. The occurrence of any of these, as well as the occurrence of other possible effects of a bankruptcy of a Railroad, could result in significant delays and/or in reductions in payments on the Series 2016 Bonds or other losses to the holders of the Series 2016 Bonds. Regardless of any specific adverse determinations in a Railroad bankruptcy proceeding, the fact of a Railroad bankruptcy proceeding could have an adverse effect on the liquidity and value of the Series 2016 Bonds notwithstanding the Series 2016 Bond Insurer's obligation to continue to pay scheduled debt service on the Insured Series 2016 Bonds when due.

**[Series 2016 Bond Insurer and Other] [Bond] Insurers**. [The Series 2016 Bond Insurer is regulated by the New York Department of Financial Services. The rights of creditors of insolvent financial guaranty insurers are governed by the insolvency laws of the states in which insurers are formed (in the case of the Series 2016 Bond Insurer, the State of New York), and not by the Bankruptcy Code. The New York Superintendent of Financial Services has the power to order a financial guaranty insurance company to stop paying claims, or to pay claims only with the permission of the Superintendent, even before the insurance company becomes the subject of a formal insolvency proceeding. Should the Series 2016 Bond Insurer become the subject of an insolvency proceeding under New York insurance law, it may be able to retain its rights to control remedies under the transaction documents and direct the Trustee and its rights to consent to amendments of the transaction documents, even if it is insolvent or not paying claims as required by the Series 2016 Bond Insurance Policy. If the Series 2016 Bond Insurer is in an insolvency proceeding, it may be able to require the Authority to reimburse the Series 2016 Bond Insurer before paying amounts due on the Series 2016 Bonds, regardless of what the transaction documents provide. If any of these circumstances occur at a time when the Authority is not making, or is unable to make, payments on the Series 2016 Bonds, there may be delays or reductions in payments on the Series 2016 Bonds. There may be other adverse effects of an insolvency of the Series 2016 Bond Insurer. Regardless of any specific adverse determinations in an insolvency of the Series 2016 Bond Insurer, the fact of an insolvency of the Series 2016 Bond Insurer could have an adverse effect on the liquidity and value of the Series 2016 Bonds.]

Similar risks exist with respect to any debt service reserve surety policy that may be obtained by the Authority and with respect to other insurers, such as property and casualty insurers. See "—Limited or No Insurance."

**Seismic Risks, Climate Risk and Other Events of Force Majeure; Limited or No Insurance Coverage**

**Seismic Risks.** The Ports and the Rail Corridor are located within a seismically active area, and damage from an earthquake and/or from a tsunami could range from total destruction of the Rail Corridor and/or of Port facilities, to destabilization or liquefaction of the soils underneath such facilities, to little or no damage at all. The Authority is responsible for earthquake repairs to the Rail Corridor. Six earthquakes, with magnitudes on the Richter scale ranging from 5.9 to 7.3 and within approximately 25 to 27 miles of the Rail Corridor, have occurred within the last 80 years. A number of "active faults" are located within approximately six or seven miles of the Rail Corridor, and three known "potentially active faults" are located within 2.3 miles of the Rail Corridor.

In August 2008, the 2007 Working Group on California Earthquake Probabilities ("WGCEP 2007"), a multi-disciplinary collaboration of scientists and engineers organized by the Southern California Earthquake Center, the U.S. Geological Survey and the California Geological Survey, with major support from the California Earthquake Authority, released the Uniform California Earthquake Rupture Forecast ("UCERF"). The UCERF study – represented as being the first comprehensive framework for comparing earthquake likelihoods throughout all of California – determined that California has a 99.7% chance of having a magnitude 6.7 or larger earthquake during the next 30 years and that the likelihood of an even more powerful earthquake of magnitude 7.5 or greater in the next 30 years is 46%. The UCERF study determined that such a quake is more likely to occur in the southern half of the State (37% chance in 30 years) than in the northern half (15% chance in 30 years). No assurance can be given that the predictions in the UCERF study will prove to be accurate.

The Ports', the Railroads' and the Authority's facilities could sustain extensive damage in a major seismic event from ground motion and liquefaction of underlying soils, which damage could include slope failures along the shoreline, pavement and rail displacement, distortions of pavement grades, breaks in utility, drainage and sewage lines, displacement or collapse of buildings, failure of bulkhead walls, and rupture of gas and fuel lines. A major seismic event in Southern California, or elsewhere in the world, also could result in the creation of a tsunami that could cause flooding and other damage, and such damage could materially and adversely affect the condition of the Rail Corridor, Port and Railroad facilities and Revenues. The Ports have advised that, to date, none of their facilities has been damaged in an earthquake or tsunami, but no assurances can be given that Port facilities (or Railroad or Authority facilities) always will be able to withstand the effects of earthquakes or tsunamis. Although the Authority currently carries limited earthquake insurance, neither of the Ports carries earthquake insurance of any kind, although one or both may from time to time set aside some funds for emergencies. The extent of damage and the long-term effects from an earthquake or tsunami, particularly ongoing earthquake activity, may be difficult to determine immediately.

**Climate Risk.** In May 2009, the California Climate Change Center released a final paper entitled "The Impacts of Sea-Level Rise on the California Coast" that was funded by the California Energy Commission, the California Environmental Protection Agency, the Metropolitan Transportation Commission, the California Department of Transportation and the California Ocean Protection Council. The paper posits that increases in sea level will be a significant impact of climate change over the next century and that future flood risk with sea-level rise could be significant at California's major ports, including the Ports. While noting that, among other things, sea-level rise can reduce bridge clearance, reduce efficiency of port operations or flood transportation corridors to and from ports, the report states that impacts are highly site-specific and somewhat speculative. The Authority is unable to predict whether sea-level rise or other impacts of climate change will occur while the Series 2016 Bonds are outstanding, and if any such events occur, whether there will be an adverse impact, material or otherwise, on Revenues.

**Other Events of Force Majeure.** Operation of the Rail Corridor also is at risk from other events of force majeure, such as damaging storms, winds and floods, fires and explosions, strikes and lockouts, terrorist attacks, sabotage, wars, blockades, riots and spills of hazardous substances, among other events. A significant act of terrorism on United States soil or against United States interests, for example, or at any port or other major facility anywhere in the world, could have an adverse impact on international trade and on the Authority's ability to pay debt service on the Series 2016 Bonds and, among other things, could increase the Authority's cost of operations significantly, decrease Revenues or both. Operations also may be stopped or delayed from non-casualty events such as the implementation of new or increased security, safety or environmental measures or other changes in law or regulations, revocation or revision of permits and litigation, among other things. No assurance can be given that such events would be covered by insurance.

**Limited or No Insurance.** Although the Authority is required to provide insurance, the required insurance policies do not cover damage and delay from all events that could interrupt operation of the Rail Corridor. In particular, either losses resulting from earthquakes, tsunamis, floods or acts of terrorism or from strikes, riot, civil commotion, unforeseen environmental conditions, change of law, bankruptcy and insurer insolvency are not covered by insurance or any insurance that is available may not be in amounts that would be sufficient or be paid in sufficient time in all events (or at all) to pay all of the Authority's expenses, including debt service on the Bonds. In addition, the availability of insurance coverage could vary from time to time, and there can be no assurance that the Authority will be able to obtain or to renew insurance policies in a timely manner or that the provider of any such insurance coverage always will be willing or able to honor its policies. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Insurance Covenants."

No assurances can be given that the Authority will be able to repair any damage or will be able to resume operation of the Rail Corridor or that the Ports and Railroads would be able to repair damage to their facilities and resume operations following a significant event of force majeure.

## Community, Political and Regulatory Risks

Continued operation of the Project could have considerable local business and community impacts, including noise, vibrations and traffic congestion that over time and as development of surrounding areas increases could trigger protests and objections from nearby communities. Particularly if local structures, waters or grounds near the Project are damaged or polluted whether from operation of the Rail Corridor or because of some other, unrelated cause, such protests and objections could lead to increased regulation and/or to the need for increased capital or operating expenditures, and no assurances can be given that operation of the Rail Corridor will not be severely limited as a result.

The Authority, the Railroads, each of the Ports and each of their permittees and customers are subject to environmental, safety, security, permit and other federal and State regulatory requirements and inspections that can result in delays and in increased costs. The Rail Corridor, for example, is subject to frequent inspections by the FRA and by the California Public Utilities Commission. No assurances can be given that such inspections will not cause or lead to interference in operations or to additional conditions to the continuation of operations.

## No Acceleration of the Series 2016 Bonds

The Indenture contains no provisions for acceleration of the maturity of the Bonds, including the Series 2016 Bonds, after any payment default or after any other default by the Authority. The Indenture permits the issuance of additional Bonds, including variable-rate Bonds that may be secured by letters of credit or other credit facilities. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Additional Bonds." Under certain circumstances, such variable-rate Bonds could be subject to mandatory tenders for purchase or to mandatory redemption at the direction of the bank or other credit enhancer, and the Authority could be required to reimburse such bank or credit enhancer and to retire all of such bonds prior to the payment in full of the Series 2016 Bonds.

## Continuing Compliance with Tax Covenants; Changes of Law

The Indenture and the Authority's tax certificate will contain various covenants and agreements on the part of the Authority that are intended to establish and maintain the tax-exempt status of interest on the Series 2016 Bonds. A failure by the Authority to comply with such covenants and agreements, including any remediation obligations, could, directly or indirectly, adversely affect the tax-exempt status of interests on the Series 2016 Bonds. Any loss of tax-exemption could cause all of the interest received by the Owners of the

Series 2016 Bonds to be taxable. All or a portion of interest on the Series 2016 Bonds also could become subject to federal and/or State income tax as a result of changes of law. See "TAX MATTERS." The Authority is not required to redeem the Series 2016 Bonds should the interest become taxable.

## THE RAILROADS

The Railroads have agreed to pay Use Fees, Container Charges and M & O Charges in accordance with, and for the term specified in, the Operating Agreement. The Use Fees and Container Charges paid by the Railroads are the primary source of Revenues pledged to the payment of the Bonds, but the Railroads are not responsible for paying, and are not guaranteeing the payment of, the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds. The Bonds, including the Series 2016 Bonds, are not secured by a lien on any properties or improvements of the Railroads or by a pledge of any revenues of the Railroads. Although other railroad companies may in the future use the Rail Corridor under certain circumstances, the Railroads are currently, and are expected to remain in the future, the sole users of the Rail Corridor. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations" and "AUTHORITY REVENUES."

BNSF and Union Pacific Corporation, the parent of Union Pacific, currently are subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and are required to file reports and other information with the Securities and Exchange Commission (the "SEC"). The reports and other information can be inspected and copied at the public reference facility that the SEC maintains, or may be accessed electronically by means of the SEC's home page on the Internet (http://www.sec.gov). See "THE RAILROADS" in Appendix D. The Authority is not responsible for and makes no representation concerning information filed by the Railroads.

The Railroads have not provided the information contained in this Official Statement and have not reviewed this Official Statement. The information concerning the Railroads contained or referred to in this Official Statement (including the information in the next two paragraphs) has been obtained from public information filed with the SEC as described in Appendix D and has not been independently verified. The Authority makes no representations about this information.

### Union Pacific

Union Pacific is incorporated in Delaware. All of the issued and outstanding shares of voting stock of Union Pacific are owned, directly or indirectly, by Union Pacific Corporation, a Utah corporation. Union Pacific operates various railroad and railroad-related businesses and is the largest railroad in North America. Union Pacific's approximately 31,974 route miles, traveling through 23 states, link Pacific Coast and Gulf Coast ports to the Midwest and eastern United States gateways and provide several north/south corridors to key Mexican gateways. Union Pacific serves the western two-thirds of the country and maintains coordinated schedules with other carriers for the handling of freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada and Mexico. Export and import traffic is moved through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders. The largest of Union Pacific's roughly 10,000 customers include steamship lines, vehicle manufacturers, agricultural companies, utilities, intermodal companies and chemical manufacturers. Union Pacific has approximately 47,200 full-time equivalent employees as of December 31, 2014, of whom approximately [86%] are represented by [14] major rail unions. See "THE RAILROADS—Union Pacific Railroad Company" in Appendix D.

### BNSF

BNSF, a subsidiary of Berkshire Hathaway, Inc., is also incorporated in Delaware. BNSF engages primarily in the rail transportation business and operates one of the largest railroad systems in North America. BNSF's approximately 32,500 route miles run through 28 states and three Canadian provinces and serve more than 40 ports and 25 intermodal facilities. BNSF's network covers the western two-thirds of the United States, stretching from major Pacific Northwest and Southern California ports to the Midwest, Southeast and Southwest, and from the Gulf of Mexico to Canada. Freight revenues are generated mainly through the transportation of consumer products, coal, industrial products and agricultural products. BNSF has approximately 47,000 employees as of December 31, 2014. See "THE RAILROADS—BNSF Railway Company" in Appendix D.

## THE PORTS

The Ports are obligated only to make the payments required by the Operating Agreement and are not responsible for paying, and are not guaranteeing the payment of, the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds. See Appendix B and Appendix C. The information in Appendix B was provided by POLA, and the information in Appendix C was provided by POLB. The Authority makes no representation concerning such information.

## CONTINUING DISCLOSURE

### The Authority and the Ports

The Authority has covenanted for the benefit of the holders and beneficial owners of the Series 2016 Bonds to provide certain financial and operating information not later than April 1 (or June 1 with respect to POLB, on and after the date that the 1999 Bonds and the 2004 Subordinate Lien Bonds are no longer outstanding) of each year in which any Series 2016 Bonds are outstanding, commencing April 1, 2013 with the report for the 2011-12 Fiscal Year (each an "Annual Report"). In addition, the Authority has covenanted to provide notices of the occurrence of certain enumerated events. In connection with the Authority's disclosure obligations, each of the Ports has covenanted for the benefit of the holders and beneficial owners of the Series 2016 Bonds to provide the Authority with certain financial and operating information, not later than March 1 (or May 1 with respect to POLB, on and after the date that the 1999 Bonds and the 2004 Subordinate Lien Bonds are no longer outstanding) of each year in which any Series 2016 Bonds are outstanding, commencing with the report for the 2011-12 Fiscal Year. Because POLB's fiscal year ends on September 30 (three months later than POLA's and the Authority's fiscal years, at times information about POLB is filed in a separate supplement to an Annual Report. The Annual Reports are required to be filed by the Authority with the MSRB through its EMMA system. The specific nature of information to be contained in the Annual Report or the notices of enumerated events is summarized in the form of the Continuing Disclosure Certificate in Appendix H. These covenants have been made in order to assist the Underwriters in complying with SEC Rule 15c2-12(b)(5).

**[CONFIRM]**According to the Authority, within the past five years, the Authority has not failed to comply in any material respect with its past continuing disclosure undertakings.

**[CONFIRM]**According to POLA, within the past five years, POLA has not failed to comply in any material respect with its past continuing disclosure undertakings. POLA notes, however, that in some of its continuing disclosure certificates POLA agreed that it would provide annual updates to tables entitled "Revenue Tonnage by Trade Route," which summarized inbound and outbound revenue tonnage by trade route in metric revenue tons. In recent years, however, POLA and the industry have moved away from metric revenue tons to TEUs, causing a change in POLA's method for gathering statistical data. As a result, since fiscal year ended June 30, 2011, POLA has not been able to update that table and provides TEUs by country instead.

**[CONFIRM]**According to POLB, within the past five years, POLB has not failed to comply in any material respect with its past continuing disclosure undertakings. POLB notes, however, its continuing disclosure reports are provided to the Authority and filed on EMMA by the City of Long Beach, and in 2012, the City filed POLB's annual report and audited financial statements on April 30, 2012 instead of on April 1, 2012 as POLB had agreed with the Authority.

### The Railroads

Each of the Railroads also has covenanted to provide certain financial information for the benefit of the holders and beneficial owners of the Series 2016 Bonds. This information is incorporated in documents filed with the SEC. BNSF has agreed that if in the future it is no longer subject to the informational requirements of Sections 13 or 15(d) of the Exchange Act and Union Pacific has agreed that if in the future neither Union Pacific nor Union Pacific Corporation is subject to the informational requirements of Sections 13 or 15(d) of the Exchange Act, it will notify the Trustee and will furnish certain financial information and operating data to the MSRB through its EMMA system. See "THE RAILROADS" in Appendix D.

## TAX MATTERS

### Federal Income Taxes

The Internal Revenue Code of 1986, as amended (the "Code"), imposes certain requirements that must be met subsequent to the issuance and delivery of the Series 2016 Bonds for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause the interest on the Series 2016 Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the Series 2016 Bonds. Pursuant to the Indenture and the tax and nonarbitrage certificate executed by the Authority in connection with the issuance of the Series 2016 Bonds (the "Tax Certificate"), the Authority has covenanted to comply with the applicable requirements of the Code in order to maintain the exclusion of the interest on the Series 2016 Bonds from gross income for federal income tax purposes pursuant to Section 103 of the Code. In addition, the Authority has made certain representations and certifications in the Indenture and the Tax Certificate. Special Tax Counsel will not independently verify the accuracy of those representations and certifications.

In the opinion of Nixon Peabody LLP, Special Tax Counsel, under existing law and assuming compliance with the aforementioned covenant, and the accuracy of certain representations and certifications made by the Authority described above, interest on the Series 2016 Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Code. Special Tax Counsel is also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code with respect to individuals and corporations. Interest on the Series 2016 Bonds is, however, included in the adjusted current earnings of certain corporations for purposes of computing the alternative minimum tax imposed on such corporations.

### State Taxes

Special Tax Counsel is also of the opinion that interest on the Series 2016 Bonds is exempt from personal income taxes of the State of California under present State law. Special Tax Counsel expresses no opinion as to other state or local tax consequences arising with respect to the Series 2016 Bonds nor as to the taxability of the Series 2016 Bonds or the income therefrom under the laws of any state other than the State of California.

### Original Issue Discount

Special Tax Counsel is further of the opinion that the excess of the principal amount of any maturity of the Series 2016 Bonds over the price at which a substantial amount of such maturity of the Series 2016 Bonds was sold to the public (excluding bond houses, brokers or similar persons or organizations acting in the capacity of underwriters or wholesalers) (each, a "Discount Bond" and collectively the "Discount Bonds") constitutes original issue discount which is excluded from gross income for federal income tax purposes to the same extent as interest on the Series 2016 Bonds. Further, such original issue discount accrues actuarially on a constant interest rate basis over the term of each Discount Bond and the basis of each Discount Bond acquired at such initial offering price by an initial purchaser thereof will be increased by the amount of such accrued original issue discount. The accrual of original issue discount may be taken into account as an increase in the amount of tax-exempt income for purposes of determining various other tax consequences of owning the Discount Bonds, even though there will not be a corresponding cash payment. Owners of the Discount Bonds are advised that they should consult with their own advisors with respect to the state and local tax consequences of owning such Discount Bonds.

**Original Issue Premium**

Series 2016 Bonds sold at prices in excess of their principal amounts are "Premium Bonds." An initial purchaser with an initial adjusted basis in a Premium Bond in excess of its principal amount will have amortizable bond premium which is not deductible from gross income for federal income tax purposes. The amount of amortizable bond premium for a taxable year is determined actuarially on a constant interest rate basis over the term of each Premium Bond based on the purchaser's yield to maturity (or, in the case of Premium Bonds callable prior to their maturity, over the period to the call date, based on the purchaser's yield to the call date and giving effect to any call premium). For purposes of determining gain or loss on the sale or other disposition of a Premium Bond, an initial purchaser who acquires such obligation with an amortizable bond premium is required to decrease such purchaser's adjusted basis in such Premium Bond annually by the amount of amortizable bond premium for the taxable year. The amortization of bond premium may be taken into account as a reduction in the amount of tax-exempt income for purposes of determining various other tax consequences of owning such Series 2016 Bonds. Owners of the Premium Bonds are advised that they should consult with their own advisors with respect to the state and local tax consequences of owning such Premium Bonds.

**Ancillary Tax Matters**

Ownership of the Series 2016 Bonds may result in other federal tax consequences to certain taxpayers, including, without limitation, certain S corporations, foreign corporations with branches in the United States, property and casualty insurance companies, individuals receiving Social Security or Railroad Retirement benefits, and individuals seeking to claim the earned income credit. Ownership of the Series 2016 Bonds may also result in other federal tax consequences to taxpayers who may be deemed to have incurred or continued indebtedness to purchase or to carry the Series 2016 Bonds. Prospective investors are advised to consult their own tax advisors regarding these rules.

Interest paid on tax-exempt obligations such as the Series 2016 Bonds is subject to information reporting to the Internal Revenue Service (the "IRS") in a manner similar to interest paid on taxable obligations. In addition, interest on the Series 2016 Bonds may be subject to backup withholding if such interest is paid to a registered owner that (a) fails to provide certain identifying information (such as the registered owner's taxpayer identification number) in the manner required by the IRS, or (b) has been identified by the IRS as being subject to backup withholding.

Special Tax Counsel is not rendering any opinion as to any federal tax matters other than those described in the opinions attached as Appendix [_]. Prospective investors, particularly those who may be subject to special rules described above, are advised to consult their own tax advisors regarding the federal tax consequences of owning and disposing of the Series 2016 Bonds, as well as any tax consequences arising under the laws of any state or other taxing jurisdiction.

**Changes in Law and Post Issuance Events**

Legislative or administrative actions and court decisions, at either the federal or state level, could have an adverse impact on the potential benefits of the exclusion from gross income of the interest on the Series 2016 Bonds for federal or state income tax purposes, and thus on the value or marketability of the Series 2016 Bonds. This could result from changes to federal or state income tax rates, changes in the structure of federal or state income taxes (including replacement with another type of tax), repeal of the exclusion of the interest on the Series 2016 Bonds from gross income for federal or state income tax purposes, or otherwise. We note that each year since 2011, President Obama released legislative proposals that would limit the extent of the exclusion from gross income of interest on obligations of states and political subdivisions under Section 103 of the Code (including the Series 2016 Bonds) for taxpayers whose income exceeds certain thresholds. It is not possible to predict whether any legislative or administrative actions or court decisions having an adverse impact on the federal or state income tax treatment of holders of the Series 2016 Bonds may occur. Prospective purchasers of the Series 2016 Bonds should consult their own tax advisors regarding the impact of any change in law on the Series 2016 Bonds. Special Tax Counsel has not undertaken to advise in the future whether any events after the date of issuance and delivery of the Series 2016 Bonds may affect the tax status of interest on the Series 2016 Bonds. Special Tax Counsel expresses no opinion as to any federal, state or local tax law consequences with respect to the Series 2016 Bonds, or the interest thereon, if any action is taken with respect to the Series 2016 Bonds or the proceeds thereof upon the advice or approval of other counsel.

## LEGAL MATTERS

Legal matters incident to the issuance of the Series 2016 Bonds and with regard to the exclusion of interest on the Series 2016 Bonds from gross income for federal income tax purposes (see "TAX MATTERS") are subject to the legal opinion of O'Melveny & Meyers LLP, Bond Counsel to the Authority, and Nixon Peabody LLP, Special Tax Counsel to the Authority, whose legal services have been retained by the Authority. The signed legal opinion with respect to the Series 2016 Bonds, dated and premised on law in effect as of the date of original delivery of the Series 2016 Bonds, will be delivered to the Authority on the date of issuance of the Series 2016 Bonds. The proposed text of the legal opinion of Bond Counsel is included as Appendix G to this Official Statement. The legal opinion to be delivered may vary from the text if necessary to reflect facts and law on the date of delivery. The opinion will speak only as of its date, and subsequent distribution of it by recirculation of the Official Statement or otherwise shall create no implication that Bond Counsel has reviewed or expresses any opinion concerning any of the matters referred to in the opinion subsequent to its date.

Certain legal matters will be passed upon for the Authority by one of its Co-General Counsel, for POLA by the Office of the Los Angeles City Attorney and for POLB by the Office of the Long Beach City Attorney. Certain legal matters will be passed upon for the Underwriters by their counsel, Orrick, Herrington & Sutcliffe LLP. The opinion provided to the Underwriters by their counsel will provide that only the Underwriters may rely upon such opinion.

Polsinelli LLP serves as Disclosure Counsel to the Authority in connection with certain matters. Polsinelli LLP undertakes no responsibility for the accuracy, completeness or fairness of this Official Statement and will not render any legal opinions with respect thereto.

O'Melveny & Meyers LLP and Nixon Peabody LLP undertake no responsibility for the accuracy, completeness or fairness of this Official Statement and will not render any legal opinions with respect thereto.

The legal opinions and other letters of counsel to be delivered concurrently with the delivery of the Series 2016 Bonds express the professional judgment of the attorneys rendering the opinions or advice regarding the legal issues and other matters expressly addressed therein. By rendering a legal opinion or advice, the firm providing such opinion or advice does not become an insurer or guarantor of the result indicated by that opinion or advice, the transaction on which the opinion or advice is rendered or the future performance of parties to the transaction. Nor does the rendering of an opinion guarantee the outcome of any legal dispute that may arise out of the transaction.

## LITIGATION

**[CONFIRM]** There is no action, suit, proceeding or investigation at law or in equity before or by any court, public board or body, pending against the Authority or, to the best knowledge of the Authority, threatened against or affecting the Authority that would materially adversely impact the Authority's ability to perform the obligations required of it by the Indenture and the Operating Agreement, or in any way contesting or affecting the validity of the Series 2016 Bonds, the Indenture or the Operating Agreement or wherein an unfavorable decision, ruling or judgment would materially adversely affect the validity or enforceability of the Indenture, the Operating Agreement or the Series 2016 Bonds.

**[CONFIRM]** In addition to the litigation described under "THE RAIL CORRIDOR AND RELATED PROJECTS —Environmental Considerations," the Authority is involved in a number of legal proceedings that are not described in this Official Statement, including proceedings relating to condemnation. The Authority does not expect that such proceedings, even if decided adversely to the Authority, will have a material adverse effect on the Authority's financial position.

## RATINGS

[Moody's Investors Service ("Moody's") and Standard & Poor's Rating Service ("S&P") have assigned their ratings of "[__]" (stable outlook) and "[__]" (stable outlook), respectively, for the Insured Series 2016 Bonds, assuming the Series 2016 Bond Insurance Policy is delivered at the time the Insured Series 2016 Bonds are issued. Moody's, Fitch Ratings and S&P [also] assigned [underlying] ratings on the Series 2016A Bonds of "[__]," "[__]" and "[__]," respectively, and [underlying] ratings on the Series 2016B Bonds of "[__]," "[__]" and "[__]," respectively. Certain information was supplied by the Authority and the Ports to such rating agencies to be considered in evaluating the Series 2016 Bonds, some of which has not been included in this Official Statement. Generally, rating agencies base their ratings on information and materials furnished to them and on their own investigations, studies and assumptions.

The foregoing ratings express only the views of the rating agencies and are not a recommendation to buy, sell or hold any of the Series 2016 Bonds. An explanation of the significance of each of the ratings may be obtained from the rating agency furnishing the rating. There is no assurance that such ratings will continue for any given period of time or that they will not be revised downward or withdrawn entirely by the rating agencies, or any of them, if, in their or its judgment, circumstances so warrant. Any downward revision or withdrawal of ratings, or other actions of a rating agency relating to its rating of the Series 2016 Bonds, may have an adverse effect on the market price, marketability or liquidity of the Series 2016 Bonds.

The Authority expects to furnish each rating agency with information and material that it may request. The Authority, however, assumes no obligation to furnish requested information and materials, and may issue debt for which a rating is not requested. Failure to furnish requested information and materials, or the issuance of debt for which a rating is not requested, may result in the suspension or withdrawal of a rating on the Series 2016 Bonds.

None of the Underwriters, the Authority, the Ports or the Railroads undertakes any responsibility to assure the maintenance of the ratings or to oppose any revision or withdrawal thereof.

## UNDERWRITING

The Series 2016A Bonds are to be purchased from the Authority by Merrill Lynch, Pierce, Fenner & Smith Incorporated, Barclays Capital Inc., Citigroup Global Markets Inc., RBC Capital Markets, LLC and Stifel Nicolaus & Company, Incorporated (collectively the "Underwriters") at an aggregate purchase price of $[____________] (representing the aggregate principal amount of the Series 2016A Bonds, plus original issue premium of $________, less original issue discount of $_________and less an Underwriters' discount of $[_______]), and the Series 2016B Bonds are to be purchased from the Authority by the Underwriters at an aggregate purchase price of $[____________] (representing the aggregate principal amount of the Series 2016B Bonds, plus original issue premium of $________, less original issue discount of $_________and less an Underwriters' discount of $[_______]), all subject to the terms of a Bond Purchase Agreement (the "Bond Purchase Agreement") between the Authority and the Underwriters. The Bond Purchase Agreement provides that the Underwriters will purchase all of the Series 2016 Bonds if any are purchased and that the obligation to make such purchase is subject to certain terms and conditions set forth in the Bond Purchase Agreement, including the approval by counsel of certain legal matters.

The Underwriters intend to offer the Series 2016 Bonds for sale at the prices or yields set forth on the inside cover page hereof. Such initial public offering prices or yields may be changed from time to time by the Underwriters without prior notice. The Underwriters may offer and sell the Series 2016 Bonds to certain dealers, unit investment trusts or money market funds at prices lower than or at yields higher than the public offering prices or yields stated on the inside cover page.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. Certain of the Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various investment banking services for the Authority, either or both of the Ports and either or both of the Railroads, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Authority, including Bonds being refunded, either or both of the Ports and either or both of the Railroads.

Citigroup Global Markets Inc., one of the Underwriters of the Series 2016 Bonds ("Citigroup"), has entered into a retail distribution agreement with each of TMC Bonds L.L.C. ("TMC") and UBS Financial Services Inc. ("UBSFS"). Under these distribution agreements, Citigroup may distribute municipal securities to retail investors through the financial advisor network of UBSFS and the electronic primary offering platform of TMC. As part of this arrangement, Citigroup may compensate TMC (and TMC may compensate its electronic platform member firms) and UBSFS for their selling efforts with respect to the Series 2016 Bonds.

Merrill Lynch, Pierce, Fenner & Smith Incorporated, one of the Underwriters, is an affiliate of Bank of America, N.A., the Provider under the Forward Delivery Agreement described above.

## FINANCIAL STATEMENTS

The audited financial statements of the Authority for the fiscal years ended June 30, 2015 and 2014 included in Appendix A have been audited by Moss Adams LLP, independent auditors, as stated in their report appearing therein.

The audited financial statements of POLA for the fiscal years ended June 30, 2014 and 2013 were provided by POLA for inclusion in Appendix B. Simpson & Simpson LLP, the independent auditor, has not been engaged to perform and has not performed, since the date of its report included in Appendix B, any procedures on the financial statements of POLA addressed in that report. Simpson & Simpson LLP also has not performed any procedures relating to POLA's information included in this Official Statement.

The audited financial statements of POLB for the fiscal years ended September 30, 2014 and 2013 were provided by POLB for inclusion in Appendix C. KPMG LLP, the independent auditor, has not been engaged to perform and has not performed, since the date of its report included in Appendix C, any procedures on the financial statements of POLB addressed in that report. KPMG LLP also has not performed any procedures relating to POLB's information included in this Official Statement.

The accounting firm referred to above has not examined, compiled or performed any procedures with respect to Revenues or other forecasts included in this Official Statement and, accordingly, expresses no opinion or any other form of assurance with respect thereto. The Independent Auditors' reports contained in this Official Statement relate only to historical financial information specifically set forth or referred to therein.

## FINANCIAL ADVISOR

Public Financial Management, Los Angeles, California, has acted as the Financial Advisor to the Authority in connection with the issuance of the Series 2016 Bonds. The Financial Advisor is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness or fairness of the information contained in this Official Statement. Public Financial Management is an advisory firm and is not engaged in the business of underwriting or distributing municipal or other public securities.

## MISCELLANEOUS

The purpose of this Official Statement is to supply information to potential investors in the Series 2016 Bonds. The summaries provided in this Official Statement, including the Appendices, do not purport to be comprehensive or definitive, and all references to the documents summarized are qualified in their entirety by reference to each such document. All references to the Series 2016 Bonds are qualified in their entirety by reference to the forms thereof and the information with respect thereto included in the aforesaid documents. Copies of the documents referred to herein are available from the Authority upon written request submitted to the attention of James Preusch, Chief Financial Officer, at the address shown on the third page of this Official Statement or by facsimile at (562) 247-7090.

Statements in this Official Statement, including matters of opinion, projections and forecasts, whether or not expressly so stated, are intended as such and not as representations of fact. This Official Statement is not to be construed as a contract or agreement between the Authority or the Underwriters and the purchasers of the Series 2016 Bonds. The Authority has authorized the preparation, execution and distribution of this Official Statement.

ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY

By ______________________________________________
Chief Executive Officer

# APPENDIX A

## AUDITED BASIC FINANCIAL STATEMENTS OF THE AUTHORITY

# APPENDIX B

## THE PORT OF LOS ANGELES, INCLUDING AUDITED FINANCIAL STATEMENTS

## THE PORT OF LOS ANGELES

POLA is obligated only to make certain payments required by the Operating Agreement and is not responsible for paying, and is not guaranteeing the payment of, the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds. The Bonds are not secured by a lien on any properties or improvements of the City of Los Angeles or of POLA, or by a pledge of any revenues of POLA. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations." Under certain circumstances, the Operating Agreement requires POLA to pay Shortfall Advances, the payment of which is a limited obligation, payable solely from POLA's net revenues, after all of POLA's other obligations, including operation and maintenance costs, are paid. See "AUTHORITY REVENUES—Shortfall Advances" and "BONDHOLDERS' RISKS—Shortfall Advances are Limited, Subordinate Obligations of the Ports." POLA has agreed that it will include in its budget Shortfall Advances of which it has notice, but POLA is not required to reserve or to set aside any funds, and has not reserved or set aside funds, for such purposes, and the payment of Shortfall Advances by POLA is payable after all of POLA's other obligations, including operation and maintenance costs, have been paid.

The information about POLA in this Official Statement was provided by POLA. The Authority makes no representation concerning such information.

### General

The Harbor Department of the City of Los Angeles (the "LA Harbor Department") is a proprietary, independent department of the City of Los Angeles similar to the Los Angeles Department of Water and Power and the Los Angeles Department of Airports. The LA Harbor Department operates POLA independently from the City of Los Angeles, using POLA's own revenues, and administers and controls its fiscal activities, subject to oversight by the City Council of the City of Los Angeles. The City of Los Angeles holds in trust and the LA Harbor Department administers POLA's facilities, located in San Pedro Bay, approximately 20 miles south of downtown Los Angeles. POLA's facilities lie within the shelter of a nine-mile long breakwater constructed by the federal government in several stages, the first of which commenced in 1899. The breakwater encloses the largest man-made harbor in the Western Hemisphere.

POLA has three major continuing sources of revenue: shipping revenue, which is a function of cargo throughput; revenue from the rental of the Port's land and buildings (i.e., revenue from permit and lease agreements); and the smallest component, fee and royalty revenue.

POLA operates as a landlord, issuing permits for the use of POLA land, docks, wharves, transit sheds, terminals and other facilities. POLA also is landlord to various shipyards, fish markets, ocean-related entities (i.e., fisheries and ship repair), railroads, restaurants and other similar operations. These arrangements are entered into under various lease and permit agreements. Under the permit agreements the occupants agree to pay tariffs or fees established by POLA. Permittees are generally shipping or terminal companies, agents or other private firms. POLA has no direct role in managing the daily movements of cargo. POLA also recovers its costs of providing services and improvements through tariff charges for shipping services. In 2014, POLA provided facilities for approximately [148] shipping companies and agents.

Most of the property on which POLA's land, docks, wharves, transit sheds, terminals and other facilities are located is owned by the City of Los Angeles and administered by POLA, subject to a trust created pursuant to certain tideland grants from the State. These tidelands were granted to the City of Los Angeles under the State Tidelands Trust Act by the California State Legislature in 1911 for the purpose of promoting commerce, navigation and fishery. Subsequent state legislative action expanded the permitted uses of tidelands to include maritime commerce, fishing, navigation and recreation and environmental activities that are water-oriented and are intended to be of statewide benefit. Certain additional requirements and restrictions are imposed by the tidelands grants, including limitations on the sale and long-term leasing of tidelands and limitations on the use of funds generated from the tidelands and tidelands trust assets.

Under the tidelands trusts, funds from the tidelands may be transferred to the City of Los Angeles's General Fund only for tidelands trust purposes and may not be transferred to the City General Fund for general municipal purposes. All amounts in the Los Angeles Harbor Revenue Fund are subject to the tidelands trust use restrictions. POLA does not expect that restrictions on the use of tidelands or with respect to tidelands funds will materially adversely affect POLA's operations or finances of POLA. Tideland grants and terms of the tidelands trusts are subject to amendment or revocation by the California Legislature, as grantor of the trust and as representative of the beneficiaries (the people of the State).

According to the American Association of Port Authorities, during calendar year 2014, POLA was the busiest container port in North America in terms of cargo volume, handling approximately 8.3 million TEUs. According to statistics compiled by the Journal of Commerce, during calendar year 2014, POLA and POLB, combined, ranked as the tenth busiest container port complex in the world in terms of TEUs handled. POLA handled approximately 8.2 million TEUs during calendar year 2015, as compared to approximately 8.3 million TEUs during calendar year 2015.

**Physical Description and Geography**

In terms of physical size, POLA covers approximately 7,500 acres (4,300 acres of land and 3,200 acres of water); 43 miles of waterfront berthing; and 27 passenger and cargo terminal facilities, including eight major container cargo terminals, four break-bulk facilities, seven petroleum/liquid bulk cargo terminals, three dry bulk facilities, two passenger cruise terminals, one vehicle handling facility and two multi-use facilities. POLA is served by the two Railroads and is at the terminus of two major highways within the Los Angeles area highway system. POLA also is linked by subsurface pipelines to many of the major refineries and petroleum distribution terminals within the Los Angeles basin. POLA is a deep-water port with a minimum depth of 45 feet below mean low water throughout the main channels and 53 feet at the bulkloader and supertanker channels. POLA recently completed the dredging of its main channel to the depth of 53 feet to accommodate the most modern container ships. POLA currently has the capability to handle modern, deeper-draft vessels. Because there is no significant source of river sand or silt in the POLA harbor, these channels do not require frequent dredging for maintenance purposes. Sand and silt deposits are typically restricted to storm drain outlets and the adjacent Dominguez Channel. Maintenance dredging typically occurs every three years to remove accumulations of deposits throughout the Port.

Many of the container terminal operators located at POLA utilize the Intermodal Container Transfer Facility (the "ICTF"), a specialized rail yard for the transfer of containers to and from trucks and railcars, located five miles from POLA. The ICTF was financed and constructed by Southern Pacific Transportation Company and the Intermodal Container Transfer Facility Joint Powers Authority, a joint powers authority organized by the Ports. The ICTF is operated by Union Pacific under a long-term lease agreement.

POLA's major permittees (tenants) as of June 30, 2015 are listed in Table B-1 below.

### TABLE B-1

### PORT OF LOS ANGELES
### MAJOR PERMITTEES (TENANTS)
### AS OF JUNE 30, 2015

APM Terminals Pacific LTD/Maersk
China Shipping Holding Company, LTD
Eagle Marine Services Ltd.
Everport Terminal Services Inc.
Exxon-Mobil Oil Corporation
Kinder Morgan/GATX Terminals Corporation
Parking Concepts, Inc.
Phillips 66 Company
Ports America Cruise, Inc.
Princess Cruise Lines, Inc.
Rio Doce Pasha Terminal, L.P.
SA Recycling/Hugo Neu-Proler Corp
Shell Oil Company
TraPac, Inc.
Ultramar Marine Inc.
Union Pacific Railroad Company
Vopak/Wilmington Liquid Bulk Terminal
WWL Vehicle Services Americas/Distribution and Auto Services
Yang Ming Transport Ltd.
Yusen Terminal Inc./N.Y.K. (North America) Inc.

_______________
*Source: POLA*

POLA sets tariff charges for, among other things, wharfage, dockage, storage, pilotage, land usage, passenger fees and demurrage applicable to all ships and cargo using POLA-owned property and necessary for the orderly movement of cargo. POLA and all other California public ports control and determine their own individual tariff structures. The ports cooperate, however, in setting tariff rates through membership in the California Association of Port Authorities ("CAPA"). One of CAPA's goals is to establish and maintain reasonable and, as far as practicable, uniform terminal rates, charges, classifications, rules and regulations for the handling and movement of domestic and foreign waterborne cargo. These tariff provisions cover, among other things, space assignments at marine terminal facilities, as well as other miscellaneous terminal charges necessary for the orderly movement of cargo. CAPA's goal is to permit California ports to obtain an adequate return on investment to facilitate the necessary maintenance, expansion and improvement of marine facilities. CAPA is exempt from federal antitrust laws, thereby allowing for this cooperative rate setting.

**Source of Funds for Payment of Shortfall Advances**

Pursuant to the Operating Agreement, POLA is obligated to include in its budget each fiscal year an amount equal to the amount of projected Shortfall Advances for such fiscal year that has been forecasted by the Authority and for which due notice thereof has been provided to POLA by the Authority. POLA has not funded a reserve account to pay Shortfall Advances. The payment of Shortfall Advances by POLA is payable after all of POLA's other obligations, including operation and maintenance costs and POLA's debt service, are paid.

**Financial Information**

The Los Angeles Harbor Revenue Fund is a separate fund established by the Charter of the City of Los Angeles. All fees, charges, rentals and revenue from every source collected by POLA in connection with its possession, management and control of the Los Angeles Harbor District and Los Angeles Harbor Assets (as defined in the Charter of the City of Los Angeles) are deposited in the Harbor Revenue Fund. All such moneys and revenues deposited in the Los Angeles Harbor Revenue Fund are under the direction and control of the Los Angeles Board of Harbor Commissioners. POLA expends moneys in the Los Angeles Harbor Revenue Fund, from time to time, to pay operating and maintenance expenses and debt service on its outstanding indebtedness. Remaining revenues constitute surplus revenues and may be used for any lawful purposes, including, among other things, payment of Shortfall Advances.

The following tables set forth certain historical operational and financial information for POLA's fiscal years ended June 30, 2011 through 2015.

## TABLE B-2

## PORT OF LOS ANGELES
## SUMMARY OF REVENUES, EXPENSES AND NET ASSETS
## FISCAL YEARS ENDED JUNE 30, 2011 THROUGH 2015

(in thousands of dollars)

| | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| REVENUES | | | | | |
| Shipping services | | | | | |
| Wharfage | $ 317,621 | $ 333,757 | $ 322,821 | $ 350,928 | $ 336,997 |
| Dockage | 5,848 | 4,813 | 4,689 | 4,930 | 6,097 |
| Demurrage | 238 | 230 | 228 | 223 | 329 |
| Pilotage | 7,417 | 7,131 | 6,954 | 7,540 | 7,110 |
| Assignment charges | 12,374 | 11,785 | 13,184 | 13,592 | 14,365 |
| Total shipping services | $ 343,498 | $ 357,716 | $ 347,876 | $ 377,213 | $ 364,899 |
| Rentals | | | | | |
| Land | $ 42,693 | $ 40,127 | $ 38,856 | $ 38,189 | $ 45,255 |
| Other | 2,735 | 3,016 | 4,034 | 1,966 | 979 |
| Total rentals | $ 45,428 | $ 43,143 | $ 42,890 | $ 40,156 | $ 46,233 |
| Royalties, fees and other operating revenues | 11,577 | 8,928 | 6,602 | 8,582 | 35,763 |
| Total operating revenues | $ 400,503 | $ 409,787 | $ 397,368[1] | $ 425,951 | $ 446,895 |
| EXPENSES | | | | | |
| Operating and administrative expenses | | | | | |
| Salaries and benefits | $ 98,838 | $ 98,614 | $ 101,861 | $ 93,668 | $ 92,786 |
| Pension expense adjustment[1] | - | - | - | 18,385 | 19,002 |
| City services and payments | 29,964 | 32,014 | 31,074 | 33,633 | 34,749 |
| Outside services | 29,367 | 27,660 | 29,690 | 26,331 | 28,983 |
| Utilities | 6,612 | 6,653 | 5,726 | 12,335 | 19,373 |
| Material and supplies | 6,249 | 6,314 | 5,989 | 6,883 | 6,257 |
| Pollution remediation expenses | 14,698 | 11,635 | 11,635 | 1,268 | (211) |
| Marketing and public relations | 2,912 | 3,177 | 2,877 | 2,711 | 2,771 |
| Workers' compensation, claims & settlement | 4,633 | 7,507 | 3,550 | 1,959 | 2,503 |
| Clean Truck Program expenses | 5,445 | 790 | 934 | 1,100 | 949 |
| Travel and entertainment | 804 | 932 | 1,139 | 548 | 512 |
| Other operating expenses | 10,174 | 4,511 | 10,694 | 6,533 | 26,574 |
| Total operating and administrative expenses | 209,696 | 199,807 | 205,169 | 205,354 | 234,249 |
| Income from operations before depreciation | 190,807 | 209,980 | 192,199 | 220,597 | 212,646 |
| Depreciation | 90,468 | 100,485 | 108,037 | 124,221 | 137,384 |
| Operating income | 100,339 | 109,495 | 84,162 | 96,376 | 75,262 |
| Nonoperating revenues/(Expenses) | | | | | |
| Income from investments in JPAs and other entities | (333) | 1,851 | 2,049 | 2,129 | 2,811 |
| Interest and investment income | 6,436 | 9,486 | 826 | 4,654 | 5,039 |
| Interest expense | (3,704) | (10,538) | (2,473) | (1,530) | (330) |
| Other income and expenses, net | (6,667) | (8,359) | 784 | (27,364) | (2,226) |
| Net nonoperating revenues/(expenses) | (4,268) | (7,560) | 1,186 | (22,111) | 5,293 |
| Income before capital contributions | $96,071 | $101,935 | $85,348 | $74,265 | $80,555 |
| Capital contributions | 12,059 | 31,307 | 17,630 | 80,374 | 111,852 |
| Special Item[2] | -- | -- | 13,387 | 15,002 | -- |
| Changes in net assets | 108,130 | 133,242 | 116,365 | 169,640 | 192,407 |
| Total net assets – beginning of year | 2,534,754 | 2,642,884 | 2,776,126 | 2,884,351 | 3,064,554 |
| Net Adjustment for Prior Year Amortization of Bond Premium/Discount | -- | -- | -- | 10,562 | -- |
| Net Adjustment for Prior Year Pension Expense | -- | -- | -- | -- | (194,062)[3] |
| Net Adjustment for Write-Off of Prior Period Bond Costs | -- | -- | (8,142) | -- | -- |
| Total net assets – end of year | $2,642,884 | $2,776,126 | $2,884,351 | $3,064,554 | 3,062,899 |

(1) In October 2012, Transpacific 8, a service route jointly operated by Mediterranean Shipping Co., Maersk Line and CMA CGM, transferred from the Port of Los Angeles to the Port of Long Beach and initially it impacted both cargo volume and associated revenue at the Port of Los Angeles. The Port of Los Angeles has since recovered from the initial impact through ongoing capital investment to enhance capacity and recent favorable movement of alliance traffic.

(2) Pension expenses incurred in fiscal years ended June 30, 2014 and 2015 have been reported separately from "Salaries and Benefits" expense as a result of the implementation of Governmental Accounting Standards Board ("GASB") "Statement No. 68, Accounting and Financial Reporting for Pensions" ("GASB 68") and GASB "Statement No. 71, Pension Transition for Contributions Made Subsequent to the Measure Date" ("GASB 71"). Pension expenses incurred in fiscal years ended June 30, 2011 through 2013 have been reported within "Salaries and Benefits" expense.

(3) One-time adjustment required by GASB 68 and GASB 71. Refer to Note 1(B) "Summary of Significant Accounting Policies—Restatement" in the Department's Comprehensive Annual Financial Report for the fiscal years ended June 30, 2015 and 2014 for more information.

Note: TEU = twenty foot equivalent units.

*Source*: POLA

## TABLE B-3

## PORT OF LOS ANGELES
## REVENUE TONNAGE BY CARGO TYPE[1]
## FISCAL YEARS [2005] THROUGH 2015

(in thousands of metric revenue tons)

| Fiscal Year Ended June 30 | General Cargo | Liquid Bulk[2] | Dry Bulk[3] | Total[4] | % Increase (Decrease) in Total Tonnage over Prior Year |
|---|---|---|---|---|---|
| 2005 | 145,000 | 12,800 | 4,300 | 162,100 | -- |
| 2006 | 155,200 | 16,000 | 3,600 | 174,800 | 8.1% |
| 2007 | 171,900 | 15,400 | 2,800 | 190,100 | 8.8 |
| 2008 | 161,900 | 6,200 | 1,900 | 170,000 | (10.6)[5] |
| 2009 | 144,400 | 11,100 | 2,000 | 157,500 | (7.4)[5] |
| 2010 | 145,800 | 10,700 | 1,300 | 157,800 | 0.2 |
| 2011[6] | 149,100 | 10,600 | 1,200 | 160,900 | 2.0 |
| 2012[6] | 163,900 | 9,900 | 1,100 | 174,900 | 8.7 |
| 2013 | 156,300 | 7,800 | 1,000 | 165,100 | (5.6)[7] |
| 2014 | 165,000 | 10,500 | 900 | 176,400 | 6.8 |
| 2015 | 165,100 | 10,300 | 1,400 | 176,800 | 0.2 |

(1) Numbers are rounded.

(2) For fiscal year ended June 30, 2007, the indicated number includes 7,354, which represents a correcting entry for multiple prior years.

(3) Dry bulk cargo includes steel slabs, sulfur, pipe, beams, scrap metal, coal, ores, cement, fertilizer and, bauxite.

(4) Computed on an accrual basis, adjusted for unverified amounts.

(5) Due to global economic downturn that began in December 2007, POLA experienced declines in total revenue tonnage in Fiscal Years 2008 and 2009.

(6) Tonnage changes due to post-close adjustments.

(7) In October 2012, Transpacific 8, a service route jointly operated by Mediterranean Shipping Co., Maersk Line and CMA CGM, transferred from POLA to POLB and initially it impacted both cargo volume and associated revenue at POLA. POLA has since recovered from the initial impact through ongoing capital investment to enhance capacity and recent favorable movement of alliance traffic.

*Source: POLA*

## TABLE B-4

## PORT OF LOS ANGELES
## CONTAINER TRAFFIC
## CALENDAR YEARS [2009]-2015
(TEUs)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | [______] Months Ended [_______] 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|
| **Inbound**[1] | 3,524,386 | 3,973,933 | 4,066,764 | 4,092,621 | 3,976,692 | 4,269,760 | 4,159,462 | | |
| **Outbound**[1] | 1,668,911 | 1,841,274 | 2,109,394 | 2,043,076 | 1,921,069 | 1,932,014 | 1,656,677 | | |
| **Empties** | 1,555,698 | 2,016,695 | 1,764,353 | 1,942,017 | 1,970,821 | 2,138,292 | 2,344,319 | | |
| **Total TEUs**[2] | 6,748,995 | 7,831,902 | 7,940,511 | 8,077,714 | 7,868,582 | 8,340,066 | 8,160,458 | | |

[1] Fully loaded.
[2] Totals may not sum due to rounding.
*Source: POLA.*

**TABLE B-6**

**PORT OF LOS ANGELES**
**SHIPPING REVENUE BREAKDOWN[(1)]**
**FISCAL YEARS ENDED JUNE 30, 2006-2015**

| Fiscal Year Ended June 30 | Total Shipping Revenues (000) | Container Shipping Revenues (000) | TEUs (000) | Container Shipping Revenue Per TEU | Non-Container Shipping (000) | Non-Container Tons (000) | Non-Container Shipping Revenue Per Ton |
|---|---|---|---|---|---|---|---|
| 2006 | $373,300 | $311,400 | 7,801 | $39.92 | $61,900 | 30,832 | $2.01 |
| 2007 | 375,500 | 324,200 | 8,650 | 37.48 | 51,300 | 21,731 | 2.36 |
| 2008 | 374,900 | 328,800 | 8,083 | 40.68 | 46,100 | 18,450 | 2.50 |
| 2009 | 329,300 | 293,100 | 7,262 | 40.36 | 36,200 | 14,518 | 2.49 |
| 2010 | 327,600 | 296,500 | 7,228 | 41.02 | 31,100 | 12,525 | 2.48 |
| 2011 | 343,500 | 306,300 | 7,935 | 38.60 | 37,200 | 14,896 | 2.50 |
| 2012 | 357,700 | 321,900 | 8,186 | 39.32 | 35,800 | 13,800 | 2.59 |
| 2013[(2)] | 347,900 | 313,700 | 7,777 | 40.34 | 34,200 | 11,700 | 2.92 |
| 2014 | 377,200 | 335,700 | 8,210 | 40.89 | 41,500 | 14,900 | 2.79 |
| 2015 | 364,900 | 325,500 | 8,192 | 39.73 | 39,400 | 15,100 | 2.61 |

(1) Numbers are rounded.
(2) In October 2012, Transpacific 8, a service route jointly operated by Mediterranean Shipping Co., Maersk Line and CMA CGM, transferred from POLA to POLB and initially it impacted both cargo volume and associated revenue at POLA. POLA has since recovered from the initial impact through ongoing capital investment to enhance capacity and recent favorable movement of alliance traffic.
*Source: POLA.*

**TABLE B-7**

**PORT OF LOS ANGELES**
**TEU COUNT BY COUNTRY**
**FISCAL YEAR ENDED JUNE 30, 2015**

| Exports Country | Export TEUs | % of Total | Imports Country | Import TEUs | % of Total |
|---|---|---|---|---|---|
| China | 609,179 | 37.9% | China | 2,366,581 | 58.7% |
| Japan | 210,751 | 13.1 | Japan | 253,512 | 6.3 |
| Taiwan | 169,721 | 10.6 | Vietnam | 227,801 | 5.6 |
| South Korea | 155,960 | 9.7 | Taiwan | 217,241 | 5.4 |
| Hong Kong | 50,027 | 3.1 | South Korea | 190,170 | 4.7 |
| Vietnam | 46,542 | 2.9 | Thailand | 158,369 | 3.9 |
| Indonesia | 39,484 | 2.5 | Hong Kong | 106,946 | 2.7 |
| Thailand | 36,946 | 2.3 | Indonesia | 103,723 | 2.6 |
| Singapore | 35,832 | 2.2 | Malaysia | 70,222 | 1.7 |
| Philippines | 29,440 | 1.8 | India | 50,342 | 1.2 |
| All Others | 222,330 | 13.9 | All Others | 287,276 | 7.2 |
| Total Exports | 1,606,212 | 100.0 | Total Imports | 4,032,183 | 100.0 |

*Source: Ports Import Export Reporting Services ("PIERS"). Data from PIERS excludes domestic cargo and empties.*

### Other Matters

**Security.** POLA's port security program is designed to secure POLA through prevention and deterrence. POLA security operations are conducted by the Los Angeles Port Police. The POLA security program consists of operational security measures supported by advanced surveillance, communications, command and control and sensor systems. Additionally, POLA is engaged in development and implementation of national and international port and cargo security standards and regulations. The security program is closely coordinated with a number of federal, State and local agencies.

Since 2010, POLA has been awarded approximately $[8.6] million in grants to fund safety and security projects by federal and State government agencies, including the U.S. Department of Homeland Security, the Federal Emergency Management Agency, the Transportation Security Administration and the State Office of Homeland Security.

POLA has made significant progress on initiatives to improve security such as a Port-wide surveillance camera system, a fiber optic data network, a centralized Operations Center, implementation of the Transportation Workers Identification Credential security credentialing program and continued engagement with the Federal Government and overseas ports in improving the security of international supply chains. POLA continues to seek additional funding to support the security program from State and federal levels.

**Capital Improvement Projects.** POLA's capital improvement projects are categorized into five types of projects: (i) Terminal Projects, (ii) Transportation Projects, (iii) Security Projects, (iv) Public Access/Environmental Enhancement Projects, and (v) Maritime Services Projects.

Expenditures for capital improvement projects in POLA's fiscal year 2015 were approximately $219.4 million, comprised of: Terminal Projects (a total of approximately $130.6 million), Transportation Projects (a total of approximately $72.6 million), Security Projects (a total of approximately $33 million), Public Access/Environmental Enhancement Projects (a total of approximately $6.2 million), and Maritime Services Projects (a total of approximately $6.7 million).

Table B-8 provides a summary of the total estimated project costs by category of POLA's capital improvement program for Fiscal Years 2016-2020.

**TABLE B-8**

**PORT OF LOS ANGELES**
**CAPITAL IMPROVEMENT PROGRAM BY CATEGORY**
**FISCAL YEARS 2016-2020]**

| **Project Category** | **Estimated Total Cost ($ millions)** |
|---|---|
| Terminal Projects | $416 |
| Transportation Projects | 56 |
| Security Projects | 1 |
| Public Access/Environmental Enhancement Projects | 168 |
| Maritime Projects | 161 |
| Total | $803 |

*Source: POLA Adopted Annual Budget*

**Terminal Projects.** Following are summaries of certain of POLA's major Terminal Projects.

<u>TraPac Terminal Expansion</u>. The TraPac terminal project (the "TraPac Terminal Project") includes expansion between Berths 136 and 147 on POLA's northwest perimeter to facilitate TraPac's expansion of cargo handling and to increase efficiency. POLA estimates that the TraPac Terminal Project will increase potential related TEU throughput by TraPac from 900,000 TEUs (baseline year 2003) to 2.4 million TEUs by 2025. The TraPac Terminal Project consists primarily of wharf and backland improvements, work on the ICTF and terminal buildings and installation of AMP improvements. The facility spans 172 acres. The

TraPac Terminal Project will be POLA's most advanced container terminal with advanced automation technology being implemented for the new backland and railyard areas. The TraPac Terminal Project is expected to cost approximately $470 million (approximately $[137.9] million of which remains to be expended) and is expected to be completed in March 2017. Construction on the wharf improvements was completed in April 2011. Construction of the Phase 1A, 1B and 1C backland improvements have been completed. Construction of backland improvements in Phases 2, 3 and 4, new main gate, administration building and the on-dock rail facility are in progress. POLA intends to use proceeds from previously issued bonds and cash from operations to finance costs of the TraPac Terminal Project. POLA's long-term contract with Trapac expires in 2039.

YTI Terminal Expansion. The Yusen Terminals Inc. ("YTI") container terminal redevelopment project (the "YTI Container Terminal Redevelopment Project") includes backland and wharf improvement and expansion of the ICTF. The facility spans 183 acres. The backland improvement includes pavement repair and the construction of concrete runway. Wharf improvements include dredging at Berths 217-220 from an existing depth of 45 feet to 47 feet, dredging at Berths 214-216 from an existing depth of 45 feet to 53 feet, new landslide crane rail extension along Berths 217-220 and two Alternative Maritime Power ("AMP") box relocations from Berths 214-216 to Berths 217-220. ICTF expansion includes construction of a loading track and related backland reconstruction. EIR/EIS for the YTI Container Terminal Redevelopment Project was completed in November 2014. The YTI Container Terminal Redevelopment Project is estimated to cost approximately $85 million (approximately $[61.6] million of which remains to be expended) and is expected to be completed in September 2017. POLA intends to use proceeds from previously issued bonds and cash from operations to finance costs of the YTI Container Terminal Redevelopment Project. POLA's long-term contract with YTI expires in 2026.

China Shipping Terminal Expansion. The China Shipping expansion project (the "China Shipping Project") provides for a long-term permit agreement with China Shipping and expands China Shipping's terminal capacity to accommodate an annual throughput of 1.5 million TEUs. The facility footprint is being expanded from an existing 73 acres to 132 acres of backland and 2,500 feet of wharf to be served by ten Postpanamax A-frame cranes. The three main phases of the China Shipping Project have been completed. Phase I was completed in December 2004 (constructed 1,200 feet of wharf at Berth 100, 73 aces of backland development and Access Bridge No. 1). Phase II was completed in December 2010 (constructed 925 feet of wharf at Berth 102, 18 acres of backland development and Access Bridge No. 2). Phase III was completed in November 2013 (constructed 375 feet of wharf and 41 aces of backland development). AMP improvements were installed at the container wharves constructed in Phases I, II and III. Phases II and III consist primarily of wharf expansion, backland development, a marine operations building, a crane maintenance building, relocation of the Catalina Express Terminal and installation of Alternative Maritime Power ("AMP") improvements (i.e., plugging into shore-side electrical power while at dock). POLA's long-term contract with China Shipping expires in 2030.

In addition to the three main phases of the project, the China Shipping Project includes construction of marine operations and crane maintenance buildings, construction of which is scheduled to begin in mid-2017. Construction is expected to be completed in late 2018. Costs of $16.8 million related to the marine operations and crane maintenance buildings are included in POLA's capital improvement program for fiscal years 2016 through 2020. The China Shipping Project also includes several community beautification initiatives, including the redevelopment of an existing community park in San Pedro (Plaza Park), which is currently under construction, and implementing a beautification plan along area corridors and landscaping along Front Street which runs parallel to the terminal perimeter. POLA intends to use cash from operations to finance costs of the remaining components of the China Shipping Project.

Evergreen Redevelopment. Redevelopment at Berths 226 through 236 (the "Evergreen Redevelopment") consists of various projects within the Evergreen Container Terminal. These projects include terminal improvements such as dredging Berths 226 through 229 to a depth of -53 feet and Berths 230 through 232 to a depth of -47 feet as well as developing 1.5 acres of new terminal backland. In addition, the Evergreen

Redevelopment includes: pavement replacement, wharf fender replacement, AMP upgrades and retrofits, panzerbelt trench upgrades and the installation of a water leak detection system. In total, the Evergreen Redevelopment is expected to cost approximately $60 million, and, as of June 2015, construction of AMP installations and associated infrastructure at Berths 230 through 232 has been completed. The design of additional AMP vaults at Berths 228 through 230 is currently underway with construction expected to begin in late 2016. Environmental studies as well as design efforts related to the planned dredging activities and backland development are currently underway and are expected to be completed by mid-2016 with construction work anticipated to begin in early 2017.

AltaSea at the Port of Los Angeles. In December 2013, the City Council approved a 50-year lease to transform a 100 year old pier on the LA Waterfront in San Pedro into an urban marine research and innovation center called "AltaSea at the Port of Los Angeles" (the "AltaSea Development"). The lease agreement is between POLA and AltaSea at the Port of Los Angeles ("AltaSea"), a California public benefit corporation established to develop and operate the AltaSea Development. The AltaSea Development involves approximately 35 acres of land and water at the Port's City Dock No. 1 site. The AltaSea Development will be developed through a private-public partnership comprised of POLA, AltaSea and regional public and private universities. Phase 1 of the AltaSea Development is estimated to cost $217 million with a completion date of 2019. As of the date of this Official Statement, funding commitments for Phase 1 of the AltaSea Development include $58 million in site-related capital investment by POLA and a $25 million gift by the Annenberg Foundation. The remaining funding for Phase 1 of the AltaSea Development are expected to come from private philanthropic donations, foundation and corporate grants, business sponsorships and other sources.

Marine Oil Terminal Engineering and Maintenance Standards Implementation. Built between 1919 and 1959, the Port has seven liquid bulk facilities (including storage tanks and underground pipeline networks) that handle various types of commodities for both import and export. Vessels calling at these facilities include tankers, barges and bulk carriers. Oil cargo operations within the State generally fall under the jurisdiction of the California State Lands Commission (the "State Lands Commission"). Effective February 2006, the State Lands Commission established the Marine Oil Terminal Engineering and Maintenance Standards ("MOTEMS") which apply to all existing and new marine oil terminals in the State. One such standard required the Port's oil terminal facilities to undergo an Initial Audit, the purpose of which was to determine "Fitness-for-Purpose" of all marine oil terminals. Initial Audits were performed at Berths 118-120, 148-151, 163, 164, 167-169, 187-191, and 238-239. As a result of these Initial Audits, Kinder Morgan's operations at Berths 118-120 will be de-commissioned within five years.

Another MOTEMS requirement is that all liquid bulk wharves at the Port be significantly upgraded or replaced. Through ongoing discussions with the State Lands Commission, POLA has agreed to upgrade or replace its liquid bulk wharves by Fiscal Year 2018. As of June 2015, aggregate costs of the upgrade or replacement of liquid bulk wharves are estimated to be approximately $180 million. Any reimbursement of these costs to POLA will be negotiated with the marine oil terminal tenants as part of currently ongoing lease negotiations. As of the date of this Official Statement, POLA's financial participation in the costs of these liquid bulk wharf upgrades or replacements are capped at $7.5 million per berth (or $57.5 million in the aggregate). POLA intends to use cash from operations to finance costs of the MOTEMS implementation.

A majority of the total remaining project costs related to the aforementioned Terminal Projects have been included in POLA's capital improvement program for Fiscal Years 2016 through 2020. POLA also is reviewing additional Terminal Projects related to the land and facilities currently utilized by cruise ship operators, Yang Ming and APL. However, POLA will not advance the design and construction of these facilities until it and the applicable tenants have reached agreement on, among other things, the scope and costs of the projects. Certain of these projects are described below.

Cruise Terminal. Since 2008, POLA has invested more than $42 million in improvements to its World Cruise Center. The improvements include four new gangway systems, two complete AMP berths, new rooftop solar panels designed to generate approximately one megawatt of electricity, and other improvements, including new fenders, painting, lighting and audio/video upgrades. POLA is planning to expand the current AMP system to allow greater flexibility to accommodate larger cruise ships. POLA also has approved the construction of an additional cruise ship terminal at Kaiser Point in the outer harbor terminal which would operate in conjunction with the existing World Cruise Center, enabling POLA to provide more berth space to simultaneously accommodate the larger Voyager class cruise ships and improved navigation for larger ships. Construction of the outer harbor cruise terminal will not be undertaken until such time as market conditions warrant an expansion of the current facilities.

Yang Ming Terminal Project. The Yang Ming terminal project (the "Yang Ming Terminal Project") represents a redevelopment program to upgrade a portion of existing container wharves at Berths 121 through 131 and expand the ICTF. As part of the currently planned container wharf upgrades, an existing 50-foot wharf and dike at Berths 127 through 129 is planned to be demolished and a new 1,260 linear foot wharf that can accommodate a typical 14,000 TEU vessel, approximately 6 to 10 additional cranes as well as AMP infrastructure will be constructed in its place. In addition, Berths 127 through 129 will be dredged to a depth of -53 feet. In addition to the aforementioned wharf upgrades, the Yang Ming Terminal Project is expected to include expansion of the ICTF with two additional loading tracks that can accommodate approximately 18 additional rail car spots. In total, the Yang Ming Terminal Project is expected to cost approximately $135 million, and, as of June 2015, approximately $14 million has been spent to design and construct AMP installations and associated infrastructure at the Yang Ming terminal. As of June 2015, remaining design and construction work on this project has been put on hold while negotiations with the tenant take place.

APL Terminal Project. The APL terminal project (the "APL Terminal Project"; also known as the "Berths 302-306 Container Terminal Improvements") consists of multiple projects to expand the container terminal located at Berths 302-306 by approximately 50 acres and to modify some existing terminal elements. The expansion area improvements would include: approximately 1,250 linear feet of new wharf, AMP installations, dredging, approximately 41 acres developed for automated operations and approximately 6 acres redeveloped for container terminal operations. As part of the currently conceived project, the existing tenant would also redevelop 17 acres for an automated landside transfer facility as well as an outside truck holding area. The APL Terminal Project is currently estimated to cost approximately $250 million in total. The EIR/EIS for the APL Terminal Project was completed in May 2012, and the construction of AMP installations and associated infrastructure at Berths 302 through 305 was completed in March 2014. Through June 2015, approximately $45 million has been spent to date on activities related to APL Terminal Project. As of June 2015, remaining design and construction work on this project has been put on hold while negotiations with the tenant take place.

**Transportation and Other Projects.** Following are summaries of certain of POLA's current Transportation Projects and certain other projects.

I-110 Connectors Improvement Program. The I-110 Connectors Improvement Program (the "ICIP") consists of several arterial street and freeway-to-freeway interchange improvements in the immediate vicinity of the intersection of SR 47 (Vincent Thomas Bridge) and I-110 freeway. The projects provided for under the ICIP are designed to improve freeway access to POLA facilities, eliminate traffic movement conflicts, improve existing non-standard elements, and better accommodate existing and future traffic conditions for POLA and background traffic. POLA and the California Department of Transportation ("Caltrans") are working in partnership on implementing the ICIP. The ICIP received environmental clearance in February and June of 2012, and construction began in November 2013, with completion expected to occur in the first quarter of calendar year 2017. It is estimated that the cost of the ICIP will be approximately $104.1 million, of which POLA would be responsible for approximately $64.0 million. POLA has used or intends to use cash from operations to finance its portion of the costs of the ICIP. The remaining $40.1 million of funding for the ICIP, is expected to come from grants obtained from various authorities including: the Los Angeles County Metropolitan Transportation Authority, Proposition 1B, the California State Corridors Improvement Funds and the Federal Safe, Accountable, Flexible, Efficient Transportation for Equity Act: A Legacy for Users.

Security Projects. Over the last several years, POLA has implemented numerous initiatives to improve security at POLA, including a Port-wide surveillance camera system, a fiber optic data network, a state-of-the-art Department Operations Center and the Transportation Workers Identification Credential secure access program.

Public Access/Environmental Enhancements. The LA Waterfront Program is an initiative to improve and enhance areas located along the waterfronts of Wilmington and San Pedro. The LA Waterfront Program is comprised of two segments, the Wilmington Segment and the San Pedro Segment. The Wilmington Segment includes two complementary projects, the Wilmington Waterfront Park Project (the "Wilmington Waterfront Park Project") and the Wilmington Waterfront Project (the ""Wilmington Waterfront Project"). The Wilmington Waterfront Park Project was completed in June 2011 and consists of a 30-acre park with walking trails, water features, plazas, public art and a pedestrian bridge. The EIR for the 94-acre Wilmington Waterfront Project was approved by the Board in June 2009 and, project elements include a waterfront promenade, 11 acres of open green space, plazas, a 200-foot observation tower, Red Car museum, and commercial and light industrial development. The five-year total cost of the Wilmington Segment is estimated to be approximately $46.7 million.

The San Pedro Segment is generally located along the west side of the Port's main channel from the Vincent Thomas Bridge to Cabrillo Beach. The San Pedro Segment, the Wilmington Waterfront Park Project and the Wilmington Waterfront Project are all connected along existing roadways in the West Basin area of the Port. The EIR for the San Pedro Segment was approved by the Board in September 2009. The project will transform over 400 acres of property currently operated by POLA. The San Pedro Segment involves development of a variety of land uses within the proposed project area, including, among other things, public waterfront and open space areas, expansion of cruise ship facilities, a continuous waterfront promenade that would extend throughout the proposed project area, upgrades to and expansion of retail and commercial uses, improved transportation infrastructure, and surface and structured parking to accommodate project development within the proposed project area. The five-year cost of the San Pedro Segment is estimated to be approximately $52.9 million.

Maritime Services Projects. Maritime Services Projects at the Port consist of improvements to POLA's administration building ("Harbor Administration Building") and miscellaneous projects that are not classified under the Terminal, Transportation, Security or Public Access/Environmental Enhancement initiatives currently planned at the Port. These projects include the Harbor Administration Building drain line replacement, Liberty Hall Plaza Fire Life Safety System Replacement and Berth 161 Marine Ways Modifications. Other projects include a $1.7 million upgrade to control systems for the Badger Avenue Railroad Bridge, a $3.9 million retrofit to the wharf supporting the Maritime Museum at Berth 84 and numerous other projects throughout the Port. POLA intends to use cash from operations to finance costs of the Maritime Services Projects.

**Environmental and Regulatory Matters**

**Environmental Compliance**. POLA was the first port in the nation to have an Environmental Management Division. POLA's Environmental Management Division provides full environmental services related to water, soils and sediments, air and living resources affected by water, soils and sediments and air. In 2003, the LA Harbor Department adopted an environmental policy, which calls for continuous environmental improvement and the implementation of pollution prevention measures. POLA's Environmental Management System meets the specifications of the International Organization for Standardization Standard 14001 for environmental management systems.

POLA is required to comply with the provisions of a number of federal and state laws designed to protect or enhance the environment. The basic environmental assessment laws are the federal National Environmental Policy Act ("NEPA") and the California Environmental Quality Act ("CEQA"). These two laws require consideration and disclosure of environmental impacts of development projects. Other federal environmental laws applicable to POLA include the Resource Conservation and Recovery Act, which governs the treatment and disposal of certain substances; the Clean Water Act and the Marine Protection, Research and Sanctuary Act, which govern the dumping of dredged materials; the Rivers and Harbors Act, which governs navigable waterways; and State and Federal Endangered Species Act. Enforcement agencies include the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers, California Regional Water Quality Control Board, California Air Resource Board, South Coast Air Quality Management District, and California Department of Toxic Substances Control. POLA also is required to conform to provisions of a number of other State environmental and health safety laws.

In conforming to these laws and the implementing regulations, POLA has instituted a number of compliance programs and procedures to protect the environment, each of which are designed to, among other things, limit POLA's liabilities. In 2006, the Port and the Port of Long Beach (collectively, the "San Pedro Bay Ports") established the Clean Air Action Plan (the "CAAP"). See "Clean Air Action Plan." POLA's voluntary Vessel Speed Reduction Program has been in place since 2001 and has produced favorable results. POLA also has in place the Technology Advancement Program which evaluates and demonstrates new and emerging emissions treatment technologies. In 2008, POLA implemented the historic Clean Truck Program which essentially replaced older polluting trucks with newer clean trucks, thereby reducing truck emissions by over 90 percent at the Port and the surrounding communities. In Fiscal Year 2010, POLA adopted its Water Resources Action Plan aimed at significantly reducing water pollution discharges from land, vessels and the watershed and removing contaminated sediments. All these programs are backed up by long-term monitoring of the applicable media.

**Clean Air Action Plan**. In 2006, POLA, together with the Port of Long Beach, developed the CAAP with input from the U.S. Environmental Protection Agency, the California Air Resources Board, and the South Coast Air Quality Management District. The CAAP was updated and reauthorized in 2010. The CAAP is currently undergoing a second update, with final approval expected in late 2016. The CAAP is POLA's comprehensive plan to address air pollution emissions from port-related sources and contains aggressive long-term goals through 2023 to reduce health risk, diesel particulate matter, and nitrogen and sulfur oxides. Pursuant to the CAAP, POLA has undertaken several programs to lower air pollution levels at POLA. Emission sources targeted by the CAAP include ships, trains, cargo handling equipment, harbor craft and heavy duty trucks. Through implementation of the CAAP, since 2005, there has been an 80% reduction in diesel particulate matter, a 90% reduction in sulfur oxides and a 57% reduction in nitrogen oxides emissions from Port-related sources. The CAAP and its associated various measures have cost POLA and POLA's tenants approximately $250 million to date and the CAAP will continue to require a significant investment by POLA, the Port of Long Beach and private sector businesses and will expedite the introduction of new and innovative methods of reducing emissions prior to any federal or State requirements being imposed on the San Pedro Bay Ports. In Fiscal Year 2015, fees related to the Clean Truck Program amounted to approximately $3.5 million. For Fiscal Year 2016, POLA has budgeted approximately $2.0 million for fees related to the Clean Truck Program.

**Stevedoring and Cargo Handling**

Arranging for cargo handling services is the responsibility of each shipping line. Cargo handling at the Port is provided pursuant to a contract between the Pacific Maritime Association (the "Association") and the International Longshore and Warehouse Union ("ILWU"). The Association represents most of the steamship lines, marine terminal operators, car loading bureaus and cargo companies on the Pacific Coast. Most ILWU employees work under contract with the Association. The current contract between the Association and the ILWU was entered into on May 21, 2015 and was ratified by the ILWU membership on May 22, 2015, retroactive to July 1, 2014. The current contract expires on June 30, 2019.

The previous contract between the Association and ILWU expired on June 30, 2014. The Association and the ILWU began negotiating a new contract in May 2014, but did not agree on a new contract until February 2015. The protracted negotiations had a compounding effect on congestion issues that had slowed down container cargo movement through the San Pedro Bay Ports since September 2014. POLA's revenues and container volumes at the port were temporarily impacted during Fiscal Year 2015 as a result of the disruptions and other congestion factors, but full-Fiscal Year revenues were not materially affected and container volumes decreased only slightly (0.23%).

Since 2002, there have been two other periods of prolonged labor unrest which led to an interruption of the normal course of business at the Port. In October 2002, after the Association and the ILWU failed to negotiate a new contract, the shipping lines instituted a lock out of the stevedoring companies, thereby shutting down all West Coast ports, including the Port, for ten days. Work resumed when then-President Bush ordered the ports to re-open pursuant to the Taft Hartley Act. Additionally, in November 2012, after the Harbor Employers Association ("HEA") and ILWU Marine Clerks Association Local 63 Office Clerical Unit ("ILWU 63") failed to negotiate a new contract, the approximately 600 clerical workers represented by ILWU 63 walked off the job. Although only about 450 clerical workers throughout both the Port and the Port of Long Beach participated in the strike, thousands of workers represented by a sister union refused to cross the picket lines. As a result, 10 out of the 14 terminals at the San Pedro Ports were shut down for eight days. Work resumed when the HEA and ILWU 63 reached a tentative agreement whereby ILWU 63 members received modest increases in wage and pension benefits, and the HEA promised to outsource no more than 14 jobs over a four-year period.

Other than the periods of unrest which occurred in 2002, 2012 and 2014/15, there has generally been a history of cooperative working relationships between the ILWU and the employer groups represented by the Association and HEA. The Department understands that the risk of a work slowdown is the greatest as negotiations get closer to the end of the current contract and until a new agreement is reached. Prolonged work slowdowns or stoppages, if they occur, could adversely affect Department revenues and its ability to pay any Shortfall Advances.

**San Pedro Bay Port's Cooperative Working Agreement**

On February 27, 2015, the U.S. Federal Maritime Commission approved an amendment to a cooperative working agreement previously entered into by POLA and the Port of Long Beach. The amendment allows the two ports to discuss and agree on projects and programs that address congestion issues (including, establishing initiatives to increase terminal productivity, facilitate chassis availability and usage, and improve drayage truck turn times), transportation infrastructure needs and the reduction of pollution caused by port-related activities.

On April 23, 2015, POLA and the Port of Long Beach hosted a meeting of supply chain stakeholders to gather input, insights and solutions focused on improving the performance of the supply chain. On May 27, 2015, POLA and the Port of Long Beach announced the creation of issue-specific working groups focusing on peak operations and terminal optimization to develop ways to strengthen the competitiveness of the San Pedro Bay Ports.

**Outstanding Indebtedness**

As of December 31, 2015, POLA had approximately $951 million in parity debt outstanding, comprised of long-term revenue bonds. The long-term revenue bonds mature on or before 2045 and bear interest at rates between 2.00% and 5.50%. POLA also is authorized to issue commercial paper notes (collectively with the long-term revenue bonds, the "POLA Parity Obligations") from time to time in an aggregate principal amount not to exceed $200,000,000 at any one time. As of the date of this Official Statement, POLA has no commercial paper notes outstanding. POLA's commercial paper program is supported by a liquidity facility provided by Mizuho Bank Ltd., acting through its New York Branch, which has an expiration date of August 24, 2018.

POLA Parity Obligations are special, limited obligations of POLA payable solely from revenues of POLA, which are generally derived from ownership and operation of POLA and which include shipping revenue, rental revenue and fee and royalty revenue. Neither the full faith and credit nor the taxing power of the City of Los Angeles, the State of California or any political subdivision thereof is pledged to payment or principal of, premium, if any, or interest on the POLA Parity Obligations. POLA has no taxing power. The POLA Parity Obligations are senior in payment to POLA's obligation to make Shortfall Advances.

**Audited Financial Statements**

The audited financial statements of POLA for the fiscal years ended June 30, 2015 and 2014 are included below in this Appendix B. Simpson & Simpson, the independent auditor, has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements of POLA addressed in that report. Simpson & Simpson also has not performed any procedures relating to POLA's information included in this Official Statement.

**AUDITED FINANCIAL STATEMENTS OF**
**PORT OF LOS ANGELES**
**(HARBOR DEPARTMENT OF THE CITY OF LOS ANGELES)**
**FOR FISCAL YEARS ENDED JUNE 30, 2015 AND 2014**

# APPENDIX C

## THE PORT OF LONG BEACH, INCLUDING AUDITED FINANCIAL STATEMENTS

## THE PORT OF LONG BEACH

POLB is obligated only to make certain payments required by the Operating Agreement and is not responsible for paying, and is not guaranteeing the payment of, the principal or accreted value of, premium, if any, or interest on the Bonds, including the Series 2016 Bonds. The Bonds are not secured by a lien on any properties or improvements of the City of Long Beach or of POLB, or by a pledge of any revenues of POLB. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS—Limited Obligations." Under certain circumstances, the Operating Agreement requires POLB to pay Shortfall Advances, the payment of which is a limited obligation, payable solely from POLB's net revenues, after all of POLB's other obligations, including operation and maintenance costs, are paid. See "AUTHORITY REVENUES—Shortfall Advances" and "BONDHOLDERS' RISKS—Shortfall Advances are Limited, Subordinate Obligations of the Ports." POLB has agreed that it will include in its budget Shortfall Advances of which it has notice, but POLB is not required to reserve or to set aside any funds, and has not reserved or set aside funds, for such purposes, and the payment of Shortfall Advances by POLB is payable after all of POLB's other obligations, including operation and maintenance costs, have been paid.

The information about POLB in this Official Statement was provided by POLB. The Authority makes no representation concerning such information.

### POLB and Port Facilities

**[SUBJECT TO REVIEW/UPDATE]**

**General**. POLB is a harbor complex that covers approximately 7,600 acres (or approximately 11.9 square miles), of which approximately 4,400 acres (or approximately 6.9 square miles) are water, and includes all harbor facilities of the City of Long Beach. The harbor complex is owned by the City of Long Beach and is operated and managed by the Harbor Department of the City of Long Beach (the "LB Harbor Department"). Exclusive control and management of the LB Harbor Department is vested in the City of Long Beach Board of Harbor Commissioners. POLB has approximately 31.5 miles of waterfront with 65 deep-water cargo berths[, several of which are and will be capable of servicing the largest commercial ships currently afloat or being designed]. Container terminals occupy 1,253 acres, auto terminals occupy 144 acres, breakbulk and general cargo occupy 77 acres, dry bulk terminals occupy 84 acres and petroleum and liquid bulk occupy 44 acres. POLB has six container terminals with 68 cranes, all of which are post-panamax cranes (all of which are owned by the tenants), and three container freight stations. Five container terminals are served by on-dock railyards. Additional cargo handling facilities include five transit sheds and 12 warehouses. Transit sheds are of concrete and steel construction. Wharves are constructed of reinforced concrete supported by reinforced concrete pilings or sheet pile bulkhead. Wharf aprons at all transit shed berths average 50 feet in width. Rail tracks serve all major marine facilities. In all, POLB owns 82 miles of rail trackage. Current LB Harbor Department plans envision enlarging and consolidating several of the container terminals due to the demand for larger facilities.

POLB is protected by a federally financed breakwater more than nine miles in length. Water depths throughout the port range from 76 feet at the entrance channel to 45 feet in the inner harbor and 55 feet in part of the middle harbor. Depth alongside wharves ranges from 32 to 50 feet, except that the bulk petroleum terminal provides berthing depths of more than 70 feet. This facility, at maximum depth, is capable of handling supertankers of up to 265,000 dead weight tons. See "POLB Capital Improvement Program—Long Beach Harbor Dredging."

Shipments to and from POLB can be received or dispatched by water, rail or truck. The two Railroads, BNSF and Union Pacific, serve POLB. These rail carriers have connections with POLB's rail system and offer reciprocal switching arrangements. In addition, POLB is located at the end of Interstate 710 (the "Long Beach Freeway"), which provides access to the interstate highway system. Major highway carriers serve POLB and provide transportation to all parts of the United States, as well as to the ICTF, a specialized rail yard for the transfer of containers between trucks and railcars located four miles from POLB, and to the switchyards of

BNSF and Union Pacific. Truck travel to such switchyards takes approximately 30 to 60 minutes. [Overnight truck service is available to the San Francisco Bay area, San Diego, Phoenix, Arizona and Las Vegas, Nevada, among other locations. Overnight truck service in the San Francisco Bay area is quite costly, however, and is rarely utilized.]

The ICTF was financed and constructed by Southern Pacific Transportation Company and the Intermodal Container Transfer Facility Joint Powers Authority, a joint powers authority organized by the Ports. The ICTF is now operated by Union Pacific.

POLB's cargo-handling facilities are diverse. Some of the largest facilities, or terminals, are under long-term lease agreements with remaining terms of **[**15-18**]** years in duration. See "—Source of Funds for Payment of Shortfall Advances" and "—Major Tenants." Cargo terminal operations at POLB generally can be divided into four categories: container, dry bulk, general cargo and petroleum/liquid bulk. Descriptions of these operations are provided below.

**Container Terminals**. Containerized cargo represents the largest source of revenue for the LB Harbor Department. For the 12 months ended September 30, 2014, containerized cargo accounted for approximately 78.4% of the LB Harbor Department's total operating revenues, primarily from the collection of wharfage. Containerization service at POLB began in 1962 when Sea-Land Service, Inc. (now part of Maersk Sealand) opened a container freight station at the port. According to the American Association of Port Authorities, during calendar year 2014, POLB was the number-two ranked port in the nation, in terms of container cargo, handling approximately 6.8 million TEUs**.** According to statistics compiled by the World Shipping Council, during calendar year 2013 (the latest information available), POLB was the 21st busiest container port in the world. POLB handled approximately [6.6] million TEUs during the first [eleven] months of calendar year 2015, as compared to [6.3] million TEUs during the first [eleven] months of calendar year 2014. The following is a summary of the major container facilities at POLB.

Pier A. SSA Terminals (Long Beach), LLC, a joint venture among SSA Terminals, L.L.C. ("SSAT"), Terminals Investment Limited and Mediterranean Shipping Company, currently operates the container terminal on Pier A (the "Pier A Container Terminal"). The Pier A Container Terminal is an approximately 200-acre facility that includes three berths, a 3,600-foot-long wharf with a water depth of 50 feet, two gate facilities with a total of 28 truck lanes, a storage area for approximately 24,000 on-ground containers, power outlets for 650 refrigerated containers and an on-site railyard capable of handling two double-stack trains simultaneously. Ten gantry cranes with capacities ranging from 40 tons to 60 tons facilitate cargo movement. The facilities at the Pier A Container Terminal can handle ships carrying up to 9,000 TEUs.

Pier C. SSAT operates a 68-acre container terminal at Pier C (the "Pier C Container Terminal"), which includes two berths, an 1,800 foot-long wharf with a water depth of 42 feet, a storage area for approximately 4,000 on-ground containers and power outlets for 114 refrigerated containers. Three 40-ton to 60-ton capacity gantry cranes facilitate cargo movement. The facilities at the Pier C Container Terminal can handle ships carrying up to 4,500 TEUs.

Piers D, E and F. Piers D, E and F (collectively, the "Middle Harbor Terminal") are currently being consolidated into one 305-acre container terminal as part of the "Middle Harbor Redevelopment Project." The facilities on Piers D and E are currently out of service as the LB Harbor Department constructs the Middle Harbor Redevelopment Project. California United Terminals operated an omni-terminal at Piers D and E (handling container and break-bulk cargoes), prior to its leaving the Port in 2012. In 2012, the LB Harbor Department and Orient Overseas Container Line LLC ("OOCL") entered into a 40-year preferential assignment agreement for the Middle Harbor Terminal. When Phase 1 at the Middle Harbor Terminal is complete, the LB Harbor Department expects that the facility will be capable of handling ships carrying approximately 15,000 TEUs.

Pier F continues to be operational while improvements are made to Piers D and E. Long Beach Container Terminal, Inc., an OOCL subsidiary, conducts its ground and chassis operation at Pier F (the "Pier F Container Terminal"). The Pier F Container Terminal is an approximately 100-acre facility that includes five berths, a 2,750 foot-long wharf with a water depth of 50 feet, a storage area for approximately 10,000 on-ground containers, power outlets for 240 refrigerated containers, and an on-dock rail yard. The Pier F Container Terminal has seven gantry cranes, with capacities ranging from 40-tons to 60-tons. The facilities at the Pier F Container Terminal can handle ships carrying up to 8,500 TEUs. The operations of Pier F will be consolidated with the operations on Piers D and E once the Middle Harbor Redevelopment Project is complete.

Pier G. International Transportation Service Inc. ("ITS") operates a container terminal at Pier G (the "Pier G Container Terminal"). The Pier G Container Terminal is an approximately 247-acre facility that includes five berths, a 6,379 foot-long wharf with water depths ranging from 42 feet to 52 feet, a storage area for approximately 12,800 on-ground containers, power outlets for 384 refrigerated containers and an on-dock railyard. The Pier G Container Terminal has 17 gantry cranes, with capacities ranging from 30-tons to 60-tons. The facilities at the Pier G Container Terminal can handle ships carrying up to 10,000 TEUs.

Pier J. Pacific Maritime Services LLC (a joint venture between SSAT, CMA-CGM and China Overseas Shipping Company ("COSCO")) operates from Pier J (the "Pier J Container Terminal"). The Pier J Container Terminal is an approximately 256-acre facility that includes five berths, a 5,900 foot-long wharf with water depths ranging from 49 feet to 50 feet, a storage area for approximately 12,320 on-ground containers, power outlets for 685 refrigerated containers and an on-dock railyard. The Pier J Container Terminal has 17 gantry cranes, with capacities ranging from 40-tons to 60-tons. The facilities at the Pier J Container Terminal can handle ships carrying up to 14,000 TEUs.

Pier T. Total Terminals International, LLC (a joint venture between Hanjin Shipping Company, Ltd. ("Hanjin"), Mediterranean Shipping Company and Marine Terminals, Inc.) operates the Port's largest container terminal on Pier T (the "Pier T Container Terminal"). The Pier T Container Terminal is an approximately 380-acre facility that includes five berths, a 5,000 foot-long wharf with a water depth of 55 feet, a storage area for approximately 8,300 on-ground containers, power outlets for 1,850 refrigerated containers and an on-dock railyard. The Pier T Container Terminal has fourteen 65-ton gantry cranes. The facilities at the Pier T Container Terminal can handle ships carrying up to 14,000 TEUs.

**Dry Bulk Facilities**. For the 12 months ended September 30, 2014, dry bulk accounted for approximately 7.0% of the LB Harbor Department's total operating revenue, primarily through the collection of wharfage. The following describes the major dry bulk facilities at POLB.

Piers G and F. Approximately 7.5 million metric tons of dry bulk products were exported through the dry bulk terminals on Piers G and F in each of the fiscal years 2013 and 2014. These products include petroleum coke, calcined petroleum coke, coal and sulfur.

The Pier G bulkloader consists of two conveyor system shiploaders operated by Metropolitan Stevedore Company. Dry bulk products are stored temporarily in seven specifically-designed sheds that have a total capacity of 586,000 tons and are moved automatically to dockside, where ships are loaded at 3,900 tons per hour. An eighth storage shed, used to store coal, has a capacity of 150,000 tons of product and includes two rotary plow feeders, with a capacity of 3,000 metric tons per hour, which are connected via conveyor to the Pier G shiploaders. The storage sheds are leased to industrial firms that transport their products to POLB for sale abroad. The entire facility is automated and is capable of high-speed handling of cargo by truck or rail. A rotary railroad car dumper is capable of emptying an entire 100-car train in less than four hours, and bottom dumpers on two different track systems also operate at high capacity.

The Pier F bulkloader consists of an automated conveyor shiploader and a ten-acre silo complex operated by Koch Carbon Inc. for the storage and exporting of petroleum coke. The petroleum coke is delivered by rail or truck to the silos, screened, sorted and stored for shipment overseas.

Cement Facilities. There are two cement terminals at POLB. CEMEX Pacific Coast Cement Corporation operates a 50,000-ton capacity bulk cement terminal from Pier D. This terminal has six silos and a pollution-free enclosed unloader that can unload directly into the silos. The screw type unloader has a capacity to handle up to 800 tons of cement per hour. A second cement terminal is located on Pier F and utilizes a vacuum type unloader. Operated by MMC Terminal, Inc., this facility can handle 800 tons per hour and, instead of a silo system, utilizes a warehouse (with a capacity of 52,000 tons) to house and transfer product.

Salt. At Pier F, Morton Salt Co. handles bulk solar salt shipped from Baja, California. This salt is used primarily in water softeners and by chemical companies. Conveyor belts, cranes and other equipment are used for unloading and stockpiling the crude salt, which is then graded and bagged or delivered in bulk.

**General Cargo.** For the 12 months ended September 30, 2014, general cargo accounted for approximately 7.1% of the LB Harbor Department's total operating revenue, primarily through the collection of wharfage and facilities rentals. Below is a description of the major general cargo facilities at POLB.

Vehicles. The Toyota Motor Sales automobile terminal occupies a total of 144 acres in the northern area of POLB on Pier B. Vehicles are unloaded at this terminal, cleaned, processed and transported to destinations from Southern California to the Midwest. Approximately 214,000 vehicles were shipped through this terminal during fiscal year 2014 as compared to approximately 180,100 vehicles during fiscal year 2013. A majority of all Lexus cars imported into the United States pass through this terminal. Toyota Motor Sales also exports vehicles manufactured at its factories in the United States through this terminal. Toyota Motor Sales also exports vehicles manufactured at its factories in the United States through this terminal.

Mercedes Benz vehicles arrive and are unloaded at Pier F, Berths 206 and 207 and are stored on an 11-acre parcel of land in POLB's North Harbor. Crescent Terminals, Inc. ("Crescent Terminals") operates Berths 206 and 207. Mercedes receives approximately 76,000 vehicles in fiscal year 2014 and approximately 71,000 vehicles in fiscal year 2013 through these facilities.

Forest Products. Weyerhaeuser Company, a subtenant of Fremont Forest Group Corporation, located at Pier T, transports framing lumber by barge to POLB from Coos Bay, Oregon, and Longview and Aberdeen, Washington. At this facility, approximately 150 million board feet of lumber are handled annually.

Metals. SA Recycling, LLC operates a recycled steel and iron ore facility on Pier T that includes an 850 foot wharf with a steel reinforced concrete storage area and two loading cranes. The facility is served by rail and truck and has the capacity to handle 650,000 tons per year.

Break Bulk. CSA Equipment Inc. (a joint venture of SSA and Cooper/T. Smith Stevedoring) occupies Berths 204-205 on Pier F, and mainly handles machinery, equipment and steel products imported from the Far East. The CSA terminal has an 180,000 square foot storage shed on-site. At Berths F206 and F207 Crescent Terminals, in addition to the Mercedes Benz vehicles, handles other products, including finished steel and project cargo. The Crescent terminal has a 190,000 square foot storage shed on-site.

**Petroleum/Liquid Bulk**. For the 12 months ended September 30, 2014, petroleum/liquid bulk produced approximately 4.4% of the LB Harbor Department's total operating revenue, primarily through the collection of wharfage per barrel. POLB maintains five municipal bulk oil terminals; two are leased to Tesoro Refining and Marketing Company ("Tesoro") (on Pier B); one is leased to Carson Cogeneration Company, a Tesoro subsidiary (on Pier T); one is leased to Petro Diamond Terminal Co. ("Petro Diamond") (on Pier B) and one is leased to Chemoil Marine Terminal ("Chemoil") (on Pier F). Each terminal is connected directly to the storage and tank farms of the respective lessee. The three Tesoro terminals handle primarily crude oil, while the Petro Diamond and Chemoil terminals primarily handle finished petroleum products such as gasoline, vessel bunker fuel and jet fuel. The total movement of crude and refined petroleum products over municipally owned berths during fiscal year 2014 was approximately 29.7 million metric tons as compared to approximately 30.6 million metric tons during fiscal year 2013.

**Source of Funds for Payments of Shortfall Advances**

**[SUBJECT TO REVIEW/UPDATE]**

POLB derives income from tariffs assessed on shipping activity (primarily wharfage and dockage) and from leases, rentals and utility services. POLB sets tariff charges for wharfage, dockage, pilotage, land usage, storage and demurrage applicable to all ships and cargo at municipal berths and wharves or otherwise using City-owned property in the Long Beach Harbor District. The current tariffs are published in the Port of Long Beach Tariff No. 4. POLB, like POLA and all other California public ports, controls and determines its own individual tariff structures, but cooperates with other California ports in setting tariff rates through membership in CAPA.

Property agreements for industrial and commercial use constitute one of POLB's largest and most stable sources of income. POLB currently has agreements with approximately [325] different entities (approximately 85% of which are private companies). These agreements include, preferential assignments, leases, revocable permits, and area assignments. Over the last five years, property agreements covering waterfront property and facilities have generated in excess of 95% of POLB's operating revenues. Under these agreements, POLB assigns or leases property and facilities to terminal operators for original terms of up to 40 years. The property agreements with POLB's current top ten revenue producers have expiration dates ranging from 2019 to 2051, with nine of these expiring between 2019 and 2034. Under most of the current property arrangements, the terminal operators are responsible for the operation and maintenance of the property and facilities, but POLB retains responsibility for maintaining the structural integrity of the piers, wharves, bulkheads, retaining walls and fender systems.

Most of POLB's property agreements entered into by the cargo terminal operators are in the form of preferential assignment agreements and require terminal operators to pay varying percentages of the tariff charges for wharfage, dockage, storage and demurrage collected at the properties and facilities covered by such agreements, subject to a guaranteed minimum payment. These agreements require that the compensation payable to POLB be renegotiated every five years and provide that if the parties cannot agree, compensation is to be set through arbitration. The agreements also provide that if the property or facilities covered thereby are damaged by acts of God such as fire, flood or earthquake[, or if work stoppages or strikes prevent operation of the property or facilities], compensation payable to POLB will be reduced in proportion to the interference with operations.

For the five fiscal years ended September 30, 2014, revenues from non-waterfront properties and miscellaneous sources accounted for approximately 2.9% of POLB's operating revenues. These agreements generally provide for flat rentals or require payment of a percentage of gross revenues, subject to a fixed minimum rental.

The following table presents a summary of the LB Harbor Department's operating revenues for the five fiscal years ending September 30, 2014.

**TABLE C-1**

**PORT OF LONG BEACH**
**OPERATING REVENUES**
**FISCAL YEARS ENDED SEPTEMBER 30**
(thousands)

| | **2010** | **2011** | **2012** | **2013** | **2014** |
|---|---|---|---|---|---|
| **Berths & Special Facilities** | | | | | |
| Wharfage | $256,904 | $279,734 | $268,080 | $296,623 | $307,814 |
| Dockage | 11,280 | 12,003 | 11,705 | 12,055 | 10,877 |
| Bunkers | 2,334 | 1,547 | 1,373 | 1,375 | 703 |
| Special Facilities Rentals | 20,609 | 22,814 | 28,188 | 12,426 | 13,768 |
| Crane Rentals | 12,789 | 12,789 | 12,760 | 12,789 | 12,789 |
| Other | 79 | 100 | 319 | 601 | 570 |
| **Total Berths & Special Facilities** | $303,996 | $328,987 | $322,425 | $335,869 | $346,258 |
| Rental Properties | 14,279 | 14,138 | 9,577 | 9,374 | 9,360 |
| Utilities/Miscellaneous | 3,365 | 2,265 | 1,885 | 1,001 | 1,262 |
| **Total Operating Revenues** | $321,639 | $345,390 | $333,887 | $346,244 | $356,880 |

*Source: LB Harbor Department.*

The Charter of the City of Long Beach and certain POLB resolutions require that all POLB revenues be deposited with the Treasurer of the City of Long Beach and set aside in the Long Beach Harbor Revenue Fund, which is established by the Long Beach Charter. From moneys on deposit in the Long Beach Harbor Revenue Fund, the Treasurer of the City of Long Beach transfers funds, as necessary, to pay debt service on POLB's outstanding indebtedness, as well as the reasonable expenses of management and other expenses necessary to operate, maintain and preserve the facilities in good repair and working order. Any revenues remaining in the Long Beach Harbor Revenue Fund after the above described transfers may be used for any lawful purpose, including, among other things, Shortfall Advances. See also "—Transfer to City of Long Beach" below.

**Major Tenants**

The following companies (listed alphabetically) represent the LB Harbor Department's twenty-two largest customers in terms of revenues as of September 30, 2014. These customers accounted for approximately 97% of the LB Harbor Department's operating revenues in fiscal year 2014, with the largest single customer accounting for approximately 27% of annual operating revenues.

## TABLE C-2

## PORT OF LONG BEACH
## LEADING REVENUE PRODUCERS
## AS OF FISCAL YEAR 2014
## (Listed Alphabetically)

CEMEX USA
Chemoil Corp.
Crescent Terminals, Inc.
Crescent Warehouse
CSA Equipment
Energia Logistics Ltd.
International Transportation Service, Inc.
Jacobson Pilot Service, Inc.
Koch Carbon, Inc.
Long Beach Container Terminal, Inc.
Mercedes Benz U.S.A., LLC
Metropolitan Stevedore Company
Mitsubishi Cement Corporation
Oxbow Carbon & Minerals, LLC
Pacific Container Terminal
SA Recycling, LLC
SSA Terminal C60/Matson Navigation
SSA Terminals Long Beach, LLC
Tesoro Refining & Marketing
Total Terminals International, LLC
Toyota Logistics Services
Weyerhaeuser Co./Fremont Forest

*Source: LB Harbor Department*

## TABLE C-3

## PORT OF LONG BEACH
## REVENUE TONNAGE SUMMARY
## FISCAL YEARS ENDED SEPTEMBER 30
(in metric revenue tons[1])

| | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| **MUNICIPAL BERTHS** | | | | | |
| Inbound Cargo | | | | | |
| Foreign | 91,334,962 | 96,907,924 | 91,490,393 | 101,026,699 | 104,245,298 |
| Coastwise/Intercoastal | 16,733,433 | 16,054,362 | 15,793,069 | 18,476,723 | 17,998,456 |
| **Total Inbound Cargo** | **108,068,395** | **112,962,286** | **107,283,462** | **119,503,422** | **122,243,754** |
| Outbound Cargo | | | | | |
| Foreign | 33,131,283 | 36,209,860 | 33,278,391 | 36,768,609 | 37,066,641 |
| Coastwise/Intercoastal | 3,535,755 | 3,507,497 | 3,270,377 | 5,141,434 | 5,348,684 |
| Bunkers | 2,412,405 | 1,545,586 | 1,311,310 | 843,291 | 866,945 |
| **Total Outbound Cargo** | **39,079,443** | **41,262,943** | **37,860,078** | **42,753,334** | **43,282,270** |
| **Total Municipal Cargo** | **147,147,838** | **154,225,229** | **145,143,540** | **162,256,756** | **165,526,024** |
| **PRIVATE BERTHS**[2] | | | | | |
| Inbound | 209,143 | 191,568 | - | - | - |
| Outbound | - | - | - | - | - |
| **Total Private Cargo** | **209,143** | **191,568** | **-** | **-** | |
| **GRAND TOTAL** | **147,356,981** | **154,416,797** | **145,143,540** | **162,256,756** | **165,526,024** |
| Container Count in TEUs[3] | 5,936,066 | 6,298,840 | 5,857,210 | 6,647,976 | 6,817,590 |

(1) A metric revenue ton is equal to either 1,000 kilograms or one cubic meter.
(2) Private berth information is no longer available. Revenues from private berth leases are revenues of the terminal operator and not a part of POLB's revenue. Beginning in 2012, POLB implemented a new automated billing system that no longer collects private berth statistics.
(3) A TEU represents a twenty-foot equivalent unit.
*Source: LB Harbor Department*

The following is a breakdown of cargo handled by POLB at municipal berths during fiscal years 2013 and 2014 in tonnage and revenue:

### TABLE C-5

### PORT OF LONG BEACH
### REVENUE TONNAGE BY CARGO TYPE
### FISCAL YEARS ENDED SEPTEMBER 30[1]

(in thousands of metric revenue tons)

| | 2013 | | | | 2014 | | | |
|---|---|---|---|---|---|---|---|---|
| | Metric Revenue Tons (000s) | Percent of Total Tons | Revenue (000s)[2] | Percent of Shipping Revenue | Metric Revenue Tons (000s) | Percent of Total Tons | Revenue (000s)[2] | Percent of Shipping Revenue |
| Containerized | 121,683 | 75% | $268,295 | 80% | 125,662 | 76% | $279,633 | 80% |
| Dry Bulk | 8,384 | 5 | 26,369 | 8 | 7,771 | 5 | 25,665 | 8 |
| General Cargo | 1,594 | 1 | 24,296 | 7 | 2,400 | 1 | 25,416 | 7 |
| Petroleum/ Liquid Bulk | 30,595 | 19 | 16,909 | 5 | 29,692 | 18 | 15,543 | 5 |
| **Totals** | 162,256 | 100% | $335,869 | 100% | 165,525 | 100% | $346,258 | 100% |

[1] Reflects cargo handled at municipal berths only.
[2] Revenue includes operating revenues from wharfage, dockage, storage/demurrage, bunkers, special facilities rentals, crane rentals and other.
*Source: LB Harbor Department*

Revenue tonnages by trade route and by leading trade route partners are shown in the following tables.

### TABLE C-6

### PORT OF LONG BEACH
### REVENUE TONNAGE BY TRADE ROUTE
### FISCAL YEAR ENDED SEPTEMBER 30, 2014

(in thousands of metric revenue tons)[1][2]

| | **Inbound** | **Outbound** | **Total** | **% of Total Volume** |
|---|---|---|---|---|
| Far East (Asia) | | | | |
| Domestic | | | | |
| Western South America/Mexico/Central America | | | | |
| India/Persian/Red Sea | | | | |
| Australia/New Zealand/Oceania | | | | |
| Western Europe | | | | |
| Eastern South America | | | | |
| Canada | | | | |
| Africa | | | | |
| Caribbean | | | | |
| Greece/Mediterranean | | | | |
| **TOTAL** | | | | 100.0% |

[1] Totals may not add due to rounding.
[2] Does not include certain commodities otherwise reported in POLB's Financial Statements for the fiscal year ended September 30, 2014.
*Source: LB Harbor Department*

The top five trading countries with the LB Harbor Department for the five fiscal years ending September 30, 2014 are summarized below:

**TABLE C-7**

**PORT OF LONG BEACH**
**REVENUE TONNAGE BY LEADING TRADING COUNTRIES**
**FISCAL YEARS ENDED SEPTEMBER 30**
(Ranked in Fiscal Year 2014 Results)
(in thousands of metric revenue tons)

| **Countries** | **2010** | **2011** | **2012** | **2013** | **2014** |
|---|---|---|---|---|---|
| **Inbound** | | | | | |
| China | 11,045 | 12,074 | 11,768 | 14,868 | 16,040 |
| Mexico (Gulf of Mexico) | 2,178 | 4,141 | 3,932 | 4,269 | 2,749 |
| Panama | 1,262 | 1,091 | 1,676 | 2,182 | 2,607 |
| Iraq | 2,491 | 1,925 | 3,391 | 4,498 | 2,150 |
| Ecuador | 2,705 | 2,908 | 3,048 | 2,238 | 1,764 |
| **Outbound** | | | | | |
| China | 8,534 | 9,901 | 9,142 | 11,623 | 8,765 |
| Japan | 4,321 | 4,557 | 3,936 | 4,318 | 4,118 |
| Taiwan | 1,578 | 1,768 | 1,611 | 1,907 | 1,848 |
| Mexico | 760 | 556 | 1,241 | 1,524 | 1,435 |
| South Korea | 2,529 | 1,962 | 1,208 | 964 | 973 |

*Source: LB Harbor Department*

In addition to the trading partners listed above, the other major inbound trading countries include Japan, South Korea, Mexico, Canada and Columbia, and the other major outbound trading countries include Hong Kong, Indonesia, India, Australia and Vietnam.

## TABLE C-8

## PORT OF LONG BEACH
## CONTAINER TRAFFIC
## CALENDAR YEARS [2009]-2015
(TEUs)

| | | | | | | | [_____] Months Ended [________] | |
|---|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2015** | **2016** |
| **Inbound**[1] | 2,534,897 | 3,128,860 | 3,024,968 | 3,062,290 | 3,455,323 | 3,517,514 | | 3,240,998 | 3,329,261 |
| **Outbound**[1] | 1,352,053 | 1,562,398 | 1,506,692 | 1,540,188 | 1,704,932 | 1,604,394 | | 1,472,898 | 1,399,442 |
| **Empties** | 1,180,647 | 1,572,241 | 1,529,431 | 1,443,184 | 1,570,318 | 1,698,898 | | 1,539,673 | 1,866,916 |
| **Total TEUs** | 5,067,597 | 6,263,499 | 6,061,091 | 6,045,662 | 6,730,573 | 6,820,806 | | 6,253,569 | 6,595,619 |

[1] Fully loaded.
*Sources: POLB.*

## Stevedoring and Cargo Handling

Arranging for stevedoring and cargo handling services is the responsibility of each marine terminal operator. Stevedoring and cargo handling at the Port are provided pursuant to a contract between the Pacific Maritime Association (the "Association") and the International Longshore and Warehouse Union ("ILWU"). The contract covers approximately 20,000 dockworkers on the West Coast. The Association represents most of the steamship lines, marine terminal operators, car loading bureaus and stevedore companies on the Pacific Coast. The major providers of stevedoring and terminal services are Cooper/T. Smith Stevedoring, Metropolitan Stevedore Company (doing business as Metro Ports), Stevedoring Services of America, and Ports America Inc.

The current contract between the Association and the ILWU was entered into on May 21, 2015 and was ratified by the ILWU membership on May 22, 2015, retroactive to July 1, 2014. The current contract expires on June 30, 2019. The previous contract between the Association and ILWU expired on June 30, 2014. The Association and the ILWU began negotiating a new contract in May 2014, but did not agree on a new contract until February 2015. The protracted negotiations had a compounding effect on congestion issues that had slowed down container cargo movement through the San Pedro Bay Ports since September 2014. The LB Harbor Department's revenues and container volumes at the port were temporarily impacted during Fiscal Year 2015 as a result of the disruptions and other congestion factors[, but full-fiscal year revenues were not materially affected and container volumes decreased only slightly (____%)].

In December 2012, a strike by the members of the Office Clerical Unit ("Unit 63") of the ILWU, which was honored by the ILWU dock workers, resulted in an eight-day closure affecting only three container terminals in the San Pedro Bay that used Unit 63 workers. Unit 63 and the Los Angeles and Long Beach Harbor Employers Association subsequently agreed to a new contract and the closed terminals were reopened. There was no financial impact to the LB Harbor Department as a result of the Unit 63 strike. Prior to the work stoppage in December 2012, there had been no prolonged work stoppage since October 2002. In October 2002, after the Association and the ILWU failed to agree upon a new contract, the shipping lines and terminal operators instituted a lock-out of the stevedoring companies, thereby shutting down all West Coast ports, including the Port, for 10 days. Work resumed when the President of the United States ordered the ports to re-open pursuant to the Taft-Hartley Act. Prior to the 2002 lock-out, there had not been a prolonged work stoppage since 1971. Other than the work stoppages in 1971 and 2002, and as noted above, there has generally been a history of excellent working relationships between the ILWU and the employer group represented by the Association. Prolonged work slowdowns or stoppages, particularly if combined with excessive congestion, could adversely affect revenues of POLB and its ability to pay any Shortfall Advances. The employees of the LB Harbor Department do not work for the tenants of the port or the stevedoring companies.

The LB Harbor Department is actively evaluating the entire supply chain process, including ways to reduce costs, increase efficiencies and build relationships with stakeholders in the supply chain. On February 23, 2015 the Board appointed a Senior Executive for Supply Chain Optimization to lead this long-term strategy. On February 27, 2015 the Federal Maritime Commission approved a cooperative working agreement between the LB Harbor Department and the City of Los Angeles, acting by and through its Board of Harbor Commissioners, that allows the two ports to discuss and agree on projects and programs that address congestion issues, transportation infrastructure needs, and reduce pollution caused by port-related activities.

## Summary of Historical Operating Results

The following table shows POLB's Statement of Revenues and Expenses for the five fiscal years ending September 30, 2014.

**TABLE C-10**
**PORT OF LONG BEACH**

**COMPARATIVE SUMMARY OF STATEMENTS OF REVENUES AND EXPENSES**
**FISCAL YEARS ENDED SEPTEMBER 30**[(1)]
(thousands)

| | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| **Port Operating Revenues:** | | | | | |
| Berths/Special Facilities | $303,996 | $328,987 | $322,425 | $335,869 | $346,258 |
| Rental Properties | 14,279 | 14,138 | 9,577 | 9,374 | 9,360 |
| Miscellaneous | 3,365 | 2,265 | 1,885 | 1,001 | 1,262 |
| Total Port Operating Revenues | $321,639 | $345,390 | $333,887 | $346,244 | $356,880 |
| **Port Operating Expenses:** | | | | | |
| Operating/Administrative | $98,026 | $81,423 | $87,637 | $97,696 | $108,455 |
| Depreciation/Amortization | 86,619 | 85,005 | 88,523 | 90,850 | 117,966 |
| Total Port Operating Expenses | $184,646 | $166,428 | $176,160 | $188,545 | $226,421 |
| **Income from Port Operations** | $136,993 | $178,962 | $157,727 | $157,699 | $130,459 |
| **Non-Operating Revenues (Expenses)**: | | | | | |
| Clean Air Action Plan Income (Loss) | $3,552 | $(3,573) | $(3,926) | $(3,420) | $(2,474) |
| Gain/(Loss) From Harbor Oil Operations | 19,034 | 1,525 | - | - | - |
| Gain/(Loss) on Sale of Property | (2) | 74 | 7 | (6) | 16 |
| Income from Equity in Joint Ventures, Net | 2,270 | - | - | - | - |
| Interest Expense, Net of Interest Capitalized | (33,051) | (20,551) | (10,341) | (65) | (1,205) |
| Interest Income | 7,930 | 4,994 | 3,302 | 2,789 | 6,776 |
| Other Income (Expense), Net | (4,752) | (27,979) | (1,904) | (182) | (298) |
| Total Non-Operating Revenues (Expense) | $(5,018) | $ (45,509) | $(12,862) | $(884) | $2,816 |
| **Income Before Transfers and Capital Grants** | $131,975 | $133,452 | $144,865 | $156,815 | $133,275 |
| Net Operating Transfers | $(30,451) | $(10,379) | $(16,694) | $(17,312) | $(17,844) |
| Capital Grants | 18,663 | 7,444 | 13,627 | 250,543 | 178,295 |
| Loss on Long Term Receivable from Redevelopment Agency | - | (27,000) | - | - | - |
| Contributions to Others | - | - | - | - | (10,203) |
| **Change in Net Position** | **$120,188** | **$103,517** | **$141,798** | **$390,046** | **$283,523** |
| **Total Net Position (beginning of fiscal year)** | 2,427,817 | 2,548,005 | 2,651,522 | 2,793,319 | 3,178,686 |
| Adjustment for GASB 65 Implementation | - | - | - | (4,678) | - |
| **Total Adjusted Net Position (beginning of fiscal year)** | 2,427,817 | 2,548,005 | 2,651,522 | 2,788,640 | 3,178,686 |
| **Total Net Position (end of fiscal year)** | **2,548,005** | **2,651,522** | **2,793,320** | **3,178,686** | **3,462,209** |

[(1)] Totals may not add due to rounding.
*Source: LB Harbor Department*

**POLB Capital Improvement Program**

The LB Harbor Department maintains a 10-year capital plan which sets forth the specific projects the LB Harbor Department expects to develop and construct over the next ten years. The 2015-24 Capital Plan is the LB Harbor Department's current 10-year capital plan. Currently, the 2015-24 Capital Plan has an aggregate estimated cost of approximately $3.046 billion. Many of the improvements to the piers set forth in the 2015-24 Capital Plan, include, but are not limited to, longer wharves, deeper berths, larger gantry cranes and larger storage areas necessary to accommodate the docking and loading/unloading requirements of the current and future designed ships. Currently, the largest container cargo ships have the capacity to carry upwards of 18,000 TEUs. The facilities at the port are currently being designed and constructed to accommodate the largest container cargo ships that are now in service.

Following is a brief description of some of the major projects included in the 2015-24 Capital Plan:

***Middle Harbor Redevelopment (Piers D, E and F)***. The Middle Harbor redevelopment project (the "Middle Harbor Redevelopment Project") is a 10-year approximately $1.3 billion modernization of the shipping terminals on Piers D, E and F. The project will consolidate the Pier E terminal (170 acres), the Pier F terminal (101 acres), and the Berth E24 subsided oil area (five acres), into a single, modern, 305-acre container terminal. The project will add on-dock rail capacity, shore-side electrical power, electric rail-mounted gantry cranes, and deeper channels to accommodate the newest container ships. The project is being constructed in two phases. Phase 1 construction began in 2011 and is scheduled to be completed in late 2015. Construction of Phase 2, which is currently in design, is expected to begin in 2015 and is expected to be completed by 2019. When completed, the Middle Harbor terminal is expected to be able to move an estimated 3 million TEU's annually, twice the amount of cargo than was moved through the old facilities. In 2012, the Harbor Department and OOCL entered into a 40-year preferential assignment agreement for the Middle Harbor container terminal. Based on the guaranteed annual minimum payments required to be made by OOCL pursuant to the terms of the agreement, the Harbor Department expects that the agreement with OOCL will generate approximately $4.6 billion of operating revenues for the Harbor Department over the 40-year term. The facility will be operated by OOCL's subsidiary, Long Beach Container Terminal, LLC.

***Pier G Redevelopment Project***. The Pier G Redevelopment Project is a multi-year renovation of the Pier G Container Terminal that currently consists of two phases.

Major portions of the Phase 1 Pier G Redevelopment Project were completed in 2014. The remaining portion of Phase 1, consisting of the South Rail Yard, has yet to be initiated and is expected to be completed in 2020. At the completion of Phase 1 of the Pier G Redevelopment Project, the Pier G Container Terminal will be an approximately 258-acre facility, that will include four berths, a 5,258 foot-long wharf with water depths ranging from 42 feet to 52 feet, a container storage area for approximately 18,200 on-ground containers, power outlets for 1,100 refrigerated containers, and an on-dock rail yard. The Pier G Container Terminal will have 17 gantry cranes, with capacities ranging from 30 tons to 60 tons. Phase 1 of the Pier G Redevelopment Project is estimated to cost approximately $530 million, with $470 million having been spent through December 31, 2014. Phase 1 of the Pier G Redevelopment Project is being financed with revenues of the Harbor Department.

[If the Harbor Department decides to move forward with Phase 2 of the Pier G Redevelopment Project, it will consist of landfills, backland improvements and wharf improvements in the south half of the Pier G slip and certain other improvements, including electrification of a part of the Pier G Container Terminal. If Phase 2 is completed, the Pier G Container Terminal would be an approximately 280- acre facility. The Harbor Department estimates that Phase 2 of the Pier G Redevelopment Project will cost approximately $600 million. As of [______], 2015], the Harbor Department has not decided to move forward with Phase 2 of the Pier G Redevelopment Project.]

[An EIR for Phase 1 of the Pier G Redevelopment Project was certified by the Board in 2000. However, a new EIR for Phase 2 of the Pier G Redevelopment Project will need to be completed before the Harbor Department can begin constructing Phase 2. As of [________, 2015], the Harbor Department has not initiated the process of completing an EIR for Phase 2 of the Pier G Redevelopment Project.]

***Rail Program***. A major transportation element of the 2015-24 Capital Plan is to move more cargo by rail instead of by truck. POLB has a significant railroad infrastructure improvement program that includes six rail-related projects with an approximate cost of $600 million. The rail-related projects are located outside the on-dock marine terminal container facilities. POLB's major rail infrastructure project is "the on-dock rail support facility" to be located at Pier B. An EIR is currently being completed for the project and is expected to be certified by mid-2016. The final phase of the Pier B on-dock rail support facility is expected to be completed by the end of 2023. The expansion entails increasing the ability to load and unload trains at the on-dock marine terminals thereby maximizing the number of containers moved directly via rail and reducing truck trips on streets and freeways within the region, including the 710 Freeway.

***Gerald Desmond Bridge Replacement Project***. The Gerald Desmond Bridge is a vital link in the San Pedro Bay Ports' goods movements infrastructure because it connects to 710 Freeway, which is the primary access route for the San Pedro Bay Ports and carries approximately 15% of all U.S. port-related container traffic.

The Gerald Desmond Bridge Replacement Project consists of replacing the existing four-lane Gerald Desmond Bridge, which spans the port's Main Channel, with a new six-lane bridge and higher clearance. The new bridge will provide improved traffic flow, emergency lanes on both the inner and outer shoulders in each direction to reduce traffic delays and safety hazards from accidents and vehicle breakdowns, a 200-foot vertical clearance to accommodate the world's largest vessels, a reduction in the bridge's steep grades, and a bicycle/pedestrian path with scenic overlooks. Additional improvements include reconstruction of the Terminal Island East Interchange and a new interchange with the 710 Freeway. Currently, the Gerald Desmond Bridge is only two lanes in each direction with no shoulder and, depending on tide conditions, is too low to accommodate passage of the largest ships.

The Gerald Desmond Bridge Replacement Project is budgeted to cost approximately $1.263 billion and is a joint effort between the California Department of Transportation ("Caltrans") and the Harbor Department. The Harbor Department is currently working with Caltrans and the Federal Highway Administration to complete a periodic forecasted cost estimate review and update to the project budget, which is expected to be completed in mid-2015. The Harbor Department anticipates that funding of the project will come from numerous sources, including federal and State grants, and revenues of the Harbor Department.

[As of [_______, 2015], the design of the Gerald Desmond Bridge Replacement Project is approximately 65% complete and construction of the Gerald Desmond Bridge Replacement Project is approximately 25% complete. Construction of the new bridge began in 2013 and was originally expected to be completed by the end of 2016. Due to complexities of the site and design, the Harbor Department currently estimates that the bridge will be completed by mid-2018.]

Upon completion of the Gerald Desmond Bridge Replacement Project, ownership of the new bridge will be transferred to Caltrans. However, the Harbor Department has agreed to pay Caltrans all operation and maintenance costs with respect to the new bridge for a 30-year period commencing on the date ownership of the new bridge is transferred to Caltrans.

***Civic Center Plaza.*** The new Port of Long Beach Administrative Headquarters Building project is a part of the proposed City of Long Beach Civic Center. The project anticipates the construction of a building in downtown Long Beach, co-located with a new city hall, library, public park and other shared facilities. The Harbor Department's share of the shared facilities is being determined, and the Harbor Department's total project cost is expected to be approximately $200 million. The procurement is anticipated to be under a design-build approach. Following a request for proposal and selection process, an exclusive negotiations agreement was executed on January 5, 2015 with the preferred developer, Plenary Edgemoor Civic Partners. The duration of the negotiation period is expected to be seventeen months, and the phased design-build process is expected to be completed approximately four years from the execution date of the exclusive negotiation agreement.

***Long Beach Harbor Dredging***. The Harbor Department has identified several dredging projects that will be in development over the next few years, including, deepening of the channels and berths at Pier J, deepening of the West Basin approach and Pier T berths, re-aligning the dike at Pier S to provide material for the Middle Harbor Redevelopment fill project, and deepening of the Port's anchorages. A federal project to continue deepening the main channel at the Port and expanding the limits of the federal channels also is being reviewed. Dredging projects that are currently scheduled to move forward have an approximate cost of $250 million.

***Security and Public Safety Program***. Security and public safety projects include the replacement of two fire stations, construction of a joint fire and security operations center, construction of a security support facility and the construction of two new fireboats to replace the obsolete boats in service now. These projects have an estimated cost of approximately $200 million.

***Pier S***. Pier S is an approximately 170-acre site located on the west side of the Port directly north of Pier T. Prior to its purchase by the Harbor Department in 1994, Pier S was owned by the Union Pacific Resources Corporation ("UPRC") and was used as an active oil and gas production field. During the 1950's and 1960's, a portion of Pier S was leased by UPRC to the now-defunct TLC Corporation for the shallow impoundment disposal of oil and gas drilling waste. Testing conducted in the early 1980's indicated that TLC Corporation disposed of materials other than those permitted under the lease with UPRC. The Harbor Department has completed remediating the site, which included, among other projects, relocating certain pipelines and utilities and bringing the site to grade by filling the area with more than 5 million cubic yards of clean imported soil. The potential development of the Pier S site will be evaluated as part of the Long Term Land Use study. Currently, the Harbor Department is utilizing Pier S for temporary uses. The Harbor Department also is planning to widen Cerritos Channel as part of the Pier S wharf construction, to accommodate the next generation of large container vessels. Future landside development of the Pier S site will require the preparation of a new or supplemental EIR/EIS.

***Infrastructure Capital Improvement Programs.*** The Harbor Department owns and maintains infrastructure outside of operating terminals including roadways, water distribution system, sanitary sewer system, storm drain system, electrical distribution system, wharf structures and rock dikes and other assets. To manage the infrastructure condition efficiently, the Harbor Department has developed a 10-year plan for roadway and wet utilities improvements, including water, sanitary sewer and storm drain, with an approximate cost of $60 million. To proactively monitor and manage infrastructure conditions throughout the Port, the Harbor Department intends to update the plan periodically.

POLB expects to finance these capital improvement projects with revenues of POLB, proceeds of revenue bonds, State and federal funds and grants and other funds.

**Environmental Compliance**

**[SUBJECT TO REVIEW]**

**General**. POLB is required to comply with the provisions of a number of federal and state laws designed to protect or enhance the environment. The two basic laws are the Federal National Environmental Policy Act (“NEPA”) and the State of California Environmental Quality Act (“CEQA”). Other federal environmental laws applicable to POLB include the Resources Conservation and Recovery Act, which governs the cleanup, treatment and disposal of hazardous waste; the Clean Air Act, which governs the release of air pollutants; the Toxic Substances Control Act, which governs the handling and disposition of polychlorinated biphenyls (PCBs) and other toxic substances; the Marine Protection, Research and Sanctuary Act, which governs the ocean dumping of dredged materials; the Rivers and Harbors Act, which governs navigable waterways; and the Clean Water Act, which governs discharge of surface waters. Enforcement agencies include the U.S. and California Environmental Protection Agencies and the U.S. Army Corps of Engineers, which rely on consultation and advice from various federal resource agencies.

POLB is also required to conform to provisions of a number of other state environmental laws, including the Hazardous Waste Control Act, which governs hazardous waste treatment and disposal, and the Porter Cologne Act, which governs surface and ground water quality. State enforcement agencies include the Department of Toxic Substances Control, the State Water Resources Control Board and the local Regional Water Quality Control Board. The Air Resources Board, and the regional Air Quality Management District administer the federal Clean Air Act.

In conforming to these laws and their implementing regulations, POLB has instituted a number of compliance programs and procedures. Some of these are ongoing, including the sampling and analysis of harbor sediments to comply with dredging permit requirements, monitoring of water quality at stormwater outfalls and oversight of POLB and tenant housekeeping practices. Other compliance activities are carried out on an intermittent basis as necessary. These include disposal of contaminated soil excavated from construction sites, surveys of POLB-owned buildings for asbestos and associated remedial actions, other hazardous substances site clean up related to spills, releases and illegal disposal of materials and substances on POLB property by third parties, and monitoring and reporting pursuant to construction permits related to air and water quality.

POLB administers a number of environmental compliance programs, including the preparation by an outside consultant of an environmental facility audit and report of recommendations, and assessment and remediation programs for cleanup of contaminated soil, groundwater and building materials. POLB has adopted a number of contingency plans, some of which are mandated by law, regarding potential spills of fuel, oil and other hazardous substances for POLB's marine terminal facilities.

POLB's agreements with its tenants require the tenants to take the responsibility for financing the cost associated with cleaning up spills of fuels, oils and other hazardous substances.

**Air Pollution Reduction Programs**. In 2006, POLB, together with POLA, developed the San Pedro Bay Ports Clean Air Action Plan ("CAAP") with input from the United States Environmental Protection Agency's ("EPA") the California Air Resources Board, and the South Coast Air Quality Management District. The CAAP was updated and reauthorized in 2010. The CAAP addresses every category of Port-related emission sources (ships, trucks, trains, cargo-handling equipment and harbor craft) and outlines specific, detailed strategies to reduce emissions from each category. According to POLB, through implementation of the CAAP, since 2005, there has been an 82% reduction in diesel particulate matter, a 90% reduction in sulfur oxides and a 54% reduction in nitrogen oxides emissions from port-related sources. The CAAP has and will require a significant investment by the LB Harbor Department, the Port of Los Angeles and private sector businesses and is intended to expedite the introduction of new and innovative methods of reducing emissions prior to any additional federal or State requirements being imposed on the San Pedro Bay Ports.

Pursuant to the CAAP, the POLB has undertaken several programs to lower air pollution levels at POLB, including, but not limited to: (a) an incentive-based program that encourages vessels entering the San Pedro Bay Ports to lower their speeds (faster speeds produce higher emissions) (the "Green Flag Incentive Program"); (b) an incentive-based program to encourage vessel operators to deploy their lowest pollution-emitting ships to San Pedro Bay Ports (the "Green Ship Incentive Program"); (c) accelerated replacement of cargo handling equipment with equipment that meets the cleanest engine standards; (d) use of shore-side electrical power for ships calling at POLB (also known as "cold ironing"); (e) a Technology Advancement Program which seeks to accelerate the verification or commercial availability of new, clean technologies, through evaluation and demonstration in port operations; (f) replacement of the entire fleet of 16 switcher locomotives operated by harbor rail operator Pacific Harbor Line with less polluting locomotives and the purchase of six generator set locomotives which meet the cleanest engine standards; and (g) the CTP, which established progressively cleaner engine standards for trucks operating at POLB.

**Security**

**[SUBJECT TO BE REVIEW]**

POLB takes an above the water, on the water, and below the water approach to Maritime Domain Awareness using various sensor technologies to maintain vigilance and to share data with the many agencies responsible for POLB Security. More than 130 surveillance cameras are deployed throughout the port complex, including long-range and night-vision units. Strategically deployed underwater sonar machines monitor the waters as well. Currently, POLB is the only port in the United States with its own deepwater dive team capable of performing heavy duty underwater salvage and rescue operations.

Since 2001, POLB has secured more than $[120] million in security grants. POLB is protected by multiple layers of security, including the U.S. Coast Guard, U.S. Customs and Border Protection, federal, state and local law enforcement agencies and POLB's Harbor Patrol, a cadre of 60-plus trained, armed, public officers who are responsible for security and public safety on the property owned by the Port and any public roadways within its boundaries 24/7. POLB also maintains a close relationship with the Long Beach Police Department.

POLB's Joint Command and Control Center ("JCCC") is a state-of-the-art communications and command center, which brings together federal and local agencies to coordinate security measures.

POLB has developed and implemented an Emergency Management system, which includes a business continuity plan to ensure uninterrupted key port operations in the event of an emergency.

**Outstanding Indebtedness**

**[SUBJECT TO BE REVIEW]** As of [December 31, 2015], POLB had $[__________] aggregate principal amount of its Harbor Revenue Bonds outstanding. POLB's Harbor Revenue Bonds are payable from and are secured by a pledge of and a lien and charge upon the LB Harbor Department's revenues and are payable prior to the payment of Shortfall Advances. POLB's outstanding Harbor Revenue Bonds bear interest at fixed rates that range from [3% to 6%] and mature on or before [2027].

**Transfers to City of Long Beach**

The Long Beach Charter permits in each fiscal year a transfer (the "5% Transfer") from the Long Beach Harbor Revenue Fund, subject to the approval of two-thirds of the members of the Long Beach City Council, an amount necessary to meet the lawful obligations of the Long Beach Tideland Operating Fund. Such transfer may not exceed 5% of the gross operating revenues of POLB as shown on the most recent available independently audited financial statements of the LB Harbor Department. The 5% Transfer also is subject to the prior approval of a majority of all the members of the Long Beach Board of Harbor Commissioners, expressed by resolution, finding and determining that the funds proposed to be transferred will not be needed for POLB operations, including, without limitation, operating expenses and capital projects, and that such transfer will not result in insufficient funds to pay the principal of and interest on POLB's Harbor Revenue Bonds or result in noncompliance by POLB of its debt to revenue coverage requirements. In Fiscal Year 2014, the POLB's 5% Transfer to the Long Beach Tideland Operating Fund was approximately $17.3 million. The 5% Transfer, if any, is made by POLB prior to any payment of the Shortfall Advances.

**Audited Financial Statements**

POLB's audited financial statements for the fiscal years ended September 30, 2014 and 2013 are included below in this Appendix C. KPMG LLP, the independent auditor, has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements of POLB addressed in that report. KPMG LLP also has not performed any procedures relating to POLB's information included in this Official Statement.

**HARBOR DEPARTMENT OF THE CITY OF LONG BEACH**
**AUDITED FINANCIAL STATEMENTS FOR THE**
**FISCAL YEARS ENDED SEPTEMBER 30, 2014 AND 2013**

## APPENDIX D

## THE RAILROADS

The Railroads have not provided the information contained in this Official Statement and have not reviewed this Official Statement. The information concerning the Railroads contained or referred to in this Official Statement has been obtained from publicly available sources and has not been independently verified. The Authority makes no representations about this information.

### Available Information

BNSF and the parent corporation of Union Pacific currently are subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and are required to file reports and other information with the Securities and Exchange Commission (the "SEC"). The reports and other information can be inspected and copied at the public reference facility that the SEC maintains, or may be accessed electronically by means of the SEC's home page on the Internet (http://www.sec.gov). The Authority is not responsible for and makes no representation concerning information filed by BNSF and the parent corporation of Union Pacific.

Each of the Railroads also has covenanted to provide certain financial information for the benefit of holders and beneficial owners of the Series 2016 Bonds. This information is incorporated in documents filed with the SEC. Each of the Railroads has agreed that if in the future it is no longer subject to the informational requirements of Section 13 or 15(d) of the Exchange Act, it will notify the Trustee and will furnish certain financial information and operating data to the MSRB through its EMMA system.

### Union Pacific

Union Pacific Corporation, the parent of Union Pacific, has filed with the SEC the following documents:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2014;
- Quarterly Reports on Form 10-Q for the quarters ended March 31 2015, June 30, 2015 and September 30, 2015;
- Current Reports on Form 8-K filed on July 30, 2015, September 10, 2015, October 22, 2015, October 27, 2015, October 29, 2015, October 30, 2015 and November 19, 2015.

### BNSF

BNSF has filed with the SEC the following documents:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2014; and
- Quarterly Reports on Form 10-Q for the quarters ended March 31, 2015, June 30, 2015 and September 30, 2015.
- Current Reports on Form 8-K filed on March 4, 2015, March 9, 2015, August 13, 2015 and August 20, 2015.

# APPENDIX E

## SUMMARY OF CERTAIN PRINCIPAL DOCUMENTS

# APPENDIX F

## DTC AND ITS BOOK-ENTRY SYSTEM

# APPENDIX G

## PROPOSED FORM OF BOND COUNSEL OPINION

# APPENDIX H

## FORM OF THE CONTINUING DISCLOSURE CERTIFICATE

## [APPENDIX I]

## [SPECIMEN MUNICIPAL BOND INSURANCE POLICY]

**[APPENDIX J]**

**[SPECIMEN DEBT SERVICE RESERVE FUND POLICY]**

## [APPENDIX K]

## [REPORT OF THE PORTS' INDEPENDENT CARGO CONSULTANT]

AND

# San Pedro Bay Long-term Unconstrained Cargo Forecast

Contract No.: HD-8429

Final Report

**Report Prepared For:**

**February 2016**

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## Index of Key Figures

## Appendix

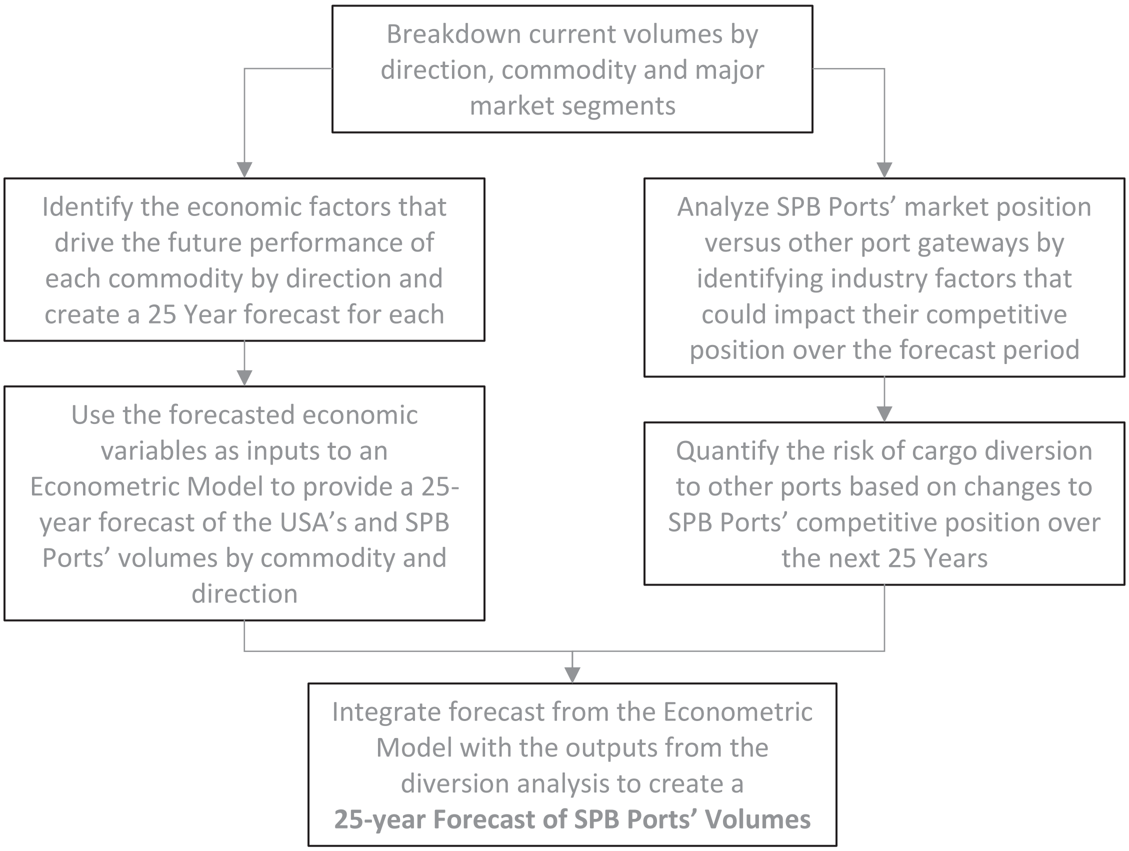
Key Terms and Acronyms

| Term or Acronym | Description |
|---|---|
| SPB | San Pedro Bay |
| MOE | Mercator International and Oxford Economics |
| IPI | Rail movements of intact ocean containers to inland destinations |
| Local | Containers that utilize terminals' truck gates to exit or arrive and do not go on to a rail ramp for on-carriage |
| Trans-loading | Sub-set of local movements where the cargo generated by a number of international containers is unloaded, mixed and loaded to domestic vans for delivery to inland destinations |
| ACTA | Alameda Corridor Transit Authority |
| BC | British Columbia |
| International | Cargo movements between U.S. ports and foreign countries |
| Domestic | Cargo movements between U.S. mainland ports and off-shore states/territories |
| FCT | Fairview Container Terminal |
| NSA | Northwest Seaport Alliance |
| U.S. | United States |
| NEA | North East Asia |
| SEA | South East Asia |
| ISCME | India Subcontinent Middle Ease |
| AAPA | American Association of Port Authorities |
| CAGR | Compound Annual Growth Rate |
| GDP | Gross Domestic Product |
| PIERS | The Port Import/Export Reporting Service |
| TEU | Twenty Foot Equivalent Unit |
| WTO | World Trade Organization |

# Executive Summary

### Overview of Forecasting Methodology

This report provides a 25-year forecast of container and non-container cargo volumes moving through the Ports of Los Angeles and Long Beach, collectively referred to herein as the San Pedro Bay Ports, or SPB Ports. The processes for creating long-term forecasts for both types of cargo are similar, and the methodology used is outlined in the following diagram:




The process outlined above was used with three sets of macro-economic assumptions to produce three different volume forecasts, which are denoted as:

- **Expected (E):** This scenario was based on economic assumptions that are viewed to be the most likely to be achieved over the forecast period. Specifically, an average US GDP growth rate of around 2.45% from 2015-2040, and a continued gradual liberalization of global trade agreements.
- **High (H):** In this scenario, a more aggressive set of assumptions was used – an extra 0.3pp in average GDP growth from 2015-2040. This is achieved via a combination of a more positive near-term outlook, and more positive structural conditions for growth in the long-run. Additionally, more ambitious progress in global trade liberalization was assumed.
- **Low (L):** This version of the macro-based volume forecast utilized a more conservative set of economic assumptions – a lower rate of labor productivity growth, and ultimately GDP growth weaker by 0.45pp per annum relative to baseline. In the short term, this is driven by a shock to global trade emanating in emerging markets, and in the longer-term a slower rate of technical

progress and productivity growth. Finally, a more protectionist global trade atmosphere was assumed, in response to the weaker global outlook.

For the cargo types that were identified as being at risk of diversion due to changes in SPB Ports' competitiveness, further analysis was completed that quantified this risk based on three sets of assumptions, which are identified in this report as:

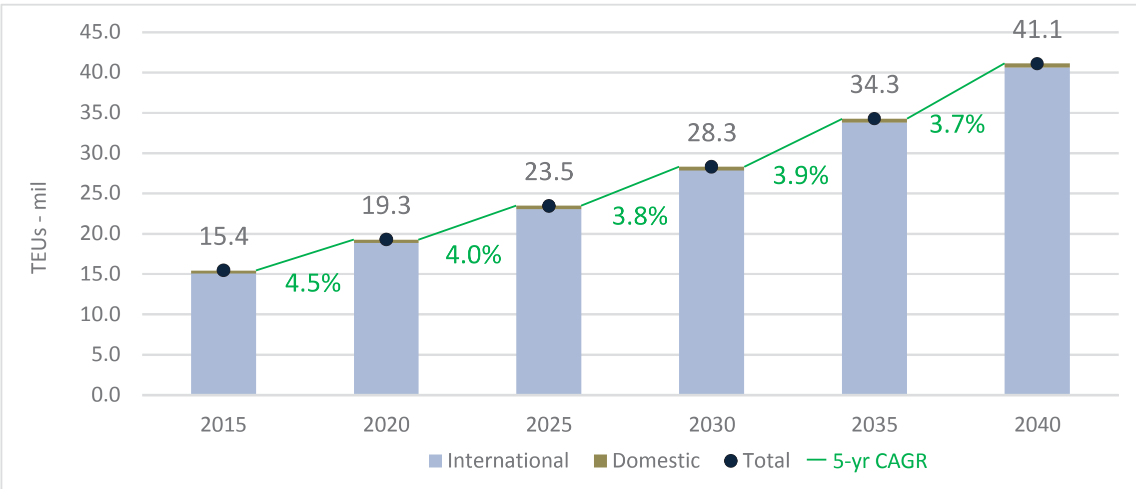
- **Base Case –** Most likely amount of volume to be diverted (Identifies IPI volume that is expected to be lost to Atlantic, Gulf and British Columbian ports due changes in expected cost structures)
- **Upside –** The least amount of volume to be diverted (Only identifies a small amount of IPI volume that is expected to be lost to ports in British Columbia)
- **Downside –** This case generated the greatest amount of volume that could be diverted (Analysis for this case included assumptions that caused SBP Ports' competitiveness to erode, as compared to base case, which caused additional IPI movement to be diverted to Atlantic, Gulf and British Columbia ports)

Therefore, nine separate forecast scenarios were created for the cargo types that were assessed to have a material risk of diversion. However, the scenario that used the Expected economic assumptions in combination with the Base Case competitive assumptions is considered to generate the most likely outcome. Finally, the cargo forecasts provided in this report are unconstrained; that is, they are demand-based forecasts that do not account for practical constraints on the ability of individual terminals in the Ports to accommodate the projected cargo. While an unconstrained forecast can show continuing growth in the demand for cargo to move through the SPB Ports, actual future volumes will be limited by the physical and operational capacity of the Ports.

## Container Forecast – Key Findings

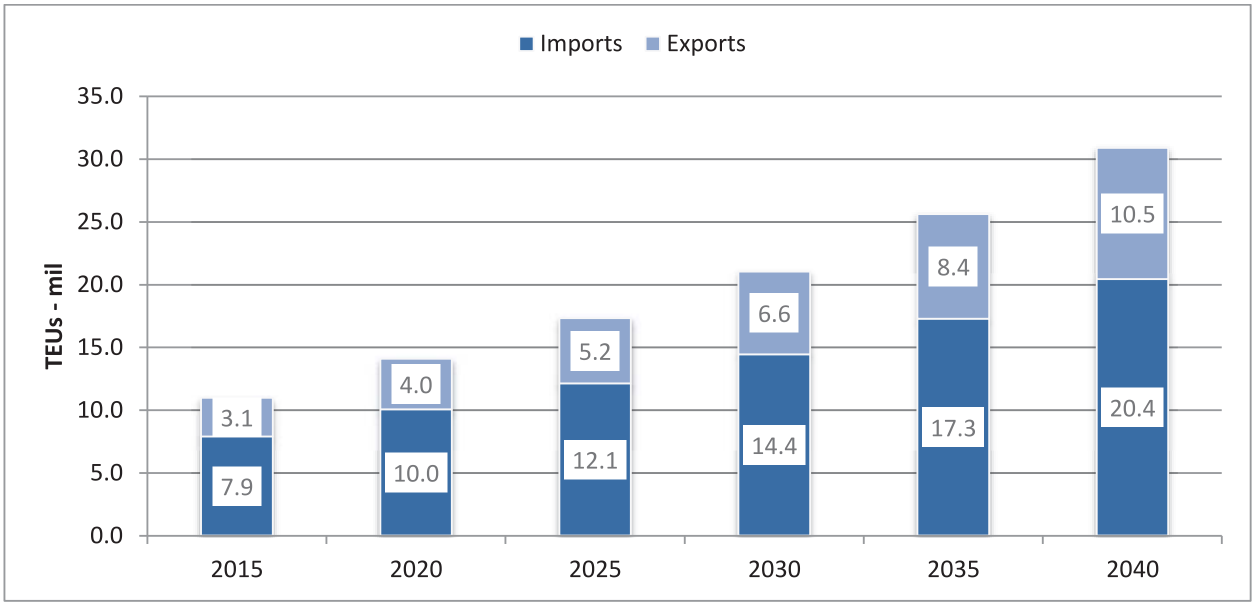
In 2014, 15.2 million TEUs moved through SPB Ports. This volume is equal to just over 31% of the combined throughput of all seaports located in the U.S. and Canada (herein referred to as 'North America'), making it the largest container gateway in North America. The Base Case forecast that relied on the Expected economic assumptions, which is denoted as the ***"E-Base Case"***, projected that by 2040, SPB Ports' container throughput would rise to 41.1 million TEUs, which produces a CAGR of 4.0% over the forecast period. The chart below provides an overview of the E-Base Case forecast results by major movement type.

***E-Base Case Forecast of International and Domestic Container Movements for SPB Ports in 5 year Increments***




The chart above shows the importance of international volume to SPB Ports, as it accounts for 98% of this port area's container throughput. In analyzing the SPB Ports' international market by direction, it is clear that loaded import movements are the driver of this gateway's volume, because it generates more than twice as many loaded moves, versus exports, and will continue to do so over the forecast period, as shown in the following chart.

*E-Base Case Forecast of SPB Ports' Loaded International Moves by Direction in 5 year Increments*

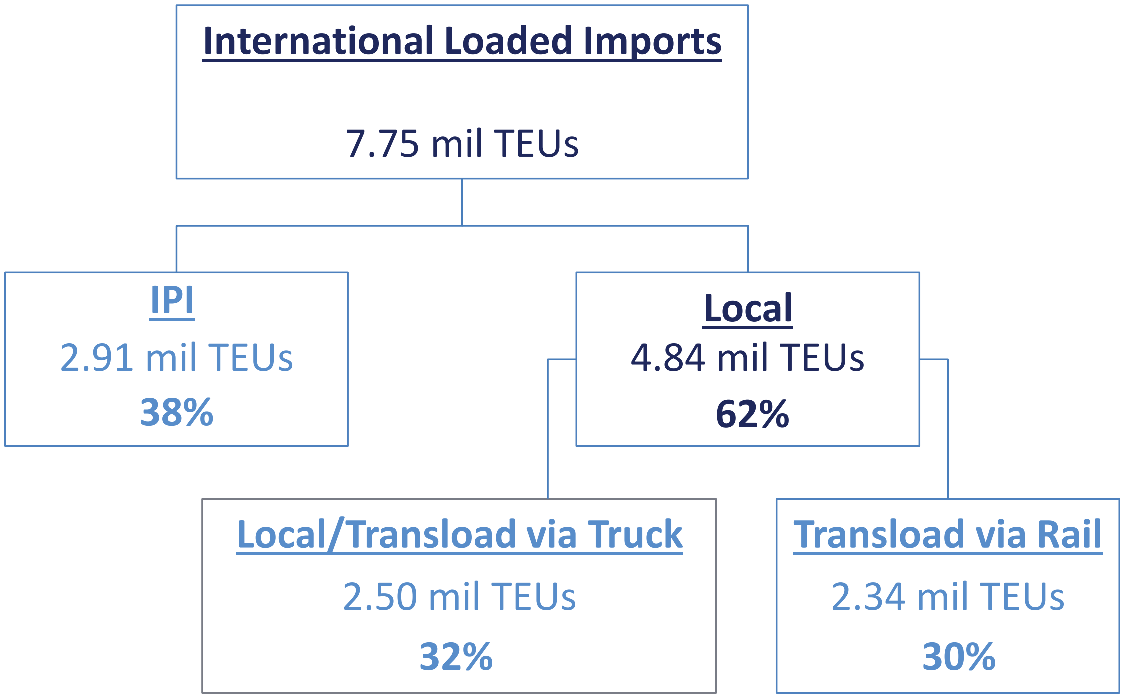



As loaded international imports are the primary driver of SPB Ports' international container volume performance over the forecast period, the composition of this market was analyzed, with three primary segments identified, which are described below:

- **Inland Point Intermodal (IPI):** Containers that are directly moved from the arrival port to an interior point via rail
- **Local/Trans-loads via Truck:** Containers that leave the port by truck to facilities for unloading and distribution to/consumption by the local population, or to manufacturing/processing plants within the port's hinterland
- **Trans-loads via Rail:** Containers that are moved to cargo handling facilities near the discharge port for unloading, after which these goods are mixed with items from other containers and loaded in to domestic vans, which are moved to final destination by rail

The following diagram provides a breakdown of SPB Ports' 2014 loaded import container volume by the three segments discussed above, as well as the market share associated with each one.

*Composition of SPB Ports' 2014 Loaded International Imports by Primary Market Segments*




The breakdown above shows that while IPI volume is the largest individual segment, the other two are not significantly smaller, and thus each segment accounts for an important share of SPB Ports' international container volume.

In order to determine if the SPB Ports are likely to experience any significant diversion of volume, each of the three segments was analyzed to identify the main drivers that cause importers to choose particular inbound gateway ports for each segment. These main drivers of port selection were then reviewed further to assess each segment's susceptibility to diversion, and a summary of these findings are shown below:

- **Local/Trans-loads Movements via Truck –** These cargo flows are considered to have very little susceptibility to diversion, because the additional inland costs associated with moving boxes into SPB Ports' catchment areas via an alternative gateway port will outweigh any port or terminal cost savings. In addition, the relatively large population of the SPB Ports' local market makes this gateway an essential call for ocean carriers
- **Trans-load Movements via Rail –** Import movements that are trans-loaded and delivered to their final destinations by intermodal rail service are relatively unlikely to be divertible to other ports because the SPB gateway offers greater sailing frequencies, lower ocean shipping costs, and shorter transit times from Asia versus all-water alternatives. Moreover, BCOs using trans-load facilities in Southern California have access to a greater number of intermodal train services to more inland markets than are available from the PNW and BC gateway ports
- **IPI –** *Containers that move directly by rail to reach their final destinations are considered to be highly divertible, as there are a number of gateway ports along the Pacific Coast that are positioned to handle these volumes, and the increased availability of services between Asia and*

*East/Gulf Coast ports enables all-water routings to be viable alternatives for the lower-value, less time-sensitive commodities moving to a number of inland destinations east of the Mississippi River Valley.*

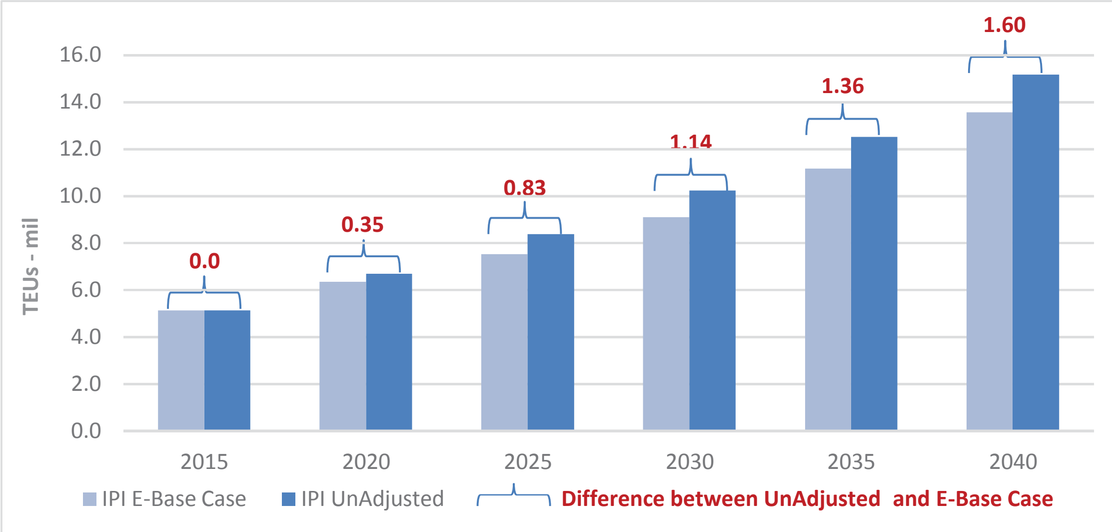
Consequently, IPI volume is the segment with the greatest relative risk of share loss for the SPB Ports. In order to evaluate how SPB Ports' competitive position for its existing IPI volumes could evolve over the next 25 years, analysis was done which identified and assessed the following factors/trends with potential impact on the gateway's position.

***Summary of Key Competitive Factors***

- **Panama Canal Expansion –** The completion of the new locks at the Panama Canal will allow vessels with capacities of up to 14,000 TEUs to be deployed on all-water services between Northeast Asia and Atlantic/Gulf Coast ports, thereby enabling ocean carriers to substantially lower their slot costs on this route
- **Slower Growth in Vessel Capacities to SPB Ports –** If the growth of import volumes to Southern California's ports slows, then carriers will be less likely to increase vessels sizes used on Asia – California services, which could lower the slot cost advantage that Transpacific deployments and SPB Ports currently have over all-water services and East Coast ports
- **Increased Terminal Handling Costs –** Should terminal handling costs increase faster in SPB Ports than in competing ports, this could result in higher terminal service charges to carriers and reduce the gateway's attractiveness
- **New Terminal Capacity in British Columbia, particularly at Prince Rupert –** The container terminal at Prince Rupert will add a second berth during 2016, which will allow it to handle additional services and a greater number of IPI movements to destinations in the U.S., and a third berth is planned to become available within the next seven years. In the same timeframe, two terminals in Vancouver are being expanded.

The impacts of each of these factors were analyzed to determine how SPB Ports' competitiveness for IPI movements is likely to change over the forecast period. The results of this competitive-factors analysis was used to quantify how SPB Ports' IPI volumes are expected to change over the 25-year forecast period. The following chart contrasts the total (both directions, including loads and empties) IPI volumes that SPB Ports would capture in an unadjusted scenario, versus those from the E-Base Case.

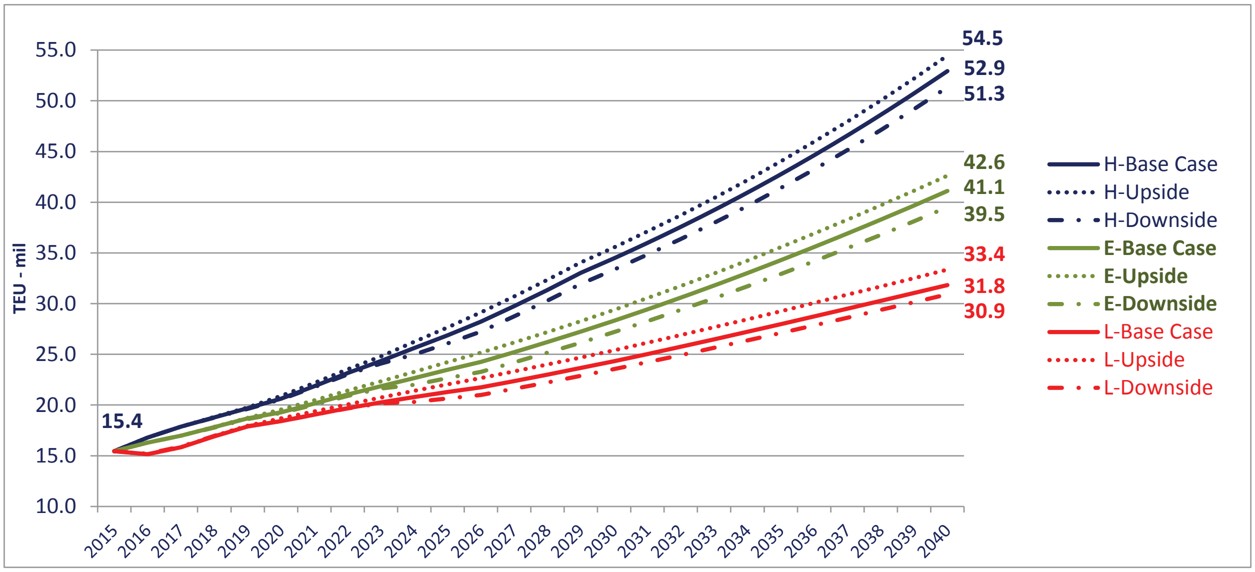
*__Contrast of Results for SPB Ports Total IPI Volume from an Unadjusted Forecast and the E-Base Case__*




The previous chart shows that while initially, diversions have a limited impact to SPB Ports' IPI volumes, by the end of the 25-year period, the volume in this segment is expected to be 1.6 million TEUs lower than if there was no impact from the competitive factors studied.

The overview section of this report noted that three separate sets of economic assumptions were used to create a range of forecasts for SPB Ports' loaded volume based on macro-modeling techniques. Additionally, each of the forecasts that were generated by the macro-model was adjusted to take in to account the outputs of the diversion analysis associated with IPI movements. By combining the results of these analyses, nine separate volume forecasts were produced, which produced a range of results to be considered. The results of all the container forecasts are summarized in the chart below:

***Summary of SPB Ports' Total Throughput Based on Integrating the Results from the Three Sets of Economic Assumptions and Diversion Analysis***




## Non-container Forecast – Key Findings

Given the wide variety of commodities transported in ocean containers, container terminal operators in SPB Ports are exposed to a relatively broad cross section of the North American economy. However, non-container terminals generally handle a limited number of commodities, because the different cargo-types in this sector require specialized handling and storage infrastructure. Therefore, non-container terminals are typically designed to handle one of the following cargo-types:

- Liquid Bulk
- Dry Bulk
- Breakbulk
- Roll-on Roll-off (RoRo) -- Vehicles

A summary of SPB Ports' 2014 non-container volumes for each of the four cargo-types is shown in the following table, based on data provided by the area's two port authorities, as well as on information from PIERS and U.S. Census.

***Summary of SPB Ports 2014 Non-container Volume by Cargo-Type***

| CARGO TYPE | IMPORT M.TONS - MIL | EXPORT M.TONS - MIL |
|---|---|---|
| LIQUID BULK* | 30.3 | 3.4 |
| DRY BULK | 0.4 | 7.3 |
| BREAKBULK | 2.7 | |
| RORO | 0.6 | 0.05 |
| **Total** | **34.1** | **10.8** |

* Does not include pipeline volumes

Liquid bulk movements generate 75% of volume included in the table above. The next largest cargo type is dry bulk and accounts for 17% of the total.

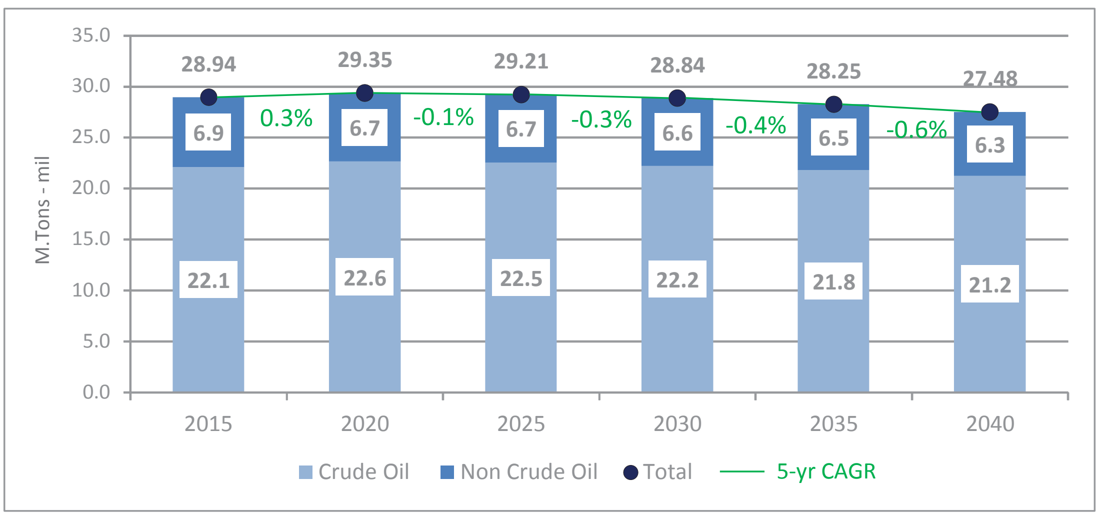
For each of these non-container cargo-types, a limited number of individual commodities generating the majority of the volume in that cargo-category were identified, and these high-volume commodities were then analyzed to determine the risk of diversion to other ports. The Mercator/OE diversion analysis determined that none of the high-volume commodities were at risk of shifting to other ports for a variety of reasons, such as the location of nearby production facilities, or because the importer/exporter has an economic interest in the marine terminal. Therefore, three forecasts were completed for each high volume commodity, based on the same macro-modelling techniques and economic assumptions that were used for the container forecast.

A summary of the non-container commodity forecasts that were based on the "Expected" economic assumptions are provided below and these are grouped by commodity type and direction. Information is also shown on the factors underpinning these forecasts.

### *LIQUID BULK – Imports*

This cargo-type is comprised of two high-volume commodities, which are Crude Oil and "Non-Crude" Oil shipments, and the import forecast for these products are shown in the chart below.

***Forecast of SPB Ports' High-Volume Liquid Bulk Commodities Import Volume in 5 year Increments***

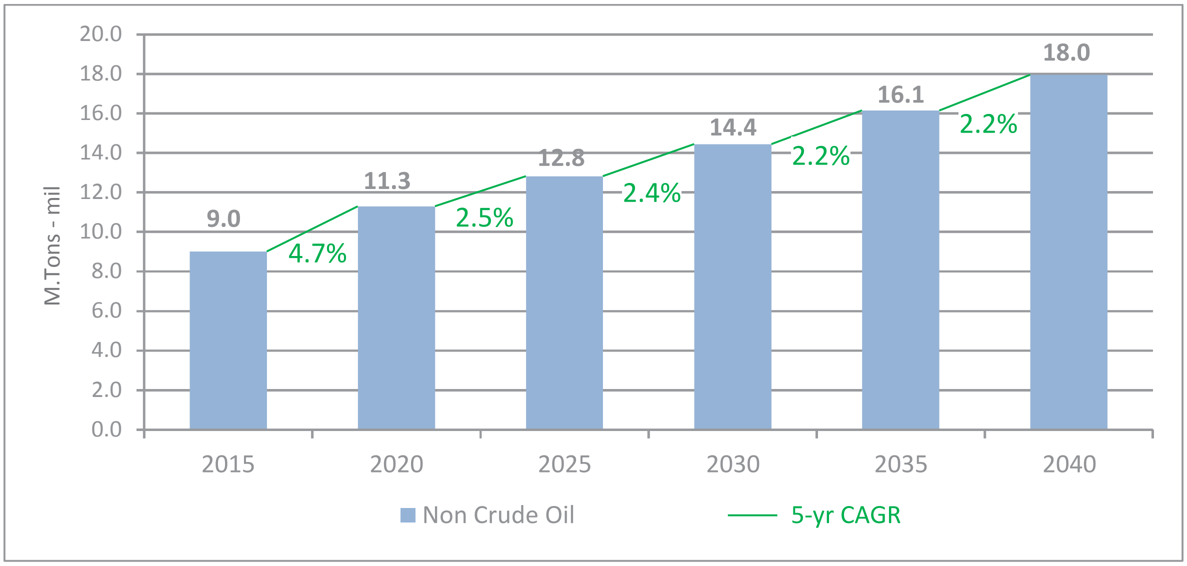



The increase in domestic and Canadian oil production has caused a drop in the importation of crude oil. Also, conservation efforts are causing a drop in production of Non Crude Oil, or refined products. While these trends have already had a major impact on inbound volume levels across U.S. ports, they are expected to continue to cause a slight decline in SPB's volume of liquid bulk cargoes after 2020.

### *LIQUID BULK – Exports*

There is only one high-volume commodity associated with liquid bulk exports, which is Non Crude Oil. This commodity is comprised of refined products that are exported from the local refineries in Southern California. A summary of the Non Crude Oil volume levels over the forecast period is shown below.

*__Forecast of SPB Ports' High-Volume Liquid Bulk Commodities Export Volume in 5 year Increments__*

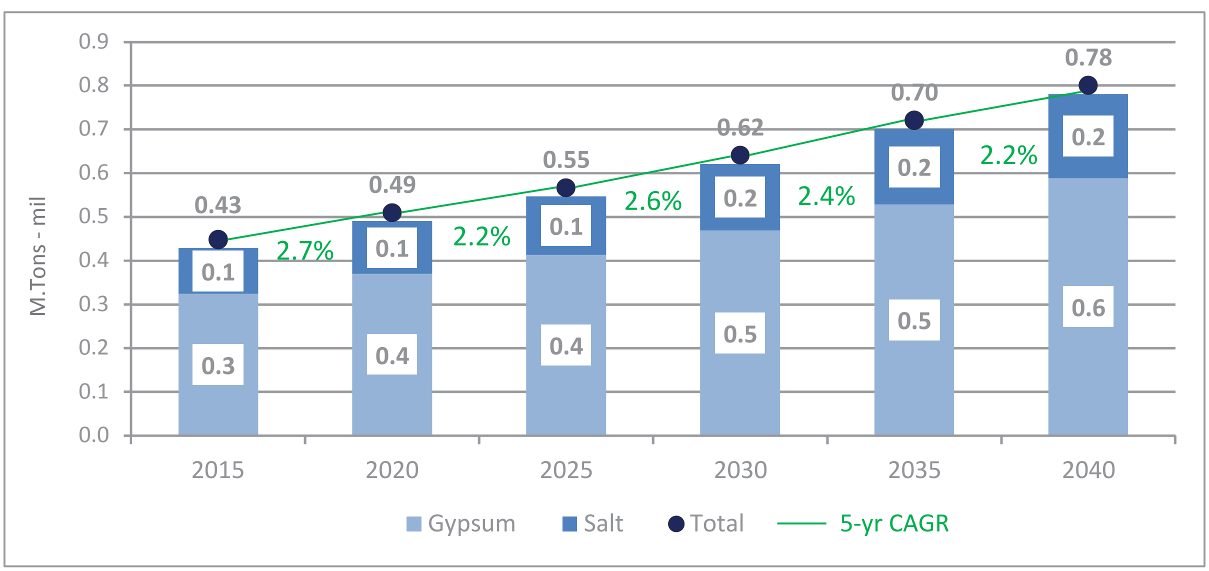



The forecast projects that refineries served by SPB Ports liquid bulk terminals will experience a falling share of the U.S. market, and continued gains in efficiency and conservation, in combination with the increased availability of domestic supplies of crude oil, are expected to allow a larger share of the country's and SPB Ports' refined products to be exported. The forecasted growth in the exports of refined oil based products will also be driven by U.S. government rules that limit the ability of producers to export crude oil, but allow refined products to be sold overseas.

### *DRY BULK – Imports*

Gypsum and salt are the two high-volume commodities being imported through the Dry Bulk terminals of SPB Ports, and a forecast of the volume levels for this cargo-type over the forecast period is shown below.

*__Forecast of SPB Ports' High-Volume Dry Bulk Commodities Import Volume in 5 year Increments__*

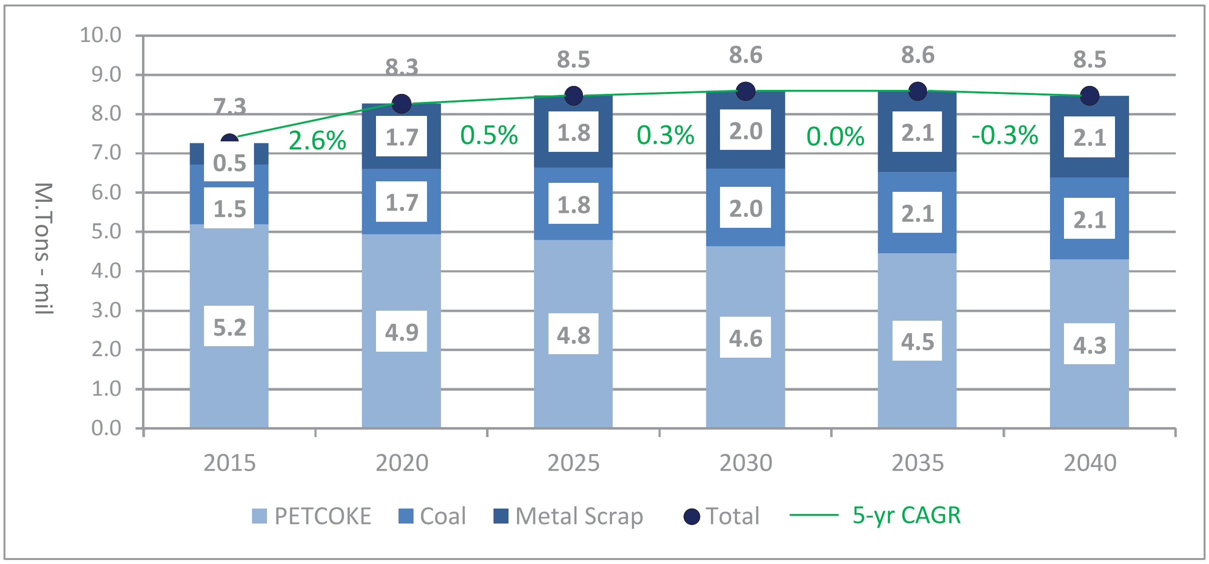


Gypsum accounts for the largest portion of dry bulk imports and this commodity is expected to continue to do so over the forecast period. Therefore, gypsum will likely be the driver of growth for SPB Ports' dry bulk imports over the forecast period. As gypsum is a major input to the construction industry, the continued growth in residential, commercial, and industrial construction in Southern California will support the volume forecast shown in the chart above.

### *DRY BULK – Exports*

Dry Bulk exports are comprised of three high-volume commodities and these are identified in the chart below, along with forecasts of their volume through SPB Ports over the next 25 years.

***Forecast of SPB Ports' High-Volume Dry Bulk Commodities Export Volume in 5 year Increments***

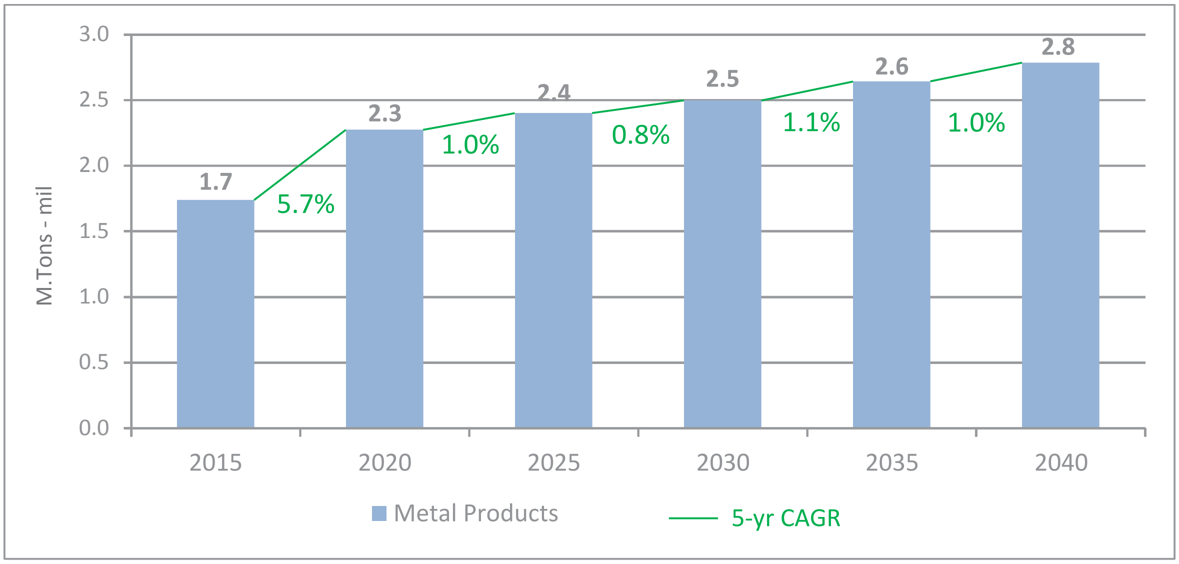



Both petroleum coke ("PetCoke") and coal exports will be driven by energy requirements in Asia. However, while the supply of PetCoke is expected to be stable over the forecast period, as it is a by-product of the oil refining process and refining activity at facilities in and around the SPB Ports area are not projected to experience any significant changes in their production levels, a modest decline in the U.S. and San Pedro Bay's PetCoke exports are projected, driven by a modest growth in domestic demand for PetCoke.

### *BREAKBULK – Imports*

The only high-volume commodity being imported through SPB Ports' breakbulk terminals is metal products, and a summary of the forecasted volume for this cargo is provided in the following chart.

***Forecast of SPB Ports' High-Volume Breakbulk Commodities Import Volume in 5 year Increments***

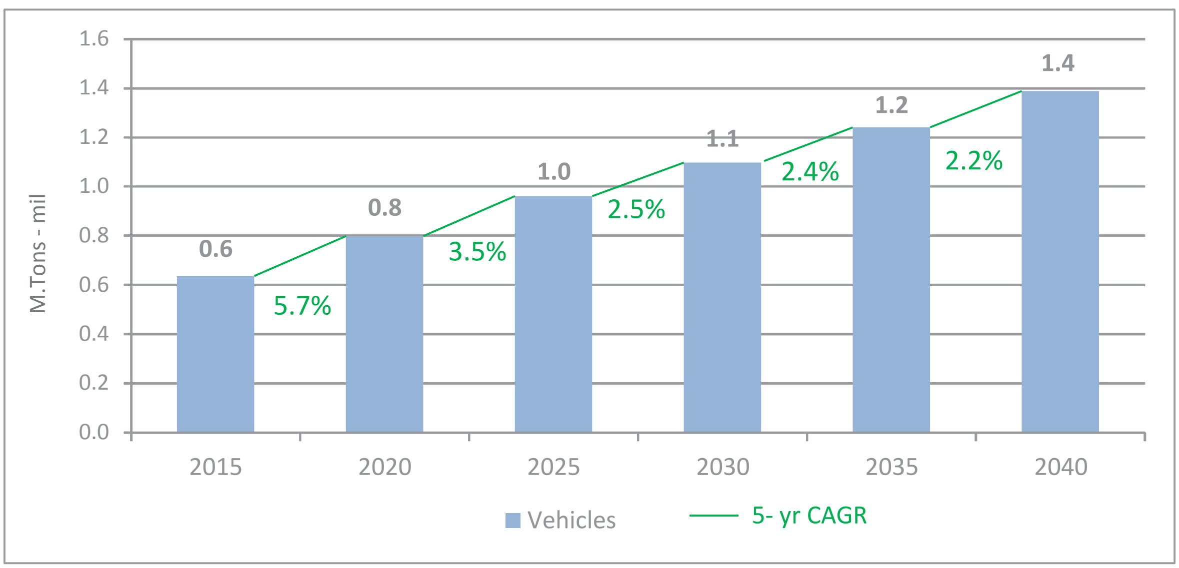



The near-term growth in metal products will also be driven by a rebound in construction and manufacturing activity in Southern California, Southern Nevada, and Arizona, but in the long-term, these areas will experience a lower rate of growth.

### *RORO – Imports*

Vehicles are the only high volume commodity currently moving through SPB Ports' RoRo terminals. A forecast of this cargo's volume is shown below.

***Forecast of SPB Ports' High-Volume RoRo Commodities Import Volume in 5 year Increments***

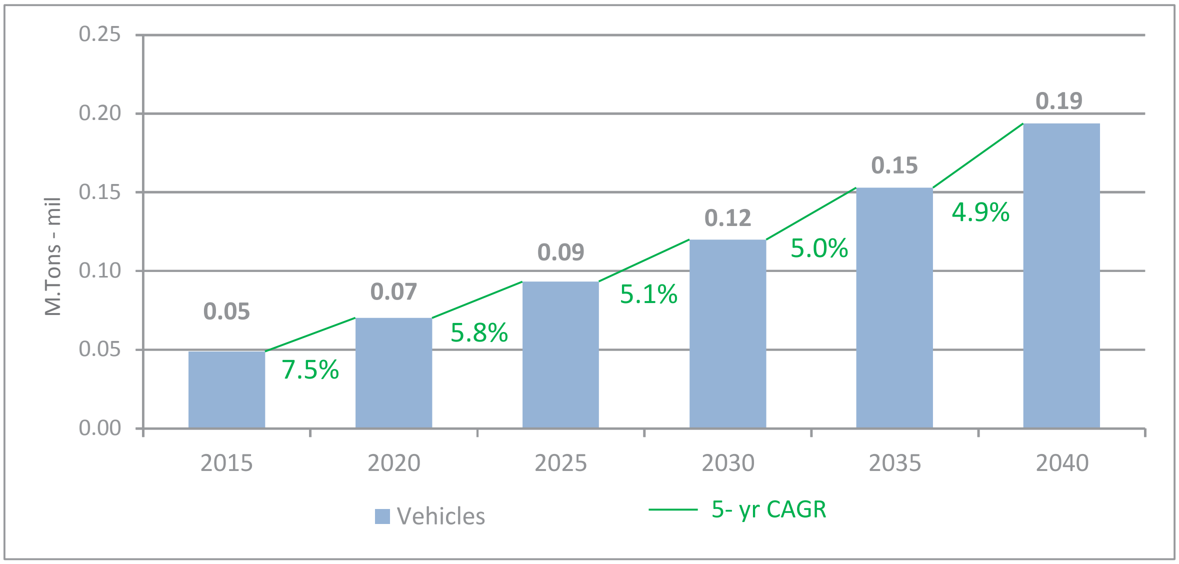



The recession from the Global Financial Crisis caused a significant decline in the sales of new passenger vehicles between 2008 and 2010 in the U.S., which caused the average age of cars in the U.S. to rise. The forecast above reflects consumers replacing older vehicles and a strengthening of the overall economy in the near-term, after which a more normal rate of growth is expected.

***RORO – Exports***

Vehicles are also the primary commodity being exported through SPB Ports' RoRo facilities. While import demand determines at which ports RORO vessels call, export vehicles are an important source of incremental volume for terminal operators. A forecast of vehicle export through SPB Ports' RoRo terminals is shown below.

***Forecast of SPB Ports' High-Volume RoRo Commodities Export Volume in 5 year Increments***



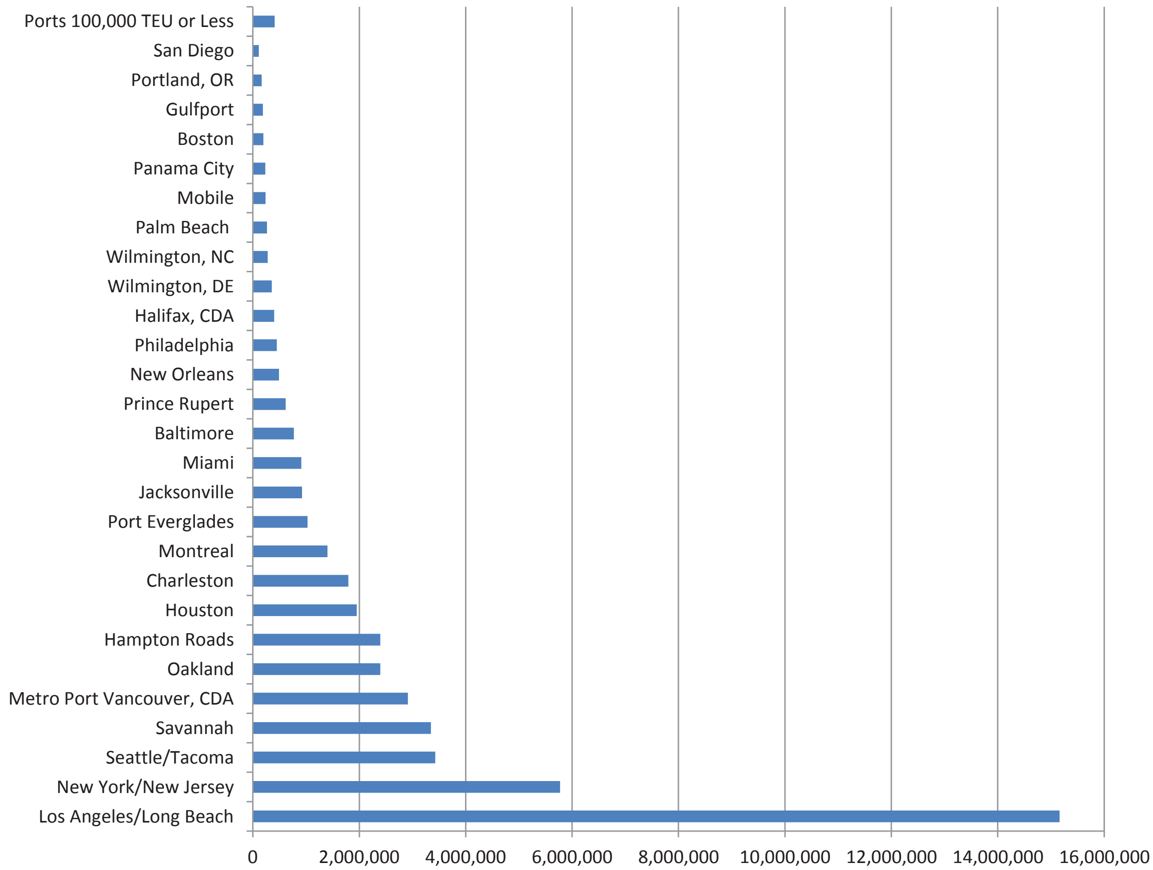

Continued increases in the percentage of Asia population that own passenger cars is expected to drive strong growth in the number of vehicles that are exported through SPB Ports' RoRo terminals.

# 1 CONTAINER MARKET

## 1.1 Overview of North American Container Market

The SPB Ports' container throughput is nearly three times higher in North America as any other port area in this geography, as can be seen in the chart below.

**Figure 1: 2014 North American Container Volumes in TEUs – AAPA Data**



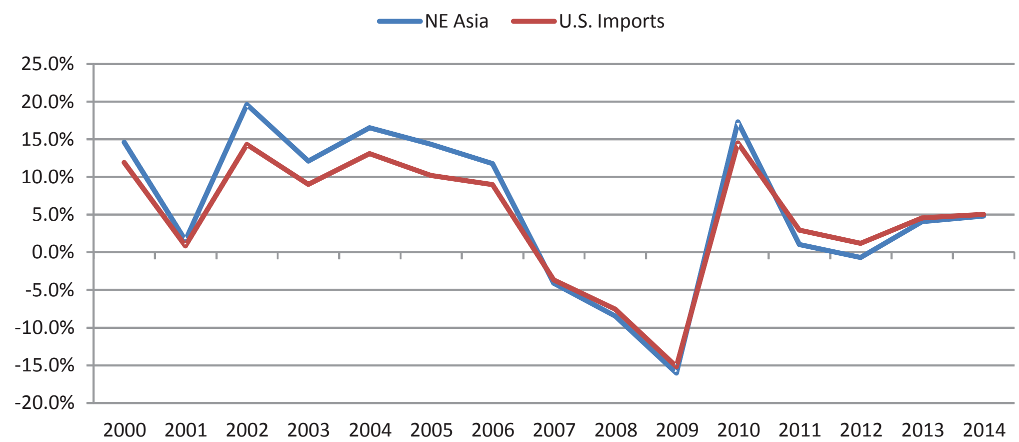

If SPB Ports only served the local Southern California market, the port complex would be expected to handle only 8% of the total North American container volumes.[1] However, in 2014, these ports handled just over 31% of North America's port's container throughput.

The reason that SPB Ports have been able to capture such a larger share of the North American container market is that these ports support cost-competitive supply chains for importers and exporters in a number of North America markets outside of California via both railroad service and through trans-loading goods between international containers and 53' domestic vans. While the SPB Ports' ability to serve areas outside of California has been an important factor underpinning the port complex's disproportionate share of the North American container market, the growth in the outsourcing of

[1] Market size is approximated by population, with the population of the local Southern California market being defined at the 3-digit zip code level, and including all zip code areas between and including 919 to 939.

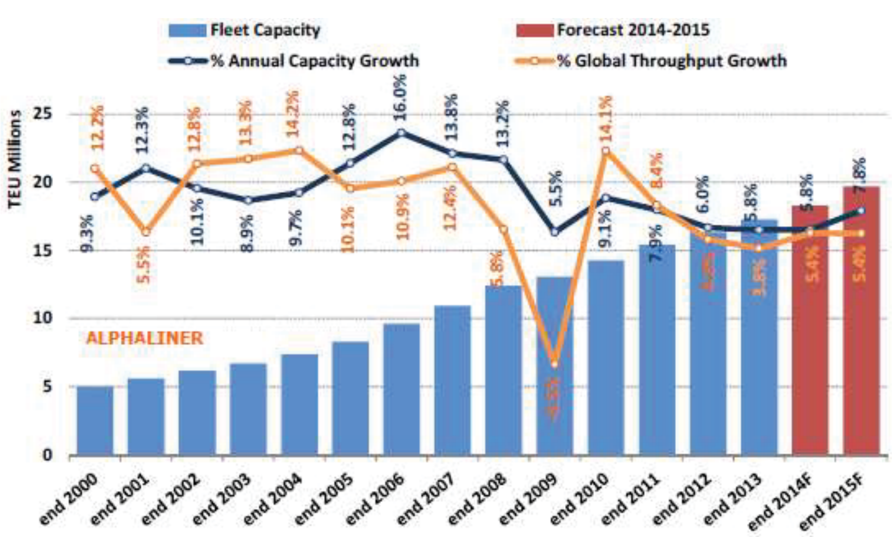
manufacturing to Asia, and in particular China after it became part of the WTO in late 2001, was a key driver impacting the evolution of SPB's market position. This is due to the fact that a very high fraction of the manufacturing that previously took place in North America was outsourced to North East Asia, and as a result, the volume of imports from North East Asia expanded at a much higher rate than the overall market from 2002 to 2006, as illustrated in the chart below.

**Figure 2: Import Loaded Volume Growth - PIERS**



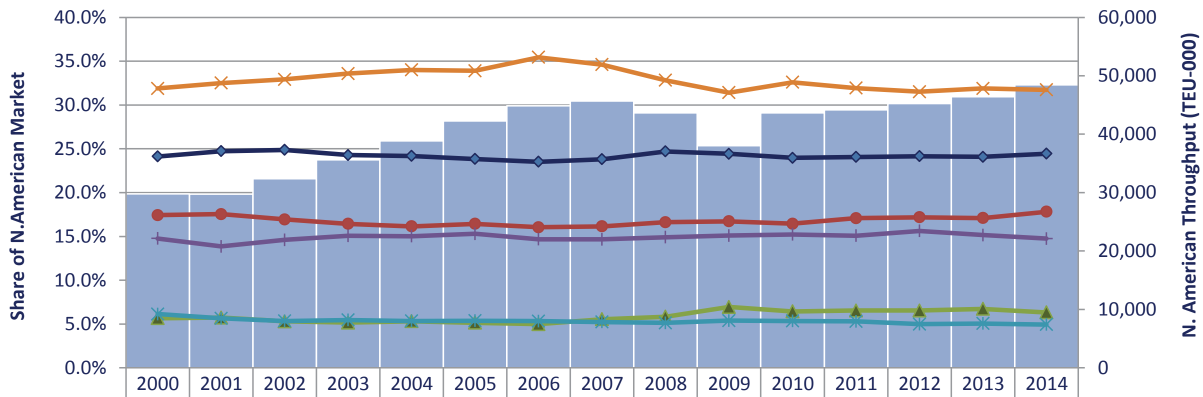

The SPB Ports also benefitted indirectly by the offshoring and offshore outsourcing practices by European manufacturers. During this period the volume of goods imported to Europe from North East Asia grew at similarly accelerated levels. As trade between Asia and both North America and Europe grew rapidly, the volume of global container movements increased at a rate that was much higher than the capacity of the global container fleet, as shown below.

**Figure 3: Summary of Global Container Demand and Capacity – ALPHALINER**




The imbalance between the growth rates of both the global container trade and the capacity of the global container vessel fleet impacted carrier's deployment practices between 2002 and 2008. Because West Coast strings could serve local markets as well as Central and Eastern U.S./Canada markets via intermodal landbridge routes with as few as 5 ships, versus 8-9 ships required for fixed day of the week all-water vessel services via the Panama Canal, carriers chose to meet the demands of rising Asia-North America volumes by creating new Asia – Pacific Coast services (instead of increasing the number of all-water Asia – Atlantic Coast services). The growth in SPB Ports' share of the North American container market's rapid increase in trade with NE Asia coupled with the lack of new container ship capacity can be seen in the chart below.

**Figure 4: Analysis of North America Port Areas Share Development – AAPA Data**




| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 29,786 | 29,732 | 32,383 | 35,597 | 38,868 | 42,253 | 44,850 | 45,658 | 43,635 | 38,025 | 43,649 | 44,173 | 45,261 | 46,413 | 48,441 |
| NATL | 24.1% | 24.7% | 24.9% | 24.3% | 24.2% | 23.8% | 23.5% | 23.8% | 24.7% | 24.4% | 24.0% | 24.1% | 24.2% | 24.1% | 24.4% |
| SATL | 17.4% | 17.5% | 16.9% | 16.4% | 16.1% | 16.4% | 16.0% | 16.2% | 16.6% | 16.7% | 16.5% | 17.1% | 17.2% | 17.1% | 17.8% |
| GULF | 5.7% | 5.7% | 5.3% | 5.2% | 5.3% | 5.1% | 5.0% | 5.6% | 5.8% | 6.9% | 6.4% | 6.5% | 6.5% | 6.7% | 6.3% |
| PNW | 14.8% | 13.9% | 14.6% | 15.1% | 15.0% | 15.3% | 14.7% | 14.7% | 14.9% | 15.1% | 15.2% | 15.1% | 15.6% | 15.1% | 14.8% |
| NOCAL | 6.1% | 5.6% | 5.3% | 5.5% | 5.3% | 5.4% | 5.3% | 5.2% | 5.1% | 5.4% | 5.3% | 5.3% | 5.0% | 5.1% | 4.9% |
| SOCAL | 31.9% | 32.5% | 32.9% | 33.6% | 34.0% | 33.9% | 35.4% | 34.6% | 32.8% | 31.4% | 32.6% | 31.9% | 31.5% | 31.9% | 31.7% |

The Global Financial Crisis, which began in August 2007, caused the United States, as well as a number of large European economies to fall into a deep recession during 2008/09. This lead to a contraction in global container volumes, but ocean carriers had already ordered a significant amount of new container capacity for delivery from 2009 through 2011. The drop in volume lead ocean carriers to delay deliveries of new ships where possible, add ships to existing strings to implement slow steaming strategies, and lay up a large number of vessels.

By 2010 these capacity reduction deployment strategies coupled with a recovery in container volumes allowed supply and demand to return to a manageable balance for a short period. Since 2010, however, ocean carriers have continued to take delivery on a large number of new ships, while volume growth in a number of larger trade-lanes has been well below historical levels. The continuing imbalance between supply and demand provided a pool of excess capacity that allowed a number of ocean carriers to establish new services between Asia and U.S. Atlantic Coast ports through both the Panama and Suez Canals. These new all-water strings enabled ocean carriers to capture volumes that would otherwise have been routed via SPB Ports and domestic inland transportation companies.

By the end of 2012 the SPB Ports' share of the North American container market had stabilized at around 31.5%, as the introduction of new all-water services between Asia and the North American Atlantic Coast slowed.

In the near future, however, SPB Ports' share of the North American market will be threatened by market forces associated with the opening of the new locks at the Panama Canal in 2016. The larger locks will allow carriers to deploy higher capacity vessels on strings connecting Asia to North American markets via Atlantic Coast ports, and the use of higher capacity vessels will enable ocean carriers to lower slot costs. Carriers will need to offer lower rates in order to attract new volumes to the all-water routes, and the lower slot costs associated with larger vessels will make it possible for them to do so.

In order to develop a long-term volume forecast for SBP Ports, a reviewed of historical container imports and exports by major commodity groups and an identification of the primary drivers of container volumes and growth rates was were completed. Insights from this exercise were integrated with Oxford's econometric models to develop a 25-year forecast of loaded container imports and exports by commodity and origin/destination.

The team then reviewed the SPB Ports' current market share for the each commodity group and determined the fractions currently being handled from the international and domestic markets. This review found the international accounted for the vast majority of SPB Ports' container throughput and this category volume was further broken down into the following segments:

- Local/Trans-load via Truck
- IPI movements
- Trans-load via Rail

Once the volumes were apportioned to one of the above markets, SPB Ports' competitive position was assessed for each commodity group in order to develop a long-term outlook over the forecast period. In turn, this market assessment was used in combination with Oxford's container forecast to develop the SBP Ports' projected share of the United States' loaded container market. In order to complete the forecast process, Mercator reviewed the historical relationship between loaded imports/exports and empty movements in these ports and used this analysis to forecast empty container volumes over the forecast period.

## 1.2 Macroeconomic and Trade Scenarios for the U.S.

### 1.2.1 Objective

This section sets out the Expected forecast for the U.S. economy, as well as alternative 'Low' and 'High' scenarios for the years to 2040. These forecasts are based on detailed assumptions on the level of U.S. trade with the rest of the world under each of the three macroeconomic scenarios. Special attention is focused in particular on implications for the "visible trade-elasticity" of GDP growth. The analysis section of the report is broken in to the following parts:

- First, a methodology was developed for analyzing the behavior of the visible-trade-to-GDP ratio[2]
- Second, a view was developed of the U.S. economy in the Expected economic forecast

[2] Oxford's work is based on a methodology published by the Bank of England (*Why has world trade grown faster than world GDP?* Bank of England Quarterly Bulletin Autumn 2004).

- Third, we assess the implications of the Expected economic outlook for the trade-GDP ratio, and by extension, the trade elasticity of growth
- The fourth section describes a high growth scenario for the U.S. economy, along with the associated trade metrics
- Section five does the same for a Low macro-economic scenario
- A final section compares results

### 1.2.2 Modeling the Trade/GDP ratio

The visible trade/GDP ratio is simply the sum of visible imports and exports divided by total GDP (in this case constant prices were used, not nominal). This measure is sometimes regarded as the "degree of openness" of an economy. A rising trade/GDP ratio would evidently be associated with trade elasticity of greater than one, and a falling ratio associated with elasticity less than one. Several possible factors are thought to impact the visible trade/GDP ratio, each of which is considered briefly below.

#### *1.2.2.1 Real GDP per Capita*

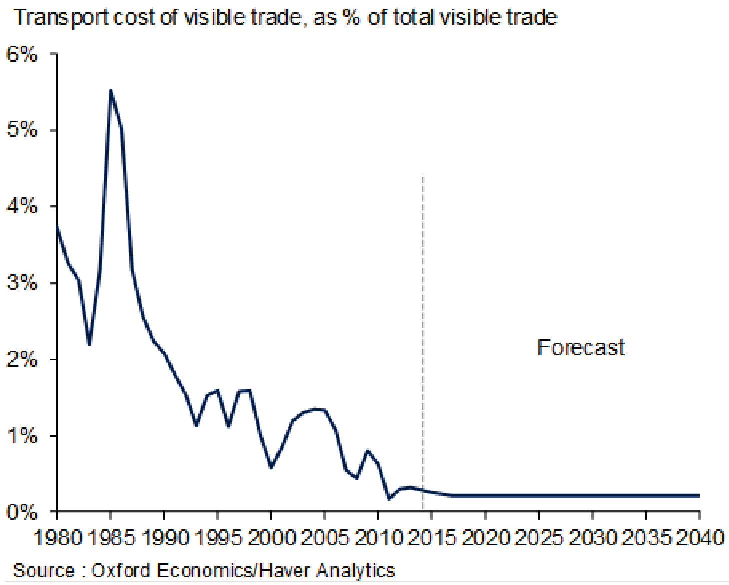
As countries become richer, on a per capita basis, their citizens are able to afford a greater range of consumer goods, including those produced abroad. At the same time, a rising capital stock enables specialization, allowing firms to expand production more economically, producing for overseas consumers. Periods of especially fast economic growth will therefore tend to be associated with higher trade elasticity. In the 1990s, technological progress and productivity growth drove particularly rapid growth in U.S. GDP per capita (1.9% per annum). By contrast, from 2000-2014 slowing productivity growth and the onset of the Great Recession meant average GDP per capita growth was less than half the 1990s rate, a little over 0.9%.

#### *1.2.2.2 Transport Costs*

The wedge between the cost of producing a good and the price faced by a consumer depends in large part on the cost of transport. Lower transport costs, whether due to technical progress, cheaper fuel, or some other factor such as routing decisions, will boost both imports and exports.

It has been calculated that total transport costs as the percentage difference between total visible trade measured on a "free on board" basis (excluding any transport costs) and on a national accounts basis (which includes these costs) fell from 3.8% to 2.6% between 1980 and 1990, and then on to 0.6% by 2000 and 0.3% in 2014.

Figure 2: U.S.-transport Cost of Visible Trade



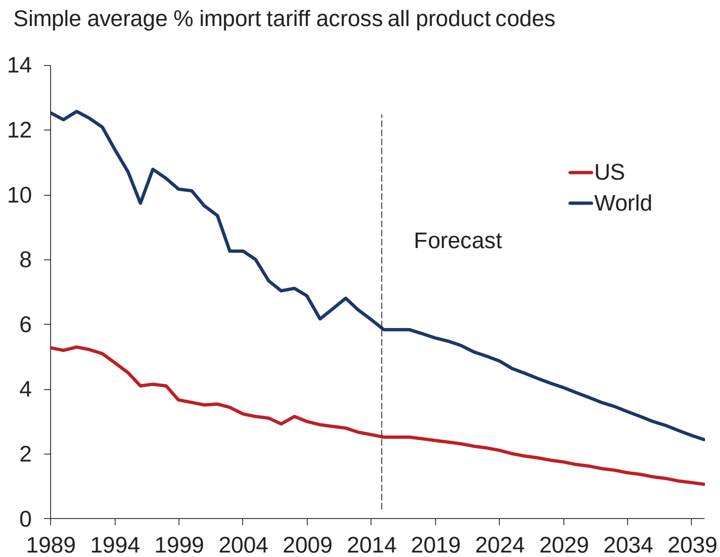

### *1.2.2.3 Trade Policy*

A second driver of the wedge between producer and consumer costs is any tariff imposed either by the government of the exporting country (relatively rare) or by that in the importing country (still very common).

Used for this variable is the average tariff rate on goods imports imposed by the U.S. (simple average across all product codes, as reported by the World Bank). Data for this variable only starts in 1989, when the average U.S. tariff on imported goods was 5.3%, falling to 3.7% a decade later, and 2.7% in 2013[3].

[3] Using the average world tariff instead of the average US tariff when estimating the visible trade/GDP ratio has the same effect, reflecting the fact that the average world and US tariffs have generally been lowered in tandem.

**Figure 3: U.S. and World Average Tariffs**

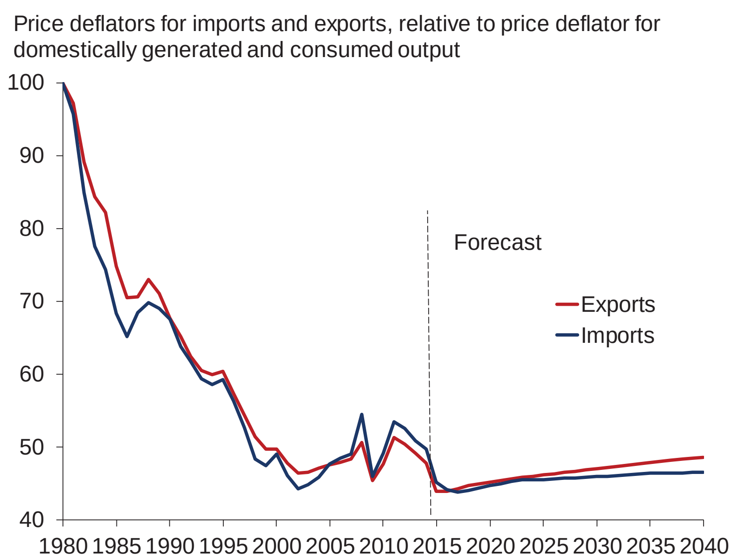


Source : Oxford Economics/Haver Analytics

### 1.2.2.4 Price Effects

If domestic producers are able to produce goods more cheaply than similar firms in other countries (assuming unchanged exchange rates), exports of those goods should increase, all else being equal. The converse will also be true. An increased divergence in energy costs between the U.S. and other advanced economies in recent years has helped tip this factor towards increased U.S. exports, especially in energy intensive goods. This was measured by the ratio of the deflators of goods exports and domestically generated and consumed GDP, and the comparable measure for imports.

**Figure 4: U.S.- Relative Goods Prices**



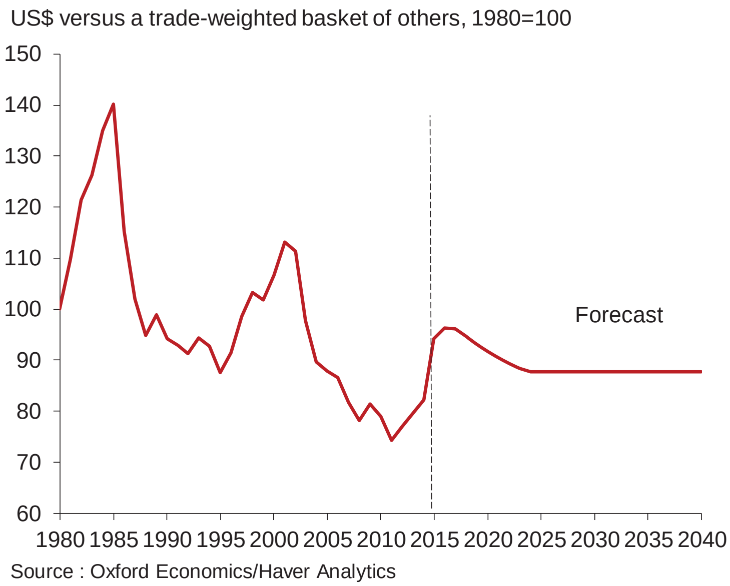
Source : Oxford Economics/Haver Analytics

#### 1.2.2.5 *Exchange Rate Effects*

Several economic theories suggest exchange rates should respond to relative prices over the long term, and cancel out such competitive differences. But in practice exchange rates often remain out of kilter with such "equilibria" for long periods of time. As such, it is worth considering these impacts separately.

Specifically here it was decided to use an "effective" exchange rate, that is, one that tracks the dollar against other currencies based on the relative weights of U.S. trade with each specific country. A higher value implies a stronger dollar against the basket of other currencies.

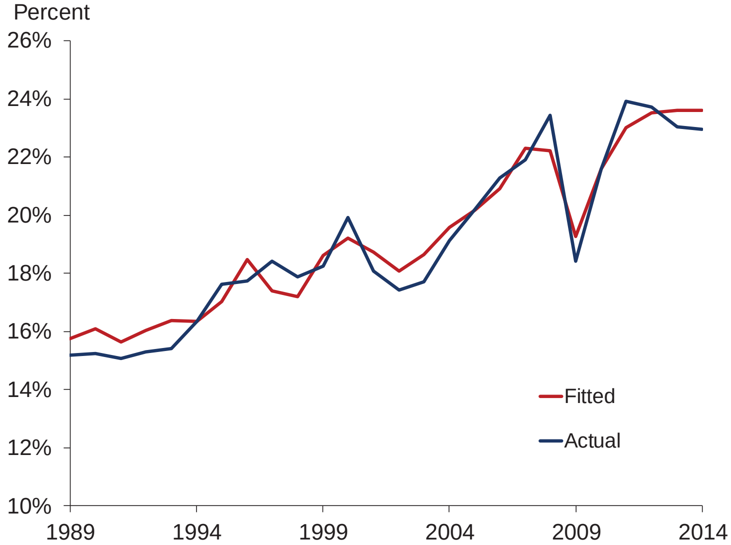
**Figure 5: U.S.: Effective exchange rate**




#### 1.2.2.6 *Model Performance*

As illustrated in the chart below, the outcome of this econometric modeling exercise delivered a close fit between the "fitted" trade/GDP ratio as estimated by our equation, and the actual ratio as implied by the historical data. This provides a good degree of confidence in the applicability of this methodology to forecasting the trade/GDP ratio, and by extension the trade elasticity of growth in our scenarios.

Figure 6: U.S.: (imports + Exports) / GDP



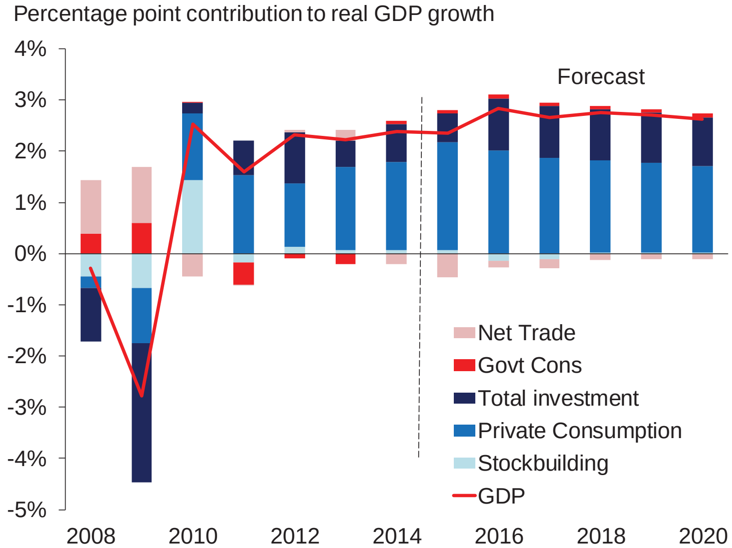
Source : Oxford Economics/Haver Analytics

### 1.2.3 Expected Economic Outlook for the U.S.

The forecast horizon in this project is 2040, and as such one might expect the focus to be solely on long-term growth prospects. But since the near-term outlook influences long-term levels significantly, we look at two separate time periods – the near term (roughly speaking from now to 2020, or when the U.S. economy is expected to be back to its long-term trend growth rate), and the long-term, i.e. from 2020-2040, when cyclical factors are unknown, and forecasts must therefore rely on structural factors.

The US economy continues to grow robustly, with domestic demand strengthening thanks to a tightening labour market, weak price pressures, and a recovering housing market. These positive factors are feeding into a more optimistic corporate sector, driving business investment higher. The recent start of the Fed's tightening cycle has done little to impact on domestic confidence, given that the cost of borrowing will remain low for some time to come. That said, the external sector is currently less optimistic than the domestic sector, given a stronger dollar, while the impact of lower oil prices will dent investment in the sector in the US (at the same time as boosting consumer purchasing power). Nevertheless, with signs that wage growth is starting to recover, we expect a solid rate of economic growth in the US over the coming few years - averaging 2.7% per annum from 2016-2020.

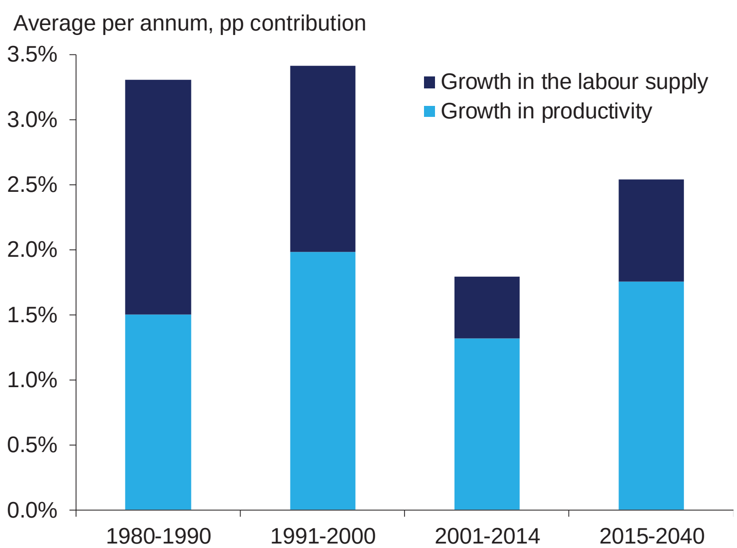
**Figure 7: U.S.: GDP Grown in the Near-term**




Source : Oxford Economics/Haver Analytics

Our current estimate is that the U.S. will reach close to normal levels of capacity utilization by the end of this decade, and barring any further cyclical shocks, future prospects will then be driven by structural factors. From 2020-2040 the estimate for U.S. growth is 2.4% per annum, which is consistent with stable inflation and unemployment. This consists of 1.75% per annum growth in average output per hour and just less than 0.8% per annum growth in the labor supply (including both demographic and labor market participation effects).

**Figure 8: U.S.: Contributions to GDP Growth, Supply-side**




Source : Oxford Economics/Haver Analytics

This is somewhat faster than in the past 15 years (1.8% per annum). Labor supply should grow more quickly in the decades to come, as the improving economic outlook encourages the unemployed to remain looking for work rather than dropping out - the proportion of inactive persons rose around 3 percentage points from 2001 to 2014. However, in light of slower population growth, the contribution of labor supply to future GDP growth will be weaker than in the 1980s and 1990s. In addition, firms will get better output growth per worker than through the 2001-2014 period – both as a result of better demand conditions, but also as increased confidence allows them to invest in new technology.

### 1.2.4 Trade/GDP and Trade Elasticity in our Expected Scenario

In order to arrive at the forecast for visible trade though (and by extension the trade elasticity of GDP) we need to specify our trade/GDP ratio. This starts with the underlying projections for the individual variables that feed into our trade ratio equation (outlined in section 2.2 of this paper).

With total GDP expected to grow by an average of 2.55% per year to 2040, and population growth of 0.8% a year, GDP per head will grow at an average of 1.75%. This is around 0.2 percentage points slower than during the 1990s, but substantially faster than during the 2000-2014 period.

In light of an earlier start to monetary policy tightening we expect the U.S. dollar to continue to gradually appreciate in the next couple of years, impinging upon export prospects (imports rise proportionately less for a given change in the exchange rate). On relative prices, two factors seem likely to drive a slight deterioration in competitiveness relative to recent years – firstly the stabilizing (rather than widening) differential in energy costs faced by U.S. firms versus other advanced economies, and secondly faster U.S. wage growth.

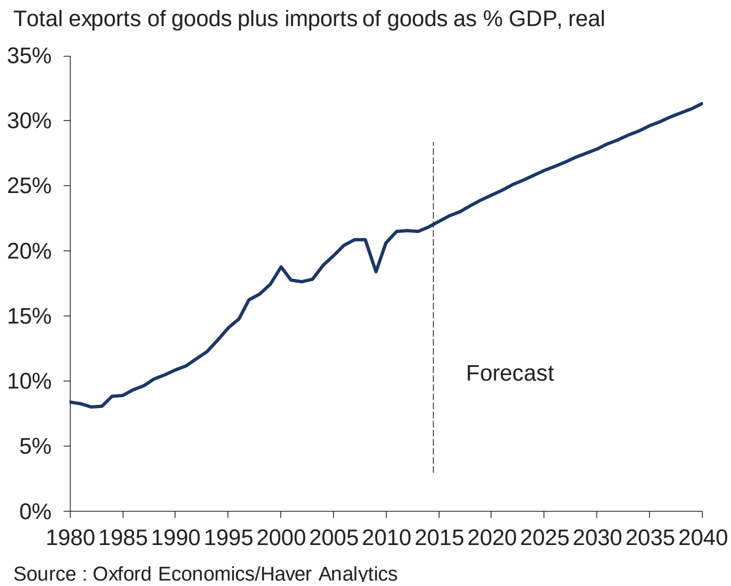
But in the medium to longer-term (i.e. from around 2020 onwards) as other economies get back towards trend, these factors should become neutral. As such, over our forecast horizon as a whole, exchange rate and relative price effects on the trade/GDP ratio are likely to be pretty much neutral.

Transport costs seem likely to be pretty stable over the coming couple of decades. Oxford's forecast is that oil prices will rebound only gradually in the decades ahead thanks to declining advanced economy demand and increasing U.S. supply. With oil prices only increasing marginally faster than export prices, and modest technical progress continuing (far slower than in the 1990s), we expect the cost of goods transport to nudge down gradually from 0.3% of total visible trade to 0.2% by 2040.

Finally, Oxford assumed a very gradual lowering of tariff barriers in the U.S. (on imports) and in the rest of the world (on U.S. exports overseas). From 2.7% and 6.5% respectively we expect these two rates to fall to 1.0% and 2.3% by 2040.

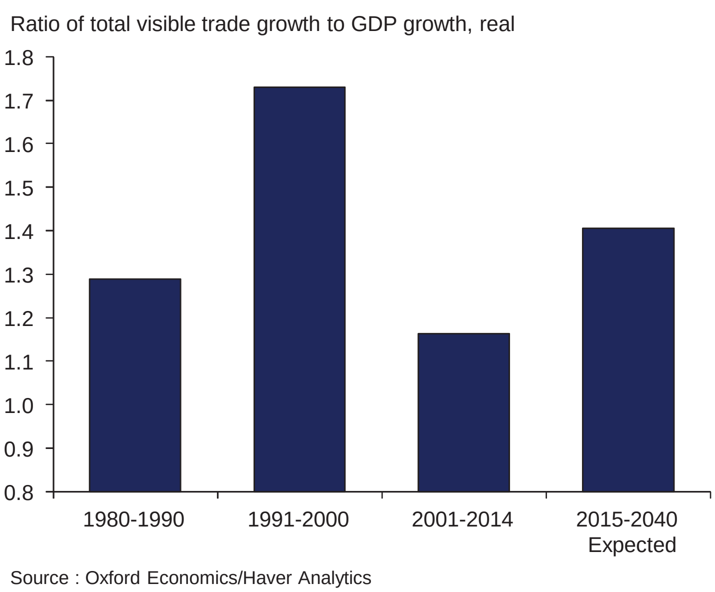
Plugging these projections into Oxford's macro equation for the trade/GDP ratio produces a steady increase in the ratio over the coming 25 years – rather slower than during the 1990s, but more impressive than the past few years of economic turmoil.

**Figure 9: U.S.: Visible Trade to GDP Ratios**




As a result, trade elasticity is likely to be around 1.4 over the forecast period as a whole (i.e. for each additional $1 in real GDP, the total of visible imports and exports will increase by around $1.4).

**Figure 10: Elasticity of U.S. Trade to GDP**




The factors that impact on trade elasticity will be discussed in the context of modeling a related concept in the following section. However, it is worth noting that the expected trade elasticity is substantially stronger than during the years since 2000 (which include a period of global crisis and rising transport costs, both of which has since gone into reverse). But at the same time trade elasticity will be much weaker than during the global trade boom of the 1990s, when especially rapid trade liberalization and improvements in transport costs (largely due to containerization) contributed to faster trade growth.

### 1.2.5 High and Low Macro-economic Scenarios

This forecast considered the impact of High and Low economic scenarios on the trade elasticity.

#### *1.2.5.1 High Macro-economic Scenario*

This scenario is driven by both short-term and medium- to long-term considerations. In the short term Oxford applied an "animal spirits" shock to confidence that boosts business investment and job creation in the remainder of this decade (funded by record cash piles held by U.S. corporations, and the still-historically-low cost of borrowing). In turn households react by boosting consumer spending and driving faster housing market activity, which fuels further activity in the sector, and job creation. GDP growth is 1-2 percentage points stronger in the remainder of this decade than in the Expected.

This surge in near-term confidence is buttressed by two positive policy developments – first a more ambitious pace of trade liberalization, including full adoption of TTIP, and second the relaxation of restrictions banning oil exports from the U.S. More ambitious trade liberalization would push average U.S. tariffs to zero by 2040 (versus 1% in the Expected) while the non-tariff measures from TTIP would boost U.S. GDP per head by 0.4% (according to CEPR[4] ). Permitting oil exports from the U.S. would actually raise domestic energy costs a little, thereby harming competitiveness of U.S. goods exports. But Brookings[5] estimates that the impact on GDP per capita would be substantial (0.7%), as U.S. oil firms increase investment and production to take advantage of new export opportunities.

Finally, Oxford supplemented the confidence and policy shocks with an improved long-term productivity performance. The Expected scenario assumes labor productivity in the U.S. grows at 1.75% per annum, faster than the period since 2000 (1.3% on average per year) but somewhat slower than during the 1990s. As such, the forecasting team simulated the impact of a 0.2 percentage point boost to labor productivity throughout the forecast period.

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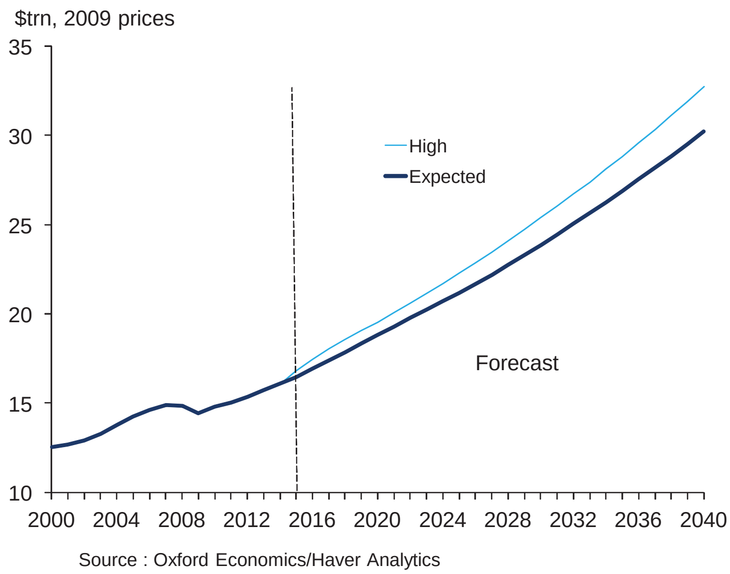
[4] *Reducing Transatlantic barriers to trade and investment: an economic assessment*, CEPR, March 2013

[5] 8 facts about U.S. Crude Oil exports, Brookings Institution, September 2014

Figure 11: U.S. GDP, for High and Expected Scenarios



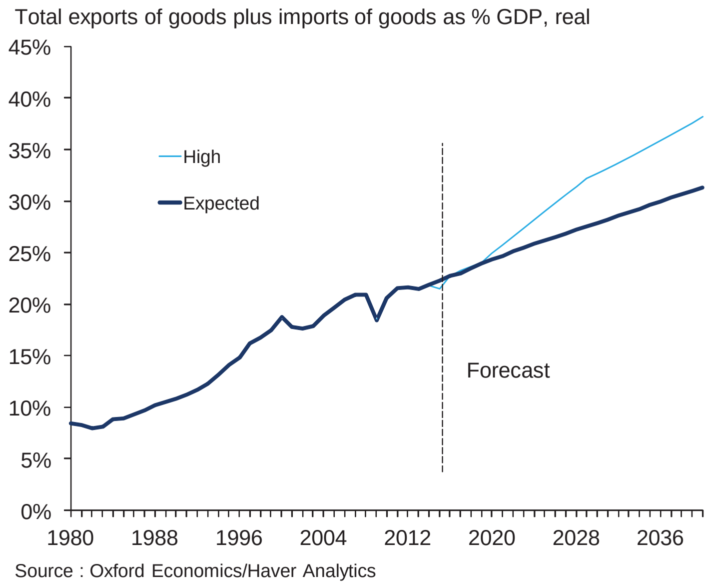

This combination of shocks increases average GDP growth over the 2015-2040 horizon from 2.4% in the Expected to 2.7%, and yields an additional 8% or so of GDP by 2040 ($2.6 trillion).

### *1.2.5.2 Implications of our High Scenario for trade/GDP and Trade Elasticity*

However, the impact on visible trade derives not only through the impact of the scenario assumptions on GDP, but also on the relationship between GDP and trade. There are a number of important effects in this respect, including the impact of faster growth in GDP per capita on import demand (especially pertinent during the consumption surge this scenario envisages in 2015-2020). In addition, lower tariffs stimulate more trade, while the productivity advantage of U.S. firms again allows them to compete a little more effectively.

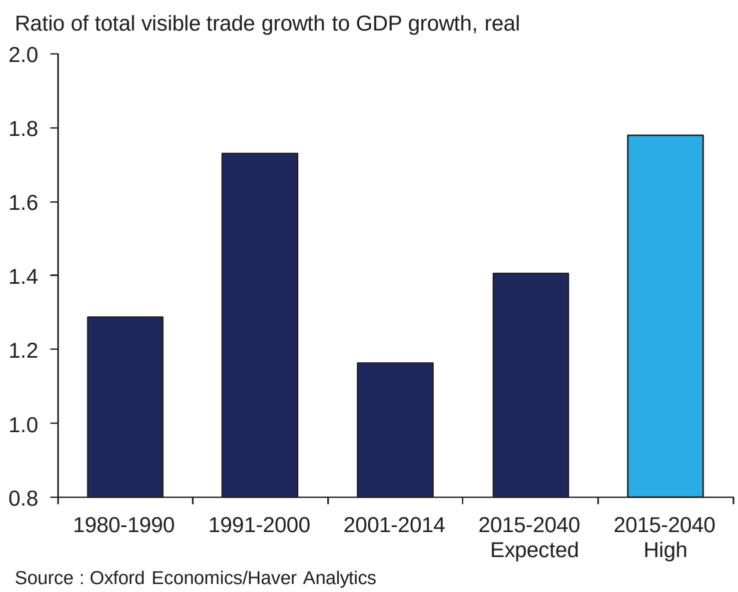
Combining these impacts yields a sharply higher trade/GDP ratio in the coming decade or so (after an initial dollar appreciation induced dip), and though the pace of growth in the ratio eases after 2030 or so, the ratio is still climbing faster than in the Expected (i.e. even after this point, trade elasticity is higher than in the Expected scenario).

Figure 12: U.S.: Visible trade to GDP ratios for the High and Expected Scenarios




This implies that over the 2015-2040 period as a whole, trade elasticity in this scenario (1.77) just about tops the rates seen during the 1990s (1.73).

Figure 13: Elasticity of U.S. trade to GDP




### *1.2.5.3 Low Macro-economic Scenario*

For the Low scenario, a similar approach was taken, which incorporated a combination of negative shocks to the economy that impact demand in the short-term and impact supply potential and market access in the longer-term.

In the near term the "risk off" scenario was applied as recently published as part of Oxford's Global Investor Scenario Service, which looks at possible risks in the global financial markets. This scenario essentially assumes that an air of nervousness and risk-aversion takes hold in financial markets, leading to a drying up of credit for highly-indebted firms and governments.

Though U.S. firms and government carry relatively light debt burdens compared to those in other advanced economies, the U.S. would suffer from the slump in global spending such a scenario would trigger. This would lower U.S. GDP growth by 1-2 percentage points in 2015-2016, as well as forcing the dollar stronger against the most indebted economies. Part, but by no means all, of the loss in GDP growth relative to Expected is made up in the latter years of the decade.

More fundamentally, it was hypothesized that a marked slowdown in technological progress would set in. "Game-changing" technologies such as the automobile, personal computer, or internet clearly have an impact on productivity, but they are difficult (if not impossible) to forecast with accuracy. Oxford's practice has always been to apply a degree of caution to projecting productivity growth, discounting averages from recent decades. However, given the possibility technological improvements will be far more modest in the future than in the past, some feel that there is a risk of a substantially slower rate of productivity growth in the medium to long term.

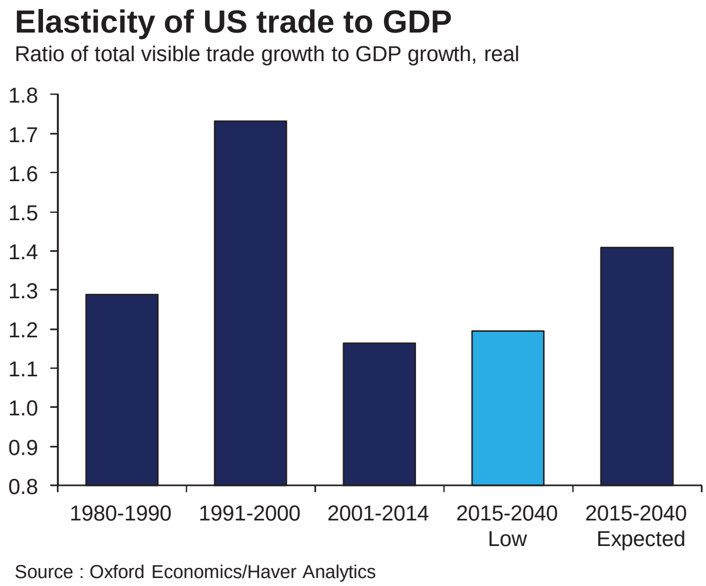
As such productivity growth was lowered by 0.5% versus the Expected forecast from 2020 onwards in this scenario, with a corresponding impact on GDP growth (and since population growth is assumed to be unaffected, GDP growth per capita). Finally, with weaker U.S. growth in the near term, and signs of weaker productivity growth in the medium term, it was assumed that U.S. trade policy becomes more defensive. Rather than continuing to cut tariffs, the U.S. government starts to gradually raise them, reaching 3.5% by 2040.

GDP growth is around 2% per annum over the forecast horizon in this scenario, 0.45 percentage points slower than in the Expected forecast. By 2040, GDP is $4 trillion below the Expected level.

#### *1.2.5.4 Implications of our Low Economic Scenario for Trade/GDP and Trade Elasticity*

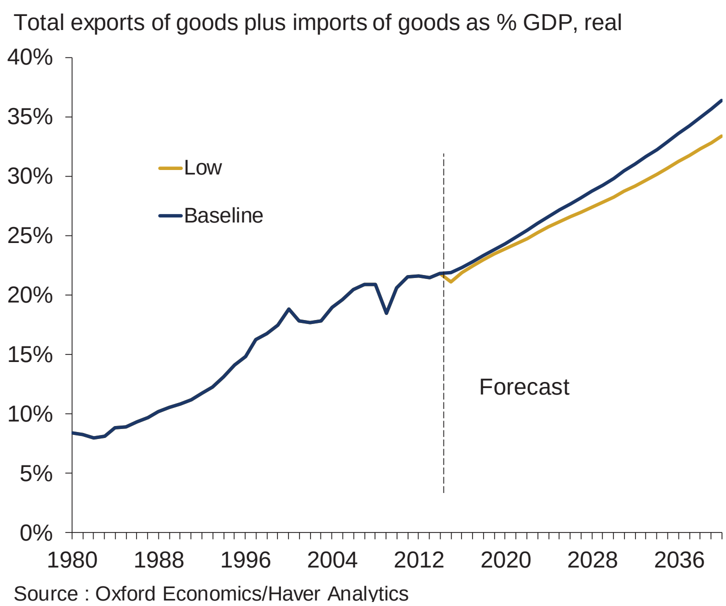
Again though, there are impacts from the scenario on the trade/GDP elasticity also. Weaker productivity growth makes it more difficult for U.S. firms to compete in export markets, while an increased protectionism undermines both imports and exports. Slower GDP per capita growth means slower consumer spending and imports.

Figure 14: U.S. GDP, Low and Expected Scenarios




Overall, Oxford's estimate for the visible trade/GDP ratio in this scenario is for it to grow only very marginally in the coming couple of decades. Indeed, the path looks very similar to the average of the past ten years or so, during which the global economy has endured the largest recession since the 1930s. This is reflected in the implied trade elasticity of GDP growth, which is just 1.2.

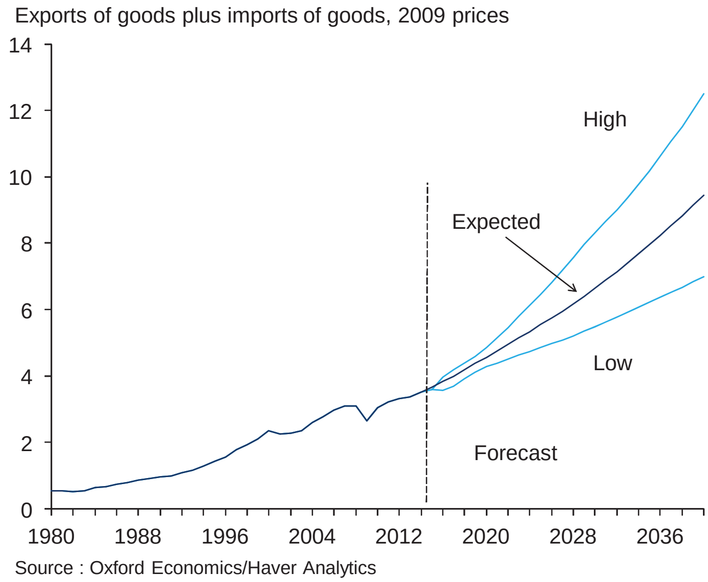
Figure 15: Elasticity of U.S. trade to GDP




### 1.2.6 Implications for Visible Trade

Combining the two elements of our calculation – the path for GDP in real dollars, and the trade/GDP ratio (or implied elasticity) yields three different paths for U.S. visible trade. In the Expected scenario, the visible trade growth estimate averages 3.9% per annum, whereas under the High and Low scenarios, visible trade growth averages 5.1% and 2.7% per annum, respectively. For comparison, the average rate of visible trade growth from 1980-2014 was 5.4%.

**Figure 16: U.S.: Total Visible trade, All Scenarios**




## 1.3 Assessment of SPB Ports Competitiveness for Container Movements

### 1.3.1 Objective

As discussed earlier in this report, SPB Ports have historically had the largest share of North America's container market because they are:

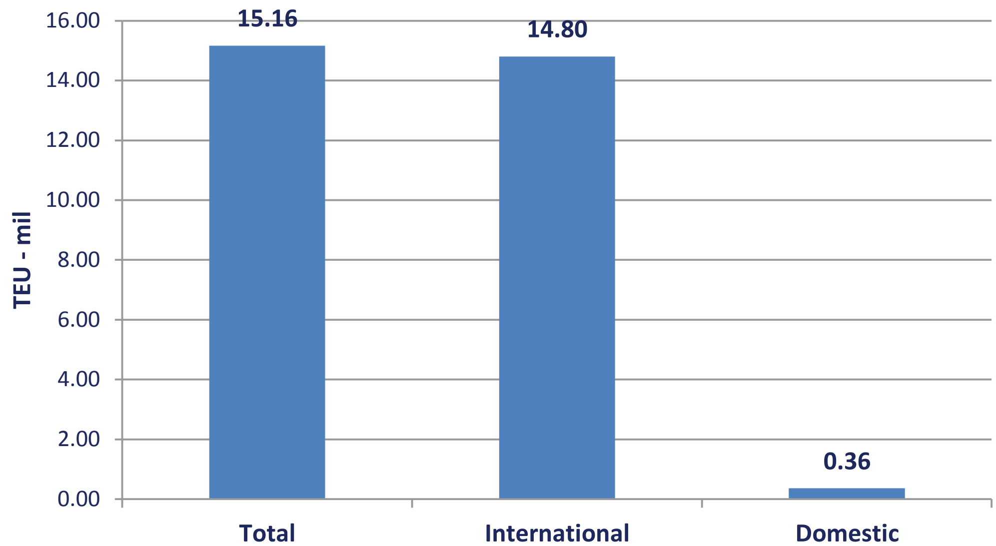
- the nearest port complex to the large local population inhabiting Southern California
- geographically proximate to large productions centers in Asia, particularly those in China
- able to efficiently handle container movements to/from areas well outside these ports' shared local catchment area by rail for intact containers and through trans-loading cargo to domestic vans for on-carriage.

While SPB Ports have maintained their position as the leading container gateway in North America, this area has lost share since peaking in 2006. This loss of share resulted from cargo diversion. This section of the report will provide information on the composition of SPB Ports' volume and identify the diversion risk associated with different volume segments. Based on a number of competitive scenarios, additional analysis identifying the amount of container traffic that could potentially be shifted from SPB Ports to other ports is presented.

### 1.3.2 Analysis of SPB Ports Container Volume Composition

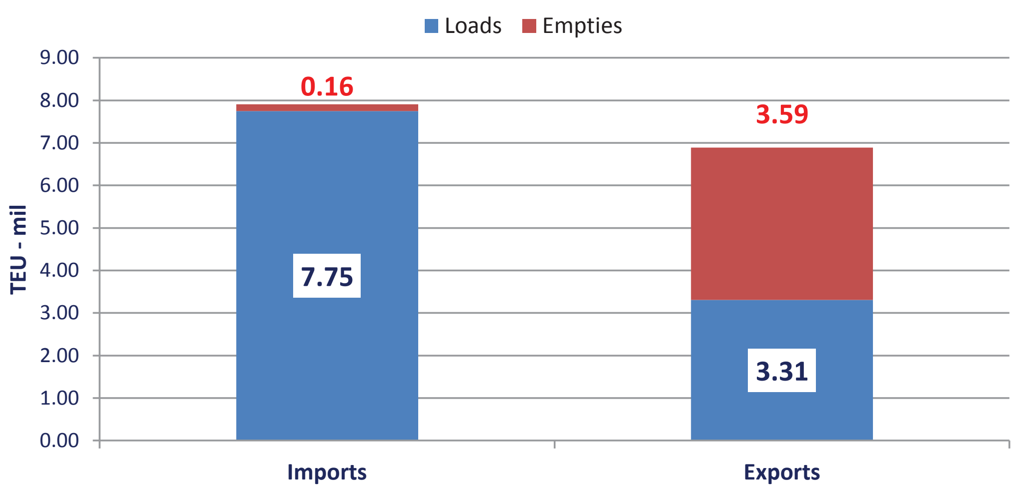
SPB Ports serve as a major gateway for international container movements and as the primary gateway for shipments to/from Hawaii. While SPB Ports handle a significant amount of the container movements between the U.S. Mainland and Hawaii/Guam International movements generates the vast majority SPB Ports' throughput, as shown in the following chart.

Figure 17: Breakdown of SPB Ports 2014 Volume between International and Domestic Markets



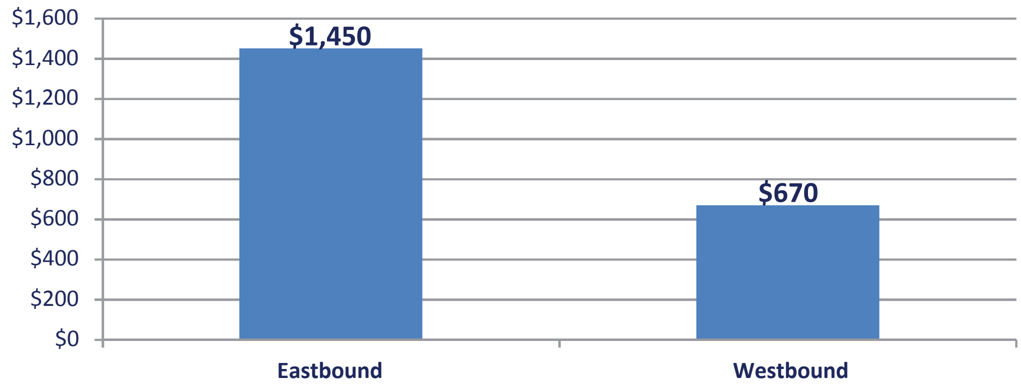

The breakdown of SPB Port volumes above shows that the vast majority of this area's throughput is comprised of international movements. The following chart provides a breakdown of SPB Ports' international movements.

Figure 18: Breakdown of SPB Ports' 2014 International Volume by Direction




The breakdown of SPB Ports' international movements above shows that loaded import movements generate more than twice as much throughput as compared to international loaded exports. The dominant position of loaded imports makes this movement type the clear driver of SPB Ports' international volume. Based on the dominant volume position of loaded imports, export movements of loads and empties are primarily used to reposition containers back to an origin area. The impact of using loaded exports to reposition boxes to the origin foreign area can be seen in the following transpacific rate comparison by direction.

Figure 19: Comparison of Asia/US West Coast 40’ Spot Rates by Direction - Dry Boxes - Shanghai Exchange June 2015

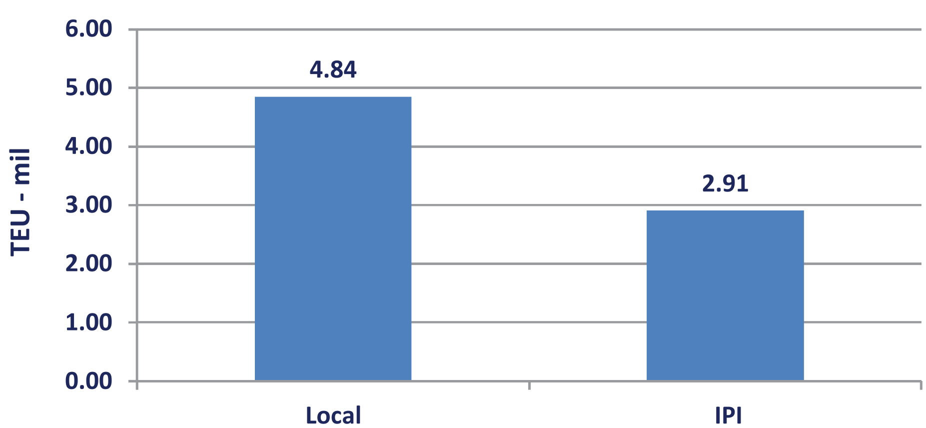



The revenue associated with a 40’ westbound move is less than half of that in the eastbound trade. The current westbound (export) rate does not cover all of the costs associated with moving a box back to Asia, thus ocean carriers are using the revenue generated to offset the cost of repositioning an empty. Therefore, the ability of SPB Ports to attract and retain international loaded import movements will be the key to this area’s overall volume performance. This category of volume is made up of two primary movement types, which are described below:

- **Local Movements –** container volume that arrives, or departs terminals via truck to a point of unloading/loading in a port’s local catchment area
- **IPI Movements –** container volume that utilizes intermodal rail service to/from inland points that are outside of a port’s local catchment area

A review of SPB Ports’ loaded import volume by the two market segment identified above is provided in the following chart. This chart is based on a review of ACTA data, which was used to identify the portion these ports’ combined volume that leaves the local catchment area by rail.

Figure 20: Breakdown of SPB Ports’ 2014 Loaded Import Volume by Market Segment

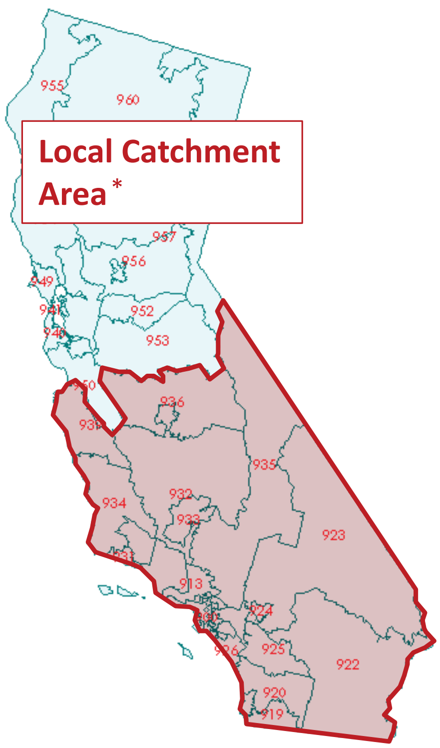


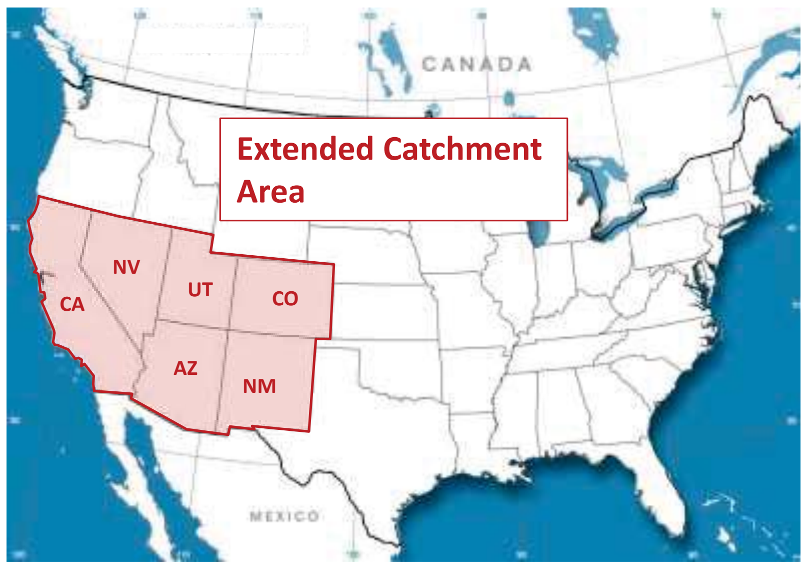

The reason it important to disaggregate loaded imports in to these two segments is that they have very different susceptibility to diversion, which will be discuss later in this report.

While the table above identifies that SPB Ports handle over 4.8 million TEUs of loaded imports for the local market, there is a sub-segment of this volume where containers are delivered to cargo handling facilities near the port where the cargo is unloaded, mixed and then reloaded in domestic vans for on-carriage to inland destinations. This distribution methodology is generally known as trans-loading and it is not easy to parse out the trans-load volumes from the local movements that are being delivered to their final destination.

In order to estimate the number of import containers that are handled through SPB Ports' terminals as local movements and then trans-loaded in to domestic vans for shipment out of Southern California by rail, SPB's primary and secondary catchment areas have been defined (see maps below).

**Figure 21: SPB Ports' Local and Extended Catchment Areas**




* The 900 numbers are 3-digit zip code areas

Most of the services that call SPB Ports also call at the Port of Oakland, thus the local market area (which accounts for about approximately 8% of the U.S. market, based on population), is based on the geographic areas in California that are closer on over-the-road mileage to SPB Ports. However, there are other areas that SPB Ports serves which are beyond this port area's local catchment area and are considered to be part of an extended market, as shown in the extended market catchment area map. The reasons for including the states that comprise the extended market are outlined below:

- **Northern California –** As noted above most of the carriers that call SPB Ports also stop at the Port of Oakland, but a number of importers discharge all of their containers with goods for consumption across California in SPB Ports - particularly those that are trans-loaded, because the bulk of state's population is in Southern California, making it the preferred distribution point for the state and points east

- **Nevada/Utah/Arizona/Colorado/New Mexico –** These states are land-locked, and while some intact container movements go through Oakland, nearly all of the goods that are trans-loaded are handled through SBP Ports, as this is where most importers have located their distribution facilities

SPB Ports' extended catchment area accounts for approximately 18% of the U.S. total population. This is considered an important measure as the following table shows that the shares of a number of commodities that move through this port area via truck are much higher than what would be expected based on the population. The commodities identified in red in the table below have share of the U.S. imports market that are well in excess of what would be expected based on the population in the extended catchment area.

**Figure 22: Review of SPB Ports 2014 I Local Import Volume by Commodity**

| Commodity Group | U.S. | SPB Ports Gate | % of Total | TEU Above 18% |
|---|---|---|---|---|
| *General Retail* | *3,644,589* | *1,105,635* | *30%* | *449,609* |
| *Apparel/Footwear* | *2,205,410* | *901,642* | *41%* | *504,668* |
| *Furniture* | *1,912,610* | *568,250* | *30%* | *223,980* |
| *Home Construction* | *1,573,605* | *465,055* | *30%* | *181,806* |
| *Electric Machinery* | *749,481* | *269,792* | *36%* | *134,885* |
| *Other Transport Equipment* | *660,156* | *244,885* | *37%* | *126,057* |
| *Non-Electric Machinery* | *1,202,980* | *251,215* | *21%* | *34,678* |
| *Steel/Iron Manufacturing* | *306,201* | *85,089* | *28%* | *29,972* |
| Food Products | 2,201,474 | 358,176 | 16% | 0 |
| Chemicals and related products | 1,348,299 | 114,036 | 8% | 0 |
| Passenger Vehicles | 959,779 | 155,598 | 16% | 0 |
| Metal manufactures | 800,898 | 96,926 | 12% | 0 |
| Wine and Spirits | 439,509 | 45,094 | 10% | 0 |
| Rubber/Plastic | 365,210 | 44,052 | 12% | 0 |
| Construction | 297,986 | 41,502 | 14% | 0 |
| Non-metallic mineral manufactures | 159,956 | 24,505 | 15% | 0 |
| Misc | 158,221 | 22,656 | 14% | 0 |
| Paper MFG | 131,611 | 23,113 | 18% | 0 |
| Pharmaceuticals | 111,539 | 13,914 | 12% | 0 |
| Animal Feed | 54,726 | 12,304 | 22% | 0 |
| **Grand Total** | **19,284,240** | **4,843,437** | **25%** | **1,685,656** |

The column in the table above labeled "TEU Above 18%" calculates the amount volume that is in excess of what would be consumed by the population in the extended catchment area for import commodities moving through SPB Ports that have shares of total U.S. market above 18%. Based on this analysis it is estimated that 1.69 million, or 21.8% (= 1.69 / 7.75) of SPB Ports' loaded imports move beyond the six-state extended catchment area via trans-loading.

However, SPB Ports' extended catchment area covers a large geographic region, and some of the states in the extended catchment area would also receive import cargo that has been trans-loaded by rail. The states of CO, UT, AZ and NM are better served by rail and these states account for 5.37% of the local catchment area's population. Based on the population of these states it is estimated that 658,095 TEUS of the import commodities via SPB Ports are being trans-loaded to domestic and being delivered to the four states identified above by intermodal rail. Therefore, it was found that 30.2% (30.2% = (1,685,656 + 658,095)/ 7,749,423) of SPB Ports' loaded imports are trans-loaded in to domestic equipment and shipped out of the area by rail.

The number of SPB Ports' import container being trans-loaded to domestic vans and being moved out of the California by rail is important for two reasons:

- In December of 2012 Cambridge Systematics found for the period of July 2010 through June 2011, that 27 percent of SPB Ports loaded imports were trans-loaded in to domestic vans and shipped out of the local area by rail, thus this report's estimate of 30.2% is seen to be reasonable, assuming a limited amount of share growth
- Import cargo that is trans-loaded and railed to inland destinations is seen to be more susceptible to diversion to other port areas.

### 1.3.3 SWOT Analysis of SPB Ports

A SWOT for SPB container business is provided in this section and much of this analysis is based on the review of SPB Ports' terminal and rail infrastructure, which can be found in Appendix 6: Comparison of SPB Ports Infrastructure to Competitors.

**Key Strengths**

- Greater proximity to NE Asia than all East Coast and Gulf Coast ports, which allows ocean carriers to operate NE Asia vessel services with fewer ships than for all-water deployments
- Comparable proximity to SE Asia ports versus South Atlantic/Gulf Coast ports
- Largest local population base/import traffic base of all West Coast ports and second largest regional catchment area (PSW region) in North America
- Size of local/PSW population base, coupled with geographic location, attracting and retaining trans-load operations
- Channel depths and terminal infrastructure capable of handling the largest container vessels in the world fleet
- Ownership stakes in thirteen port terminal concessions held by fourteen global carriers
- Majority of SPB Ports' marine terminals have larger on-dock rail transfer facilities than nearly all other U.S./CAN gateway ports
- Superior rail routes between port complex and South Central/Southeast states, relative to all other West Coast ports
- Competitive rail routes between port complex and most Midwest/Ohio Valley states, relative to all other West Coast ports
- More vessel and train services than all other U.S./CAN gateway ports

**Key Weaknesses**

- Alameda Corridor fee and PIERPASS fee increase the cost of routing intermodal cargoes through SPB Ports
- Harbor Maintenance Tax disadvantages SPB Ports (and other U.S. ports) versus Canadian ports, for routing of intermodal cargoes

- Geographic location limits SPB Ports as intermodal gateway for traffic from/to Europe, South America, Africa
- Rail main line congestion in SPB metropolitan region, relative to Canadian ports
- BNSF and UP intermodal rail rates to key Midwest markets are reportedly much higher than CN rates via Vancouver and Prince Rupert to those same markets
- More restrictive environmental regulations than in other ports outside of California ports

**Opportunities**

- Leverage SPB Ports' superior harbor/terminal infrastructure to attract more Transpacific strings using ultra-large ships
- Facilitate successful implementation of automation technologies at SPB terminals to improve service reliability
- Greater pricing/service support from BNSF and UP to avoid further volume losses to BC ports
- Enhancements in rail transfer infrastructure to support improved intermodal service levels

**Threats**

- Additional terminal capacity at Prince Rupert and Vancouver
- Upsizing of ships in NE Asia – U.S. East Coast all-water vessel services via the Panama Canal after 2016
- Potential for SPB marine terminals' charges to increase at a faster rate than facilities at competing gateways
- Potential for UP and/or BNSF to raise intermodal transport rates at a much faster pace than their competitors in Canada – and/or for rail service/reliability levels on either of these railroads deteriorate due to capacity pressures
- Potential for Alameda Corridor fee to increase significantly
- Potential for more BCO shifting of cargo sources away from China/SE Asia to Latin America/Africa/Subcontinent

Each of the threats identified above will be further evaluated to assess their respective impacts on SPB Ports' share of the North America container market.

## 1.4 Identification of Existing SPB Ports' Market Segments That are Divertible to Other Ports

Earlier in this report the composition of SPB Ports' container volume was discussed and the following conclusions were reached:

- SPB Ports handles two main categories of container movements: Domestic (Hawaii/Guam) and International
- International movements account for the vast majority of SPB Ports throughput
- Loaded imports movements are the primary driver of SPB Ports' volume performance
- There are two primary market segments associated with loaded import movements and one significant sub-segment and these are listed below with their 2014 volume:
    - **IPI –** 2.91 million TEUs
    - **Local –** 4.84 million TEUs

- **Total Trans-loads via Rail -** 2.34 million TEUs

International movements account for the vast majority of SPB Ports' container throughput and loaded imports moves are the dominant direction. It is expected that loaded imports will continue to be driver of overall international volume because both loaded and empty export moves are only being used to reposition containers back to their origin area.

Based on a review of the major events that are likely to occur over the forecast period, the following competitive factors have been identified as having the potential to materially change the competitive position of SPB Ports' over the timeframe being studied. Also included in the table is an estimation of the impact of these on different cargo segments.

**Figure 23: Summary of Major Industry Events Affecting SPB Ports Competitiveness**

| Competitive Factors |
|---|
| **Panama Canal Expansion :** The completion of the new locks at the Panama Canal will allow vessels with a capacity of up to 13,000 TEUs to pass through it. In turn, carriers will deploy larger vessels that will provide them with lower slot costs on this route |
| **New Capacity at Prince Rupert/Vancouver:** The container terminal at Prince Rupert will add a 2nd berth during 2016. In addition, Vancouver's Deltaport terminal is in the process of increasing its intermodal capacity. Both expansions will create risks for portions of SPB Ports' IPI traffic |
| **Slow Growth In Vessel Capacity to SPB Ports:** If import volume growth to Southern California's ports slows, then carriers will be less likely to increase vessel sizes in Asia – California services at a comparable rate to vessel services in all-water or BC/PNW services, which could cause the slot-cost advantage of SPB Ports to diminish versus other ports and routes |
| **Increased Terminal Handling Costs:** Should terminal handling costs increase faster at terminals in SPB Ports than at its competitors, this could translate to higher rates and a loss of competitiveness for discretionary volumes |

In order to assess SPB Ports' ability to retain their existing loaded international imports, it is important to recognize that the market segments identified above have significantly different levels of susceptibility to be diverted and these are described below:

- **Domestic Movements –** This category of volume is seen to be difficult to transfer to other ports, because carriers handle exports of domestic goods to support these islands' essential needs and the suppliers of these items have developed their supply chain to utilize existing domestic operations in Southern California
    - Also, a larger portion of this market is handled by freight consolidators, and the vast majority of this group's operations are located proximate to SPB terminals
- **International Local/trans-loads –** This segment is seen to have very little susceptibility to diversion, because the additional inland cost associated with moving boxes to SPB Ports' catchment areas via an alternative port would outweigh any port or terminal cost savings
    - Also the concentration of population around these ports makes it an essential call for ocean carriers
- **Trans-loaded Movements via Rail -** Volumes delivered to inland destinations by rail not seen to be divertible to other ports because:

- **Lower Ocean Shipping Costs:** Based on the Shanghai Freight Exchange, spot rates as of June 4th, 2015 were $1455 FEU to WC ports versus $3,115 FEU to EC ports
- **Shorter Transit Times:** Transit times from Asia to SPB Ports are 11 to 14 days faster than to East and Gulf ports
- **Access to Greater Number of Services:** SPB Ports currently receive first-inbound calls from 28 Transpacific vessel strings, versus
  - 17 for NY/NJ
  - 20 for Savannah
  - 2 for Houston
- **Market Access:** Using SPB Ports as a gateway for trans-loading allows importers the option to supply their operations in the Southern California local catchment area, or across a number of larger markets in the Midwest, Southeast, and Gulf Coast

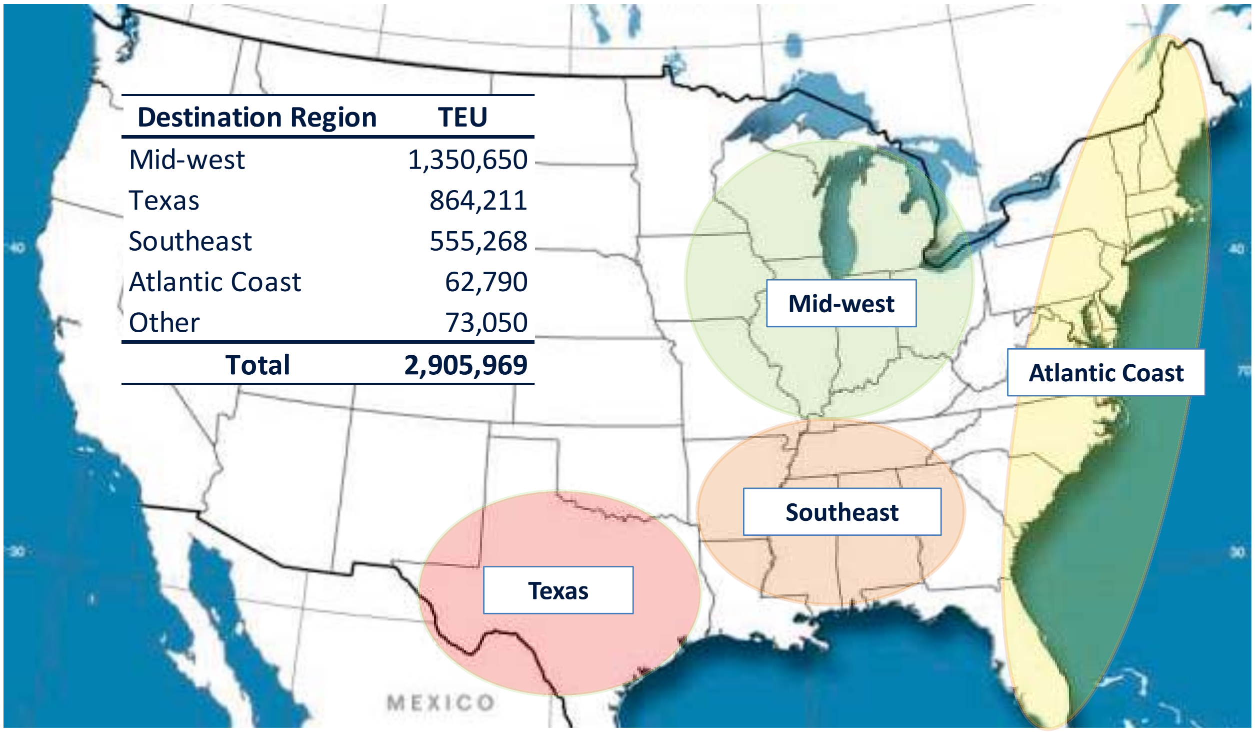
- **IPI –** Import movements that leave SPB Ports by rail are seen to be highly divertible, as there are a number of port areas along the Pacific Coast that are well positioned to handle this volume and the increased availability of services between Asia and East/Gulf ports makes all-water routing a viable alternative for certain inland destinations.

While a significant portion of SPB Ports' throughput is seen to have a low risk of diversion, import containers that utilize rail services to reach inland destinations have been identified as having the greatest risk of diversion. Volumes associated with this market segment are analyzed in the following section.

### 1.4.1 Analysis of SPB Ports' IPI Volumes

As SPB Ports' IPI volumes are susceptible to diversion, and as international imports were identified as being the primary driver of volume for this port area, it is important to quantify these volumes. The data in the graphic below disaggregate SPB Ports' 2014 intermodal volumes by by destination region. The volumes shown below have been derived through an analysis of U.S. Census data, Port data, and ACTA data.

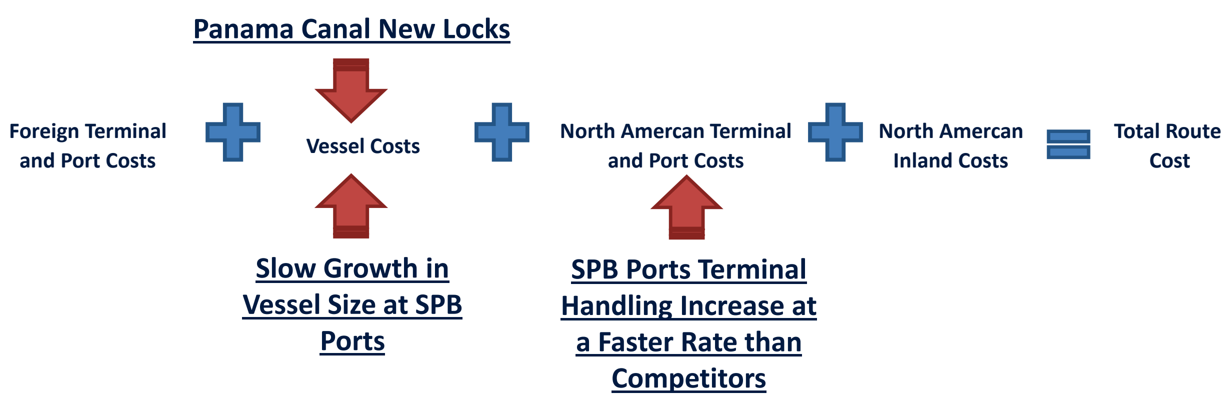
**Figure 24: SPB Ports Import Volume by IPI Destination – TEUs**




| Destination Region | TEU |
|---|---|
| Mid-west | 1,350,650 |
| Texas | 864,211 |
| Southeast | 555,268 |
| Atlantic Coast | 62,790 |
| Other | 73,050 |
| **Total** | **2,905,969** |

Three destination regions account for 95% of the volume associated with this market segment. In reviewing the destination regions, it was determined that movements to the Atlantic Coast are not at risk of diversion, as it is already substantially cheaper to utilize all-water services to locations in this region, thus the use of SPB Ports as an intermodal gateway to this region is driven by transit time sensitivities rather than cost. However, three of the four competitive factors cited earlier in this document are expected to affect SPB Ports' ability to retain existing IPI movements in the face of declining all-water costs. The three competitive factors that are expected to impact these volumes (Panama Canal expansion, slow growth in vessel size at SPB Ports, and differential growth rates of terminal costs) are depicted along with the route cost component that will be impacted in the following graphic.

**Figure 25: Overview of Ocean Carriers Route Costs**



### 1.4.2 Analysis of Current Route Costs to High Volume IPI Destinations

In order to identify the degree to which the competitive factors associated with route costs are likely to impact import costs associated with rail movements now being handled on services calling SPB Ports, analysis was undertaken to identify the high volume markets served through this port area. The results of this work are depicted in the table below.

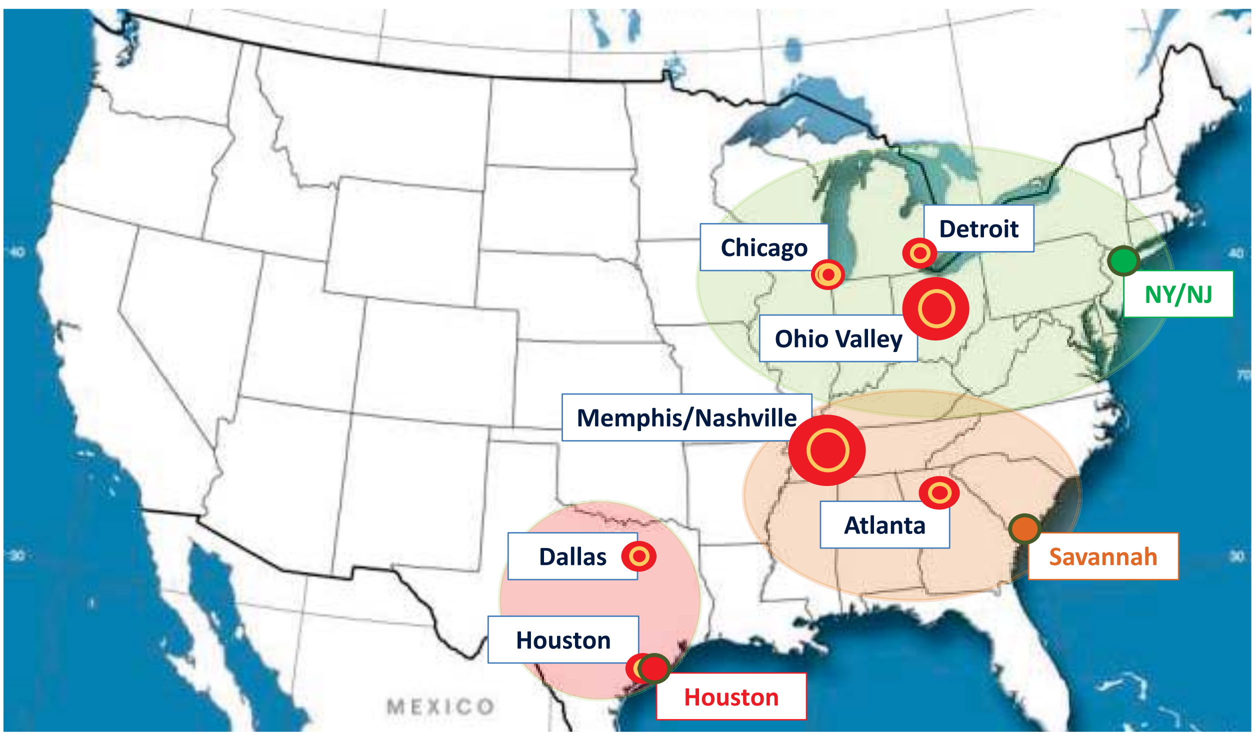
Figure 26: 2014 High Volume*IPI Destinations via SPB Ports for Imports from Asia – TEUs

| LOCATIONS | DESTINATION REGION | SPB Ports |
|---|---|---|
| CHICAGO | MIDWEST | 685,806 |
| OHIO VALLEY | MIDWEST | 280,030 |
| DALLAS, TX | TEXAS | 457,902 |
| DETROIT, MI | MIDWEST | 66,607 |
| HOUSTON | TEXAS | 349,880 |
| MEMPHIS/NASHVILLE, TN | SOUTHEAST | 291,697 |
| ATLANTA | SOUTHEAST | 116,981 |
| **Total** | | **2,248,904** |

* Atlantic Coast and low volume destinations are not considered in this analysis

Approximately 2.25 million TEUs, or 29% of SPB Ports' loaded imports are destined for the inland locations shown in the table above, and these volumes are at risk of diversion due to their proximity to Atlantic/Gulf coast ports, as highlighted in the following map.

Figure 27: Identification of Atlantic/Gulf Coast Ports Competing for High Volume IPI Locations




The map above indicates that three ports – NY/NJ, Savannah, and Houston – are the preferred all-water gateways to three respective interior regions, but smaller volumes also move through secondary ports in each coastal zone (such as Hampton Roads, Charleston, and Mobile).

An inventory of services on the Asia-California route and all-water Panama Canal route was compiled. The average vessel size for each of these services has been calculated, and is shown in the table below.

**Figure 28: Summary of Current Average Vessel Size by Route**

| | | All-water services | | |
|---|---|---|---|---|
| | SPB Ports | NY/NJ | Savannah | Houston |
| ***Current*** | ***8000*** | ***5000*** | ***5000*** | ***5000*** |

The Asia-California route has a significantly advantage over each of the all-water strings in terms of average vessel size because larger vessels enjoy economies of scale that generate significantly lower slot costs. These costs are part of the total route costs which are summarized in the following table along with transit times.

**Figure 29: Current Route Cost Comparison**

| | | | | E/B Costs Per 40ft | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Inland Destination** | **Port Gateway** | **Vessel Size Category** | **Import US Port [1]** | **E/B Slot** | **Inland** | **Total** | **DIF. SPB - All-water** | **Transit Time** | **DIF. SPB - All-water** |
| Chicago | SPB | 8000 | $455 | $410 | $1,200 | **$2,065** | $185 | 19 | 14 |
| | NY/NJ | 5000 | $380 | $1,000 | $500 | **$1,880** | | 33 | |
| Detroit | SPB | 8000 | $455 | $410 | $1,275 | **$2,140** | $300 | 22 | 12 |
| | NY/NJ | 5000 | $380 | $1,000 | $460 | **$1,840** | | 34 | |
| Cincinnati/Ohio Valley | SPB | 8000 | $455 | $410 | $1,365 | **$2,230** | $370 | 22 | 12 |
| | NY/NJ | 5000 | $380 | $1,000 | $480 | **$1,860** | | 34 | |
| Memphis/Nashiville | SPB | 8000 | $455 | $410 | $1,250 | **$2,115** | $162 | 20 | 12 |
| | Savannah | 5000 | $403 | $1,000 | $550 | **$1,953** | | 32 | |
| Atlanta | SPB | 8000 | $455 | $410 | $1,150 | **$2,015** | $287 | 22 | 7 |
| | Savannah | 5000 | $403 | $1,000 | $325 | **$1,728** | | 29 | |
| Dallas | SPB | 8000 | $455 | $410 | $780 | **$1,645** | $5 | 20 | 11 |
| | Houston | 5000 | $370 | $970 | $300 | **$1,640** | | 31 | |
| Houston | SPB | 8000 | $455 | $410 | $940 | **$1,805** | $465 | 20 | 10 |
| | Houston | 5000 | $370 | $970 | $0 | **$1,340** | | 30 | |

1) Includes Rail lift

The route cost information above is based on estimates of existing rail and terminal costs, as well as the slot cost associated with the average size of vessels deployed on each route. Moving a container to each of these destinations is already less expensive via all-water routes (from an ocean carrier's perspective), but the transit times are longer by 7 to 14 days. The fact that all-water services already have a cost advantage, as compared to routes over SPB Ports suggest that transit time requirements outweigh costs in the movements currently using SPB Ports as an intermodal gateway. Therefore, it is assumed that an ocean carrier would need to offer an importer a financial incentive to switch to an all-water rout.

Based on the assumption that ocean carriers would need to offer an importer a price break to switch to an all-water service, analysis on how the three competitive factors are expected to change the costs of moving to the IPI destination was completed in order to determine the risk of diversion for the less time-sensitive commodities.

#### *1.4.2.1 Outlook for Changes in Asia-California Average Vessel Size*

In April of 2013 Mercator completed a container vessel size forecast for SPB Ports and the analysis in this forecast was reviewed and adjusted, as discussed below.

The average capacity of the Transpacific vessels calling SPB Ports in mid-2015 was nearly 8,100 TEUs, which is about 900 TEUs larger than was projected in early 2013. Also, there were 28 Transpacific services calling SPB ports, as compared to the 32 that were projected to call by 2015 in the 2013 study. Nonetheless, the amount of capacity that California actually receives is relatively close to the amount forecasted in 2013 (currently 212,000 TEUs/wk vs. the forecasted 230,900 TEUs/wk).

Ocean carriers have been able to deploy larger vessels by reducing the number of weekly sailings they provide the market, which has enabled carriers to achieve lower slots costs on this route. Carriers have also supported the deployment of larger vessels by increasing the number of partners in their alliances – in particular, the combining of the New World Alliance and Grand Alliance into the G-6 arrangement, as well as the addition of Evergreen to the CYKH Alliance.

Since the completion of the prior container fleet forecast, multiple ocean carriers have ordered ships with capacities in excess of 18,000 TEUs, presumably for deployment into the Asia – Europe trade lane (even considering that the Benjamin Franklin, which has a stated capacity of 18,000 TEUs, has made some test calls at west coast ports, but this is seen as a temporary situation and this vessel will be move to the Asia – Europe trade once it sister vessels are delivered to CMA). These recent orders (along with expected new orders of similarly sized ships) will undoubtedly lead to cascading of 10,000-16,000 TEU ships from the Asia Mideast (AME) trade to other corridors, such as Asia – California. The table below reflects how the cascade of 10,000-16,000 TEU ships could impact the number and capacity of Transpacific services to California considering the larger alliances that are in place.

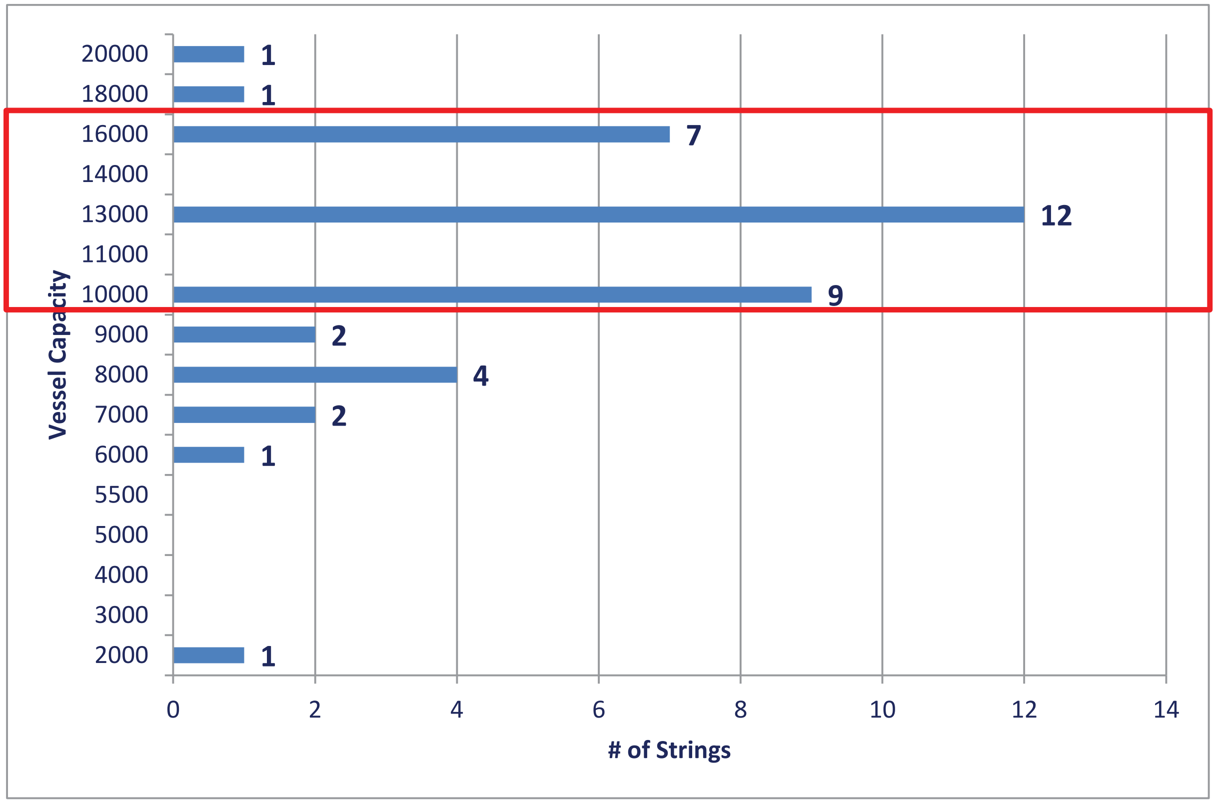
Figure 30: Updated Container Fleet Forecast for SPB Ports – Base Case

| TEU Class | TEU Nominal | TEU Effective | Number of Sailings 2012 | 2015 | 2030 | Original 2030 |
|---|---|---|---|---|---|---|
| 2000 | 2650 | 2050 | 2 | 1 | 1 | 1 |
| 3000 | 3500 | 2750 | 1 | 1 | | |
| 4000 | 4250 | 3120 | 3 | 2 | | 2 |
| 5000 | 5090 | 3960 | 3 | 3 | | |
| 5,500 | 5720 | 4780 | 5 | 0 | | |
| 6000 | 6500 | 5100 | 3 | 5 | 1 | 2 |
| 7000 | 7340 | 6000 | 4 | 1 | 2 | 2 |
| 8000 | 8200 | 6850 | 4 | 7 | 4 | 9 |
| 9000 | 9600 | 7335 | 3 | 3 | 2 | 2 |
| 10000 | 10370 | 8680 | | 3 | 9 | 10 |
| 11000 | 11430 | 10020 | 1 | 2 | | |
| 13000 | 12850 | 11520 | | | 12 | 12 |
| 14000 | 13640 | 12290 | | | | |
| 16000 | 15910 | 14400 | | | 7 | 4 |
| 18000 | 17850 | 15720 | | | 1 | |
| 20000 | 19080 | 17820 | | | 1 | 1 |
| | | **Service Count** | 29 | 28 | 40 | 45 |
| | | **Nominal** | 187,310 | 209,930 | 471,660 | 472,450 |
| | | **Effective** | 150,715 | 170,455 | 411,920 | 401,034 |
| | | **AVG Nominal** | 6,459 | 7,498 | 11,792 | 10,499 |
| | | **AVG Effective** | 5,197 | 6,088 | 10,298 | 8,912 |

This forecast also reflects Mercator's view that by 2030, there will be one more service using ships even larger than 16,000 TEUs.

While the base case above indicates that Asia-California services will have an average vessel capacity of about 11,000 TEUs, there are a number smaller niche services, like Matson's Hawaii/Guam/China string, that collectively suppress the average vessel size. The following chart shows Mercator's forecast of the number and size of Transpacific strings that are expected to call at SPB Ports in 2030.

Figure 31: Summary of the Number of Asia - California Services by Size Category for 2030




It is expected that 28 of the 40 services will deploy vessels with a capacity that is between 10,000 and 16,000 TEUs. Looking at the cluster of services that are in this size range, it is likely that a significant number of ocean carriers will base their slot economics on 13,000 TEU vessels. Therefore, 13,000 TEU vessels will be used as the basis for an High scenario, and the competitive impact of this class of vessels being deployed in services calling SPB Ports will be analyzed.

For the downside scenario, it was assumed carriers would continue to only utilize vessels with a capacity of 16,000 TEUs and higher in the AME trade and that the changes in alliance structures would also make it difficult to support the deployment of high capacity vessels in the Transpacific. These events would result the average size of vessel calling SPB Ports to be 10,000 TEUs, which is the same level as was projected in the 2013 SPB fleet.

#### *1.4.2.2 Analysis of Future Vessel Size for Asia – Atlantic/Gulf Services via the Panama Canal*

Currently, the Panama Canal can only accommodate vessels with a capacity of up to 5,500 TEUs, and all of the services using this route between Asia–Atlantic/Gulf Coast ports have a nominal capacity of approximately 5,000 TEUs. As discussed earlier, once the Panama Canal's new locks are operational in 2016, the Canal will be able to accommodate vessels with a capacity up to 13,000 TEUs.

Once ocean carriers are able to deploy larger vessels through the Panama Canal, they will begin to do so rather quickly. Furthermore, by 2030 almost all of the Asia-Atlantic/Gulf strings will utilize the highest capacity vessels they can by:

- Combining exiting Panama strings

- Removing Suez strings and routing the displaced volume on larger Panama services

However, while the Panama Canal will be able to handle vessels with a capacity of 13,000 TEUs, not all the ports currently being called by Asia-Atlantic/Gulf strings can accommodate vessels of this size, due to water depth and/or air draft issues. In order to forecast the size of vessels that will be calling at the Atlantic and Gulf ports, an inventory of each of these ports' existing constraints was compiled, and the largest container vessels currently being handled was also determined.

**Figure 32: Constraints for Alternative All-water Ports**

| | All-water services | | |
|---|---|---|---|
| | NY/NJ | Savannah | Houston |
| Water Depth | 50 ft | 42 ft | 40 ft |
| Air Draft | 215 ft by 2017 | 185 ft | No Constraint |
| Max Vessel Size based on Current Constraints | 18,000 | 8,500 | 6,500 |

There is potential for both Savannah and Houston to accommodate larger vessels, but doing so requires significant channel dredging. Consequently, there is a potential downside to the base case scenario, which limits vessel sizes (thereby impacting slot costs) based on port constraints.

- **Downside Assumptions in terms of SPB Ports' Competitiveness –** If the vessel size constraints that limit Savannah and Houston are lifted, these ports will become more competitive vis-à-vis SPB ports. Assuming that both Savannah and Houston are able to have their channels dredged to 47ft by 2030, thereby allowing these ports to handle 10,000 TEU vessels, the carriers calling these ports would enjoy lower slot costs (assuming that they do, in fact, deploy 10,000 TEU ships on strings calling these ports).
- **Upside Assumptions in terms of SPB Ports' Competitiveness –** Though unlikely, it is possible that ocean carriers could choose to allocate their 13,000 TEU vessels to deployments that do not call NY/NJ. As an upside scenario, the average vessel size on Asia - NY/NJ strings is limited to just 10,000 TEUs. Under this assumption, slot costs will be higher than the base case scenario, which envisions the average vessel size at 13,000 TEUs. The upside scenario further assumes that neither the Savannah River nor the Houston ship channel will be dredged, and, therefore, these ports will receive vessels of the same size as is forecasted under the base case.

The following table summarizes the average vessel size assumptions for SPB ports (this is based on the analysis in section 4.2.1) and alternative gateway ports in the Atlantic and Gulf.

Figure 33: Summary of Vessel Size Assumptions

| | | All-water services | | |
|---|---|---|---|---|
| | SPB Ports | NY/NJ | Savannah | Houston |
| *Current* | *8000* | *5000* | *5000* | *5000* |
| Base Case | 11000 | 13000 | 8500 | 6500 |
| Upside | 13000 | 10000 | 8500 | 6500 |
| Downside | 10000 | 13000 | 10000 | 10000 |

It is important recognize that there are a number of smaller niche services (like Matson's Asia string and direct services to/from Japan) that call at SPB Ports, which are not practical on the all-water route. The continued use of these niche strings to SPB Ports will depress the average size of vessel to this port area.

### 1.4.3 Impact of Changes in Terminal Costs

Terminal cost is another factor that has the potential to change the competitive position of SPB Ports vis-à-vis Atlantic and Gulf Coast ports for high-volume IPI destinations. Terminal expenses are a significant component of ocean carriers' route costs, and labor costs comprise a significant share of terminal costs.

It is the normal practice for contracts between ocean carriers and terminal operators to include an annual rate escalation clause.  These are typically based on the labor cost increases that are part of the ILA and ILWU union contracts and inflation, with prices linked to the U.S. consumer price index (CPI).

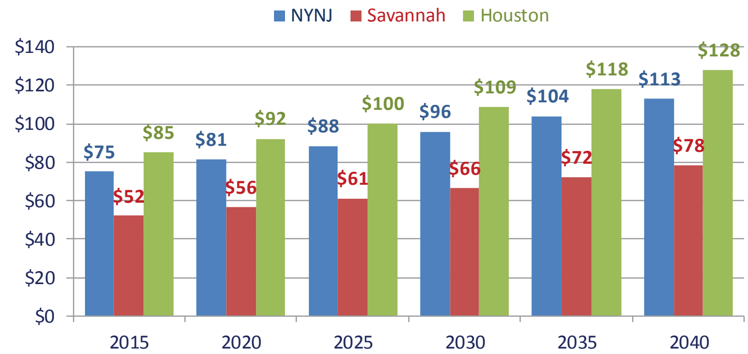
In reviewing the historical performance of these escalator clauses in relation to changes in CPI, Mercator found that terminal charges normally increase at a rate that is about 75% of inflation. The table below shows how terminal rates would change for SPB Ports and their primary competitors assuming that the CPI increased at an average annual rate of 2.2% over the forecast period and assuming that terminal operators' charges grow at 75% of that amount.

The graphic below shows how the differential between terminal costs for SPB Ports' and its competitors' are likely to evolve under the assumption that all ports' costs increase at the same rate. Because each of the ports' terminal handling costs is increasing at the same rate, the differential grows more quickly for Houston and NY/NY than for Savannah because Savannah is growing from a lower price point. The assumptions set out above will serve as the ***base case*** for this competitive factor. Should SPB Ports' terminal costs increase at a faster rate than its competitors, it would create a larger, more detrimental differential for the Los Angeles and Long Beach gateway.

**Figure 34: Forecasted Changes in Terminal Handling Costs –Base Case**

| | Share of CPI |
|---|---|
| **SPB Ports** | 75% |
| **Competitors** | 75% |

| | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|---|
| **SPB Ports** | $455 | $494 | $536 | $582 | $631 | $685 |
| **NYNJ** | $380 | $412 | $448 | $486 | $527 | $572 |
| **Savannah** | $403 | $437 | $475 | $515 | $559 | $607 |
| **Houston** | $370 | $402 | $436 | $473 | $513 | $557 |

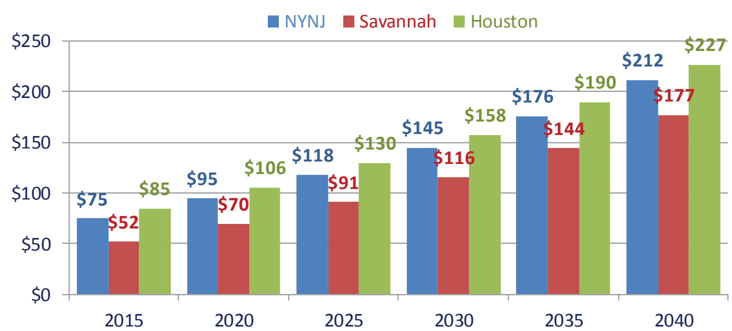



The table and chart below reflect how carriers' terminal rates and terminal handling cost differentials would evolve over the forecast period, assuming that CPI increased at 2.2% over the forecast period and that SPB Ports' terminal operators charges grow at 100% of the inflation rate while its competitors rates increased at 75% of the inflation rate. The assumptions set out above will serve as a ***downside scenario*** for this competitive factor.

**Figure 35: Forecasted Changes in Terminal Handling Costs –Downside Scenario**

| | Share of CPI |
|---|---|
| **SPB Ports** | 100% |
| **Competitors** | 75% |

| | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|---|
| **SPB Ports** | $455 | $507 | $566 | $631 | $703 | $784 |
| **NYNJ** | $380 | $412 | $448 | $486 | $527 | $572 |
| **Savannah** | $403 | $437 | $475 | $515 | $559 | $607 |
| **Houston** | $370 | $402 | $436 | $473 | $513 | $557 |

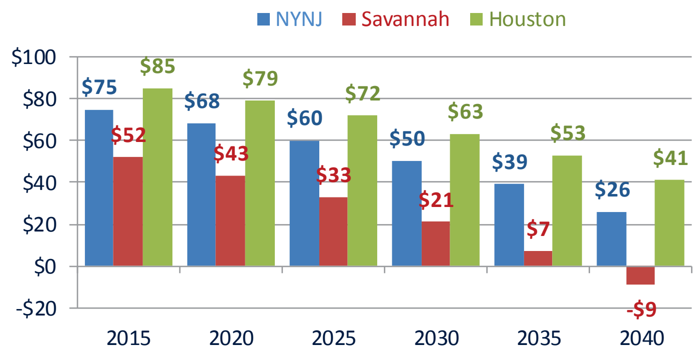



The introduction of automation at SPB Ports' terminals would create a situation in which SPB ports' costs grow at a slower rate than its competitors, thereby enhancing this gateway's competitiveness. The table below reflects how terminal rates would change over the forecast period based on the assumption that SPB Ports' terminal operators charges grow at 50% of CPI (which remains at 2.2% per annum) while its competitors' costs increase at a rate which is fixed at 75% of CPI.

Figure 36: Terminal Handling Costs - Upside Scenario

| | Share of CPI |
|---|---|
| **SPB Ports** | 50% |
| **Competitors** | 75% |

| | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|---|
| SPB Ports | $455 | $481 | $508 | $536 | $566 | $598 |
| NYNJ | $380 | $412 | $448 | $486 | $527 | $572 |
| Savannah | $403 | $437 | $475 | $515 | $559 | $607 |
| Houston | $370 | $402 | $436 | $473 | $513 | $557 |



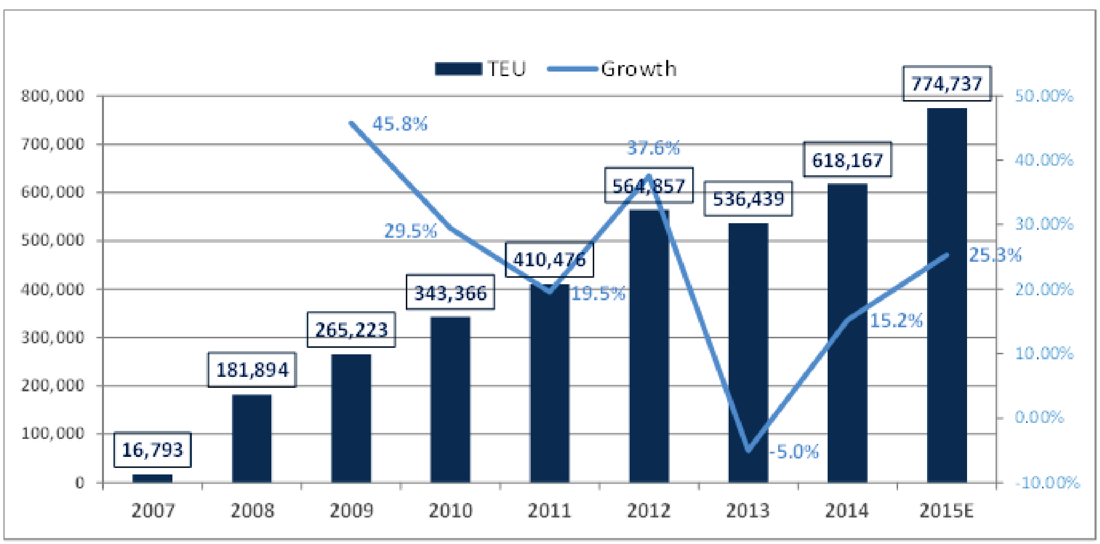

Under this ***upside scenario***, the cost differentials between SPB Ports and each of their competitors decline throughout the forecast period. The differential between SPB Ports and NY/NJ is reduced to just over one-third of its current level while the differential between SPB Ports and Houston is slightly more than halved. By contrast, the differential to Savannah turns negative, meaning that this port is not in a position to attract IPI volume from SPB Ports.

### 1.4.4 Impact of BC Ports on SPB Ports' IPI Volumes

The container terminal at Prince Rupert was developed primarily as an alternative gateway for high volume IPI destinations in the U.S. that had traditionally been served through U.S. West Coast ports. The CN Railroad's involvement in the development of Prince Rupert as an IPI gateway is seen to be a key reason this port has been able to attract ocean carriers, as it provided them lower rates than they were receiving from railroads in the U.S. CN's decision to target IPI volumes that had used ports on the U.S. West Coast was primarily driven by its desire to add new business to an underutilized rail line from this port.

Prince Rupert has experienced a very strong ramp up in volume since it opened in 2007, as shown on the following chart.

Figure 37: Overview of Prince Rupert's Volume Development



The development of Prince Rupert's IPI volume to the U.S. caused a number of carriers that did not have access to services calling Prince Rupert – but did have services calling Vancouver – to make Vancouver their first inbound stop to allow shippers to take advantage of lower Canadian rail rates by using this port as a gateway for IPI movements destined for U.S. markets.

The data in the table below show that BC ports' overall penetration rate for rail volumes moving to U.S. destinations is approximately 16%.

**Figure 38: 2014 Transpacific Loaded Imports to Select Inland Regions – TEUs**

| Destination Region | SBP Ports | Other CA | PNW Ports | BC Ports | Total |
|---|---|---|---|---|---|
| Midwest | 1,061,989 | 5,466 | 350,233 | 260,260 | **1,677,948** |
| Ohio Valley | 280,030 | 747 | 115,321 | 18,620 | **414,718** |
| Southeast | 292,999 | 197 | 6,800 | 129,130 | **429,126** |
| **Total** | **1,635,018** | **6,410** | **472,353** | **408,010** | **2,521,792** |
| **Share** | **65%** | **0%** | **19%** | **16%** | **100%** |

Sources: US Census and Stats Canada

As identified above, the primary advantage BC Ports provide to rail movements to/from locations in the U.S. is lower route costs, as enumerated in the table below.

**Figure 39: Route Cost Comparison**

| | | | E/B Costs Per 40ft | | | | |
|---|---|---|---|---|---|---|---|
| **Inland Destination** | **Port Gateway** | **Vessel Size Category** | **Import US Port [1]** | **E/B Slot** | **Inland** | **Total** | **DIF. SPB - BC Ports** |
| Chicago | SPB Ports | 8000 | $455 | $410 | $1,200 | **$2,065** | |
| | P.Rupert | 6000 | $258 | $362 | $1,000 | **$1,620** | $445 |
| | Vancouver | 6000 | $296 | $330 | $1,115 | **$1,741** | $324 |
| Cincinnati/Ohio Valley | SPB Ports | 8000 | $455 | $410 | $1,365 | **$2,230** | |
| | P.Rupert | 6000 | $258 | $362 | $1,200 | **$1,820** | $410 |
| | Vancouver | 6000 | $296 | $330 | $1,275 | **$1,901** | $329 |
| Memphis/Nashiville | SPB Ports | 8000 | $455 | $410 | $1,250 | **$2,115** | |
| | P.Rupert | 6000 | $258 | $362 | $1,230 | **$1,850** | $265 |
| | Vancouver | 6000 | $296 | $330 | $1,300 | **$1,926** | $189 |
| Atlanta | SPB Ports | 8000 | $455 | $410 | $1,150 | **$2,015** | |
| | P.Rupert | 6000 | $258 | $362 | $1,130 | **$1,750** | $265 |
| | Vancouver | 6000 | $296 | $330 | $1,200 | **$1,826** | $189 |

1) Includes Rail lift

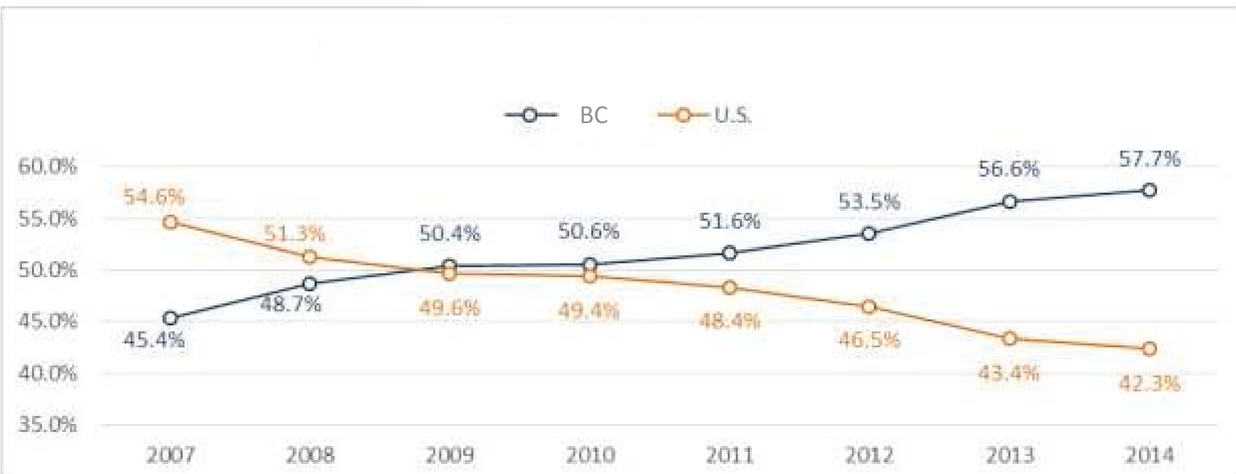
Using BC Ports as an intermodal gateway is cost-effective across the board but is significantly less expensive for movements to destinations in the U.S. Midwest.

While there is a cost advantage associated with routing containers to the Midwest and Southeast over BC Ports versus SPB Ports, most of IPI volume that has been attracted from the U.S. West Coast has come from ports in the Pacific Northwest. In the chart below, we see that to the extent that there has been volatility in the Pacific Northwest's share of Asian imports, there is no clear trend. This means that since the recession, the Pacific Northwest has maintained a constant share of Asian imports.

**Figure 40: Pacific Northwest Ports' Share of North America's Container Imports from Asia**


While the PNW's share has remained constant, the Canadian share of port throughput has increased markedly. Given that the local markets associated with each of the PNW ports have grown at similar rates, it can be concluded that the shift in share was due to diversion of IPI traffic.

**Figure 41: BC vs. U.S. Split of PNW Port Area's Throughput, 1999-2014**




While the bulk of BC Ports' IPI volume was captured from the PNW Port area, Prince Rupert does now receive calls from two services (M2's TP8 and COSCO's CEN) that had previously made their first inbound call at terminals in SPB. Additionally, if ocean carriers offer lower pricing through BC Ports, importers are seen to have no impediments re-routing IPI movements from Asia – California strings to services that call at BC Ports. Therefore, it is likely that SPB Ports' have already lost most, if not all, of the IPI volumes to BC Ports that they are likely to lose unless further pricing incentives are made.

In this regard, it is important to consider that both Prince Rupert's FCT and Vancouver's Deltaport terminal, which is the primary intermodal gateway for Vancouver, have been experiencing high utilization levels in recent years, which is seen as a barrier to attracting any significant new IPI volumes. That said, the following initiatives are underway to increase these ports respective capacities:

- FCT – As discussed in appendix 6 the Port Authority and the new concession-holder, Dubai Ports World (DPW), are working together to add a second berth, enabling the facility to handle an additional 450,000 TEUs/year by the second half of 2017
- Deltaport – Global Container Terminals GCT will be adding more working tracks and adding new rail-mounted gantries, adding over 600,000 TEUs/year of capacity, also in the latter part of 2017

FCT's expansion, though slightly less in absolute incremental capacity than the Deltaport project, is potentially more significant in terms of the competitive dynamics between the West Coast ports, because it will enable DPW to handle ship lines other than COSCO and Hanjin. It is projected that other carriers will modify their existing Asia – PNW strings to call Prince Rupert as their first inbound call (rather than start new deployments) to capitalize on FCT's second berth as soon as possible (assuming that CN provides them with attractive rail rates). Therefore, FCT is expected to capture volumes first from Seattle/Tacoma, as well as from Vancouver.

However, certain carriers can also be expected to shift some Asia – U.S. Midwest traffic flows now routed through SPB Ports to these modified Asia – PNW strings because CN's rail charges are known to be significantly less than BNSF and UP rail rates. It is also likely that a limited number of ocean carriers will follow the lead of COSCO and the M2 and make Prince Rupert the first port of call on services that had previously called SPB first.

The preceding analysis has suggested that the ports of Seattle/Tacoma and Metro Vancouver will likely bear the brunt of volume loss to Prince Rupert when the latter's second berth becomes operational, and because carriers will shift import intermodal volumes from what had been the first inbound call (in Puget Sound or Queen Charlotte Sound) to the new first-inbound call. In order to determine if there is sufficient U.S. intermodal import volume moving through Vancouver and PNW Ports to support three new calls at FCT, Mercator prepared a table comparing the IPI volumes of three generic Asia – PNW services versus the total IPI volumes in 2014 to the regions competitively served via Prince Rupert.

**Figure 42: IPI Volume Available for Diversion from PNW Ports**

| | US TEU/WK | Calls | US TEU/year | Midwest | Ohio Valley | Southeast |
|---|---|---|---|---|---|---|
| New Service A-PNW | 1,380 | 52 | 71,760 | 43,092 | 7,527 | 21,141 |
| New Service B-PNW | 1,380 | 52 | 71,760 | 43,092 | 7,527 | 21,141 |
| New Service C-PNW | 1,380 | 52 | 71,760 | 43,092 | 7,527 | 21,141 |
| | | Total | 215,280 | 129,276 | 22,581 | 63,424 |
| **Available from Vancouver and PNW Ports** | | | | **500,000** | **115,000** | **82,000** |

As the chart suggests, if the carriers operating these three strings are using ships with nominal capacities of 7,500 TEU, and about 20% of the effective capacity is discharged at Prince Rupert, these lines would be diverting over 25% of the Puget Sound/Vancouver traffic to the U.S. Midwest, 20% of the Ohio Valley traffic, and over 75% of their Southeast-destined (i.e. Memphis/Atlanta) flows.

This analysis above indicates that there is enough existing IPI volume in Vancouver and PNW Ports to support adding a first inbound call at Prince Rupert to three existing PNW/Vancouver services. As noted earlier, COSCO's CEN string goes on to California, after stopping in Prince Rupert, and thus is discharging containers at FCT that would otherwise be handled by terminals in SPB Ports. The table below provides an estimate of the amount of loaded U.S. import volumes by IPI location that a new service would handle, which has Prince Rupert as its first inbound call and then goes directly to California.

Figure 43: IPI Volume Available for Diversion from SPB Ports

| | US TEU/WK Calls | US TEU/year | Midwest | Ohio Valley | Southeast |
|---|---|---|---|---|---|
| New Service D-California | 1,800 /52 | 93,600 | 56,160 | 4,680 | 32,760 |

Based on the analysis of the amount of IPI volume available for diversion, the following assumptions will be used to develop competitive scenarios:

- For Vancouver/PNW services that add Prince Rupert as their first inbound call:
    - All the volume generated to the Midwest and Ohio Valley will come from existing movements over Vancouver and PNW ports, and thus SPB Ports will not be materially affected
    - As SPB Ports handle the vast majority of volume to the Southeast, 50% of the movements generated will be diversions from SPB Ports
- For services that add a first call at Prince Rupert but go directly from there to California, all of the volume to the Midwest, Ohio Valley and Southeast will come from existing movements over SPB Ports

Based on the analysis and assumptions described in this section, the following scenarios have been developed in order to quantify the impact of this competitive factor.

Figure 44: Summary of Scenarios on the Impact of Additional Capacity at BC Ports

| Scenario | Description of Scenario |
|---|---|
| Base | Prince Rupert adds 3 new calls, 2 of which are existing PNW strings and one goes directly to California |
| Upside | Prince Rupert adds 3 new calls, all of which are existing PNW strings |
| Downside | Prince Rupert adds 4 new calls, 2 of which are existing PNW strings and the other 2 go directly to California after calling Prince Rupert |

### 1.4.5 Review of Diversion Risk for Trans-load Cargo that is Moved beyond the Extended Catchment Area

In section 1.3.2, 1.69 million TEUs of SPB Ports loaded import volume was identified as being trans-loaded from international containers to domestic vans for delivery by rail to areas beyond the six-state extended catchment area. As trans-loaded cargo that is railed out of the extended catchment area is seen to have similar characteristics to IPI rail volume, there is a potential to divert a portion of this market segment to other ports that act as rail gateways.

However, further analysis revealed that the following three additional factors could motivate importers use SPB Ports as a gateway for trans-loaded cargo. Routing trans-load traffic over SPB Ports:

- Minimizes ocean transportation costs and on-the-water transit times
- Provides the ability to deliver goods to numerous markets in the United States
- Lowers inland transport cost by reducing the number of units moved to inland destinations

While the inland savings that are generated by the reduction of inland movements by trans-loading cargo from international containers to high capacity domestic equipment can be achieved at other ports, Southern California's large population generates a high volume of domestic movements from other areas in the country. The volume of inbound movements in domestic equipment is an advantage, as it provides a larger supply of domestic equipment to trans-load operators in this region, as compared to other Pacific Coast ports.

The population density around SPB Ports also means that this is a key market for high volume retailers, and this group uses trans-loading as a bridge between their international and domestic distribution networks. Therefore, nearly all high volume retailers have placed trans-loading operations in Southern California, which allows them to deliver imported goods to this critical market while providing the opportunity to cost-effectively supply other large markets.

The desires to minimize ocean transport costs and transit time by companies that trans-load goods in Southern California are seen as a key advantages over Atlantic/Gulf Coast ports, because:

- Based on the Shanghai Freight Exchange, spot rates as of June 4th, 2015 were $1,455 FEU to West Coast ports versus $3,115 FEU to East Coast ports
- Transit times from Asia to SPB Ports are 11 to 14 days faster than to East and Gulf ports

SPB Ports also receive calls from 28 Transpacific vessel strings, versus

- 17 for NY/NJ
- 20 for Savannah
- 2 for Houston

If it is assumed that the cost differentials for both trans-loading cargo and inland transport remain relatively constant between Southern California and East and Gulf Coast locations, then only a change in the comparative costs that importers pay to ocean carriers has the potential to shift importers' decisions on which port area to use as a gateway for trans-load volumes. However, as it takes several more vessels to maintain an all-water string to/from Asia versus a Californian string, it is unlikely that there will be a sustainable shift in the pricing differential between transpacific and all-water services.

It is concluded, therefore, that there is little risk of a large portion of SPB Ports' trans-load volume being diverted to other ports.

## 1.5 Estimate of the Volume Impact of Competitive Scenarios

### 1.5.1 Objective

In the previous section, the four competitive factors impacting SPB Port volumes were identified and evaluated in such a manner as to generate a base case as well as an upside and downside scenario for each. These scenarios were developed to test how the competitive factors are expected to impact SPB Ports' competitiveness under different market conditions. In this section, the volume implications of each of these competitive factor scenarios will be quantified.

#### *1.5.1.1 Impact of Changes Vessel Sizes and Terminal Rates on Route Cost Competitiveness*

The Panama Canal's new locks will open in 2016 and enable vessels with capacities of up to 13,000 TEUs to use this route, but not all the ports on the U.S. East and Gulf Coasts will be able to handle this size of vessel. Concurrently, the size of vessels calling SPB Ports is expected to change over time based on the growth of the Asian import market and that gateway's share of the overall North American market. The table below brings together Mercator's forecast of how vessel sizes could change in response to the new locks at the Panama Canal and changes in the size of vessels ocean carriers use on Asia-California services.

**Figure 45: Summary of Average Vessel Size Assumptions**

| | | All-water services | | |
|---|---|---|---|---|
| | SPB Ports | NY/NJ | Savannah | Houston |
| ***Current*** | ***8000*** | ***5000*** | ***5000*** | ***5000*** |
| Base Case | 11000 | 13000 | 8500 | 6500 |
| Upside | 13000 | 10000 | 8500 | 6500 |
| Downside | 10000 | 13000 | 10000 | 10000 |

The other competitive factor that has a direct impact on route costs is the difference between terminal rates, and the table below summarizes three scenarios for terminal costs in 2030 (this year was used as it is the same year that was used for the vessel size scenarios shown above).

**Figure 46: Summary of Changes in Terminal Handling Rates**

| | SPB Ports | NY/NJ | Savannah | Houston |
|---|---|---|---|---|
| ***Current*** | ***$455*** | ***$380*** | ***$403*** | ***$370*** |
| Base Case | $582 | $486 | $515 | $473 |
| Upside | $536 | $486 | $515 | $473 |
| Downside | $631 | $486 | $515 | $473 |

For inland destinations that have been identified as being at risk of diversion, route costs were recalculated based on the base case assumptions identified above for how vessel and terminal cost are expected to change. The current and base case route cost differentials between SPB Ports and the most competitive alternative gateway for each destination are summarized in the table below. The data in this table show that the differential between SPB ports and the following destinations are expected to increase by less than 10% from current levels:

- Nashville
- Atlanta
- Dallas
- Houston

**Figure 47: Summary of Route Cost Differentials for Base Case Assumptions**

| Destinations | Current Route Cost Difference<br>$<br>SPB - Alternative | <br>%<br>SPB / Alternative | Base Case Route Cost Difference<br>$<br>SPB - Alternative | <br>%<br>SPB / Alternative | Change in Route Cost % |
|---|---|---|---|---|---|
| **Chicago** | $185 | 110% | $442 | 126% | 16% |
| **Detroit** | $300 | 116% | $557 | 134% | 17% |
| **Ohio Valley** | $370 | 120% | $627 | 138% | 18% |
| **Memphis/Nashiville** | $162 | 108% | $269 | 114% | 6% |
| **Atlanta** | $287 | 117% | $394 | 123% | 7% |
| **Dallas** | $5 | 100% | $89 | 105% | 5% |
| **Houston** | $465 | 135% | $549 | 141% | 7% |

For destinations where route costs increase by less than 10%, no loss of volume to alternative gateways is expected, as carriers will not see enough savings to justify sharing a portion of the savings with importers in order to incentivize them to utilize all-water routes. However, based on the assumptions used for this scenario, it is anticipated that the following destinations' route cost differentials would increase to a level at which some diversion is likely:

- Chicago
- Detroit
- Ohio Valley

As it is already less expensive to move Asian imports to the three IPI destinations listed above via all-water routes, IPI volume must be gaining greater total cost advantage from using SPB Ports than it would save via all-water routing. Therefore, it is not projected that the change in the base case route costs will cause all the current volume to shift away from using SPB Ports as an intermodal gateway; for some cargo, SPB Ports will continue to be more advantageous. However, commodities with values that are lower than the overall average for North American imports are viewed to be more susceptible to being diverted to all-water routes, because transportation costs represents a larger share of their landed costs. The table below provides volume by commodity grouping, as well as the average values per TEU for each of the inland destinations that have been identified as being at risk of losing cargo as it is diverted through alternative gateways.

**Figure 48: Identification of Potent Divertible Volume for the Base Case Scenario**

| | Chicago | | Ohio Valley | | Detroit | | Total | | Time | Diversion | Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Commodity Group** | **TEU** | **$/TEU** | **TEU** | **$/TEU** | **TEU** | **$/TEU** | **TEU** | **$/TEU** | **Sensitive** | **Impact** | **Loss TEU** |
| *Furniture* | *66,091* | *$12,620* | *19,369* | *$13,170* | *3,350* | *$12,516* | *88,810* | *$12,736* | YES | 25% | 22,203 |
| *Animal Feed* | *851* | *$14,774* | *9* | *$31,216* | | | *860* | *$14,951* | NO | 75% | 645 |
| *Wine and Spirits* | *161* | *$6,857* | *54* | *$59,616* | *3* | *$17,107* | *218* | *$20,094* | YES | 25% | 54 |
| *Non-metallic mineral manufactu* | *3,632* | *$21,864* | *2,086* | *$16,729* | *878* | *$22,272* | *6,596* | *$20,295* | NO | 75% | 4,947 |
| *Other Transport Equipment* | *13,941* | *$18,762* | *12,578* | *$27,482* | *400* | *$15,152* | *26,919* | *$22,783* | YES | 25% | 6,730 |
| *Home Construction* | *51,333* | *$23,573* | *9,833* | *$32,968* | *892* | *$48,521* | *62,058* | *$25,420* | YES | 25% | 15,514 |
| *Food Products* | *11,267* | *$26,178* | *714* | *$23,950* | *129* | *$46,043* | *12,109* | *$26,259* | YES | 25% | 3,027 |
| *Steel/Iron Manufacturing* | *7,989* | *$30,018* | *2,775* | *$31,956* | *440* | *$29,605* | *11,203* | *$30,482* | NO | 75% | 8,402 |
| *General Retail* | *156,325* | *$31,943* | *34,403* | *$32,935* | *4,236* | *$50,612* | *194,964* | *$32,523* | YES | 25% | 48,741 |
| *Construction* | *8,285* | *$35,202* | *3,201* | *$30,110* | *495* | *$88,080* | *11,981* | *$36,026* | YES | 25% | 2,995 |
| *Metal manufactures* | *46,549* | *$36,241* | *18,788* | *$40,767* | *3,154* | *$53,986* | *68,491* | *$38,300* | NO | 75% | 51,368 |
| *Chemicals and related products* | *33,663* | *$39,054* | *16,328* | *$38,327* | *1,987* | *$52,743* | *51,977* | *$39,349* | NO | 75% | 38,983 |
| *Rubber/Plastic* | *13,892* | *$41,821* | *9,201* | *$35,327* | *1,390* | *$60,284* | *24,484* | *$40,429* | NO | 75% | 18,363 |
| Misc | 2,461 | $46,716 | 1,087 | $49,357 | 180 | $80,287 | 3,728 | $49,107 | | | |
| Passenger Vehicles | 55,762 | $47,357 | 36,545 | $68,784 | 28,690 | $39,230 | 120,996 | $51,902 | | | |
| Apparel/Footwear | 27,232 | $45,125 | 25,705 | $63,256 | 4,793 | $62,988 | 57,730 | $54,681 | | | |
| Non-Electric Machinery | 66,295 | $63,492 | 33,530 | $60,759 | 7,219 | $71,332 | 107,043 | $63,164 | | | |
| Pharmaceuticals | 5,192 | $95,531 | 1,118 | $30,877 | 41 | $46,765 | 6,351 | $83,835 | | | |
| Paper MFG | 14 | $24,498 | 49 | $108,149 | | | 63 | $89,449 | | | |
| Electric Machinery | 39,140 | $127,383 | 17,205 | $95,080 | 3,204 | $153,219 | 59,550 | $119,440 | | | |
| **Grand Total** | **610,074** | **$41,761** | **215,926** | **$48,744** | **51,201** | **$51,989** | **794,880** | **$44,311** | | **28%** | **221,973** |

The commodity groupings shown in red have an average value per TEU that is lower than the overall North American average making them candidates for diversion to all-water routes. However, some of the lower-value commodity groupings (such as general retail) are considered to be time sensitive, thus more resistant to diversion, thus for commodities these commodities only 25% of their volume is seen to be divertible. However, for commodities that are identified as not time sensitives 75% of their volume is seen to be divertible traffic.

For the base case approximately 222,000 TEUs, or 8% of the SPB 2014 import IPI volume, is expected to be diverted based on the assumptions in this scenario.

The downside assumptions were used to estimate future route costs via both the SPB Ports and the most competitive alternative gateway. The current and future differential between these are shown below.

**Figure 49: Summary of Route Cost Differentials for Downside Assumptions**

| | Current Route Cost Difference | | Downside Case Route Cost Difference | | |
|---|---|---|---|---|---|
| **Destinations** | **\$ SPB - Alternative** | **% SPB / Alternative** | **\$ SPB - Alternative** | **% SPB / Alternative** | **Change in Route Cost %** |
| **Chicago** | $185 | 110% | $497 | 129% | 20% |
| **Detroit** | $300 | 116% | $612 | 137% | 21% |
| **Ohio Valley** | $370 | 120% | $682 | 141% | 21% |
| **Memphis/Nashiville** | $162 | 108% | $418 | 123% | 15% |
| **Atlanta** | $287 | 117% | $543 | 134% | 17% |
| **Dallas** | $5 | 100% | $265 | 118% | 17% |
| **Houston** | $465 | 135% | $725 | 160% | 26% |

Under the downside scenario, the price differentials for all the destinations are expected to increase by more than 10%. Therefore, all the IPI locations were included in the following commodity value analysis. The data in the table below summarizes the volumes of at-risk commodity movements. The potential diversion impact was set at 25% for time sensitive volumes, and 75% for commodities that are not time sensitive.

**Figure 50: Identification of Potent Divertible Volume for the Downside Scenario**

| | Chicago | | Ohio Valley | | Detroit | | Dallas | | Houston | | Memphis/Nashville | | Atlanta | | Total | | Time | Diversion | Volume |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Commodity Group** | **TEU** | **\$/TEU** | **TEU** | **\$/TEU** | **TEU** | **\$/TEU** | **TEU** | **\$/TEU** | **TEU** | **\$/TEU** | **TEU** | **\$/TEU** | **TEU** | **\$/TEU** | **TEU** | **\$/TEU** | **Sensitive** | **Impact** | **Loss TEU** |
| *Furniture* | *66,091* | *$12,620* | *19,369* | *$13,170* | *3,350* | *$12,516* | *58,210* | *$13,145* | *23,859* | *$12,028* | *34,919* | *$12,087* | *11,373* | *$13,197* | *211,266* | *$12,656* | YES | 25% | 52,817 |
| *Wine and Spirits* | *161* | *$6,857* | *54* | *$59,616* | *3* | *$17,107* | *124* | *$6,455* | *14* | *$17,715* | *0* | *$29,048* | *10* | *$10,479* | *286* | *$15,136* | YES | 25% | 71 |
| *Animal Feed* | *851* | *$14,774* | *9* | *$31,216* | *0* | | *56* | *$45,072* | *273* | *$13,278* | *77* | *$44,224* | *95* | *$7,475* | *1,416* | *$17,518* | NO | 75% | 1,062 |
| *Non-metallic mineral manufactı* | *3,632* | *$21,864* | *2,086* | *$16,729* | *878* | *$22,272* | *1,663* | *$14,339* | *2,058* | *$13,113* | *903* | *$22,756* | *1,021* | *$23,101* | *11,847* | *$18,781* | NO | 75% | 8,885 |
| *Other Transport Equipment* | *13,941* | *$18,762* | *12,578* | *$27,482* | *400* | *$15,152* | *15,489* | *$17,975* | *11,697* | *$20,109* | *10,281* | *$16,359* | *3,363* | *$20,490* | *56,058* | *$19,947* | YES | 25% | 14,014 |
| *Home Construction* | *51,333* | *$23,573* | *9,833* | *$32,968* | *892* | *$48,521* | *35,746* | *$19,880* | *18,539* | *$20,048* | *25,528* | *$23,496* | *7,186* | *$38,002* | *127,178* | *$23,666* | YES | 25% | 31,795 |
| *Food Products* | *11,267* | *$26,178* | *714* | *$23,950* | *129* | *$46,043* | *2,018* | *$17,699* | *3,343* | *$30,462* | *885* | *$30,070* | *388* | *$19,296* | *33,165* | *$26,190* | NO | 75% | 24,874 |
| *General Retail* | *156,325* | *$31,943* | *34,403* | *$32,935* | *4,236* | *$50,612* | *121,495* | *$23,769* | *51,264* | *$22,564* | *55,353* | *$28,797* | *15,664* | *$36,507* | *365,457* | *$28,606* | YES | 25% | 91,364 |
| *Steel/Iron Manufacturing* | *7,989* | *$30,018* | *2,775* | *$31,956* | *440* | *$29,605* | *1,217* | *$17,765* | *2,323* | *$35,743* | *712* | *$25,541* | *1,475* | *$20,077* | *12,723* | *$29,152* | NO | 75% | 9,543 |
| *Paper MFG* | *14* | *$24,498* | *49* | *$108,149* | *0* | | *116* | *$12,734* | *30* | *$12,084* | *30* | *$25,116* | *2* | *$20,600* | *1,720* | *$33,937* | NO | 75% | 1,290 |
| *Construction* | *8,285* | *$35,202* | *3,201* | *$30,110* | *495* | *$88,080* | *5,998* | *$30,929* | *6,531* | *$29,298* | *2,471* | *$39,287* | *1,103* | *$46,667* | *23,751* | *$34,212* | NO | 75% | 17,813 |
| *Metal manufactures* | *46,549* | *$36,241* | *18,788* | *$40,767* | *3,154* | *$53,986* | *21,755* | *$27,320* | *39,477* | *$28,224* | *14,940* | *$39,389* | *7,758* | *$46,398* | *122,241* | *$34,775* | NO | 75% | 91,681 |
| *Rubber/Plastic* | *13,892* | *$41,821* | *9,201* | *$35,327* | *1,390* | *$60,284* | *4,108* | *$32,447* | *8,491* | *$28,177* | *3,602* | *$37,318* | *4,369* | *$35,167* | *37,747* | *$36,657* | NO | 75% | 28,310 |
| *Chemicals and related products* | *33,663* | *$39,054* | *16,328* | *$38,327* | *1,987* | *$52,743* | *14,367* | *$33,428* | *31,807* | *$31,108* | *13,821* | *$39,632* | *5,268* | *$47,599* | *96,713* | *$36,885* | NO | 75% | 72,535 |
| Apparel/Footwear | 27,232 | $45,125 | 25,705 | $63,256 | 4,793 | $62,988 | 29,017 | $48,221 | 21,888 | $27,558 | 24,039 | $42,037 | 7,486 | $63,048 | 143,983 | $47,063 | | | |
| Misc | 2,461 | $46,716 | 1,087 | $49,357 | 180 | $80,287 | 1,420 | $29,899 | 1,535 | $46,271 | 761 | $58,468 | 295 | $71,444 | 7,754 | $47,137 | | | |
| Passenger Vehicles | 55,762 | $47,357 | 36,545 | $68,784 | 28,690 | $39,230 | 27,263 | $38,907 | 5,843 | $39,701 | 41,305 | $38,500 | 21,350 | $58,348 | 168,855 | $47,404 | | | |
| Non-Electric Machinery | 66,295 | $63,492 | 33,530 | $60,759 | 7,219 | $71,332 | 47,458 | $40,367 | 49,278 | $34,734 | 36,762 | $59,987 | 18,871 | $74,123 | 207,491 | $54,169 | | | |
| Pharmaceuticals | 5,192 | $95,531 | 1,118 | $30,877 | 41 | $46,765 | 1,391 | $35,680 | 520 | $32,038 | 1,378 | $73,703 | 992 | $45,111 | 9,926 | $70,308 | | | |
| Electric Machinery | 39,140 | $127,383 | 17,205 | $95,080 | 3,204 | $153,219 | 19,221 | $98,372 | 12,483 | $75,758 | 23,932 | $103,735 | 8,913 | $108,179 | 104,906 | $107,685 | | | |
| **Grand Total** | **527,754** | **$41,975** | **215,926** | **$49,571** | **51,201** | **$54,795** | **348,774** | **$31,121** | **267,391** | **$28,882** | **233,407** | **$41,000** | **90,184** | **$52,456** | **1,734,636** | **$39,512** | | **26%** | **446,053** |

Slightly more than 446,000 TEUs of IPI volume that moved over SPB Ports in 2014, or just over 15% of these ports loaded imports, are at risk of being diverted if the assumptions in the downside scenario are realized.

Finally, the assumptions developed for the upside assumptions were used to estimate future route costs via SPB Ports and their competitors. The data in the table below show the current and expected future cost differential between SPB Ports and the least cost alternative gateway.

**Figure 51: Summary of Route Cost Differentials Based on the Upside Assumptions**

| Destinations | Current Route Cost Difference<br>$<br>SPB - Alternative | <br><br>%<br>SPB / Alternative | Upside Case Route Cost Difference<br>$<br>SPB - Alternative | <br><br>%<br>SPB / Alternative | Change in Route Cost % |
|---|---|---|---|---|---|
| **Chicago** | $185 | 110% | $325 | 119% | 9% |
| **Detroit** | $300 | 116% | $440 | 126% | 10% |
| **Ohio Valley** | $370 | 120% | $510 | 130% | 10% |
| **Memphis/Nashiville** | $162 | 108% | $202 | 111% | 2% |
| **Atlanta** | $287 | 117% | $327 | 119% | 3% |
| **Dallas** | $5 | 100% | $22 | 101% | 1% |
| **Houston** | $465 | 135% | $482 | 136% | 2% |

The assumptions associated with this scenario do not cause any of the cost chains via SPB Ports to increase by more than 10%, suggesting that diversion risk is minimal in the upside case.

The table below provides an overview of how SPB Ports' import IPI volume is expected to change based on the analysis above for each of the scenarios, as well as estimates on the how the shift of imports volume away from SPB Ports to all-water services would impact these ports export volume based on the assumption that ocean carriers will want to maintain existing loaded IPI exports over SPB Ports as doing so lowers repositioning costs, thus only empty export rail volume will be affected by inbound cargo diversion.

**Figure 52: Volume Impact of Changes in SPB Ports' Route Cost Competitiveness**

| | Base | | | Downside | | | Upside | | |
|---|---|---|---|---|---|---|---|---|---|
| **Inland Point** | **IMP LDS** | **EXP MTYS** | **Total** | **IMP LDS** | **EXP MTYS** | **Total** | **IMP LDS** | **EXP MTYS** | **Total** |
| Chicago | 170,366 | 130,500 | 300,866 | 135,709 | 103,953 | 239,663 | | | |
| Ohio Valley | 60,298 | 46,188 | 106,486 | 55,524 | 42,532 | 98,056 | | | |
| Detroit | 14,298 | 10,952 | 25,250 | 13,166 | 10,085 | 23,251 | | | |
| Dallas | | | | 89,686 | 68,699 | 158,385 | | | |
| Houston | | | | 68,758 | 52,669 | 121,427 | | | |
| Memphis/Nashville | | | | 60,019 | 45,975 | 105,994 | | | |
| Atlanta | | | | 23,190 | 17,764 | 40,954 | | | |
| **Total** | **221,973** | **170,031** | **392,005** | **446,053** | **341,677** | **787,730** | | | **0** |
| | **Share of SPB INTL - 2.9%** | | | **Share of SPB INTL - 5.8%** | | | **Share of SPB INTL - 0%** | | |

#### 1.5.1.2 Impact of New First Inbound Calls at Prince Rupert

Analysis on how the additional capacity generated by a new berth at Prince Rupert FCT is projected to impact SPB Ports' IPI volume was reviewed in an in section 1.4.4 This analysis was used to produce a base case, upside, and downside scenario with regard to the cargo diversion potential under each scenario. The data in the table below summarizes the volume and share impacts of carriers diverting traffic as Prince Rupert becomes the first inbound port of call.

Figure 53: Volume Impact of Prince Rupert's New Capacity on SPB Ports

| | Base | | | Downside | | | Upside | | |
|---|---|---|---|---|---|---|---|---|---|
| **Inland Point** | **IMP LDS** | **EXP MTYS** | **Total** | **IMP LDS** | **EXP MTYS** | **Total** | **IMP LDS** | **EXP MTYS** | **Total** |
| Chicago | 56,160 | 43,019 | 99,179 | 112,320 | 86,037 | 198,357 | | | |
| Ohio Valley | 4,680 | 3,585 | 8,265 | 9,360 | 7,170 | 16,530 | | | |
| Memphis/Nashville | 53,900 | 41,287 | 95,187 | 86,660 | 66,382 | 153,042 | 31,710 | 24,290 | 56,000 |
| **Total** | **114,740** | **87,891** | **202,631** | **208,340** | **159,588** | **367,928** | **31,710** | **24,290** | **56,000** |
| | **Share of SPB INTL - 1.4%** | | | **Share of SPB INTL - 2.5%** | | | **Share of SPB INTL - 0.3%** | | |

The table above also includes estimates on the how the shift of import IPI volume away from SPB Ports to FCT would impact these ports' export volume, based on the same assumption used for how exports would be affected by a loss of route cost competiveness.

## 1.6 Base Case Forecast for U.S. and San Pedro Bay Container Traffic

### 1.6.1 Objective

In this section the methodology used to forecast container movements from Oxford's macroeconomic numbers is described and used to project container traffic to and from the U.S., and into SPB Ports.

### 1.6.2 Forecasting Methodology for U.S. Container Traffic

The methodology for forecasting container imports into the U.S. consists of a three-stage process, which is described below:

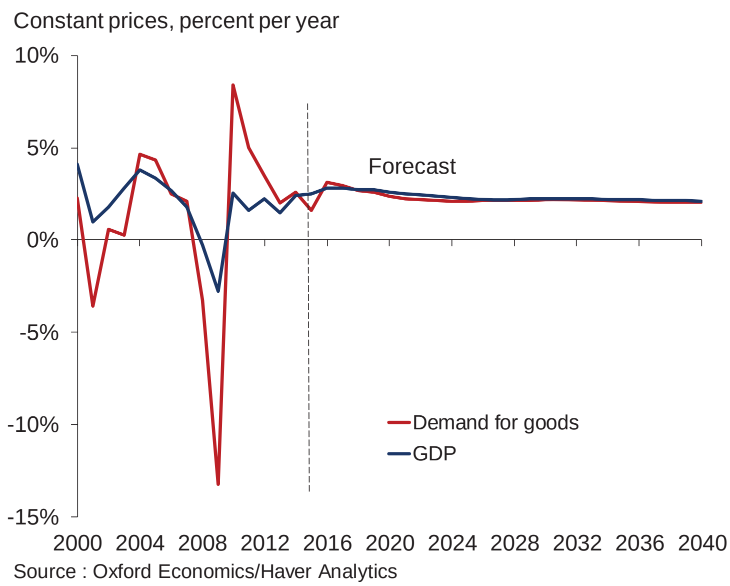
1. Total demand by commodity in the U.S. was projected
2. Then the share of each commodity produced domestically (the residual being imported) was determined
3. Finally the share of each commodity sourced from different regions of the world was determined

In order to forecast total demand for goods in the US, we use an "input-output" approach (set out in more detail in appendix 9). Total demand comprises the demand for goods as an input for a different sector to produce a dollar of output - "intermediate demand" - plus the "final demand" for goods (for example, for firms to use as investment, or households to consume, or for exporting). By combining our forecasted growth rate for specific industrial and service sectors in the US, and our forecasted growth rates for the final components of GDP, with the respective demand for different types of goods that each sector/final demand component implies, we generate a total demand forecast.

Goods demand fluctuates far more with economic cycles than overall GDP given the propensity for firms to slash investment during economic downturns, and then expand aggressively during the up-cycle. In contrast overall GDP remains more stable, thanks to the non-discretionary nature of consumer expenditures (consumer spending constitutes around 70% of GDP in the US). Over the longer run though, our projection implies that total goods demand will grow broadly in line with overall GDP (around 0.1-0.2 percentage points per annum slower).

Within this there are a couple of competing factors though. Firstly as the US economy becomes more service oriented, one might expect goods demand to grow more slowly than overall GDP. This is true to an extent. But most service sectors also use a substantial goods input (e.g. hospital equipment and pharmaceutical products in the health sector, ICT equipment in business services and so on). So intermediate goods demand might grow a little slower as the economy moves towards service sectors, but it will continue to grow nevertheless. On the other hand though, we expect investment spending to rise as a percentage of GDP over our forecast horizon. The share of investment spending in GDP fell from an average of around 22% during the three decades or so to 2007 to just 18% in 2009 (rebounding since to 19.5% in 2015Q2). We expect this share to return towards its long-run average in the coming decades, and given the nature of capital investment (i.e. principally consisting of physical goods), this will underpin goods demand.

**Figure 54: Growth in GDP and Total Demand for Goods**




After a forecast for total goods demand in the US is available, an estimate of what proportion of total demand is likely to be met by imports is made using a range of historical data across various metrics. These shares are then forecasted forward, and applied to our forecasts of total demand for goods by National Accounts sectors. From here, the growth rates of imports in each national accounts sector are reweighted to match up with the composition of the container breakdown as taken from the US trade census[6]. More details are set out in our methodological appendix.

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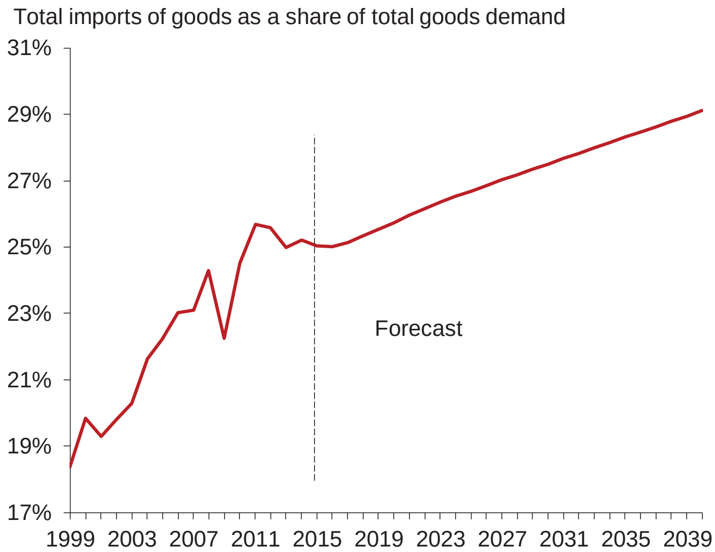
[6] Ideally we would use a totally consistent breakdown in both the total demand forecast and the container forecast without the need for a reweighting. However differences in the availability of data between the chosen container categories and the National Accounts prevent this. A number of product categories map directly 1-1 between the

By and large import penetration is expected to continue to rise in the United States, but at a slower pace than in the past. We expect total imports to rise to just below 30% of total goods demand by 2040, around 5pp higher than in 2014. This is a substantially slower pace of import penetration than over the past 15 years, over which period import penetration has risen by 7pp (although at a far slower rate since 2007).

**Figure 55: Total import penetration of goods demand**



Source : Oxford Economics/Haver Analytics

In this context, a few key reasons why we expect slower growth in import penetration are worth noting. First, although import penetration has plenty of scope to increase in some sectors, in others there is much less room for import growth. For example, in 2014 imports satisfied about 96% of total computer demand, up from 85% in 2004. Clearly, there isn't much further this ratio can rise. Meanwhile in textiles and clothing, the ratio has risen from 48% in 2004 to 63% in 2014. A continuation of the previous rate of import penetration growth would see the import share top 100% in the late 2020s, which clearly cannot happen. A slower rate of import penetration will directly translate into slower import growth, for a given rate of total demand expansion.

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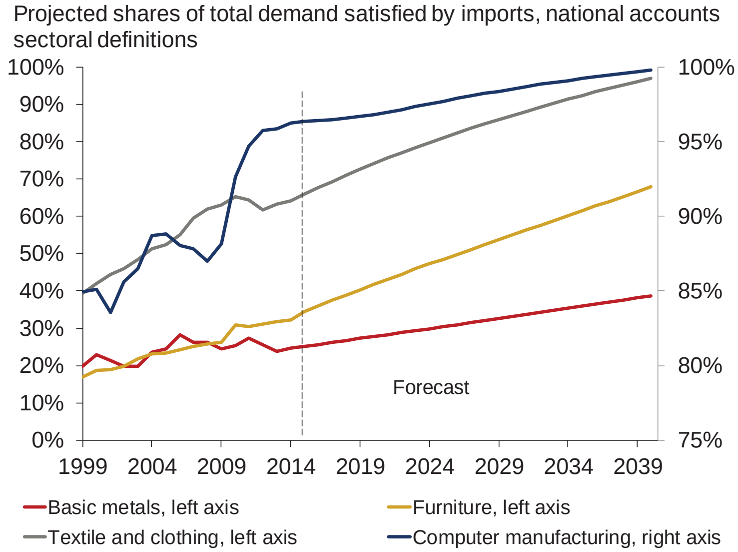
two sets of definitions, but in other cases the container categories are a more complex grouping of National Accounts definitions. Details are set out in an appendix.

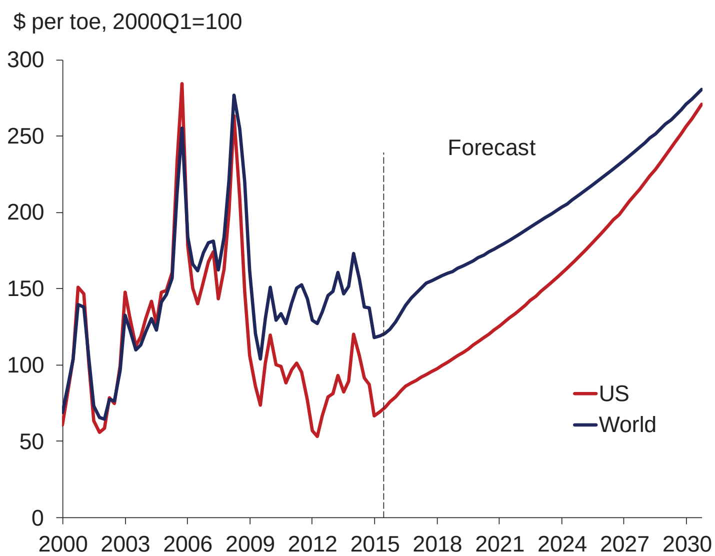
**Figure 56: U.S. and World gas Prices**




Source : Oxford Economics/Haver Analytics

Secondly, a large part of the offshoring of US production over the past couple of decades has arisen because of the competitive advantage enjoyed by lower-cost economies. However, with US firms enjoying cheaper energy as a result of the shale gas boom (natural gas being more difficult to export than oil, and therefore greater differentials in gas prices around the globe), this competitive advantage has narrowed substantially.

**Figure 57: U.S. and World gas prices**



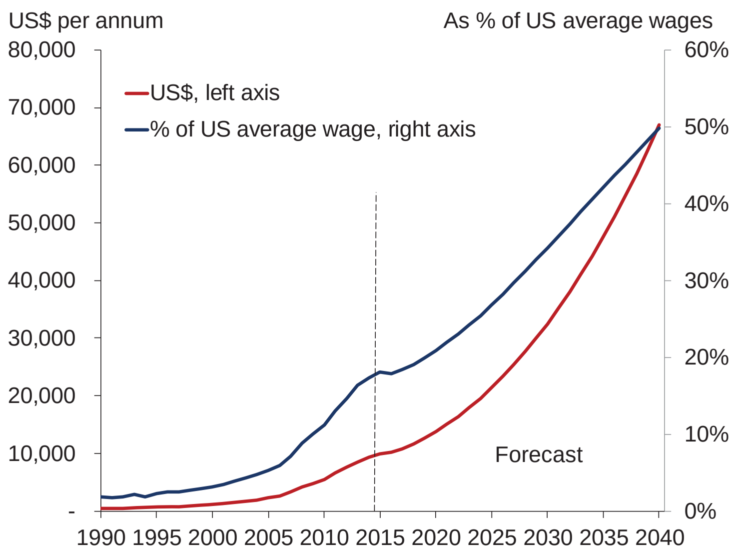

Source : Oxford Economics/Haver Analytics

Finally, it is also worth bearing in mind that although as of 2015, average wages in emerging market economies remain at a fraction of US levels, this will not remain the case through the duration of our forecast. FigureFigure 58 shows Oxford's forecast for the average earnings of an urban resident in China in US$ terms and relative to the average wage across the US economy (we compare earnings for urban residents in China as opposed to rural residents, since manufacturing offshoring has typically been to new and growing cities in China, rather than to rural areas).

Although average urban earnings in China are only around 10% of US average earnings in 2015, we expect this to rise to 50% by 2040. Two key drivers are likely to underpin this – firstly the demographic slowdown in China (partly population aging, and partly the increasingly limited scope for rural-urban migration). This will help drive average wage growth of 7-8% per annum on average, 3-4pp faster than in the US. Secondly, we expect a gradual, but substantial, appreciation of the yuan over the coming decade or two, from around 6.2/$ in Q2 2015 to a long-run equilibrium of 5.2 by 2040.

Of course, this particular comparison is only between the US and China, but nevertheless illustrates a point that is true to a greater or lesser degree in respect to the comparison between advanced economies and emerging economies more generally – faster wage growth in the latter will erode the advantage in offshoring production compared to previous decades.+

**Figure 58: Average annual earnings in Urban China, $ and as % of US average wages**



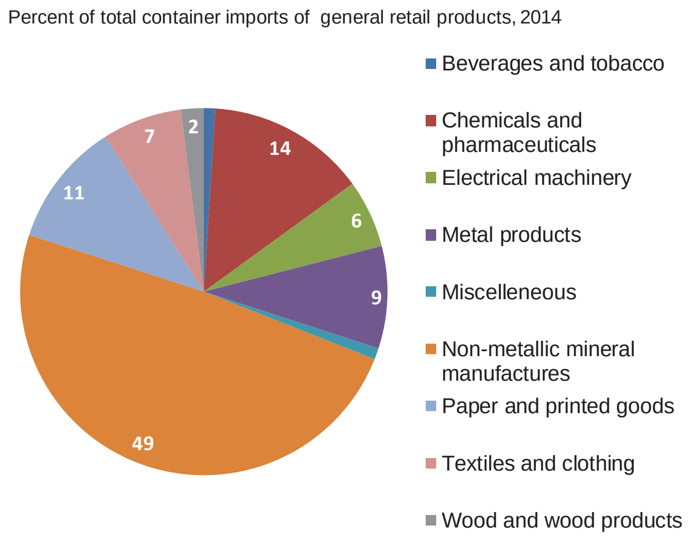

Source : Oxford Economics/Haver Analytics

As noted, we do not forecast import penetration directly in the sectors in the container breakdown as extracted from the US trade census. Rather we forecast the flow of imports in the national accounts sectors (using total demand and import penetration), and then apply the growth rates in appropriate types of goods to the sector classifications taken from the trade census.

For most categories there is a close matching between the national accounts and the US trade census breakdowns (for example in furniture, food, apparel/footwear, electrical machinery and some others, there is a simple 1-1 matching). For some others there is a greater variety of goods types from the national accounts breakdown to the US trade census breakdown. The most obvious category in this respect is the general retail sector, the 2014 breakdown of which is set out below. For these sectors, imports into the US are a composite of the respective national account sectoral imports projections.

Nevertheless, because we do not forecast import penetration directly in the US trade census categories, we do not present these projections here.

**Figure 59: General Retail imports by national accounts sector**




Source : Oxford Economics/Haver Analytics

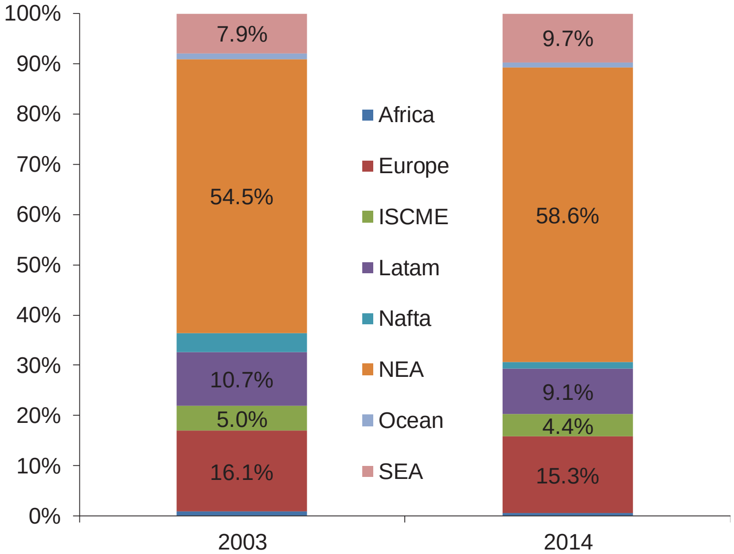
**Figure 60: Most important categories in total container imports**

| US Position | Category | % | SPB Position | Category | % |
|---|---|---|---|---|---|
| 1 | Furniture | 18.6 | 1 | Gen Retail | 22.0 |
| 2 | Electric Machinery | 10.8 | 2 | Apparel/Footwear | 14.9 |
| 3 | Animal Feed | 10.7 | 3 | Furniture | 11.7 |
| 4 | Food Products | 10.1 | 4 | Home Construction | 8.8 |
| 5 | General Retail | 8.1 | 5 | Non-Electric Machinery | 7.7 |
| 6 | Apparel/Footwear | 7.6 | 6 | Electric Machinery | 5.8 |
| 7 | MISC | 6.4 | 7 | Passenger Vehicles | 5.5 |
| 8 | Paper MFG | 5.4 | 8 | Food Products | 5.4 |
| 9 | Home Construction | 4.3 | 9 | Other Transport Equipment | 4.3 |
| 10 | Construction | 4.0 | 10 | Metal Manufactures | 3.8 |

Finally, having a forecast for the total demand for each good type in the US, and a projection for the share of demand in each good type satisfied by imports, Oxford estimates and forecasts trends in source regions likely to be providing each good type to the US.

A key area of interest in this respect is North East Asia (NEA), or more specifically China, which has become an increasingly important source of goods imports into the United States. Within this though there are likely to be some shifts in the types of goods being sourced from within each region – for example, we expect China to lose competitive advantage at the most labor-intensive end of the manufacturing supply chain, in particular to lower-costs economies in South East Asia (such as Vietnam and Cambodia). But China will increasingly compete with advanced economy manufacturers in the middle and upper end of the value chain, eating into the market share of Europe. The share of imports from the Indian sub-continent and the Middle East (ISCME) has fallen from 5% in 2003 to 4.4% in 2014, reflecting a lower reliance on imported fuel products and chemicals.

Figure 61: Share of USA Container Import by Foreign Region




Source : Oxford Economics/Haver Analytics

### 1.6.3 Base Case Container Forecast of U.S. Imports

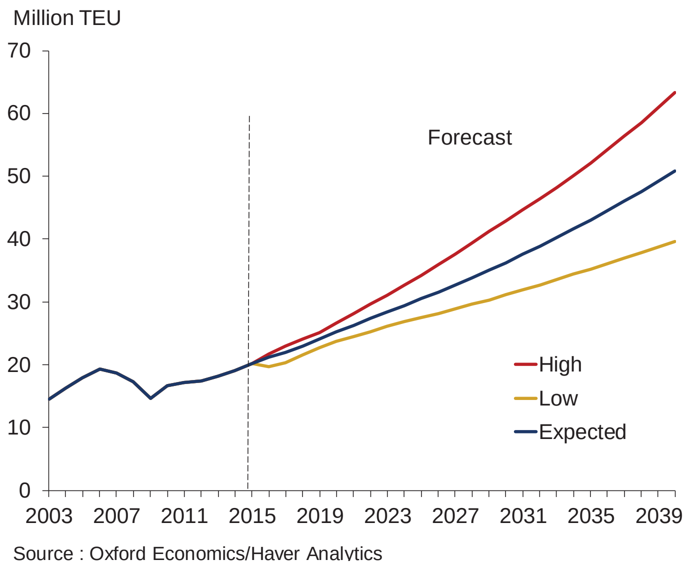
Total container imports grew by almost 10% per annum from 2003-2006, before falling by 25% between 2006 and 2009, as the global financial crisis impacted world trade. Import traffic recovered quite sharply in 2010, before the Eurozone crisis of 2011-2012 again cooled global growth, including in the US. As the Eurozone has stabilized (and since recovered), and the US recovery has gathered pace, US container arrivals have grown by an average of over 4.5% per annum through 2013-2014

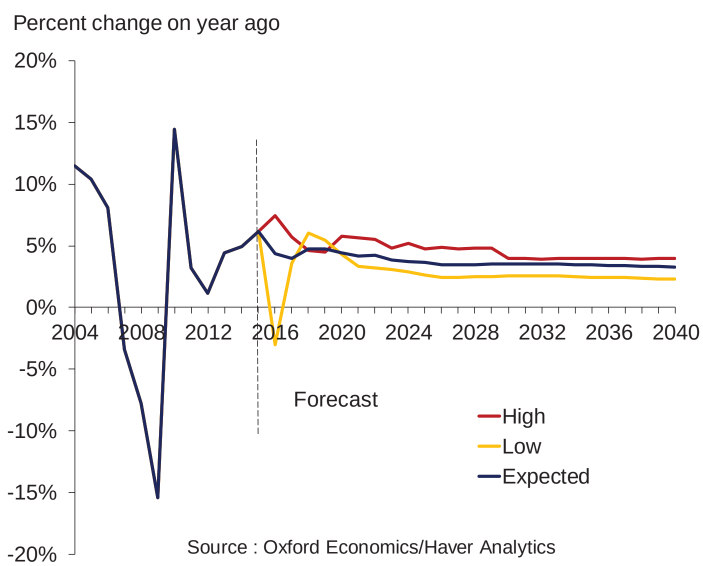
Looking ahead, import growth in 2016 will be affected by base effects from an especially strong 2015 Q1 (when non-fuel goods imports grew by an annualized 8.4%, the strongest since the 2010 rebound). An easing to more sustainable quarterly rates will depress the annual rates temporarily, but from 2016-2020 on average we expect container import growth of 4.4% per annum. Over the longer run, from 2020-2040, we expect container import growth of 3.6% per annum.

This implies total container imports into US ports rise from just over 20m TEU in 2014 to 50.8m by 2040, a compound annual growth rate of 3.7% over the whole forecast horizon 2015-2040.

For illustration, we also set out in Figure 62 the overall path of container imports into the US, and the associated annual growth rate in the scenarios. It is worth noting that the “kink” downwards in the high growth scenario growth rate around 2029 reflects the fact that under this scenario part of the positive driver is liberalization in global trade in goods. Specifically, we expect the effective tariff rate on US goods imports and exports to reach zero by 2029. At this point the gains to trade growth from trade liberalization are exhausted, and there is a tick down in annual trade growth. This is also a feature of the exports forecast, and is also reflected in the SPB equivalents.

**Figure 62: Total U.S. Container Imports for the Three Macro-economic Scenarios**



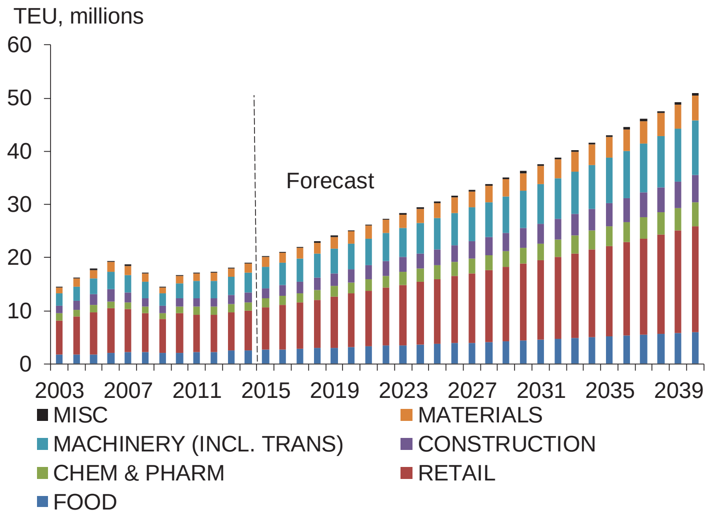

The remainder of this section focuses on the base case (or "expected") path for imports. A subsequent section discusses the breakdown of imports (and exports) in the high and low scenarios.

The import forecast covered 20 individual commodities, but for the purposes of easy visualization of the results they were group as follows:

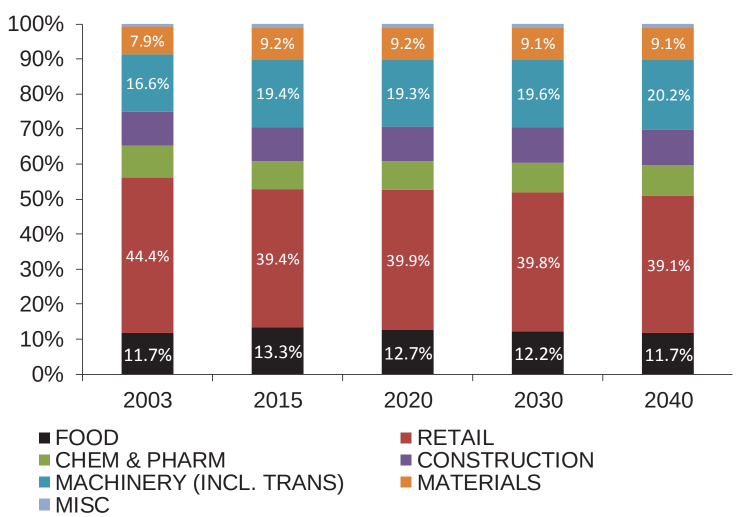
- ***Food =*** Animal Feed + Food + Wines and Spirits
- ***Retail =*** Apparel + Furniture + General Retail
- ***Chem & Pharm =*** Chemicals + Pharmaceuticals
- ***Construction*** = Construction + Housing Construction
- ***Machinery (incl Trans) =*** Electrical Machinery + Non Electrical Machinery + Passenger Vehicles + Other Transport Machinery
- ***Materials*** = Metal Manufactures + Non Metallic Mineral Manufactures + Paper + Rubber & Plastic + Steel
- ***Misc =*** Miscellaneous

Chemicals and pharmaceuticals are expected to be the fastest growth sector in imports over this period, with an average growth rate of 6.8% in 2015-2020, and just over 4% in the longer run. Container imports of construction goods and machinery should also grow by just short of 6% in the near term, and over 4% in the longer run. By contrast, we expect slower growth in retail items – 5.1% in the period to 2020, and just over 3% in the longer-run. Much of the slower performance of retail imports is due to less room for increased penetration.

**Figure 63: U.S. Container Imports by Commodity Grouping**




Source : Oxford Economics/Haver Analytics



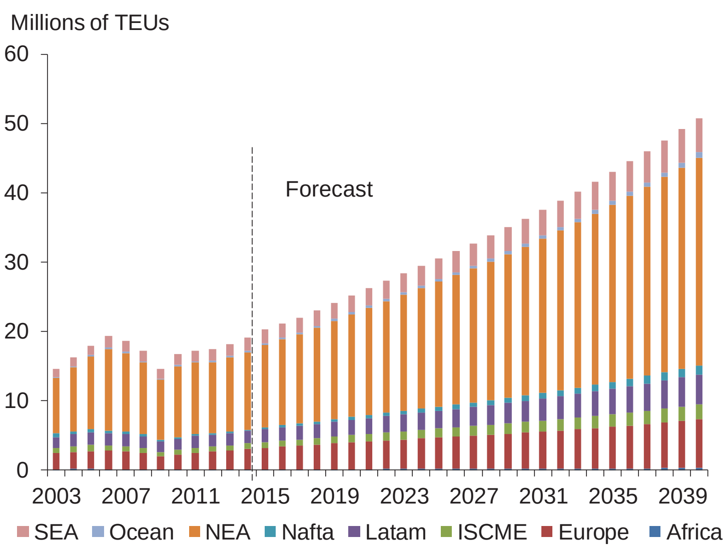

Source : Oxford Economics/Haver Analytics

Once we have forecasted the share of total demand that will be satisfied by imports, and therefore have an overall path for container imports of various commodities, we then estimated equations to determine the share of each of our twenty goods categories that would be supplied from each of our eight geographical regions[7]. We estimated an import share for each commodity for each region, using a range of macroeconomic factors such as the exchange rate versus $US, relative energy costs, consumer price growth (a good proxy for wages, for which it is somewhat harder to find reliable cross-country data), and the price of that region's exports.

It is worth bearing in mind though that most of our regions do display a degree of economic heterogeneity. For example, by necessity our Europe grouping incorporates not only "old Europe", but also Central and Eastern Europe, Turkey and Russia. In this context the relationship between macroeconomic variables and that region's share of US imports has to account for the fact that different countries within the region might be competing at different ends of the value chain *within a given sector.* For example, apparel might reasonably be considered "low value-added" as a broad sector, but there are in reality a range of goods in this sector from the mass market to the top-end. Clothing and footwear produced in the UK or Italy may well be less cost-sensitive than clothing and footwear produced in Portugal or Turkey. As such may be a degree of "cost resistance" in some sectors when estimated at our aggregate level, even if overall the "mass market" production will continue to shift to cheaper locations.

Nevertheless, taking this consideration into account our analysis suggests that imports from NAFTA and Oceania will grow faster than average over coming decades – by 5.4% and 4.6% respectively from 2020-2040. Europe will be the slowest growing region in terms of container shipments to the US, with higher wage costs and a gradual appreciation of the Euro meaning a loss of share over the long-term.

**Figure 64: U.S. Imports by Origin Region**




Source : Oxford Economics/Haver Analytics

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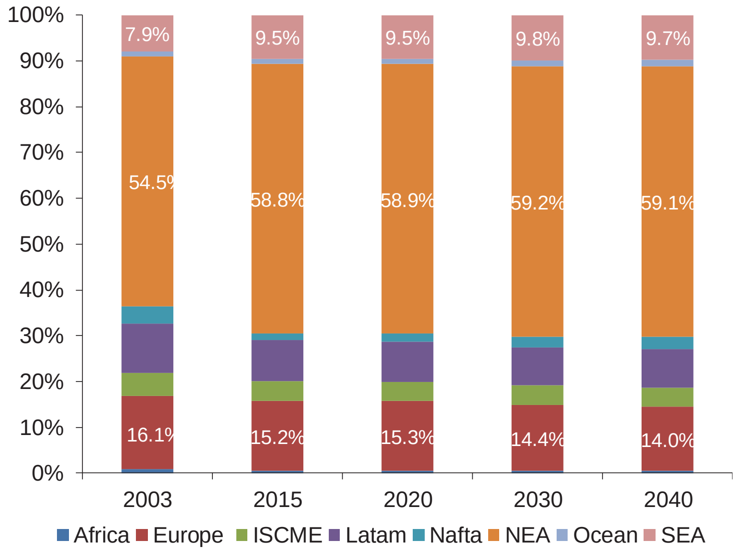
[7] Reminder, our eight regions are: Africa, Europe, Indian sub-continent and Middle East (ISCME), Latin America, NAFTA, North East Asia (NEA) and South East Asia.

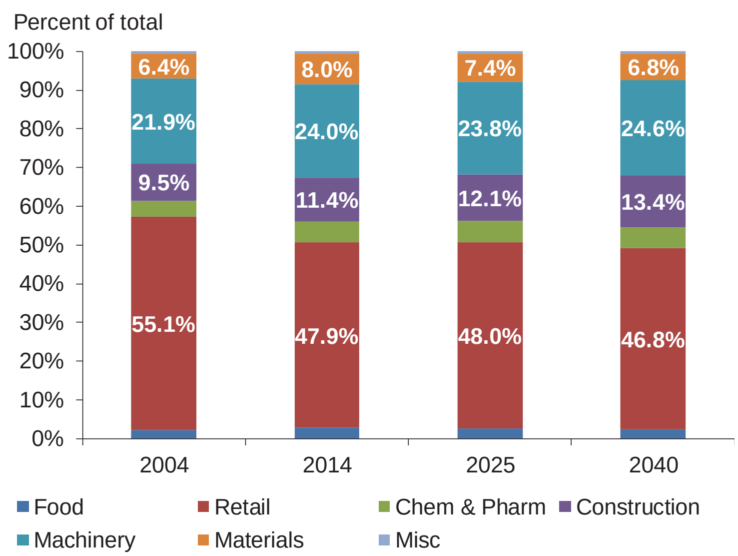


Source : Oxford Economics/Haver Analytics

That said, both NAFTA and Oceania currently account for a very small share of US container imports, so a faster growth rate for each of these regions will only make a modest difference to their overall shares (2.5% and 1.4% by 2040 respectively). South East Asia should also gain export share modestly. With North East Asia's share of total imports holding steady (albeit with some important shifts within this), the main loser in terms of share will be Europe, down to 14% of US container imports by 2040, down from 15.2% in 2015, and 16.1% in 2003.

However, in addition to gradual shifts in the geographical sourcing of goods imports, there are also important developments within the composition of each region's exports into the US (or equivalently, the US's imports from each region). For example, over the long run we expect NEA economies to shift up the value chain. As such, construction goods and machinery will form an increasing share of NEA's exports to the US over the long run, with materials and retail goods less important.

**Figure 65: US imports from NEA by commodity group**

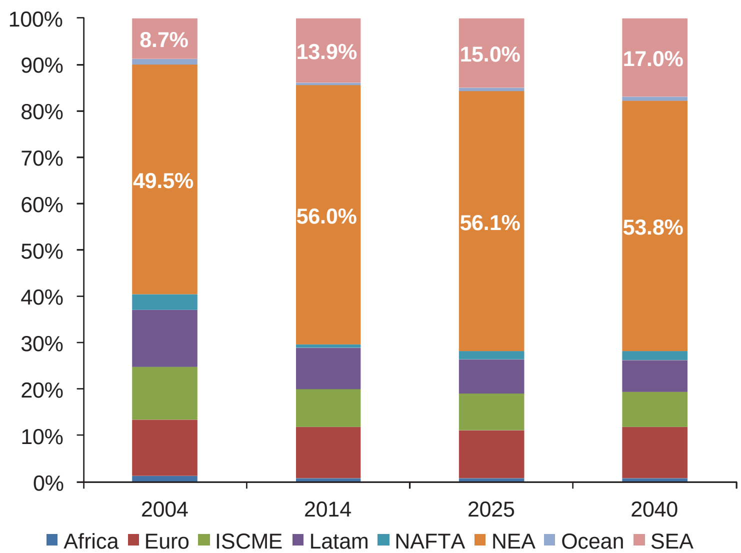


Source : Oxford Economics/Haver Analytics

An alternative way to look at this is to assess from *where the US is likely to be sourcing various types of goods*. In Figure 96 we show each regions' share of US imports of lower value added manufactured goods. Obviously there is a degree of uncertainty in this respect since any given sector produces high end and low end items within a broad product group, but we have below grouped; non-metallic minerals manufactures, apparel, paper, metal products and steel.

In the coming decade, NEA's share of this group of products holds up reasonably well, thanks to a weaker Yuan and the persistence of the region's wage advantage. Over the longer run though we expect a stronger Yuan and an ever-narrower wage gap erode the region's share of the most cost-competitive sectors. By contrast, we expect the SEA region to continue taking market share in global markets for low-cost manufactured goods.

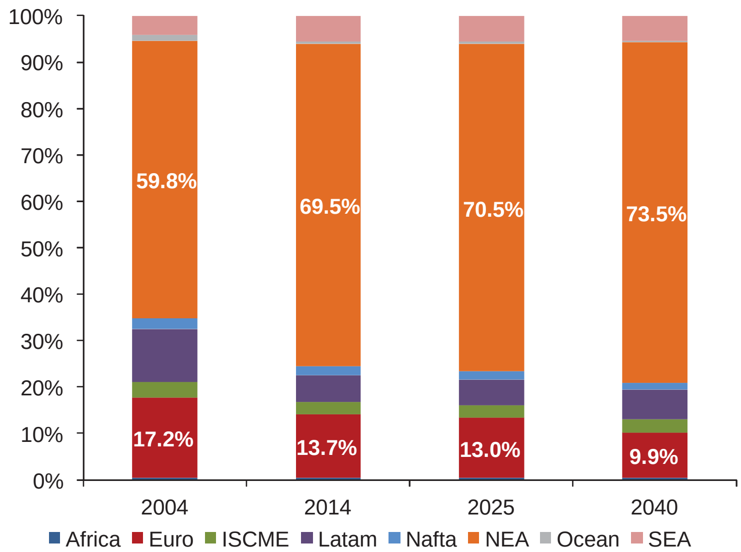
**Figure 66: US imports of low value added manufactures by source region**




Source : Oxford Economics/Haver Analytics

Likewise, denoting "higher value added" goods is subjective, but below we show the combined share of construction goods (including home construction), passenger vehicles and other transport equipment and pharmaceuticals (on the grounds that pharmaceuticals typically involve a greater degree of intellectual capital and more processing than raw chemicals). NEA's share in this grouping is set to rise around 1pp over the coming decade, and a further 3pp over the longer run. We expect the main loser in this respect to be Europe, which will lose a comparable share of the US market.

Figure 67: US imports of higher value added manufactures by source region




Source : Oxford Economics/Haver Analytics

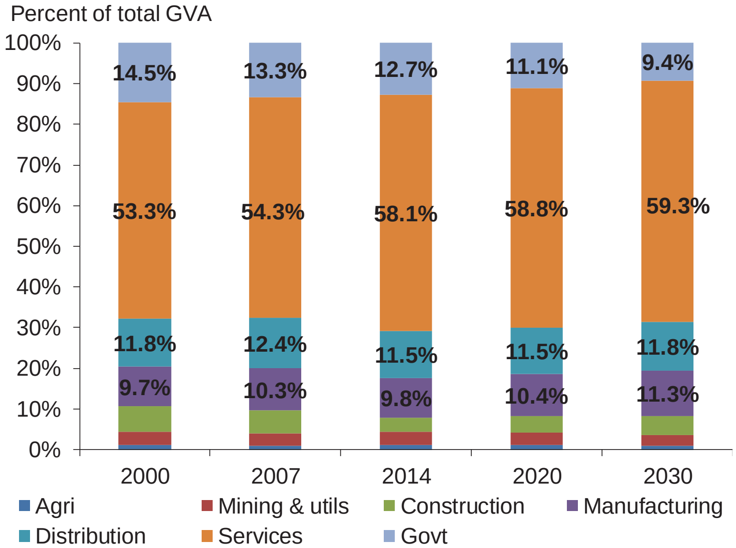
### 1.6.4 Forecasting San Pedro Bay Shares of U.S. Container Imports

In order to project the flow of containers into San Pedro Bay ports, the relationship between the share of containers going into SPB versus the US as a whole was estimated, as were the key economic variables. This analysis was performed for each commodity/region combination (160 equations in total). A more detailed methodology is set out in our methodology annex along with discussion of the equivalent exports methodology.

Key to projecting forward the behavior of the SPB share of each commodity/region combination is an understanding of the drivers of import demand in the SPB area. We used a range of factors in estimating these shares, but of particular importance is the changing structure of the SPB economy over the coming decades and the region's relative importance to the overall US. To put it another way, if a growing share of US retail activity is taking place in the SPB area, we might reasonably expect a growing share of total container imports of general retail goods into the US to come into SPB ports. Additionally, we incorporated a time trend where appropriate to try and capture developments that are not readily explicable by available economic data.

As a starting point therefore it is useful to consider the structure of the SPB catchment area economy, and its relative importance to the overall US economy over the coming couple of decades. In line with the wider US economy, we expect the manufacturing sector to modestly gain share of GDP over the coming couple of decades, as the boost from cheap energy continues to aid competitiveness. The services sector will also grow in importance, accounting for just below 60% of total US GVA by 2030. In contrast, the agriculture, mining & utilities and government sectors will continue to decline (in mining's case, the growth of shale activity will be offset by continued decline in "traditional" mining sectors, and the fact that utility demand will grow less quickly than overall GDP).

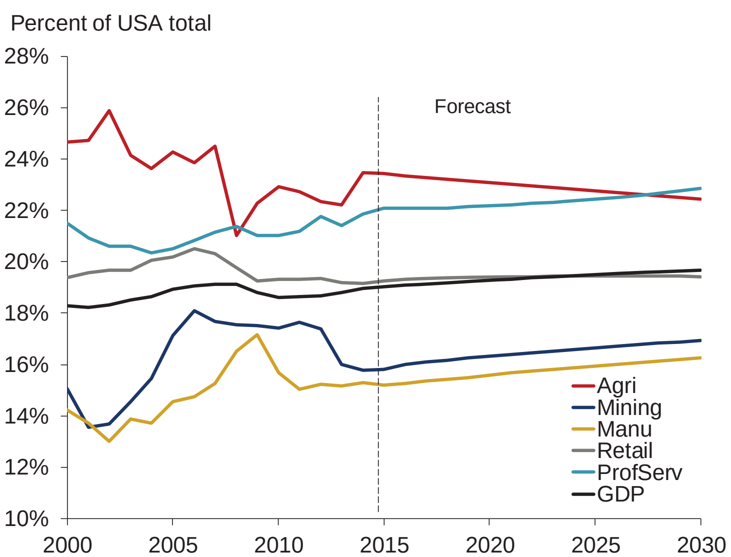
Figure 68: Composition of the San Pedro Bay Catchment area economy



Source : Oxford Economics/Haver Analytics

That said, a range of factors mean that the SPB catchment area is likely to enjoy faster economic growth in a several sectors than the national economy overall. The composite states have a younger population than at the national level, and as such a greater degree of population growth is likely over our forecast period. Consequently labor force growth is likely to be stronger, supporting employment and potential growth across sectors. Indeed, the only sector in which our forecasts imply a loss of share is the agricultural sector, and even here the loss is modest.

Figure 69: SPB area economy relative to US overall



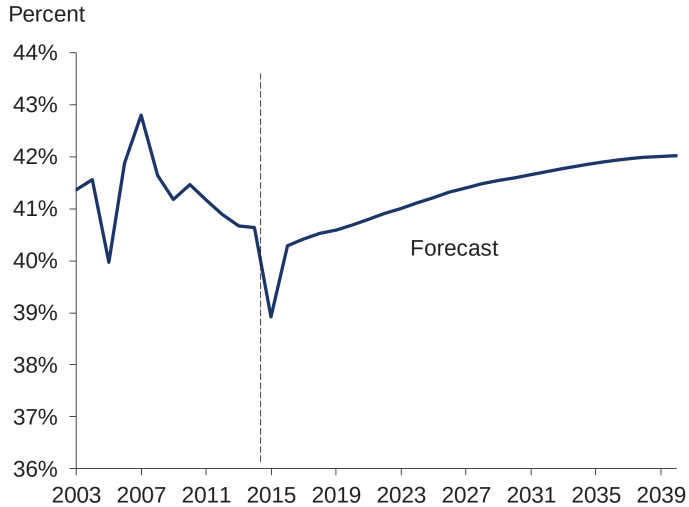
Source : Oxford Economics/Haver Analytics

Structural economic factors therefore imply that the share of US container imports arriving into SPB ports is set to grow over our forecast period. There is likely to be volatility in the share during the 2015-2016 period, in light of the operational issues that took place in 2015 Q1. As such we have taken the guidance of Mercator with respect to the path of SPB container arrivals and departures for 2015 and

2016. Subsequent to this we have applied our own forecasts for SPB's share of each region/commodity US container import series to project SPB arrivals by region/commodity.

Aggregating up these individual series into an overall SPB arrivals number produces the trend set out in Figure 101. Over the medium to longer term we expect a gradual increase in SPB area share of total US container arrivals. In the sections that follow, we look in more depth at the detail underpinning some of these shifts, and their implications for container arrivals into SPB ports.

**Figure 70: SPB Ports Share of U.S. Imports**

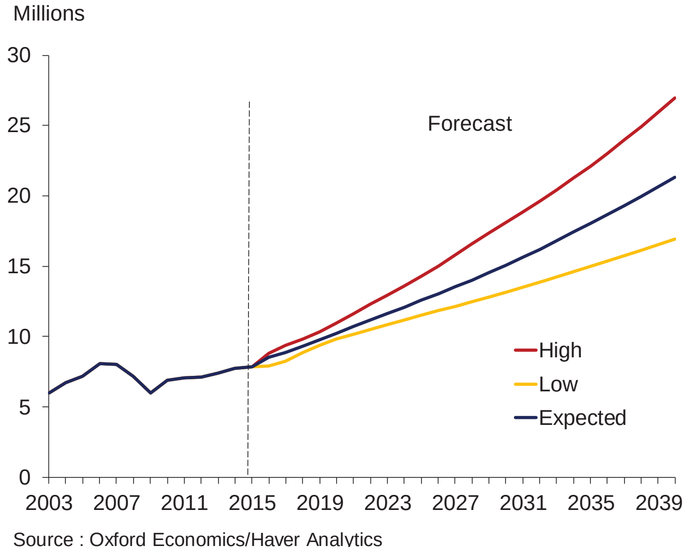


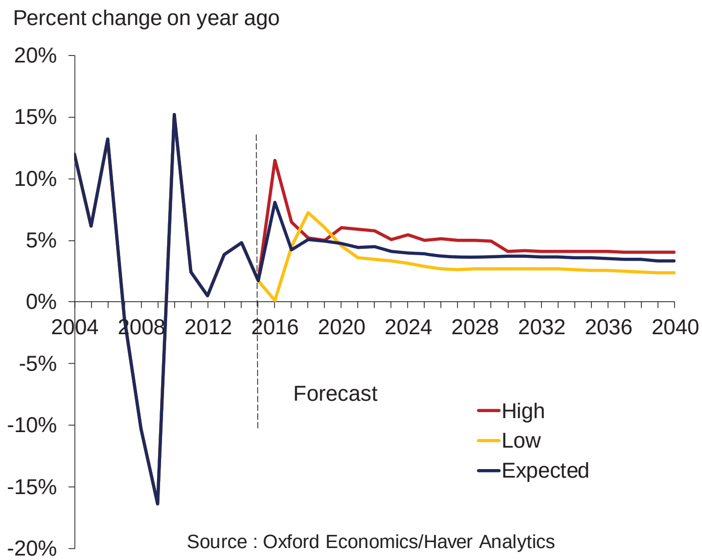
Source : Oxford Economics/Haver Analytics

### 1.6.5 Container Forecast for SPB Imports

Since on balance we expect SPB to take an increasing share of US container imports over the coming decades, total container arrivals into SPB ports grow at a slightly faster rate than the national average in our forecast. Mercator's view on the prospect for a rebound in 2016 following the disruptions in 2015 implies growth in arrivals of 8.1% next year, with the macroeconomic drivers taking over thereafter. Our forecast for average annual container growth through 2015-2020 is 5.7%, and 3.75% from 2021-2040. Total containers into SPB ports will rise to 21.4m by 2040, up from 7.4m in 2014.

**Figure 71: Total Container Imports into SPB Ports**



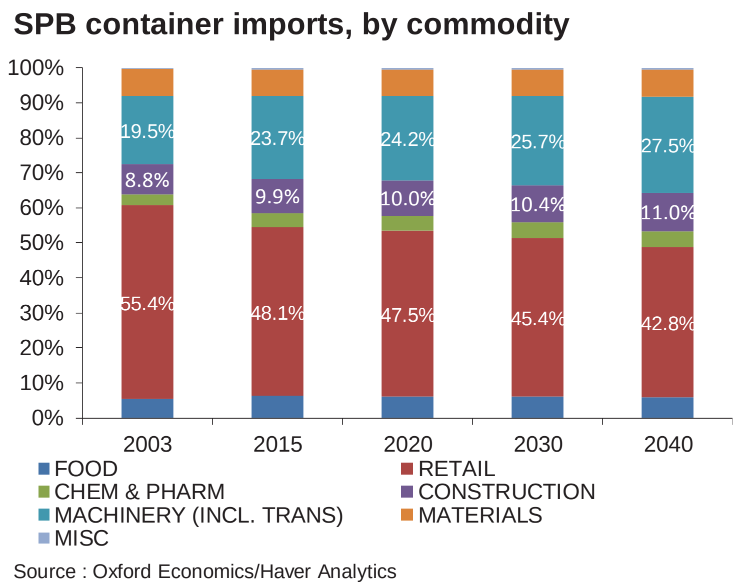



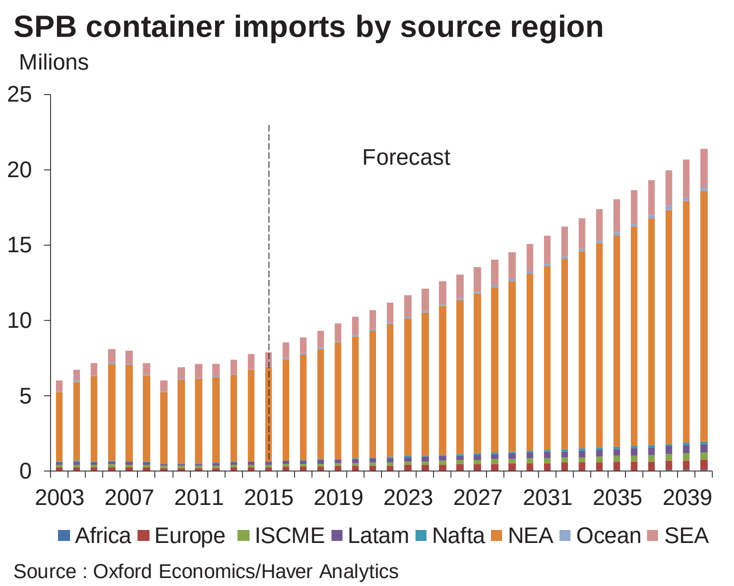

The commodity and regional breakdown of container imports into the SPB ports will depend on two factors – first, the pattern of commodity demand in the SPB catchment area, and the extent to which SPB ports act as a gateway from certain regions in the rest of the world into the rest of the US (this seems more plausible in the case of Asia-Pacific regions).

The remainder of this section focuses on the base case (or “expected”) path for SPB imports. A subsequent section discusses the breakdown of exports (and imports) in the high and low scenarios.

As is the case at the US level, we expect a falling share of container imports into SPB to certain retail items, falling from 48% to 43% from 2015 to 2040. By contrast machinery and construction items are likely to increase their shares, by 4 percentage points and 1 percentage points respectively.

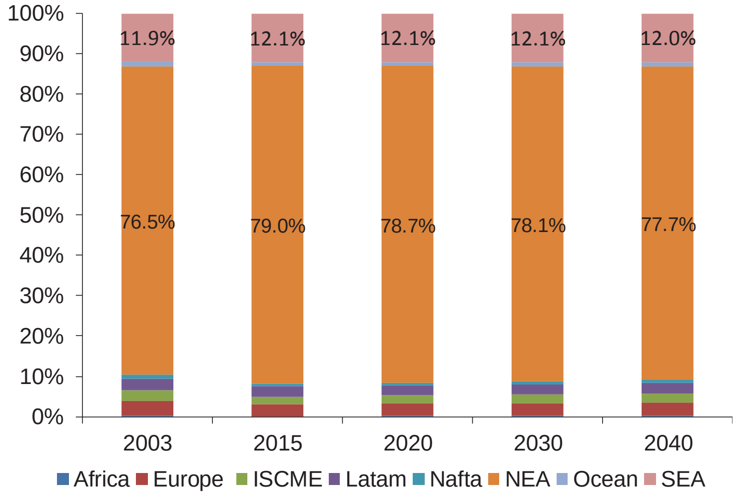
**Figure 72: SPB Ports Imports by Commodity**



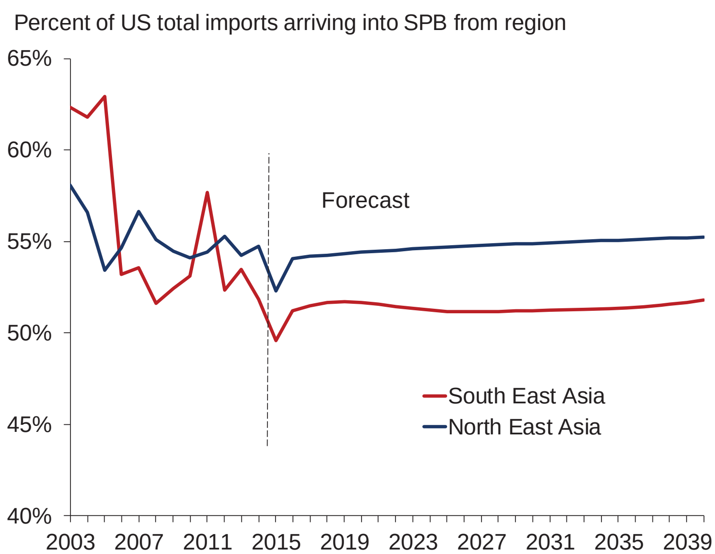

As one might expect, SPB import arrivals are more heavily weighted towards Asia-Pacific regions than the national average, with almost 79% of arrivals coming from Northeast Asia (NEA), and a further 12% from South East Asia (SEA). We expect NEA's share to decline modestly through our forecast period, in slight contrast to our forecast for U.S.-level container arrivals. However, this is not because container arrivals into SPB from NEA grow more slowly than is the case for the U.S. – at around 4% per year from 2015-2040, SPB container arrivals from NEA grow about 0.4 percentage points faster than at the national level. Rather this is because imports from other regions grow more rapidly, from NAFTA and Africa in particular, from whence we expect container arrivals to grow by 6% and 7.5% respectively.

**Figure 73: SPB Container Imports by Region**



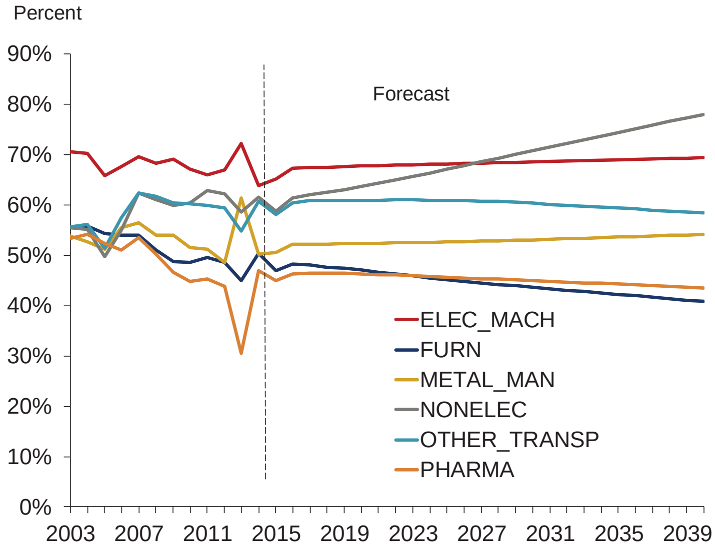

Source : Oxford Economics/Haver Analytics

**Figure 74: SPB shares of US imports by Region**




Source : Oxford Economics/Haver Analytics

Figure 75: SPB shares of US imports by Commodity



Source : Oxford Economics/Haver Analytics

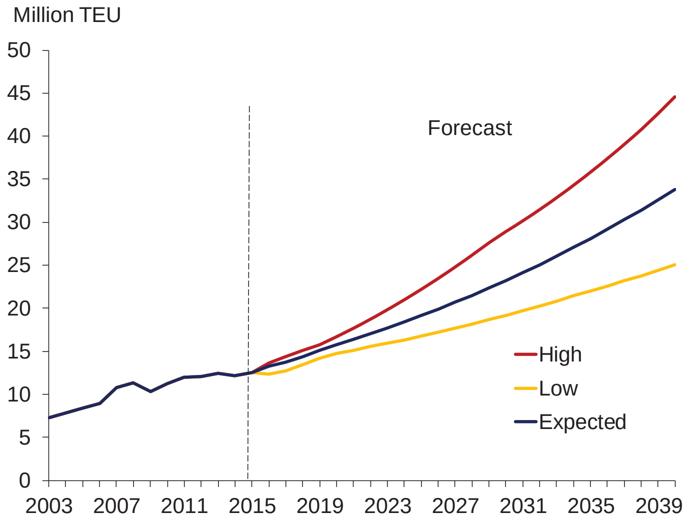
The projections for the composition of SPB imports imply a fairly stable geographical breakdown across source regions (see Figure 73). This is because *in aggregate* our estimate of the share SPB ports receive of U.S. imports from both North East Asia and South East Asia are broadly stable (see figure 74), and these regions are expected to increase their exports to the US at comparable rates. However, there will be more noticeable changes in the SPB shares of US imports of different commodities – for example from North East Asia, the SPB share of total US imports of pharmaceuticals, furniture, and other transport equipment are forecast to ease, while SPB shares of electrical and non-electrical machinery and metal products imports are expect to rise (Figure 75).

### 1.6.6 Base Case Container Forecast for U.S. Exports

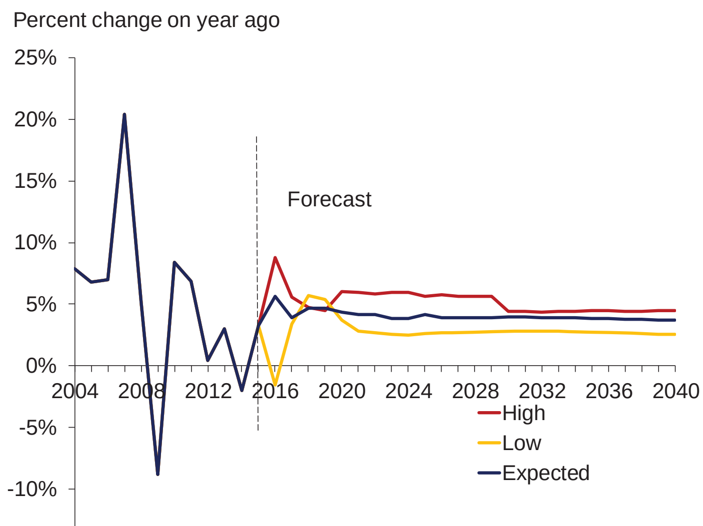
With the United States having gained a greater degree of international competitiveness through the past few years, the macroeconomic forecast looking ahead is for export performance to be a little stronger than imports. This is reflected in the outlook for TEU container exports, which are expected to rise 4.7% per year on average through the 2015-2020 period, and 3.9% per annum from 2020-2040. This takes the projection for total container exports from the U.S. from 12.1m in 2014 to 33.8m by 2040.

Again, we set out for illustration in Figure 76 the aggregate level of container exports from the U.S. in our three scenarios, but in the subsequent text in this section we focus on the expected case.

**Figure 76: Container Exports from U.S.**



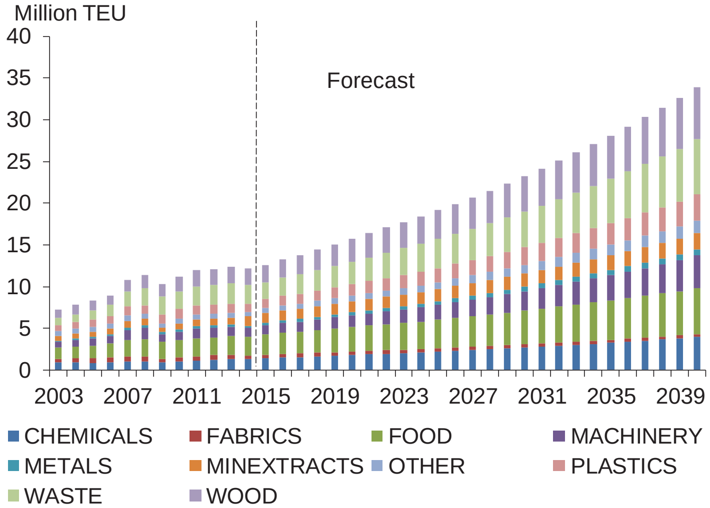

Source : Oxford Economics/Haver Analytics



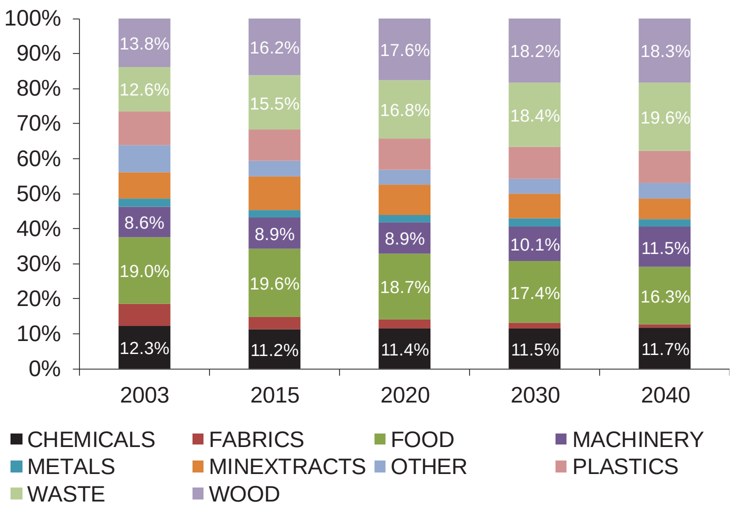

Source : Oxford Economics/Haver Analytics

Over the forecast horizon, it is expected that relatively energy-intensive products will increase their share of US exports, with the share of container shipments containing chemicals rising by around 0.5 percentage points by 2040, and the machinery share increasing by just over 1.5 percentage points. Wood products have also become increasingly important through the recent past, and the estimation methodology implies this is set to continue over the next couple of decades, with the wood share increasing by 2 percentage points to 18.3% by 2040. Finally, based on the assumptions set out in the methodology section on waste exports, we expect containers of waste items to grow from 15.5% in 2015 to 19.6% by 2040. By contrast, fabrics will account for just 1% of exports by 2040, down from 3.5% in 2015, and food's share of exports is set to fall by around 3 percentage points, to just over 16%.

**Figure 77: U.S.'s Container Exports by Commodity**



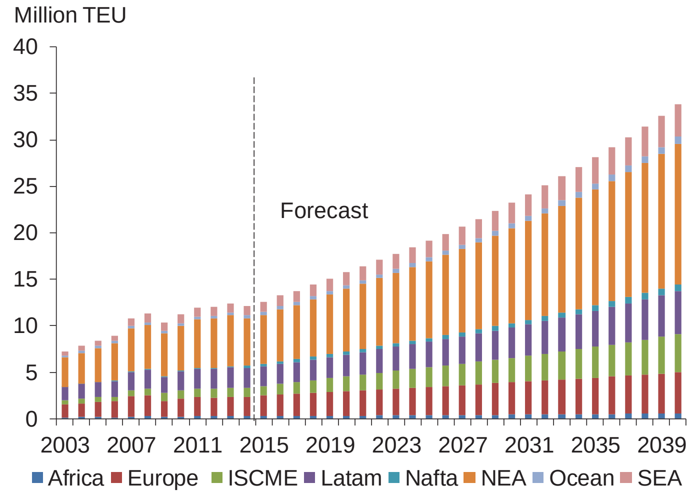

Source : Oxford Economics/Haver Analytics



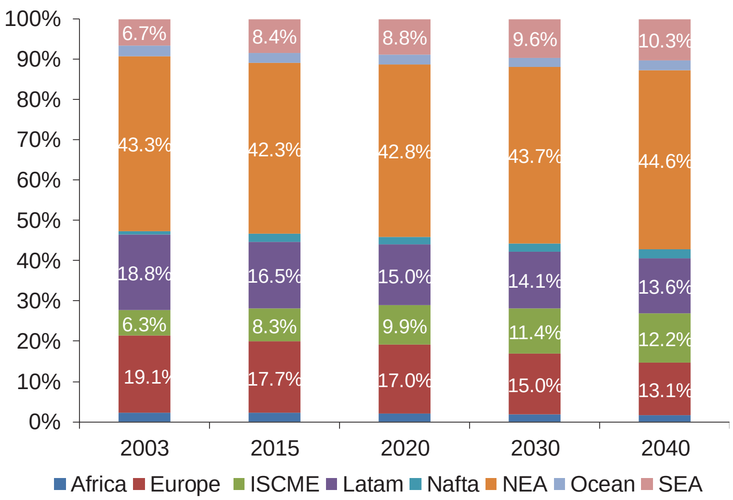

Source : Oxford Economics/Haver Analytics

A similar pattern is expected in the regional share of US exports as on the inbound side. Europe will account for a decreasing share of US exports, as import demand in these mature economies grows less rapidly than in the emerging markets. Just 13% of container exports will be bound for Europe by 2040, down from almost one-fifth in 2003. By contrast the importance of NEA and SEA as trading partners for the US is expected to continue to rise, with the share of each increasing by 2-2.5 percentage points between 2015 and 2040. The fastest growth will be in shipments to the Indian Sub-Continent and Middle East region (ISC/ME) though, as India's economic growth rate continues to outstrip China (goods import growth in India is expected to average 6% over the 2015-2040 period, compared to 5% in China). ISC/ME's share of US container exports will rise from 8.3% in 2015 to over 12% by 2040.

**Figure 78: U.S. Container Exports by Destination Region**




Source : Oxford Economics/Haver Analytics




Source : Oxford Economics/Haver Analytics

### 1.6.7 SPB Share of U.S. Container Exports

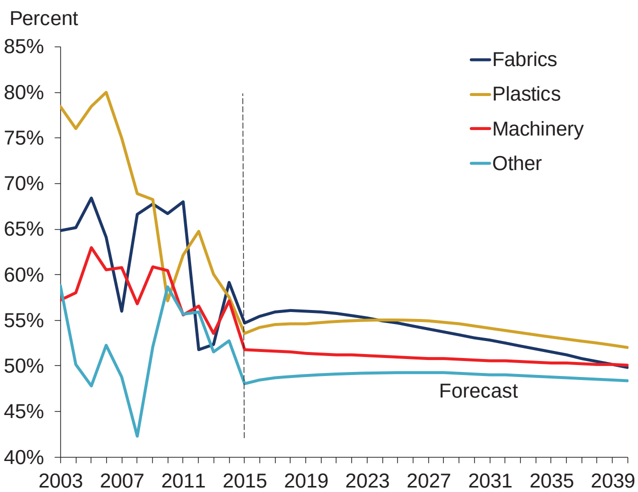
The SPB area's share of total US container exports will vary in line with two drivers – firstly, the SPB area's success in capturing market share for US exports in each region/commodity combination (determined as in the imports forecast by variables including the relative weight of the SPB economy in that sector and a time trend), and secondly, the relative growth rates of demand in each region/commodity. To put this second point another way, even if the SPB area were losing market share in NEA, then if exports to NEA were growing faster than the US's export market overall, and the SPB area had a larger share of its exports headed to this region than US ports on average (for geographical reasons), then in overall terms SPB would gain share of total US exports. Since around 75% of SPB's exports currently go to NEA (see Figure 98), around 30pp higher than at the US level, this will clearly mitigate towards an increasing SPB share of total US container exports.

Similarly, we expect the SPB ports to capture an increased share of traffic to NEA destinations over the coming couple of decades. Developments in the SPB area economy are pertinent in this respect again.

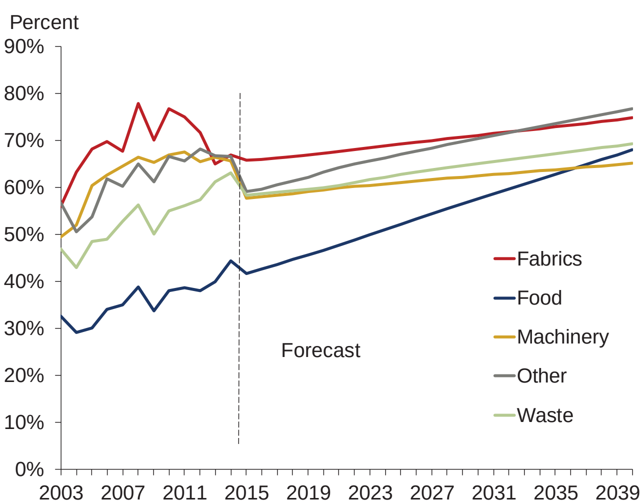
We expect the SPB economy to account for a growing share of activity across a number of sectors over our forecast horizon (see Figure 99), and this will mean a growing volume of exports directly from the regional economy (as well as those passing through the region from other parts of the US en-route to NEA region).

However, by contrast our projections imply an at-best stable share of exports to SEA. For these commodity/region groupings the modest downward trend in the historical time series offsets the stimulus of rising activity in the producing sectors over our forecast horizon. The particular volatility of the SEA data (as well as the more general shortness of our time series, with only 11 data points) makes these shares in particular difficult to model, and subject to uncertainty.

**Figure 79: SPB ports' share of total US exports to South East Asia, selected commodities**



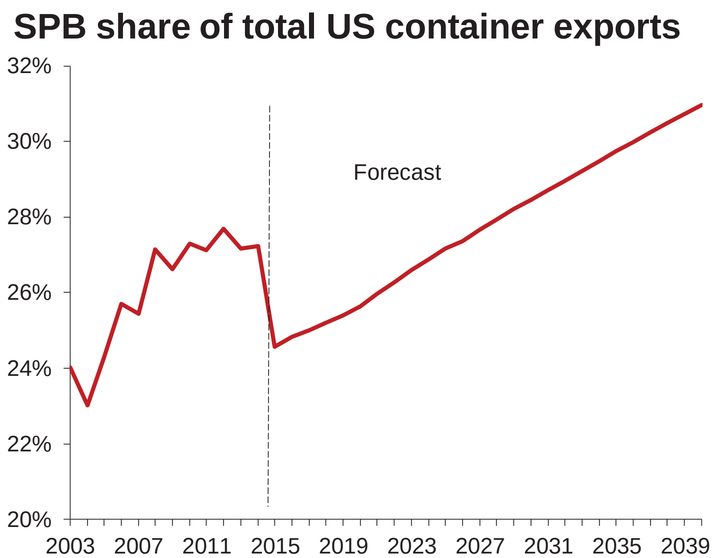

Source : Oxford Economics/Haver Analytics




Source : Oxford Economics/Haver Analytics

Compiling the long-term projection for each commodity/region combination, projecting forward and aggregating suggests that the SPB share is likely to rise into the long-term, regaining its 2014 level by around 2024, and rising towards 31% thereafter (again, year-to-date results have been used by Mercator to provide an estimate the likely movement of SPB's share of total US exports in 2015-2016).

Figure 80: SPB Ports Share of U.S. Container Exports



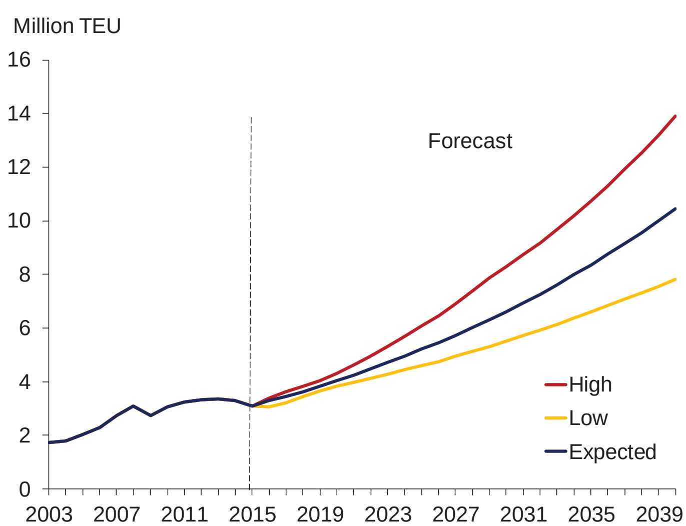

Source : Oxford Economics/Haver Analytics

### 1.6.8 SPB Ports Container Exports

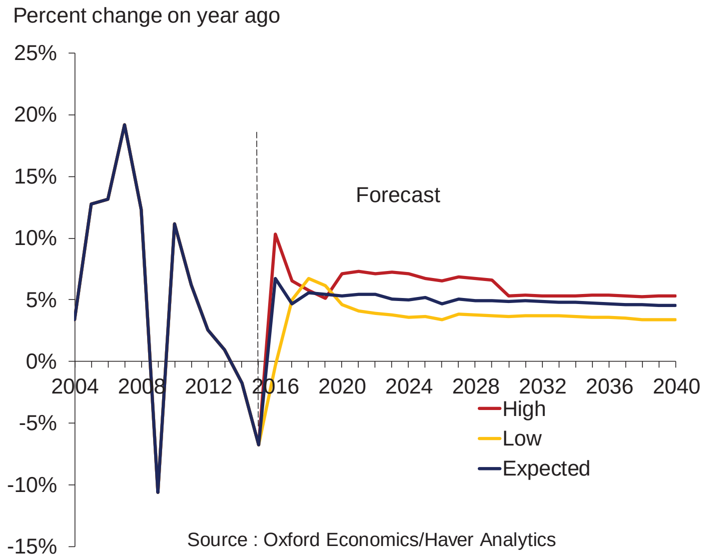
In common with the US, container export growth from SPB has been quite volatile over the past decade, even when accounting for cyclical economic swings. Given the long-run forecast for container shipments at the national level by region/commodity, and our projection for the shares SPB will handle, we estimate that SPB's export of TEUs will grow on average by 5.5% per annum from 2016-2020, and nearly 5% per annum from 2021-2040. This will result in container exports from SPB reaching 10.5m by 2040.

As in previous sections, we set out in Figure 81 our forecast for total TEU exports from SPB ports in the three macroeconomic scenarios, but in the remainder of this section we focus on the expected case.

Figure 81: Container Exports from SPB Ports

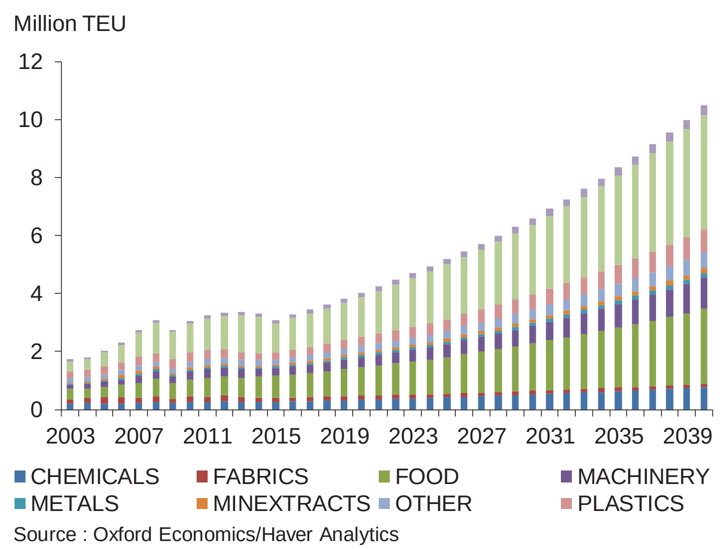


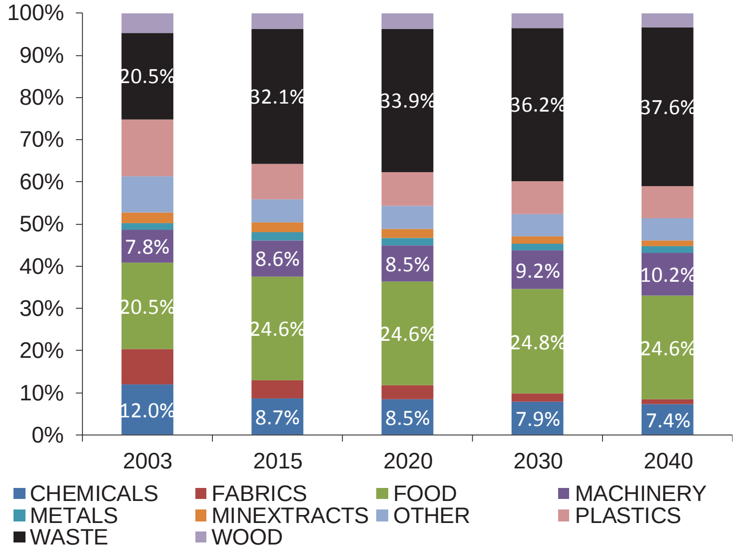

Source : Oxford Economics/Haver Analytics




As at the national level, it is expected that machinery and waste will account for an increasing share of exports from SPB Ports – machinery rising to just over 10% of total shipments, and waste rising by 5 percentage points to reach 37.5% of total container exports. .

**Figure 82: SPB Ports Exports by Commodity Group**

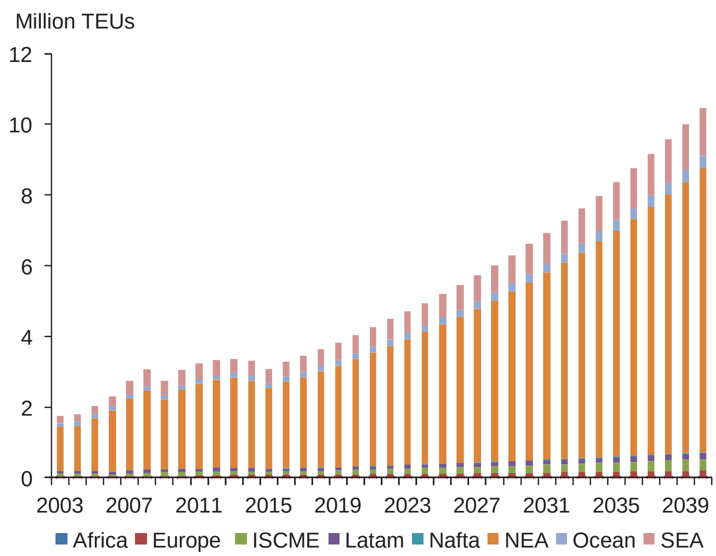




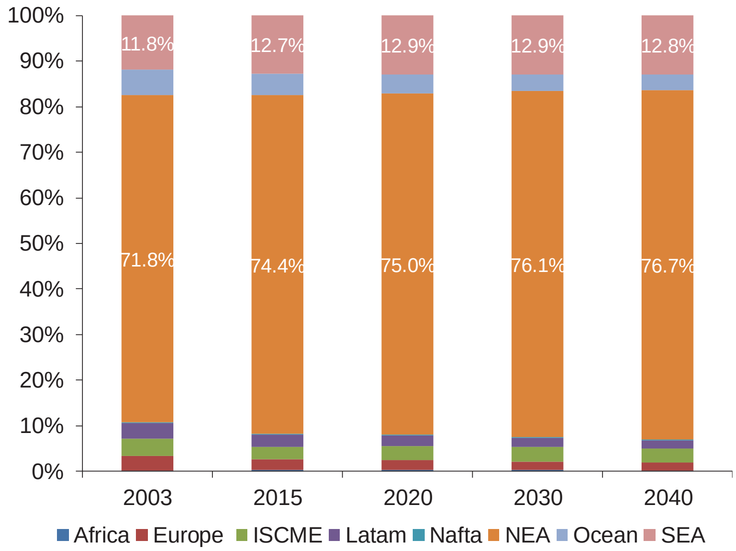

Source : Oxford Economics/Haver Analytics

As at the national level, NEA will account for a rising share of SPB exports. The proportion of SPB's exports going to this region will rise by around 2 percentage points over the period to 2040. The SPB Ports currently have a much lower exposure to ISC/ME, but we expect this share to rise by around 0.5 percentage points, from 2.5% in 2015 to 3% by 2040.

**Figure 83: SPB Ports Exports by Destination Regions**




Source : Oxford Economics/Haver Analytics

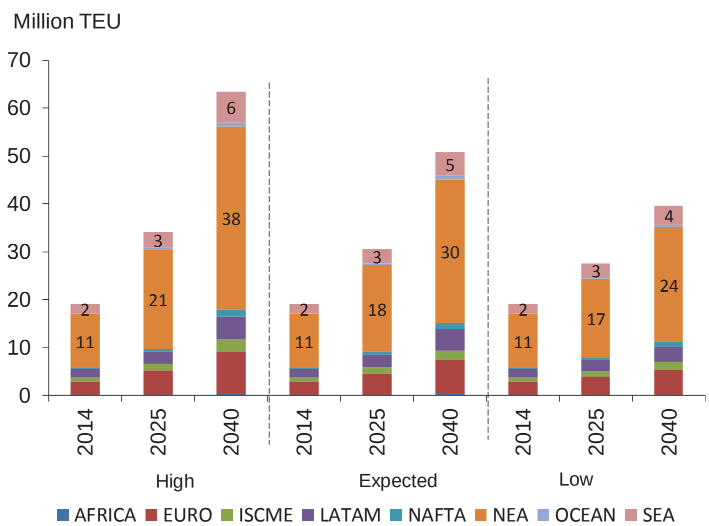



Source : Oxford Economics/Haver Analytics

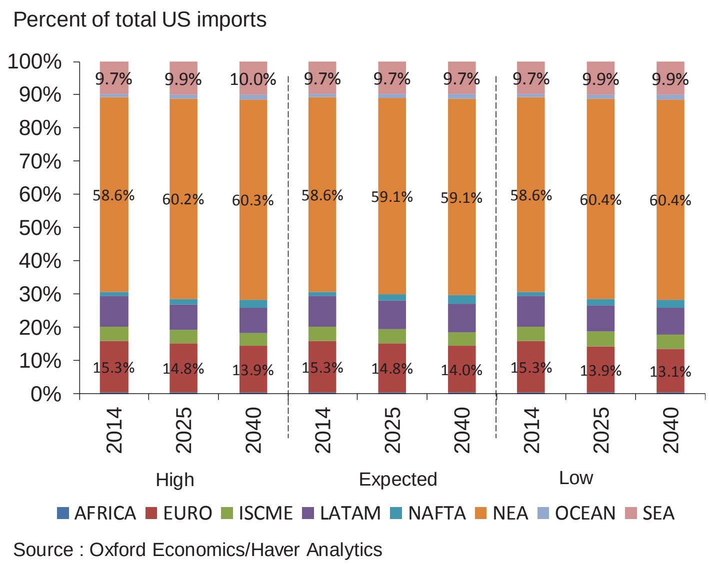
### 1.6.9 Impact of High and Low Marco-economic Scenarios on Container Volumes

This section briefly identifies the impact that the high and low macro-economic scenarios have on the composition of container imports and exports at the U.S. and San Pedro Bay levels. The aggregate paths for total imports and exports at both the U.S. and SPB levels were set out in Figure 62, Figure 71, Figure 76 and Figure 81, but information on how these scenarios affect the geographical sourcing of imports and the destinations of exports is analyzed below.

**Figure 84: U.S. Container Imports by Region and Scenario**




Source : Oxford Economics/Haver Analytics




When considering how the geographical split of U.S. and SPB container imports/exports changes across different scenarios, it is important to recall what is driving the scenarios in the short and longer term. In the short-term, the scenarios are driven by macro-economic factors that affect all parts of the world in different measure (as taken from Oxford Economics' Global Scenarios Service), but in the long-term the scenarios are largely driven by different possible paths for the U.S. economy, and in particular the likely rate of U.S. productivity growth. See section 1.2.5 for more detail.

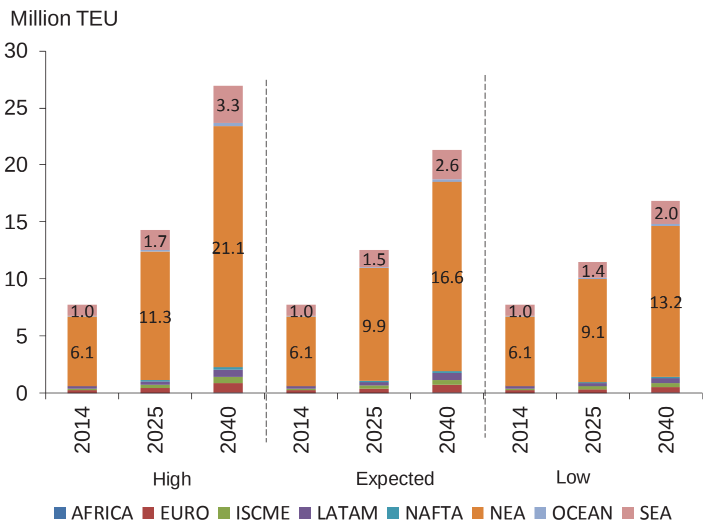
The key driver of the high macro-economic scenario versus the assumptions used in the expected case is that there is a faster-than-expected rebound in investment spending (particularly so in the advanced economies), which in turn stimulates faster consumer spending growth. Through the latter years of this decade though there is a cyclical slowdown in investment, while consumer spending is permanently higher thanks to the levels effect on wages. The assumption used in the high macro-economic scenario thus disproportionately benefits NEA (or more particularly, China) compared to other parts of the world economy (in particular those with a greater specialisation in investment goods such as Europe) because China's trade with the U.S. is more heavily tilted to the consumer sector. China's share of U.S. imports is therefore higher than the expected scenario over the long run.

For the low scenario, it was found that the most likely negative risk to world growth in the current conjuncture is an adverse reaction in emerging markets to the Federal Reserve's tightening cycle. This would impact global trade and investment, but less severely on advanced economy consumer spending. So U.S. imports from China are less negatively impacted than imports from advanced economies, which have a greater specialization in investment goods. Again, China's share of U.S. imports rises versus the expected macro-economic scenario. Similar trends in the high and low scenarios for the forecast of imports are also observed with respect to the SEA shares, given the increased role for this region in providing manufactured goods, particularly at the lower end of the value chain such as apparel.

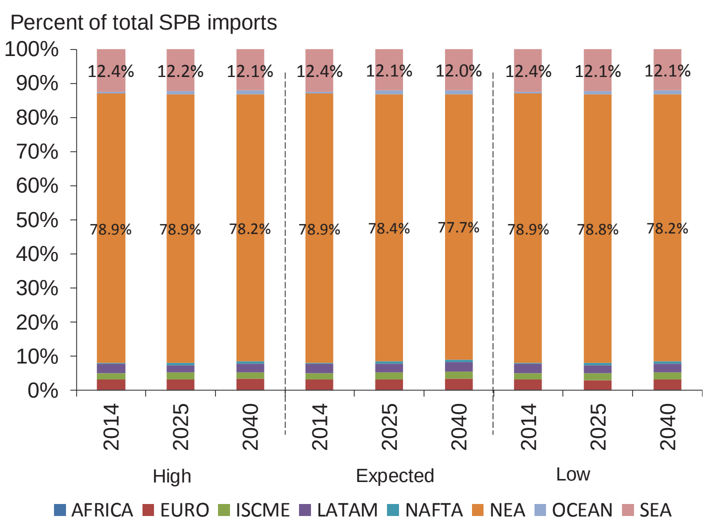
It is of course possible to construct scenarios in which China/NEA share of U.S. imports falls relative to the expected scenario. For example, a sharp rise in cost pressures in Chinese manufacturing would result in a loss of competitiveness, and share of U.S. imports. But given the overcapacity in many Chinese industrial sectors, this is not a risk that we consider particularly likely. Similarly, a sharp rise in oil prices could raise global transport costs, again undermining China's ability to compete in U.S. markets versus closer emerging market regions. Again though, this does not strike us as an especially likely risk.

These trends are echoed at the SPB level, perhaps unsurprisingly so given that the SPB ports attract a larger share of overall import traffic between the U.S. and NEA region than they do for U.S. imports from the rest of the world.

**Figure 85: SPB Container Imports by Region and Scenario**




Source : Oxford Economics/Haver Analytics

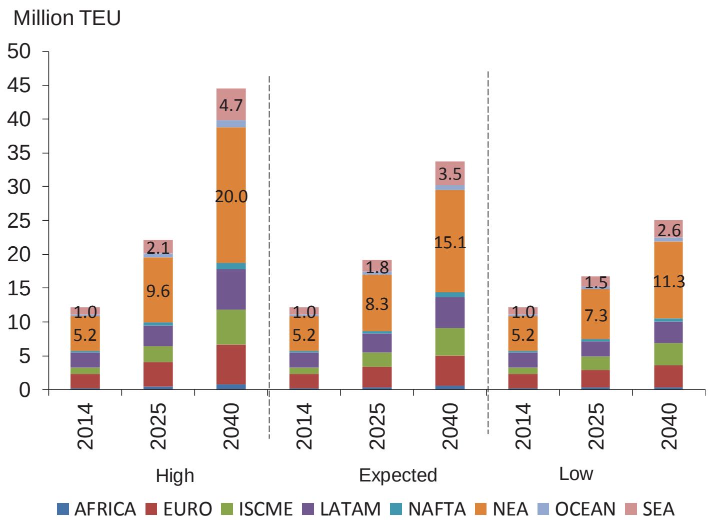



Source : Oxford Economics/Haver Analytics

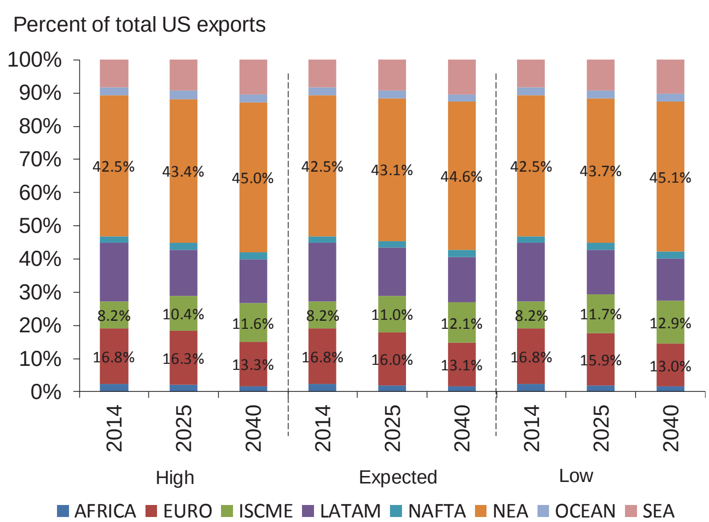
Changes in the geographical composition of U.S. and SPB exports across the three scenarios are considered here. Again, the NEA region typically gains share in both the high and low scenarios, although less markedly so than in the case of imports, and mainly in the low scenario. For the low scenario U.S. exports to the NEA region suffer less than shipments to other emerging market regions, given the relatively limited extent to which Chinese firms have been able in recent years to accumulate dollar-denominated debt compared to other emerging market firms (the key short-term "risk-trigger").

Possibly of more interest is the ISCME region though, where the export response is more noticeable than for U.S. imports. This is because the region is less sensitive to the potential shock from rising Federal Reserve interest rates (the key short-term driver of the downside scenarios), given the lower degree of public and private debt in these economies. As such this region's demand for U.S. exports suffers less in the downside scenario than does demand in SEA and Latin America, where debt burdens are typically higher. On the other hand though, the region produces far less investment or consumer goods than other regions, and as such benefits less from the upside to global trade embedded in the high scenario than other regions do.

**Figure 86: US container exports by region and scenario**

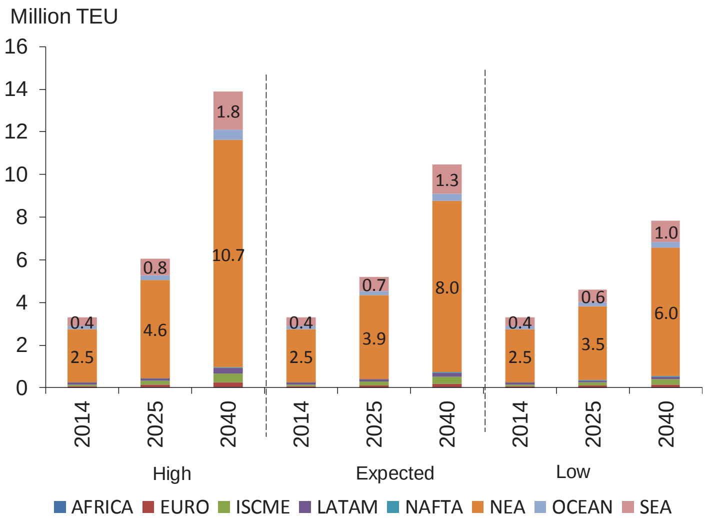



Source : Oxford Economics/Haver Analytics

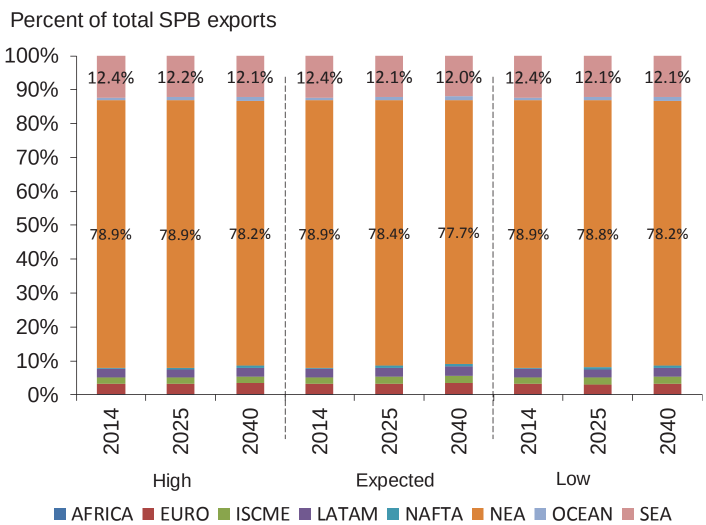



Source : Oxford Economics/Haver Analytics

**Figure 87: SPB container exports by region and scenario**




Source : Oxford Economics/Haver Analytics




Source : Oxford Economics/Haver Analytics

## 1.7 Integrated Base Case Forecast

### 1.7.1 Objective

In this section, the projected volume impacts of the competitive factor volume adjustment scenarios are integrated with the base case SPB Ports volume forecast of loaded international containers in order to form an adjusted forecast of international loaded import and export volumes. This adjusted forecast of loaded inbound and outbound volumes is then used to generate a forecast of empty container repositioning moves.

In addition, this section will also incorporate a forecast of SPB Ports' domestic volumes to provide a complete view of SPB Ports' total volume potential.

### 1.7.2 Forecast of International Container Volume

#### *1.7.2.1 Loaded Volume Forecast*

The following table provides a summary of the loaded volume generated by the base case macro-economic assumptions.

**Figure 88: Unadjusted Base Case Loaded Volume Forecast**

| | Loaded Imports TEU | | Loaded Exports TEU | | Total TEU | | LD IMP SPB Ports/ | LD EXP SPB Ports/ |
|---|---|---|---|---|---|---|---|---|
| Year | All USA | SPB Ports | All USA | SPB Ports | All USA | SPB Ports | All USA | All USA |
| 2014 | 19,065,802 | 7,748,129 | 12,142,680 | 3,305,750 | 31,208,482 | 11,053,879 | 40.6% | 27.2% |
| 2015 | 20,244,198 | 7,879,847 | 12,535,937 | 3,080,959 | 32,780,136 | 10,960,806 | 38.9% | 24.6% |
| 2016 | 21,132,545 | 8,515,751 | 13,245,015 | 3,288,345 | 34,377,561 | 11,804,096 | 40.3% | 24.8% |
| 2017 | 21,966,540 | 8,876,960 | 13,763,769 | 3,441,669 | 35,730,309 | 12,318,629 | 40.4% | 25.0% |
| 2018 | 23,009,203 | 9,324,520 | 14,408,917 | 3,632,734 | 37,418,120 | 12,957,254 | 40.5% | 25.2% |
| 2019 | 24,103,089 | 9,783,914 | 15,081,664 | 3,830,746 | 39,184,754 | 13,614,660 | 40.6% | 25.4% |
| 2020 | 25,175,989 | 10,245,058 | 15,738,742 | 4,034,886 | 40,914,731 | 14,279,944 | 40.7% | 25.6% |
| 2021 | 26,227,744 | 10,700,748 | 16,389,359 | 4,255,022 | 42,617,103 | 14,955,770 | 40.8% | 26.0% |
| 2022 | 27,332,712 | 11,181,516 | 17,073,458 | 4,486,061 | 44,406,171 | 15,667,578 | 40.9% | 26.3% |
| 2023 | 28,390,809 | 11,643,719 | 17,725,166 | 4,713,404 | 46,115,976 | 16,357,124 | 41.0% | 26.6% |
| 2024 | 29,446,957 | 12,108,805 | 18,405,355 | 4,947,432 | 47,852,312 | 17,056,237 | 41.1% | 26.9% |
| 2025 | 30,527,904 | 12,583,523 | 19,165,995 | 5,205,416 | 49,693,898 | 17,788,938 | 41.2% | 27.2% |
| 2026 | 31,578,587 | 13,047,393 | 19,913,228 | 5,448,231 | 51,491,816 | 18,495,624 | 41.3% | 27.4% |
| 2027 | 32,673,797 | 13,526,226 | 20,690,146 | 5,723,570 | 53,363,943 | 19,249,796 | 41.4% | 27.7% |
| 2028 | 33,814,098 | 14,024,483 | 21,497,057 | 6,006,503 | 55,311,155 | 20,030,985 | 41.5% | 27.9% |
| 2029 | 35,004,305 | 14,540,782 | 22,341,084 | 6,301,491 | 57,345,388 | 20,842,273 | 41.5% | 28.2% |
| 2030 | 36,247,587 | 15,079,307 | 23,224,218 | 6,606,840 | 59,471,805 | 21,686,147 | 41.6% | 28.4% |
| 2031 | 37,534,891 | 15,638,081 | 24,140,852 | 6,930,231 | 61,675,743 | 22,568,313 | 41.7% | 28.7% |
| 2032 | 38,857,365 | 16,211,957 | 25,086,552 | 7,265,973 | 63,943,917 | 23,477,930 | 41.7% | 29.0% |
| 2033 | 40,216,855 | 16,801,308 | 26,062,536 | 7,616,068 | 66,279,391 | 24,417,377 | 41.8% | 29.2% |
| 2034 | 41,619,324 | 17,409,243 | 27,072,904 | 7,981,408 | 68,692,228 | 25,390,651 | 41.8% | 29.5% |
| 2035 | 43,056,867 | 18,031,410 | 28,112,749 | 8,360,105 | 71,169,616 | 26,391,514 | 41.9% | 29.7% |
| 2036 | 44,528,552 | 18,667,329 | 29,182,326 | 8,752,283 | 73,710,878 | 27,419,612 | 41.9% | 30.0% |
| 2037 | 46,042,175 | 19,318,691 | 30,286,326 | 9,157,430 | 76,328,501 | 28,476,121 | 42.0% | 30.2% |
| 2038 | 47,589,875 | 19,982,567 | 31,420,129 | 9,576,149 | 79,010,003 | 29,558,716 | 42.0% | 30.5% |
| 2039 | 49,163,131 | 20,654,701 | 32,578,223 | 10,008,555 | 81,741,354 | 30,663,256 | 42.0% | 30.7% |
| 2040 | 50,770,987 | 21,339,792 | 33,783,019 | 10,460,766 | 84,554,006 | 31,800,558 | 42.0% | 31.0% |

The data in the table above show that SPB Ports' share of loaded imports for the United States will increase slightly over the forecast period, while exports will see a much greater gain. That said, the volume of loaded exports are forecasted to remain well below import movements, thus loaded imports will remain the head-haul direction over the entire forecast period and continue to be the driver of total export volume.

#### *1.7.2.2 Application of Competitive Factor Adjustment to Base Case Macro Forecast*

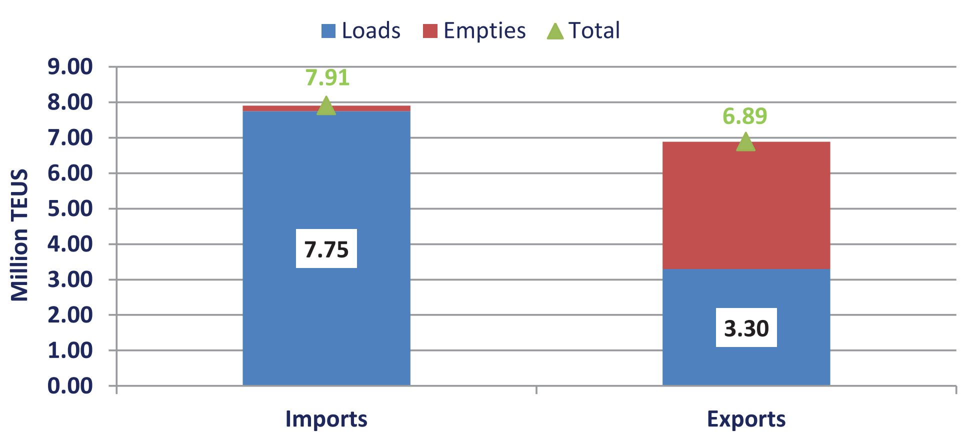
In order to integrate the competitive factor volume adjustment scenarios with the unadjusted loaded volume forecast the following assumptions were used:

1. **Changes in SPB Ports Competitiveness versus All-water Services:** The impact of this competitive factor on select IPI locations is projected to begin to occur in 2018, which is two years after the new locks at the Panama Canal are expected to open, because:
    a. It will take some time for ocean carriers to deploy larger vessels through the Panama Canal and convince importers to switch to these services for the IPI locations identified as being at risk of diversion
    b. The switch to all-water services will happen over a period of several years, as ocean carriers continue increasing the size of vessels in their all-water services in response to organic volume growth and increased use by importers bringing goods into IPI locations
    c. The reduction in loaded import IPI volume will cause a corresponding drop in rail exports, but this drop will only affect empty container repositioning volumes, as ocean carriers will want to retain loaded exports from these location
        i. The amount of rail empties that are lost due to rerouting to all-water routes will also take into account that some rail empties that are generated by import volumes via SPB Ports are currently being re-routed to other ports in order to take advantage of lower inland repositioning costs
2. **Increased Capacity at Prince Rupert's Container Terminal:** The opening of FCT's second berth in the second half of 2017 is expected to allow this facility to capture new services in 2020, which will cause SPB Ports to lose IPI volume in the following manner:
    a. All the SPB Ports' volume that is expected to shift to Prince Rupert will do so once it attracts new first inbound calls
    b. Empty export volumes will also shift to Prince Rupert with the attraction of new first inbound call.

### *1.7.2.3 Calculation of International Empty Movements*

The normal practice for calculating the number of export empties involves subtracting loaded exports from loaded imports under the assumption that the system must be balanced in order to avoid a situation in which empty containers accumulate in the importing country while new boxes would need to be manufactured to serve the demands of net exporters. Such a balance is not achieved in SPB Ports where the total import volume is higher than the total export volume, as shown below.

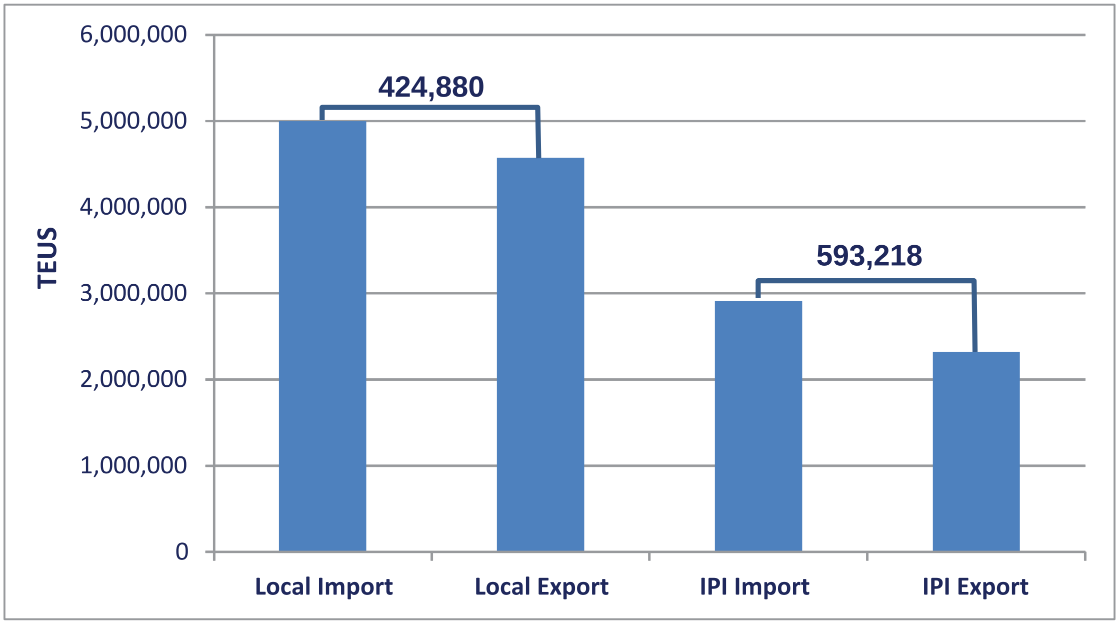
**Figure 89: Review of SPB Ports Directional Balance for International Volume**



As indicated above, only 2% of the SPB Port's inbound containers are empties, which is to be expected, given the directional imbalance between inbound and outbound volumes of loaded boxes. The majority of the inbound empty movements are understood to be refrigerated containers, reflecting not only that westbound volumes of refrigerated commodities are higher than eastbound volumes of same, but also that the ocean freight rates for the westbound flows are high enough to support empty repositioning eastbound.

The chart below shows how this imbalance between total imports and exports is spread between local and IPI movements.

Figure 90: SPB Ports 2014 Imbalance of International by Movement Type




The chart highlights that ocean carriers are repositioning a significant volume of the inbound containers they move through SPB Ports out of country through other gateways. However, 91% of inbound Gate moves are returned as export loads and empties. This means that 9% of inbound containers are repositioned through other gateways. This ratio is in line with North American norms. The reason ports can see an imbalance is that there are often timing issues that cause a small percentage imbalance between import and export moves. This happens during periods of growth when containers brought in during time period 1 exit the country in time period 2. Additionally, almost all the services calling SPB Ports go on to stop in Oakland, and this port handled near 200,000 more export TEUs than import TEUs. Therefore, it is felt that the additional export moves Oakland handles are generated by import boxes that arrive at terminals in SPB.

The deficit in IPI movements is caused by the repositioning of import rail shipments via SPB Ports through ports along the Atlantic and Gulf Coasts. The primary reason that ocean carriers are routing boxes that arrived at SPB Ports through alternative ports is to take advantage of lower rail transport costs, thus lowering inland costs associated with repositioning boxes.

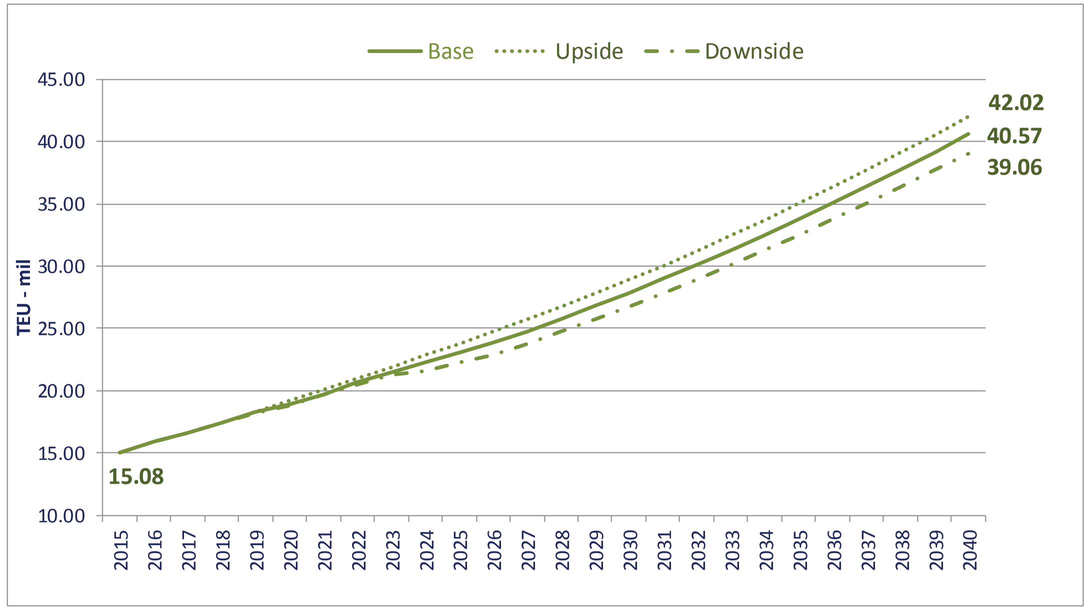
It is believe that the conditions that caused the imbalances between SPB Ports' total import and export volume by movement type will remain in place over the forecast period. Thus the following assumptions were used to calculate empty repositioning volumes, based on existing ratios:

1. **Local - Export Empties:** 63% (3.1 mil local empty exports / 4.8 mil local loaded imports) of loaded import moves via SPB Ports' gates will be returned as empties
2. **Rail – Export Empties:** 18% (0.5 mil rail empty exports / 2.9 mil local loaded imports) of loaded IPI imports will move out of the port area as empties
3. **Local – Import Empties:** This category of empties will grow in-line with loaded local exports for SPB Ports
4. **Rail – Import Empties**: This category of empties will grow in-line with loaded IPI exports for SPB Ports

The assumptions outlined above have been combined with the forecast of loaded import and export volumes generated under the base case macroeconomic assumptions to produce the following projection of SPB Ports' international volumes through 2040.

**Figure 91: Summary of SPB Ports' International Volume Forecast - Expected Macro-economic Assumptions**

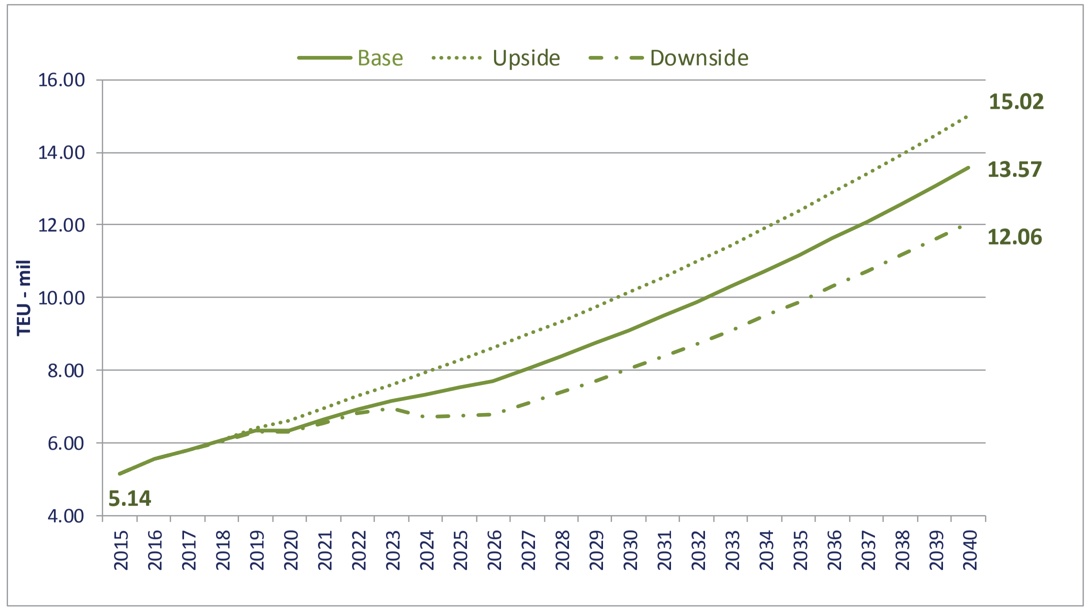
| | TEU Mil | | | Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Base | Upside | Downside | Base | Upside | Downside |
| 2015 | 15.08 | 15.08 | 15.08 | | | |
| 2016 | 15.91 | 15.91 | 15.91 | 5.5% | 5.5% | 5.5% |
| 2017 | 16.60 | 16.60 | 16.60 | 4.3% | 4.3% | 4.3% |
| 2018 | 17.43 | 17.46 | 17.41 | 5.0% | 5.2% | 4.9% |
| 2019 | 18.29 | 18.34 | 18.24 | 4.9% | 5.0% | 4.8% |
| 2020 | 18.88 | 19.16 | 18.83 | 3.2% | 4.4% | 3.2% |
| 2021 | 19.74 | 20.05 | 19.66 | 4.5% | 4.7% | 4.4% |
| 2022 | 20.64 | 20.99 | 20.53 | 4.6% | 4.7% | 4.4% |
| 2023 | 21.45 | 21.91 | 21.24 | 3.9% | 4.3% | 3.5% |
| 2024 | 22.23 | 22.83 | 21.61 | 3.7% | 4.2% | 1.7% |
| 2025 | 23.05 | 23.79 | 22.27 | 3.7% | 4.2% | 3.1% |
| 2026 | 23.82 | 24.72 | 22.88 | 3.4% | 3.9% | 2.8% |
| 2027 | 24.77 | 25.70 | 23.80 | 4.0% | 4.0% | 4.0% |
| 2028 | 25.76 | 26.73 | 24.76 | 4.0% | 4.0% | 4.0% |
| 2029 | 26.79 | 27.79 | 25.75 | 4.0% | 4.0% | 4.0% |
| 2030 | 27.85 | 28.89 | 26.78 | 4.0% | 4.0% | 4.0% |
| 2031 | 28.97 | 30.04 | 27.85 | 4.0% | 4.0% | 4.0% |
| 2032 | 30.12 | 31.23 | 28.96 | 4.0% | 3.9% | 4.0% |
| 2033 | 31.30 | 32.45 | 30.11 | 3.9% | 3.9% | 3.9% |
| 2034 | 32.53 | 33.72 | 31.29 | 3.9% | 3.9% | 3.9% |
| 2035 | 33.79 | 35.02 | 32.51 | 3.9% | 3.9% | 3.9% |
| 2036 | 35.08 | 36.35 | 33.76 | 3.8% | 3.8% | 3.8% |
| 2037 | 36.41 | 37.72 | 35.04 | 3.8% | 3.8% | 3.8% |
| 2038 | 37.77 | 39.13 | 36.35 | 3.7% | 3.7% | 3.8% |
| 2039 | 39.15 | 40.56 | 37.69 | 3.7% | 3.7% | 3.7% |
| 2040 | 40.57 | 42.02 | 39.06 | 3.6% | 3.6% | 3.6% |
| **CAGR** | **4.0%** | **4.2%** | **3.9%** | | | |



A summary of SPB Ports' IPI volume over the forecast period is provided below as this market is where the volume adjustments were made due to the analysis of changes in these ports competitiveness.

**Figure 92: Volume Forecast of SPB Ports' IPI Volume – Expected Macro-economic Assumptions**

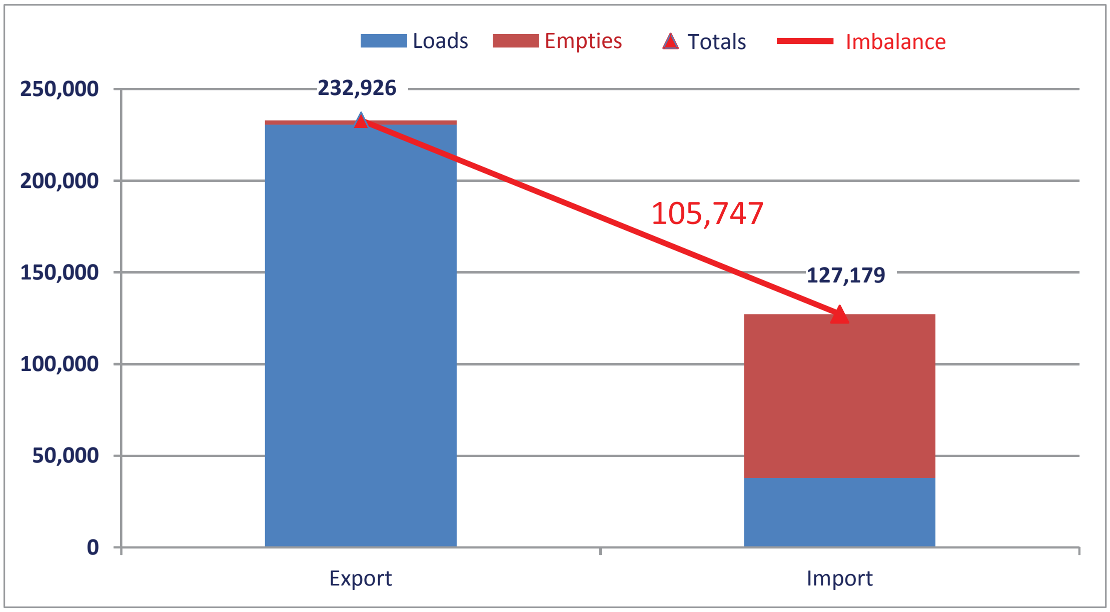
| | TEU Mil | | | Growth Rate | | |
|---|---|---|---|---|---|---|
| **Year** | **Base** | **Upside** | **Downside** | **Base** | **Upside** | **Downside** |
| 2015 | 5.14 | 5.14 | 5.14 | | | |
| 2016 | 5.54 | 5.54 | 5.54 | 7.8% | 7.8% | 7.8% |
| 2017 | 5.78 | 5.78 | 5.78 | 4.4% | 4.4% | 4.4% |
| 2018 | 6.06 | 6.08 | 6.03 | 4.8% | 5.2% | 4.4% |
| 2019 | 6.34 | 6.39 | 6.29 | 4.7% | 5.1% | 4.2% |
| 2020 | 6.35 | 6.63 | 6.30 | 0.2% | 3.7% | 0.2% |
| 2021 | 6.63 | 6.94 | 6.55 | 4.4% | 4.8% | 3.9% |
| 2022 | 6.92 | 7.27 | 6.81 | 4.4% | 4.8% | 4.0% |
| 2023 | 7.14 | 7.60 | 6.93 | 3.2% | 4.5% | 1.9% |
| 2024 | 7.34 | 7.93 | 6.71 | 2.7% | 4.3% | -3.3% |
| 2025 | 7.54 | 8.28 | 6.76 | 2.7% | 4.4% | 0.7% |
| 2026 | 7.71 | 8.61 | 6.78 | 2.4% | 4.0% | 0.3% |
| 2027 | 8.04 | 8.97 | 7.07 | 4.3% | 4.2% | 4.4% |
| 2028 | 8.38 | 9.35 | 7.38 | 4.2% | 4.2% | 4.3% |
| 2029 | 8.74 | 9.73 | 7.70 | 4.2% | 4.2% | 4.3% |
| 2030 | 9.10 | 10.14 | 8.03 | 4.2% | 4.2% | 4.3% |
| 2031 | 9.49 | 10.56 | 8.37 | 4.2% | 4.2% | 4.3% |
| 2032 | 9.89 | 11.00 | 8.73 | 4.2% | 4.1% | 4.3% |
| 2033 | 10.30 | 11.45 | 9.11 | 4.2% | 4.1% | 4.3% |
| 2034 | 10.73 | 11.92 | 9.49 | 4.2% | 4.1% | 4.2% |
| 2035 | 11.17 | 12.40 | 9.89 | 4.1% | 4.0% | 4.2% |
| 2036 | 11.63 | 12.90 | 10.30 | 4.1% | 4.0% | 4.2% |
| 2037 | 12.09 | 13.41 | 10.73 | 4.0% | 4.0% | 4.1% |
| 2038 | 12.57 | 13.93 | 11.16 | 4.0% | 3.9% | 4.1% |
| 2039 | 13.07 | 14.47 | 11.61 | 3.9% | 3.8% | 4.0% |
| 2040 | 13.57 | 15.02 | 12.06 | 3.9% | 3.8% | 3.9% |
| **CAGR** | **4.0%** | **4.4%** | **3.5%** | | | |



### 1.7.3 Forecast of SPB Ports Domestic Volume

SPB Ports' domestic volumes are primarily driven by loaded export volumes to Hawaii, as illustrated in the following chart.

**Figure 93: Composition of SPB Ports 2014 Domestic Volume - TEUs**




The chart above also shows that there is just over a 100,000 TEU difference between total imports and exports. The difference between domestic export and import volumes is attributed to Matson having a service that moves units to Hawaii and Guam, but then takes the empty boxes generated by this leg of the voyage to Asia, where they are loaded with goods destined for U.S. markets.

Unlike SPB Ports' international market – where growth is tied to the country's overall economic performance – changes in these ports' domestic volumes are driven by demographic and economic trends in Hawaii. Therefore, it is assumed that SPB Ports' domestic loaded exports will grow at the following rates:

- Base Case – 1.5%
- Upside – 2.0%
- Downside - 0.75%

The other volume categories in the domestic market segment are expected to grow at the same rate.

Figure 94: Summary of SPB Ports' Domestic Volume Forecast

| | TEU / 000 | | | Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Base | Upside | Downside | Base | Upside | Downside |
| 2015 | 365.5 | 365.5 | 365.5 | | | |
| 2016 | 371.0 | 372.8 | 368.2 | 1.5% | 2.0% | 0.75% |
| 2017 | 376.6 | 380.3 | 371.0 | 1.5% | 2.0% | 0.75% |
| 2018 | 382.2 | 387.9 | 373.8 | 1.5% | 2.0% | 0.75% |
| 2019 | 387.9 | 395.6 | 376.6 | 1.5% | 2.0% | 0.75% |
| 2020 | 393.8 | 403.5 | 379.4 | 1.5% | 2.0% | 0.75% |
| 2021 | 399.7 | 411.6 | 382.3 | 1.5% | 2.0% | 0.75% |
| 2022 | 405.7 | 419.9 | 385.1 | 1.5% | 2.0% | 0.75% |
| 2023 | 411.7 | 428.2 | 388.0 | 1.5% | 2.0% | 0.75% |
| 2024 | 417.9 | 436.8 | 390.9 | 1.5% | 2.0% | 0.75% |
| 2025 | 424.2 | 445.6 | 393.9 | 1.5% | 2.0% | 0.75% |
| 2026 | 430.5 | 454.5 | 396.8 | 1.5% | 2.0% | 0.75% |
| 2027 | 437.0 | 463.6 | 399.8 | 1.5% | 2.0% | 0.75% |
| 2028 | 443.6 | 472.8 | 402.8 | 1.5% | 2.0% | 0.75% |
| 2029 | 450.2 | 482.3 | 405.8 | 1.5% | 2.0% | 0.75% |
| 2030 | 457.0 | 491.9 | 408.9 | 1.5% | 2.0% | 0.75% |
| 2031 | 463.8 | 501.8 | 411.9 | 1.5% | 2.0% | 0.75% |
| 2032 | 470.8 | 511.8 | 415.0 | 1.5% | 2.0% | 0.75% |
| 2033 | 477.8 | 522.0 | 418.1 | 1.5% | 2.0% | 0.75% |
| 2034 | 485.0 | 532.5 | 421.3 | 1.5% | 2.0% | 0.75% |
| 2035 | 492.3 | 543.1 | 424.4 | 1.5% | 2.0% | 0.75% |
| 2036 | 499.7 | 554.0 | 427.6 | 1.5% | 2.0% | 0.75% |
| 2037 | 507.2 | 565.1 | 430.8 | 1.5% | 2.0% | 0.75% |
| 2038 | 514.8 | 576.4 | 434.0 | 1.5% | 2.0% | 0.75% |
| 2039 | 522.5 | 587.9 | 437.3 | 1.5% | 2.0% | 0.75% |
| 2040 | 530.3 | 599.7 | 440.6 | 1.5% | 2.0% | 0.75% |
| **CAGR** | **1.5%** | **2.0%** | **0.8%** | | | |

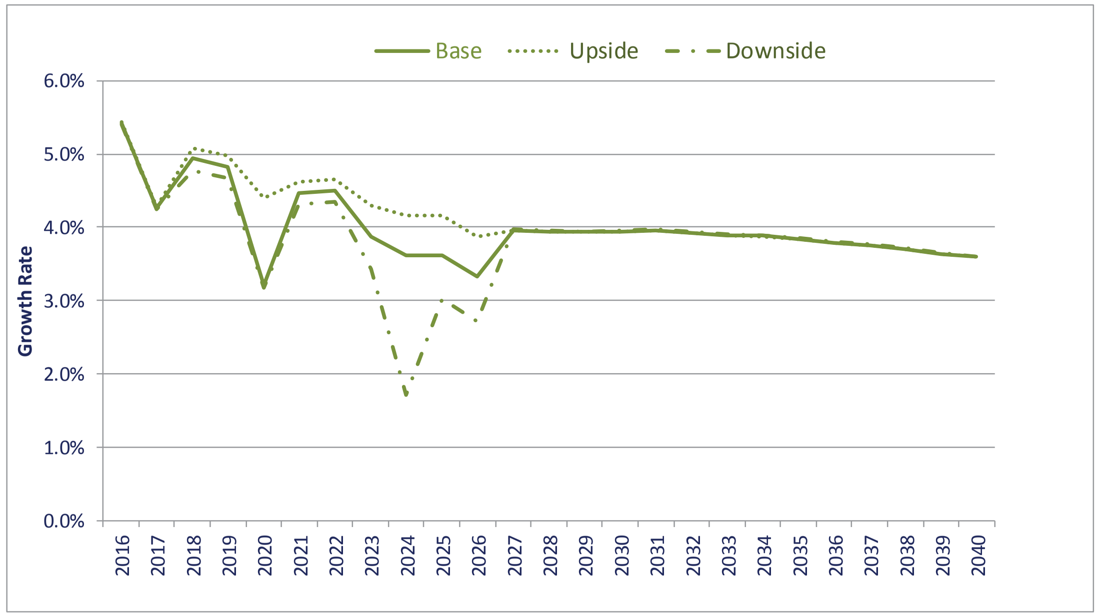
### 1.7.4 Consolidated Forecast for SPB Ports

#### *1.7.4.1 Base Case Macro-economic Assumptions*

The table and chart below provide a consolidated forecast of SPB ports' container volume based on the projection of loaded international volume from the base case macro-economic assumptions combined with domestic volumes and the estimate of empty movement that would result from directional imbalances. These numbers also incorporate the impact of competitive factor on rail loaded and empty movements over the forecast period.

**Figure 95: Summary of SPB Ports' Forecasted Throughput – Expected Macro-economic Assumptions**

| | TEU Mil | | | Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Base | Upside | Downside | Base | Upside | Downside |
| 2015 | 15.4 | 15.4 | 15.4 | | | |
| 2016 | 16.3 | 16.3 | 16.3 | 5.4% | 5.4% | 5.4% |
| 2017 | 17.0 | 17.0 | 17.0 | 4.3% | 4.3% | 4.3% |
| 2018 | 17.8 | 17.8 | 17.8 | 4.9% | 5.1% | 4.8% |
| 2019 | 18.7 | 18.7 | 18.6 | 4.8% | 5.0% | 4.7% |
| 2020 | 19.3 | 19.6 | 19.2 | 3.2% | 4.4% | 3.2% |
| 2021 | 20.1 | 20.5 | 20.0 | 4.5% | 4.6% | 4.3% |
| 2022 | 21.0 | 21.4 | 20.9 | 4.5% | 4.6% | 4.4% |
| 2023 | 21.9 | 22.3 | 21.6 | 3.9% | 4.3% | 3.4% |
| 2024 | 22.7 | 23.3 | 22.0 | 3.6% | 4.2% | 1.7% |
| 2025 | 23.5 | 24.2 | 22.7 | 3.6% | 4.2% | 3.0% |
| 2026 | 24.2 | 25.2 | 23.3 | 3.3% | 3.9% | 2.7% |
| 2027 | 25.2 | 26.2 | 24.2 | 4.0% | 4.0% | 4.0% |
| 2028 | 26.2 | 27.2 | 25.2 | 3.9% | 3.9% | 4.0% |
| 2029 | 27.2 | 28.3 | 26.2 | 3.9% | 3.9% | 3.9% |
| 2030 | 28.3 | 29.4 | 27.2 | 3.9% | 3.9% | 3.9% |
| 2031 | 29.4 | 30.5 | 28.3 | 4.0% | 4.0% | 4.0% |
| 2032 | 30.6 | 31.7 | 29.4 | 3.9% | 3.9% | 3.9% |
| 2033 | 31.8 | 33.0 | 30.5 | 3.9% | 3.9% | 3.9% |
| 2034 | 33.0 | 34.2 | 31.7 | 3.9% | 3.9% | 3.9% |
| 2035 | 34.3 | 35.6 | 32.9 | 3.8% | 3.8% | 3.8% |
| 2036 | 35.6 | 36.9 | 34.2 | 3.8% | 3.8% | 3.8% |
| 2037 | 36.9 | 38.3 | 35.5 | 3.8% | 3.7% | 3.8% |
| 2038 | 38.3 | 39.7 | 36.8 | 3.7% | 3.7% | 3.7% |
| 2039 | 39.7 | 41.1 | 38.1 | 3.6% | 3.6% | 3.7% |
| 2040 | 41.1 | 42.6 | 39.5 | 3.6% | 3.6% | 3.6% |
| **CAGR** | **4.0%** | **4.1%** | **3.8%** | | | |



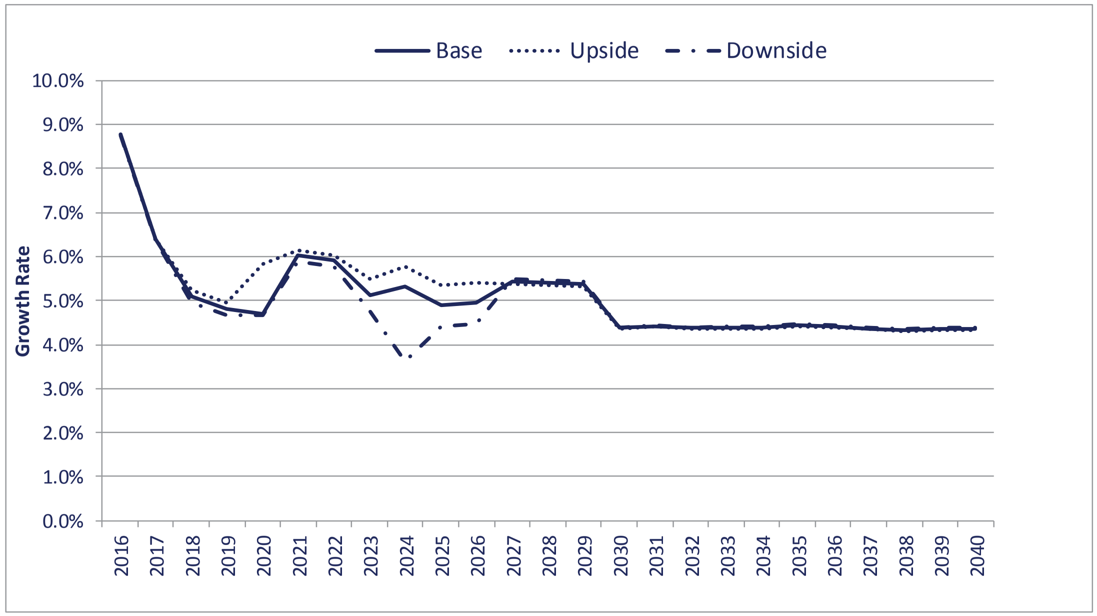

A breakdown of this port area's volume forecast by market segment and movement type can be found in Appendix 2.

### 1.7.4.2 *High Macro-economic Scenario*

The loaded international volume from the macro-economic assumptions from the Low scenario were used with the projection of domestic volumes and the estimate of empty movement generated from directional imbalances, as well as incorporating the impact of competitive factor on IPI movements.

**Figure 96: Summary of SPB Ports' Forecasted Throughput – High Macro-economic Assumptions**

| | TEU Mil | | | Growth Rate | | |
|---|---|---|---|---|---|---|
| **Year** | **Base** | **Upside** | **Downside** | **Base** | **Upside** | **Downside** |
| 2015 | 15.4 | 15.4 | 15.4 | | | |
| 2016 | 16.8 | 16.8 | 16.8 | 8.8% | 8.8% | 8.7% |
| 2017 | 17.9 | 17.9 | 17.9 | 6.4% | 6.4% | 6.4% |
| 2018 | 18.8 | 18.8 | 18.8 | 5.1% | 5.2% | 5.0% |
| 2019 | 19.7 | 19.7 | 19.6 | 4.8% | 5.0% | 4.7% |
| 2020 | 20.6 | 20.9 | 20.5 | 4.7% | 5.8% | 4.7% |
| 2021 | 21.9 | 22.2 | 21.8 | 6.0% | 6.1% | 5.9% |
| 2022 | 23.1 | 23.5 | 23.0 | 5.9% | 6.0% | 5.8% |
| 2023 | 24.3 | 24.8 | 24.1 | 5.1% | 5.5% | 4.7% |
| 2024 | 25.6 | 26.2 | 25.0 | 5.3% | 5.8% | 3.6% |
| 2025 | 26.9 | 27.6 | 26.1 | 4.9% | 5.4% | 4.4% |
| 2026 | 28.2 | 29.1 | 27.2 | 5.0% | 5.4% | 4.5% |
| 2027 | 29.7 | 30.7 | 28.7 | 5.4% | 5.4% | 5.5% |
| 2028 | 31.3 | 32.3 | 30.3 | 5.4% | 5.3% | 5.5% |
| 2029 | 33.0 | 34.1 | 31.9 | 5.4% | 5.3% | 5.4% |
| 2030 | 34.5 | 35.5 | 33.4 | 4.4% | 4.4% | 4.4% |
| 2031 | 36.0 | 37.1 | 34.8 | 4.4% | 4.4% | 4.4% |
| 2032 | 37.6 | 38.7 | 36.4 | 4.4% | 4.4% | 4.4% |
| 2033 | 39.2 | 40.4 | 38.0 | 4.4% | 4.4% | 4.4% |
| 2034 | 40.9 | 42.2 | 39.6 | 4.4% | 4.4% | 4.4% |
| 2035 | 42.8 | 44.0 | 41.4 | 4.4% | 4.4% | 4.5% |
| 2036 | 44.6 | 46.0 | 43.2 | 4.4% | 4.4% | 4.4% |
| 2037 | 46.6 | 48.0 | 45.1 | 4.4% | 4.3% | 4.4% |
| 2038 | 48.6 | 50.0 | 47.1 | 4.3% | 4.3% | 4.4% |
| 2039 | 50.7 | 52.2 | 49.2 | 4.4% | 4.3% | 4.4% |
| 2040 | 52.9 | 54.5 | 51.3 | 4.4% | 4.3% | 4.4% |
| **CAGR** | **5.1%** | **5.2%** | **4.9%** | | | |



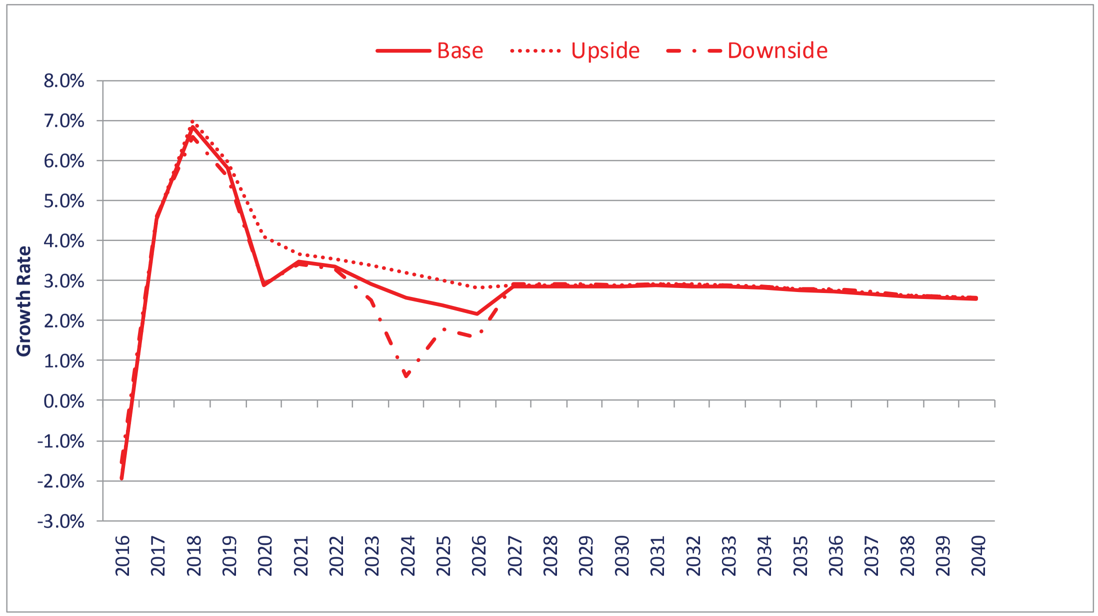

SPB Ports' volume forecast by market segment and movement type can be found in Appendix 3.

### 1.7.4.3 *Low Macro-economic Scenario*

The impact of the competitive factors were combined with the international loaded movements from the macro-economic assumptions from the high scenario and the projection of domestic volumes, as well as the estimate of empty movement generated from directional imbalances, to produce the follow summary of SPB Ports' projected volume.

**Figure 97: Summary of SPB Ports' Forecasted Throughput Based on the Low Macro-economic Assumptions**

| | TEU Mil | | | Growth Rate | | |
|---|---|---|---|---|---|---|
| **Year** | **Base** | **Upside** | **Downside** | **Base** | **Upside** | **Downside** |
| 2015 | 15.4 | 15.4 | 15.4 | | | |
| 2016 | 15.1 | 15.1 | 15.2 | -1.9% | -1.9% | -1.6% |
| 2017 | 15.8 | 15.8 | 15.9 | 4.5% | 4.5% | 4.6% |
| 2018 | 16.9 | 16.9 | 17.0 | 6.8% | 7.0% | 6.6% |
| 2019 | 17.9 | 18.0 | 17.9 | 5.8% | 6.0% | 5.6% |
| 2020 | 18.4 | 18.7 | 18.4 | 2.9% | 4.1% | 2.9% |
| 2021 | 19.1 | 19.4 | 19.0 | 3.5% | 3.6% | 3.4% |
| 2022 | 19.7 | 20.1 | 19.7 | 3.4% | 3.5% | 3.3% |
| 2023 | 20.3 | 20.7 | 20.2 | 2.9% | 3.4% | 2.5% |
| 2024 | 20.8 | 21.4 | 20.3 | 2.6% | 3.2% | 0.6% |
| 2025 | 21.3 | 22.0 | 20.7 | 2.4% | 3.0% | 1.8% |
| 2026 | 21.7 | 22.7 | 21.0 | 2.2% | 2.8% | 1.6% |
| 2027 | 22.4 | 23.3 | 21.6 | 2.9% | 2.9% | 2.9% |
| 2028 | 23.0 | 24.0 | 22.2 | 2.8% | 2.9% | 2.9% |
| 2029 | 23.7 | 24.7 | 22.9 | 2.9% | 2.9% | 2.9% |
| 2030 | 24.3 | 25.4 | 23.5 | 2.8% | 2.9% | 2.9% |
| 2031 | 25.0 | 26.1 | 24.2 | 2.9% | 2.9% | 2.9% |
| 2032 | 25.7 | 26.9 | 24.9 | 2.9% | 2.9% | 2.9% |
| 2033 | 26.5 | 27.7 | 25.6 | 2.8% | 2.9% | 2.9% |
| 2034 | 27.2 | 28.5 | 26.4 | 2.8% | 2.9% | 2.9% |
| 2035 | 28.0 | 29.3 | 27.1 | 2.8% | 2.8% | 2.8% |
| 2036 | 28.7 | 30.1 | 27.9 | 2.7% | 2.8% | 2.8% |
| 2037 | 29.5 | 30.9 | 28.6 | 2.7% | 2.7% | 2.7% |
| 2038 | 30.3 | 31.7 | 29.4 | 2.6% | 2.6% | 2.6% |
| 2039 | 31.0 | 32.5 | 30.1 | 2.6% | 2.6% | 2.6% |
| 2040 | 31.8 | 33.4 | 30.9 | 2.5% | 2.6% | 2.6% |
| **CAGR** | **2.9%** | **3.1%** | **2.8%** | | | |




A detailed breakdown by market segment and movement type can be found in Appendix 4.

# 2 NON-CONTAINER MARKET

## 2.1 Objective

This section of the report is focused on:

- Identification of high volume non-container commodities
- Developing a long-term forecast for each of the high volume commodities identified
- Evaluation of the susceptibility to diversion for each of the high volume commodities
- Assessment of the competitive position of SPB Ports non-container facilities by cargo type
- Evaluation of diversion risk by commodity and terminal type
- Providing a long-term for each high volume commodity
- Identification any potential near-term non-container opportunities for SPB Ports

## 2.2 Identification of SPB Ports Primary Non-container Commodities

The chart below provides a summary of SPB Ports' high volume non-container commodities and their 2014 volume, based on data supplied by these ports' staffs.

**Figure 98: Summary of SPB Ports' High Volume Non-container Commodities for 2014**

| TERMINAL TYPE | COMMODITY | IMPORT M.TONS | EXPORT M.TONS |
|---|---|---|---|
| LIQUID BULK | CRUDE OIL | 23,003,349 | |
| | OIL NOT Crude* | 7,293,555 | 3,449,884 |
| DRY BULK | PET COKE | | 5,150,982 |
| | COAL | | 1,624,976 |
| | METAL SCRAP | | 561,447 |
| | GYPSUM | 319,457 | |
| | SALT | 104,331 | |
| BREAKBULK | METAL PRODS | 2,744,894 | |
| RORO | VEHICLES | 606,092 | 45,170 |

* Does not include pipeline volumes

The table above shows that import shipments of crude oil generate a large portion of SPB Ports non-container volume, but there are a number of other significant import commodities. Additionally, SPB Ports handles a number of high volume non-container exports, particularly in the dry bulk sector.

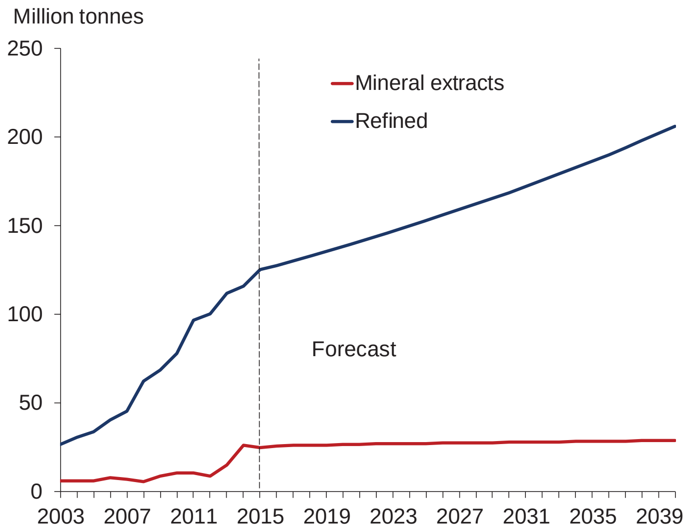
## 2.3 Long-term Volume Forecast for Non-container Movements

### 2.3.1 Non-container Exports

Unlike the container market, the U.S. currently exports a broadly similar volume of non-containerized commodities as it imports. Over the coming decades it is expect that non-container exports will grow at a substantially higher rate than imports, largely as a result of divergent trends in the fuels sector.

The U.S.'s imports of crude and refined oil are set to ease gradually long-term. However, U.S. restrictions on the export of crude oil means that it is not expected (at least in the base case) that this country's export of this product will increase significantly over the forecast period, but it is anticipate that refined oil exports will continue to grow rapidly during this timeframe. The base forecast is for liquid bulk mineral extracts (incorporating crude oil) to grow by around 0.6% per annum, and refined oil exports by 2% per year.

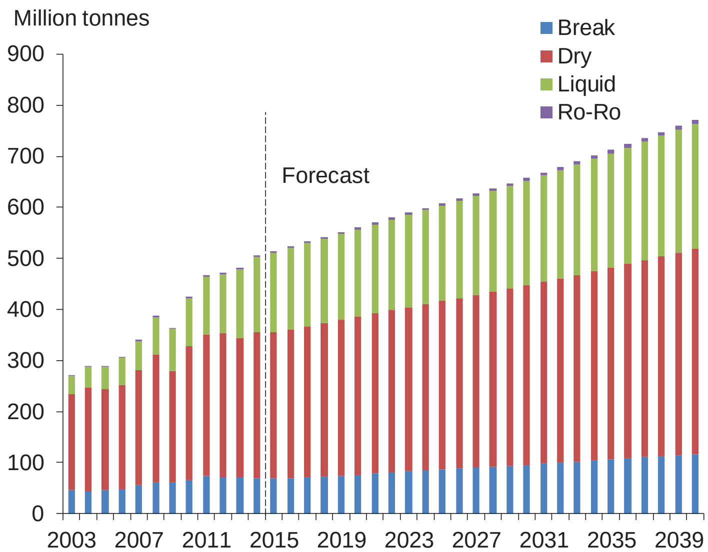
**Figure 99: US mineral extracts and refined oil exports**




Source : Oxford Economics/Haver Analytics

Additionally, it is expected that a modest decline in the U.S.'s exports of petroleum coke (PetCoke), coal and metals extracts will be experienced. The decline in these commodities is projected to around 1.4% per annum from 2015-2040. Dry bulk throughput tonnage will grow more slowly than either liquid bulk exports or break-bulk – which, as in the case of imports, have been grown in line with the appropriate container series.

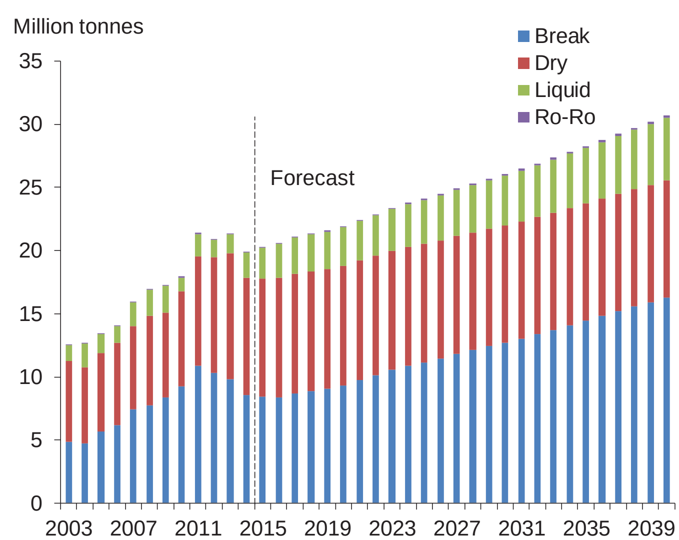
**Figure 100: U.S. Bulk Exports be Cargo Type**




Source : Oxford Economics/Haver Analytics

Using a comparable methodology to the container forecast, the shares of non-container exports from the U.S. that are expected to originate from SPB ports were projected through the forecast horizon. Aggregating these individual region-commodity combinations to an overall total produces the forecast set out in the following chart. Total non-container exports from the region are expected to grow by an average of around 1.6% per annum, around 0.5pp faster than at the national level.

**Figure 101: SPB Ports Non-Container Exports by Type**

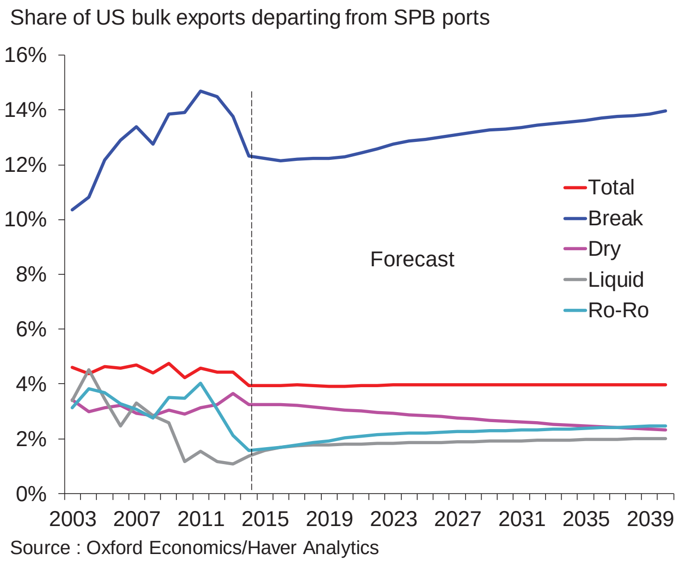



Source : Oxford Economics/Haver Analytics

This outperformance is largely due to the fact that breakbulk exports from SPB Ports are likely to grow faster than at the US level over our forecast horizon. However, a “step down” in the SPB share of US total non-container exports is expected in 2015as a result of the disruption in Q1, but over the forecast horizon this port are will gain share of both containers and the corresponding breakbulk commodities – reaching 14% by 2040, up from 12.3% in 2014.

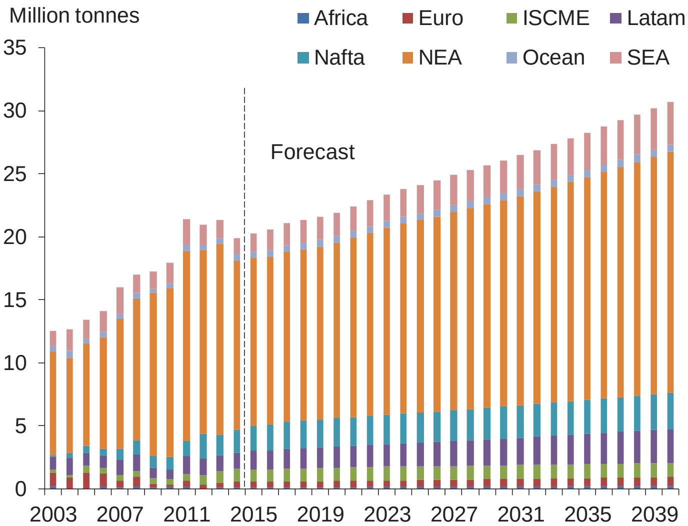
That said, the macro modelling suggests that the region will handle a falling share of dry bulk shipping. The SPB region's agricultural sector will fall from contributing 23.5% of U.S. agricultural output in 2014 to 22% by 2040, while fuel manufacturing will fall from 16% of the U.S. total to 10%. These drivers will reduce the region's share of dry bulk grains and PetCoke exports over our forecast horizon. The region is expected to produce a growing share of chemical and extraction outputs, but nevertheless in aggregate SPB's share of total U.S. dry bulk exports will fall over the forecast horizon - from 3.3% in 2014 to 2.3% by 2040.

**Figure 102: SPB Ports' Non-container Exports, share of the U.S. Total by cargo Type**




Geographically, NEA expected to experience a modestly falling share of total bulk exports from SPB Ports (falling by 3pp to 62.3% by 2040), while the SEA region increases from 7% to 11%. This is in contrast to the behavior of the NEA share at the U.S. level, and likely reflects the fact that only a small share of fuels (one of the faster growing bulk exports and a key U.S.-China export driver) passes through the SPB Ports.

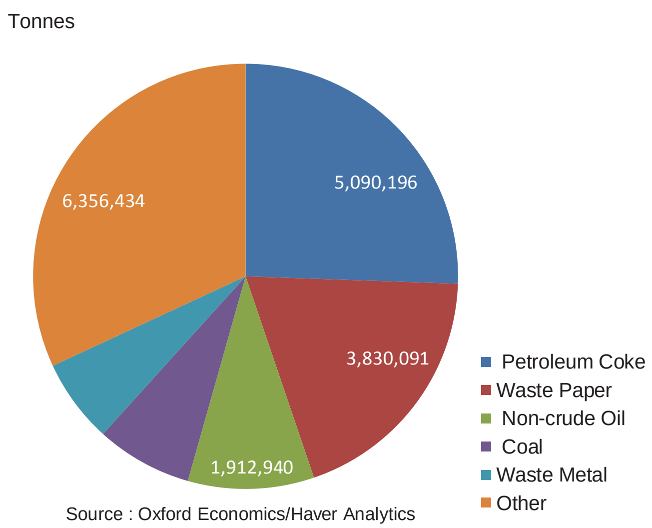
**Figure 103: SPB Ports Non-container Exports, by Destination**




Source : Oxford Economics/Haver Analytics

Finally, before we consider non-container imports, it is worth discussing briefly our methodology for forecasting exports of Petroleum Coke (PetCoke). PetCoke accounts for a relatively small proportion (around 8%) of total US non-container exports by weight, but this proportion is much higher (around a quarter) for the SPB ports. As such, we very briefly here discuss our methodology for PetCoke exports forecasting at the US level.

**Figure 104: SPB Bulk Exports by Cargo Type**




Source : Oxford Economics/Haver Analytics

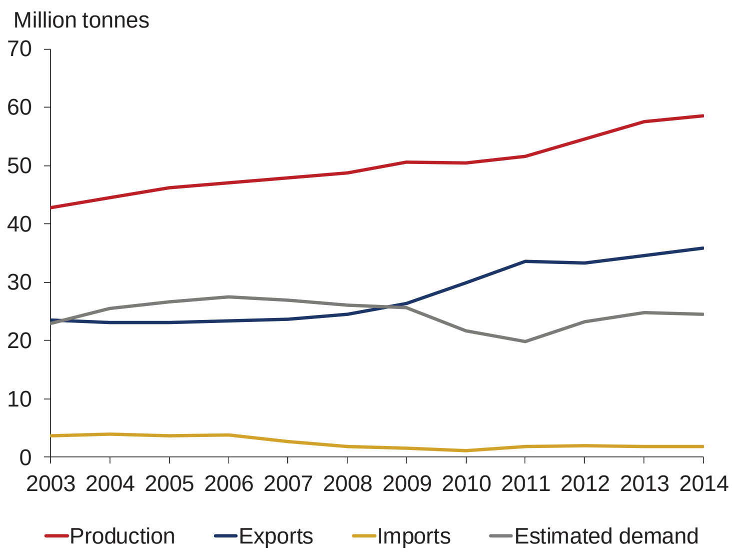
Logically it can be seen that the demand for PetCoke in the U.S. is the difference between total production, imports and exports, as shown below:

**Domestic demand = Domestic production + imports – exports**

An estimate was made of the path in production of petroleum coke using a projection for 1) total oil refining activity, and 2) guidance from the Energy Information Agency over the production of refined products from crude oil.

Specifically, EIA guidance suggests that 1 m.tons of PetCoke is produced when 5.5 barrels of oil are refined. Using the EIA data for the barrels oil being refined per day, and applying this conversion factor yields an estimate of historic PetCoke production within the U.S. Using U.S. Census data for PetCoke imports and exports from 2003 to 2014, and performing the above calculation, an estimate of PetCoke demand in the U.S. was derived over this period (see below).

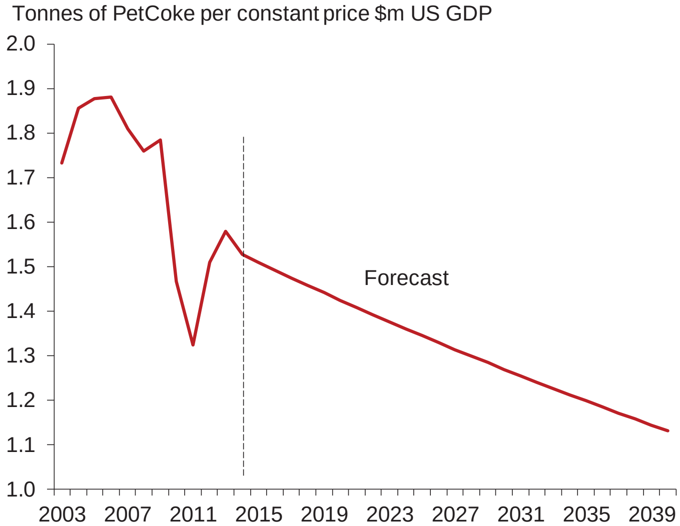
**Figure 105: US PetCoke Demand, Production, Imports and Exports**




Source : Oxford Economics/Haver Analytics

Since PetCoke produces more harmful emissions than other forms of fuel, its relative role in providing energy in the U.S. has declined in recent years. However, demand does seem to have picked up a little in the past couple of years, perhaps in response to lower prices, itself related to the greater volume of refinery activity in the U.S. Provided below is a projection of PetCoke intensity of GDP using the average trend in this variable from the period over based on an of estimate demand (i.e. the period for which we have census data for imports and exports).This implies that by 2040, for every $m of constant price GDP, we expect 1.1 m.tons of PetCoke to be demanded.

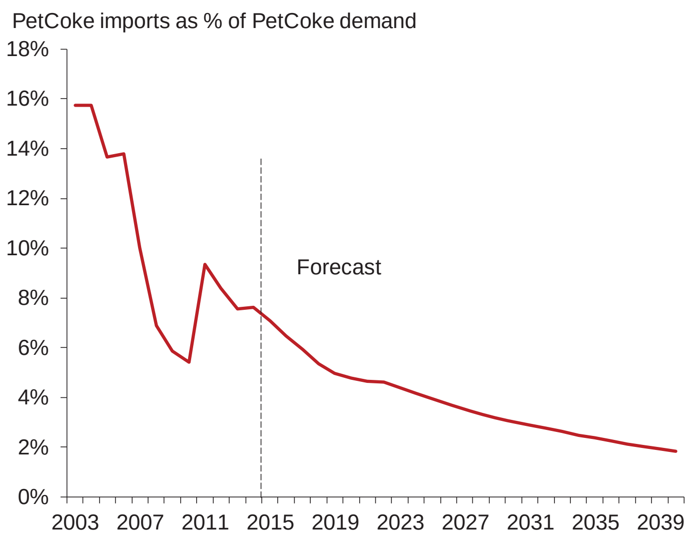
**Figure 106: US PetCoke use relative to GDP**




Source : Oxford Economics/Haver Analytics

PetCoke imports were forecasted by first projecting forward the share of demand that is satisfied by imports. This has trended downwards over the long run, and in spite of a rebound through 2011-2012, this trend is expected to continue through the forecast period. Just 2% of PetCoke demand will be accounted for by imports by 2040, with domestic production accounting for the rest.

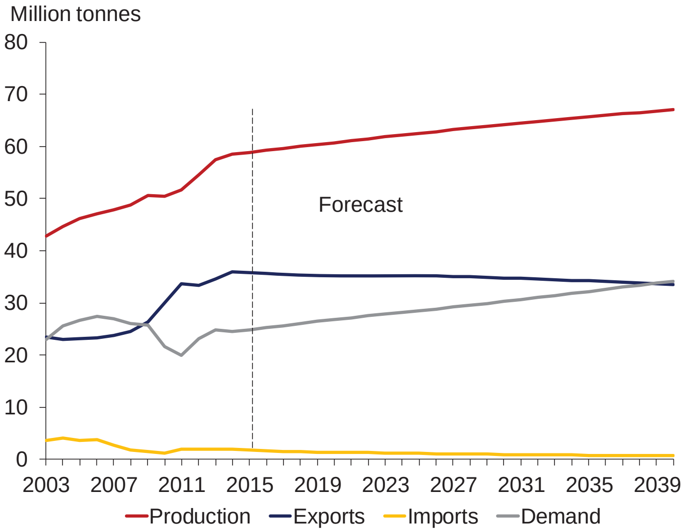
**Figure 107: Imports as a share of US PetCoke demand**




Source : Oxford Economics/Haver Analytics

Combining these trends in PetCoke demand, production, and imports, and using exports as the residual produces the forecasts set out in the chart below. It is expected that this commodity will experience a modest increase in demand over the coming couple of decades, rising to 34m tonnes by 2040 (from 25m in 2014). Alongside a gradual decline in imports (to 0.6m, from 1.8m in 2014) much of the increase in production will be absorbed domestically. Exports of PetCoke are therefore expected to decline gradually through our forecast horizon, at a rate of around 0.3% per annum at the US level.

**Figure 108: US PetCoke demand, production, imports and exports**



Source : Oxford Economics/Haver Analytics

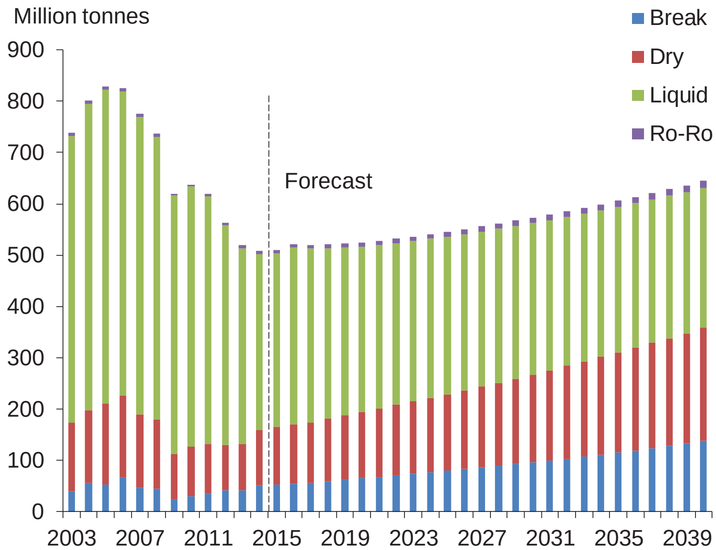
### 2.3.2 Non-container Imports

The methodology to forecast non-container imports follows a similar logic to that deployed in the container projections. Specifically, where there is a product matching between the types of goods carried in containers and those carried in bulk, growth rates derived in the containers work were applied to the appropriate non-container flow. This applies across the non-bulk cargo types (e.g. since food can be carried in both dry bulk and liquid bulk forms, imports/exports from/to the US by region in these bulk categories grow at the same rates as the respective container flow for food).

Or course, in a number of areas this type of matching is not appropriate, and as such a different approach was used. In the cases of oil and refined oil, total imports and exports to/from the U.S. were forecasted forward based on a combination of short-term numbers taken from the Energy Information Agency (for 2015) and the medium- and long-term forecasts from Oxford's macro model. Next projected growth in supply from/exports to partner regions was forecasted using these regions' growth rates in supply/demand for oil.

Once the expected paths for non-container imports and exports were forecasted at the U.S. level, projected changes in the shares of each region-commodity-cargo type-flow combination that would be arriving into or departing from SPB ports were calculated. Again, these equations used a range of variables, including the SPB share of U.S. GDP in relevant economic sectors, and time trends. However, as noted earlier, the relatively short time run of data (2003-2014) and the incidence of the global economic downturn, does make estimating these kinds of equations difficult.

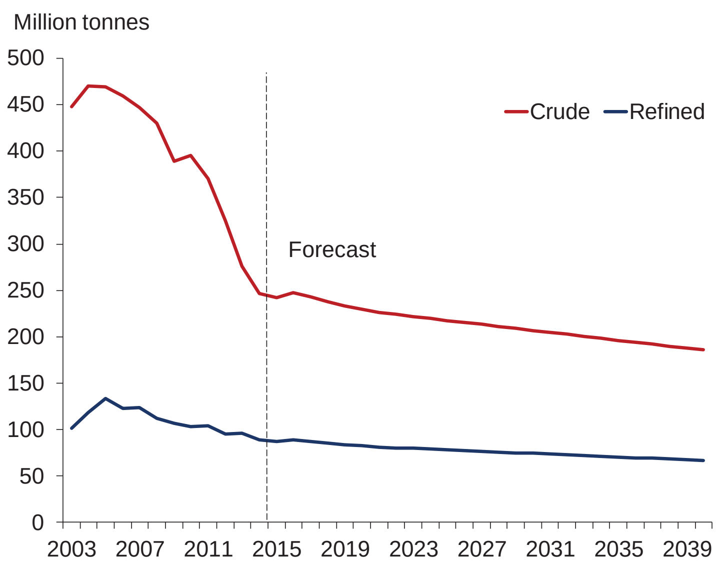
**Figure 109: U.S. Imports of Bulk Materials**



Source : Oxford Economics/Haver Analytics

Domestic oil production grew from 5.2m bpd in 2005 to 8 Bulk imports have fallen over most of the last decade, largely as a result of falling liquid bulk arrivals, which fell from over 600m tonnes at peak in 2005 to 343m tonnes in 2014. The great majority of this decline in bulk imports is due to lower imports of crude oil, though refined oil imports have declined as well. Crude oil and refined product imports fell by 220m tonnes and 45m tonnes, respectively, over this period as.7m in 2014.

**Figure 110: U.S. Imports of Crude and Refined Oil**



Source : Oxford Economics/Haver Analytics

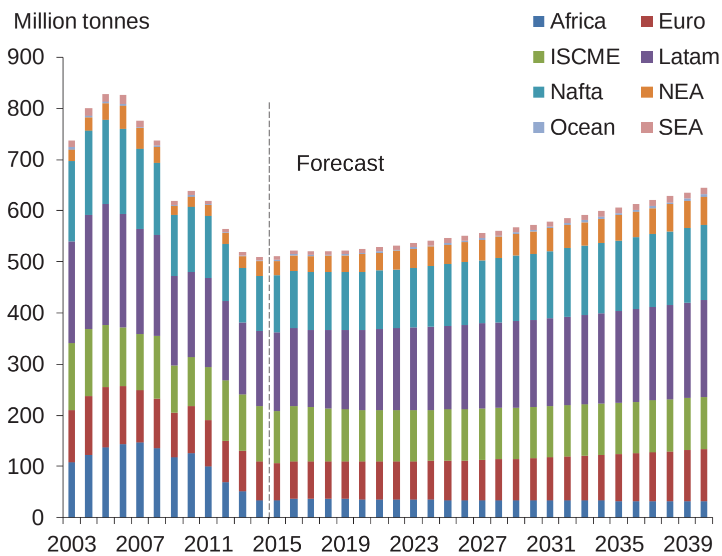
Looking ahead it is believed that the bulk of the increases in U.S. oil production have already occurred, as oil prices are projected to remain lower than they have been in the past, which has already caused investment into the sector to fall markedly in the past couple of years, and as such, a far more gradual decline in oil imports is forecasted – driven as much by ongoing declines in oil-intensity of economic activity in the U.S. as by rising oil production. Similarly, refined oil imports are projected to continue to fall, but at a more gradual rate than in the recent past. Over the long run, an average annual decline in imports of both crude and refined oil of around 1% per annum is forecasted. Overall, liquid bulk is expected to make up just about 42% of total non-containerized imports by 2040, 25pp lower than 2014.

Other principle drivers of bulk import demand include products demanded by the construction sector, which we estimate accounted for around 40% of total dry bulk imports[8] in 2014. After growing by an average of 6% per annum from 2003 (the start of the dataset) to 2006, imports in the dry bulk category fell by almost 50% between 2006 and 2009, as investment in new buildings fell by 40%. Both have since gradually recovered (investment in buildings is up 15% (2014 versus 2009), and dry bulk imports up over 12%. Looking ahead, we expect a long run growth rate of around 3% per annum in total US imports in the dry bulk sector. Dry bulk will therefore rise from 21% of total non-container arrivals into the U.S. by weight in 2014 to 34% by 2040.

Breakbulk cargo is more diversified than dry and liquid bulks, which tend to be dominated by a relatively small number of individual items (the top 10 liquid bulk categories provide over 99% of total liquid bulk imports, and 76% in the case of dry – the corresponding figure in the case of breakbulk is 64%). As such we do not consider individual items in detail here, other than to note that we expect breakbulk categories to grow in line with the corresponding container import product group. This produces an aggregate growth rate of around 4% per annum from 2015-2040 – modestly above our growth forecast for overall U.S. container imports over this period (3.7%). Breakbulk should account for 21% of total non-container imports into the US by 2040, up from just under 10% in 2014.

[8] Included in this broad grouping are pebbles and macadam, cement, gypsum, sand, and aluminium ore.

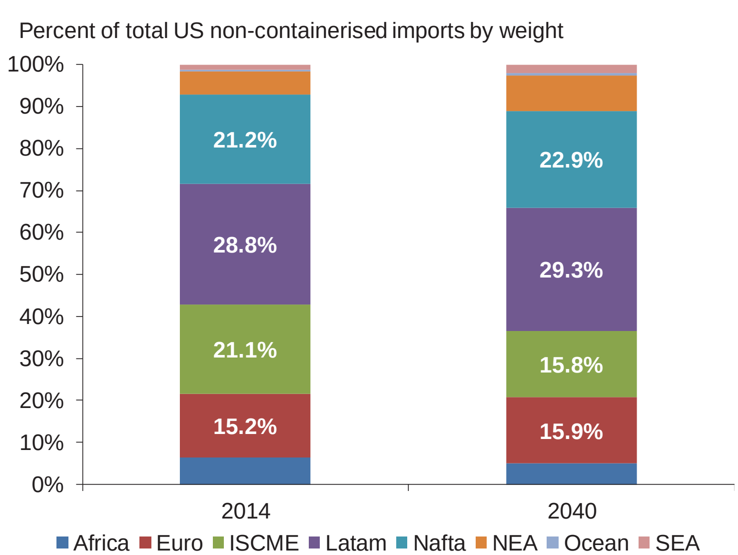
Figure 111: US imports of non-containerized cargo by origin




Source : Oxford Economics/Haver Analytics

In light of the changing nature of bulk imports, with a growing concentration in dry bulk and breakbulk, the geographical origins of bulk imports into the U.S. are expected to evolve over the coming couple of decades. Specifically, regions that have typically supplied the U.S. with fuel will come to account for a smaller share of total bulk imports (ISCME is expected to provide 16% of total non-container imports to the US by 2040, down 5pp from 2015). The gains in share will be spread relatively broadly across source regions, with the gains most modest in Europe and strongest in NEA.

Figure 112: U.S. Imports of Non-container Cargo by Origin

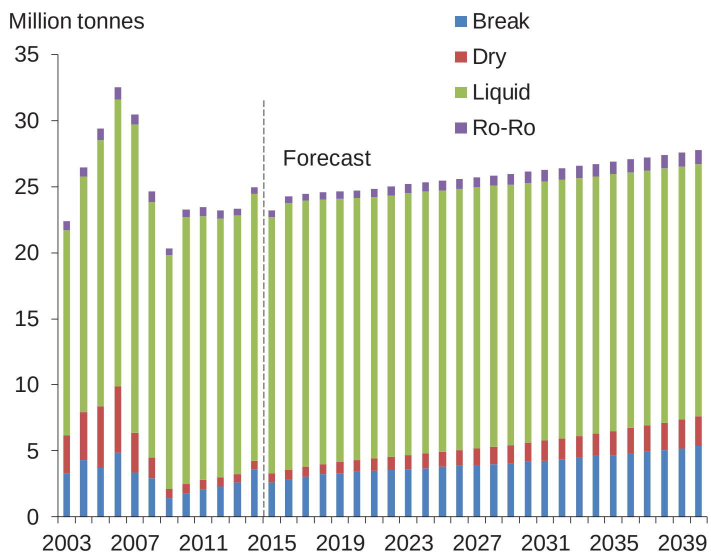



Source : Oxford Economics/Haver Analytics

The composition of the SPB Ports' non-container imports is (perhaps unsurprisingly) somewhat different to the composition at the national level. Specifically, liquid bulk makes up a greater proportion of overall imports (around 80%, versus 70% at the national level), and liquid imports have continued to rise through recent years (albeit quite modestly) in stark contrast to the overall U.S. picture.

Developments within the oil sector explain most of this difference. While imports of crude oil at the U.S. level fell by almost 50% from 2005-2014, imports into SPB Ports actually rose by 16% (although this has been relatively stable in the most recent years). While oil-producing regions of the U.S. have been able to reduce imports, this has not been true of the SPB region. The share of U.S. oil imports coming into SPB ports has therefore risen from 2.5% in 2005 to 6.6% in 2014.

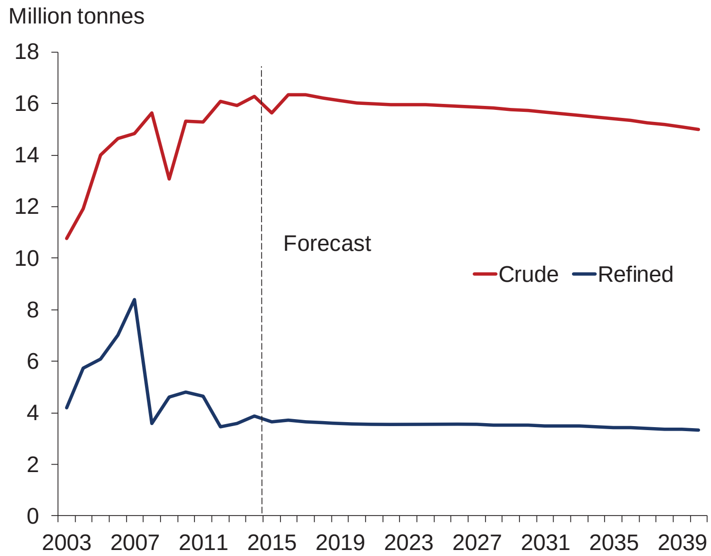
**Figure 113: SPB Ports' Imports of Non-container Cargo by Origin**



Source : Oxford Economics/Haver Analytics

Looking ahead, as at the U.S. level, we expect a very gradual easing in oil import demand, driven mainly by an ongoing improvement in energy efficiency. At just 0.3% per annum over the 2015-2040 timeframe in the case of both crude and refined oil, the easing of SPB Ports throughput will be less pronounced than at the U.S. level, though.

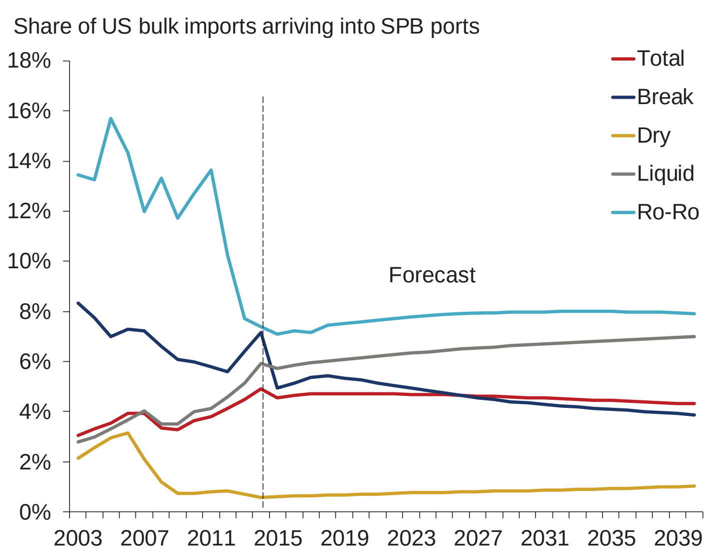
**Figure 114: SPB Ports Imports of Crude and Refined Oil**



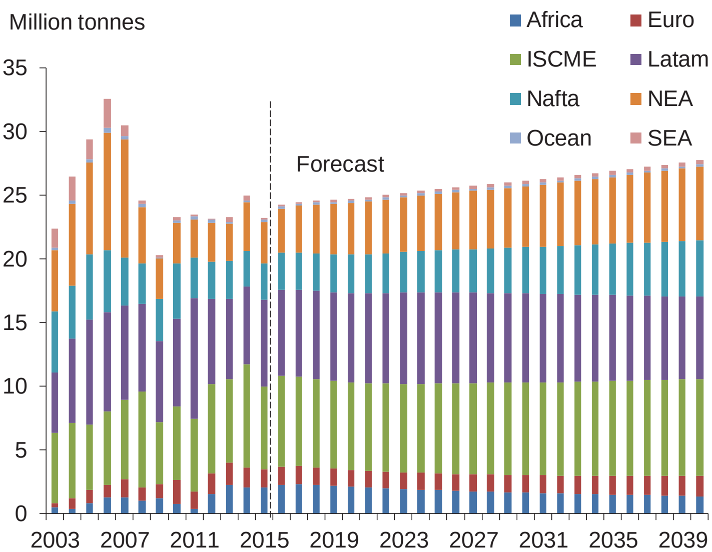

Source : Oxford Economics/Haver Analytics

As at the U.S. level, the breakbulk forecasts are in line with corresponding container categories. However, these categories have tended to be the areas where SPB Ports have been losing relative importance in a U.S. context over recent years. As such, the SPB Ports have been losing share of overall U.S. breakbulk imports. Looking ahead a continuation of this trend is expected. The projections for the SPB Ports' shares of other types of bulk, is set out in chart below.

**Figure 115: SPB Ports Shares of U.S. Imports by Bulk Cargo Categories**




Source : Oxford Economics/Haver Analytics



Source : Oxford Economics/Haver Analytics

## 2.4 Assessment of High Volume Commodities Susceptibility to Diversion

Port choice for non-container commodities is primarily driven by cost considerations, but the location of production facilities for exports and consumption points for imports can anchor certain volume to a port and nullify competitive threats. The data in the table below identifies each of the SPB Ports' high volume commodities by type of cargo handling facility utilized, and provides some commentary on the risk of diversion to other ports.

**Figure 116: Assessment of SPB Ports' High Volume Commodities Susceptibility to Diversion to Other Ports**

| Terminal Type / Direction | Commodity | 2014 m.tons (mil) | Diversion Potential / Explanation |
|---|---|---|---|
| Liquid Bulk / Imports | Crude Oil | 23.3 | Low - SPB Ports' handles crude oil for refineries that are located within this port area. The last new refinery built in California was Valero's Wilmington, CA facility, which opened in 1980, no new facilities are expected to be built during the forecast period. Therefore, SPB Ports' crude oil imports are seen to have a low risk of diversion as, there are no cost effective alternative based on the location of the refineries they serve. |
| | Oil Not Crude | 7.3 | Low – Imports under this category are mainly the same types of products that are being produced by the refineries in this area and supplement their production. Therefore, imports of this commodity are not seen to be divertible as they utilize that same distribution infrastructure as the area's refineries. |
| Liquid Bulk / Exports | Oil Not Crude | 3.4 | Low- The products covered by this commodity are primarily produced by the refineries that import crude oil through SPB Ports, thus are not seen at risk of being diverted. |
| Dry Bulk / Exports | PetCoke | 5.2 | Low – PetCoke is a byproduct of the oil refining process, thus the volume that is exported through SBP Ports is generated by the same facilities this port area handles import shipments of crude oil for. As it was found that crude oil is not at risk of diversion this commodity is also no seen to be divertible. |
| | Coal | 1.6 | High – Coal is mined in a number of interior western states (like Wyoming's Powder River Basin) and moved over Pacific Coast ports primarily to China. As coal exports utilize rail transport to reach port on the Pacific Coast means that exports can utilize any port that provides them with suitable terminal capacity and competitive route costs. |
| | Metal Scrap | 0.6 | Low- This commodity generated by population around SPB Ports and as it is a waste product its value cannot support additional transportation cost associated with moving it to other ports, even if they a relatively short distance away. |
| Dry Bulk/Imports | Gypsum | 0.3 | Low - Gypsum is used as an input for making cement and wallboard. There are facilities for making these within SPB Ports, thus making the risk of diversion very low. |
| | Salt | 0.1 | Low – Morton has a facility located within SPB Ports, which is why the risk of diversion is seen to be low. |
| Breakbulk / Imports | Metal Products | 2.7 | Low – The products covered by this commodity tend to be consumed near the port, which limits the diversion potential to near-by ports. |
| RORO / Imports | Vehicles | 0.6 | Moderate – While most import vehicles handled through SPB Ports are for the local market there is a percentage that are moved to inland markets and these can be diverted. |

## 2.5 Analysis of Competitive Risk of Select Non-container Commodities

In the previous section, the following non-container commodities were identified as having a moderate to high susceptibility to diversion:

- Coal / Dry Bulk- High
- Vehicles / RoRo – Moderate

In appendix 5 analysis of non-container terminals located at SPB Ports is provided by cargo type, and this information was used as part of the analysis below, which reviews:

- Why the commodities listed above are currently utilizing terminals within the SPB Ports
- Identifications potential competitors were required
- Assess the diversion risk to SPB Ports

### 2.5.1 Coal / Dry Bulk

In 2014 Metropolitan Stevedore and Oxbow Carbon (Oxbow) signed a fifteen-year extension to its Pier G lease, which is the only dedicated coal terminal located at SPB Ports. Oxbow's primary businesses are the mining and marketing of energy and bulk commodities such as coal, natural gas, petroleum, and metallurgical and calcined coke. The company also markets petroleum coke.

The lease for the coal terminal includes a minimum annual volume guarantee of 1.9 million tons of coal. The ports’ non-container statistics indicate that 1.5 million tons of coal was exported through this port area in 2014. The minimum guarantee makes it unlikely that Oxbow will route a significant portion of its coal exports through other ports.

### 2.5.2 Vehicles / RoRo

SPB Ports has two terminals that handle the vast majority of the vehicles imported through this area and these are listed below with information in the operators:

- **Port of Los Angeles - Berths 195-199:** Operated by Wallenius Wilhelmsen Logistics (WWL) for Nissan
- **Port of Long Beach -** Pier B: Operated by Toyota Distributions Services (TDS)

Additionally, a small number of cars for Mercedes are handled at SSA’s breakbulk facility.

As SPB Ports’ two primary RoRo facilities are controlled by vehicle producers that use them, thus they are key components in these companies’ supply chains.

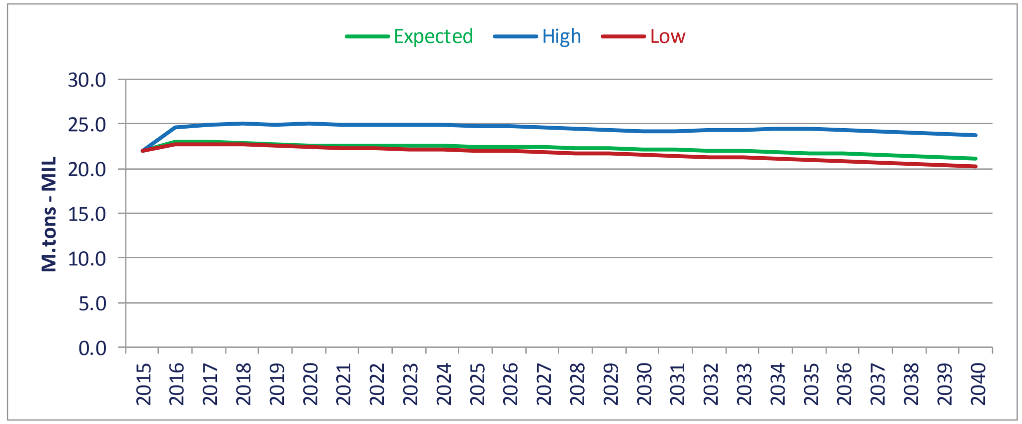
In reviewing PIERS data it was found the SPB Ports received 11.5% of the motor vehicles imports on non-container vessels in 2014. As discussed earlier in this document, the extended catchment area associated with SPB Ports holds 18% of the U.S.’s population, thus it is unlikely that a significant number of the vehicles being imported through SPB Ports are being shipped beyond the catchment area. Therefore, SPB Ports’ vehicle imports are seen to have a very low risk of diversion.

## 2.6 Forecast of Non-container High volume Commodities

As it was found that there was very little risk of diversion for all the high volume non-container commodities this section of the report the growth rate identified

**Figure 117: Forecast of Crude Oil Imports via SPB Ports**

| | Crude Oil -- M.tons MIL | | | Crude Oil -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 22.1 | 22.1 | 22.1 | -4.0% | -4.0% | -4.0% |
| 2016 | 23.1 | 24.7 | 22.7 | 4.6% | 11.9% | 2.9% |
| 2017 | 23.1 | 25.0 | 22.8 | -0.1% | 1.0% | 0.3% |
| 2018 | 22.9 | 25.0 | 22.7 | -0.7% | 0.3% | -0.3% |
| 2019 | 22.7 | 25.0 | 22.6 | -0.8% | -0.1% | -0.4% |
| 2020 | 22.6 | 25.1 | 22.4 | -0.5% | 0.2% | -0.8% |
| 2021 | 22.6 | 25.0 | 22.3 | -0.3% | -0.3% | -0.5% |
| 2022 | 22.5 | 24.9 | 22.2 | -0.1% | -0.2% | -0.3% |
| 2023 | 22.5 | 24.9 | 22.2 | 0.0% | -0.1% | -0.3% |
| 2024 | 22.5 | 24.9 | 22.1 | -0.1% | -0.1% | -0.3% |
| 2025 | 22.5 | 24.8 | 22.0 | -0.1% | -0.2% | -0.3% |
| 2026 | 22.5 | 24.7 | 22.0 | -0.2% | -0.4% | -0.4% |
| 2027 | 22.4 | 24.6 | 21.9 | -0.2% | -0.4% | -0.4% |
| 2028 | 22.4 | 24.5 | 21.8 | -0.3% | -0.5% | -0.5% |
| 2029 | 22.3 | 24.4 | 21.7 | -0.3% | -0.6% | -0.5% |
| 2030 | 22.2 | 24.2 | 21.6 | -0.3% | -0.6% | -0.5% |
| 2031 | 22.1 | 24.3 | 21.4 | -0.4% | 0.2% | -0.5% |
| 2032 | 22.0 | 24.3 | 21.3 | -0.4% | 0.2% | -0.5% |
| 2033 | 22.0 | 24.4 | 21.2 | -0.4% | 0.2% | -0.5% |
| 2034 | 21.9 | 24.4 | 21.1 | -0.4% | 0.2% | -0.6% |
| 2035 | 21.8 | 24.5 | 21.0 | -0.4% | 0.2% | -0.6% |
| 2036 | 21.7 | 24.3 | 20.9 | -0.4% | -0.6% | -0.6% |
| 2037 | 21.6 | 24.2 | 20.7 | -0.5% | -0.6% | -0.6% |
| 2038 | 21.4 | 24.0 | 20.6 | -0.5% | -0.6% | -0.6% |
| 2039 | 21.3 | 23.9 | 20.5 | -0.6% | -0.7% | -0.7% |
| 2040 | 21.2 | 23.7 | 20.3 | -0.6% | -0.7% | -0.7% |



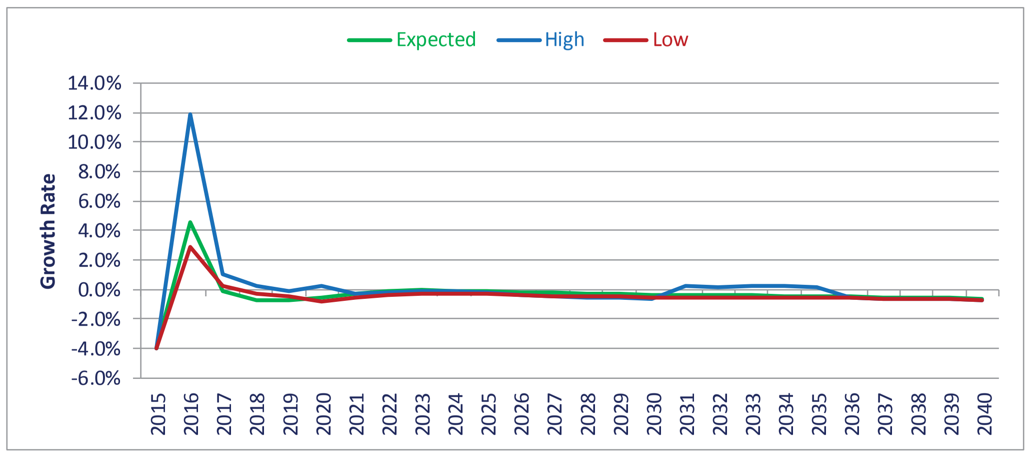
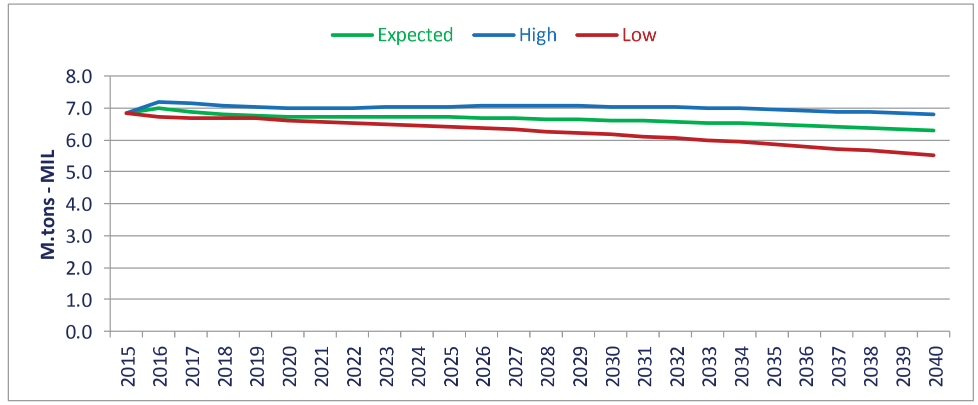



**Figure 118: Forecast of Oil Non-Crude Imports via SPB Ports**

| | Oil Non-Crude -- M.tons MIL | | | Oil Non-Crude -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 6.9 | 6.9 | 6.9 | -6.0% | -6.0% | -6.0% |
| 2016 | 7.0 | 7.2 | 6.7 | 1.8% | 5.1% | -1.7% |
| 2017 | 6.9 | 7.1 | 6.7 | -1.5% | -0.8% | -0.7% |
| 2018 | 6.8 | 7.1 | 6.7 | -0.9% | -0.9% | 0.0% |
| 2019 | 6.8 | 7.0 | 6.7 | -0.8% | -0.9% | -0.2% |
| 2020 | 6.7 | 7.0 | 6.6 | -0.5% | -0.4% | -1.0% |
| 2021 | 6.7 | 7.0 | 6.6 | -0.1% | 0.0% | -0.7% |
| 2022 | 6.7 | 7.0 | 6.5 | 0.0% | 0.2% | -0.6% |
| 2023 | 6.7 | 7.0 | 6.5 | 0.0% | 0.3% | -0.5% |
| 2024 | 6.7 | 7.0 | 6.5 | 0.0% | 0.3% | -0.6% |
| 2025 | 6.7 | 7.1 | 6.4 | -0.1% | 0.2% | -0.7% |
| 2026 | 6.7 | 7.1 | 6.4 | -0.2% | 0.1% | -0.7% |
| 2027 | 6.7 | 7.1 | 6.3 | -0.2% | 0.1% | -0.8% |
| 2028 | 6.7 | 7.1 | 6.3 | -0.2% | 0.0% | -0.8% |
| 2029 | 6.6 | 7.1 | 6.2 | -0.3% | -0.1% | -0.8% |
| 2030 | 6.6 | 7.1 | 6.2 | -0.3% | -0.1% | -0.9% |
| 2031 | 6.6 | 7.0 | 6.1 | -0.3% | -0.2% | -0.9% |
| 2032 | 6.6 | 7.0 | 6.1 | -0.4% | -0.2% | -0.9% |
| 2033 | 6.5 | 7.0 | 6.0 | -0.4% | -0.3% | -1.0% |
| 2034 | 6.5 | 7.0 | 5.9 | -0.5% | -0.3% | -1.0% |
| 2035 | 6.5 | 7.0 | 5.9 | -0.5% | -0.3% | -1.1% |
| 2036 | 6.4 | 6.9 | 5.8 | -0.7% | -0.5% | -1.2% |
| 2037 | 6.4 | 6.9 | 5.7 | -0.6% | -0.4% | -1.2% |
| 2038 | 6.4 | 6.9 | 5.7 | -0.6% | -0.4% | -1.2% |
| 2039 | 6.3 | 6.8 | 5.6 | -0.6% | -0.4% | -1.2% |
| 2040 | 6.3 | 6.8 | 5.5 | -0.6% | -0.4% | -1.2% |



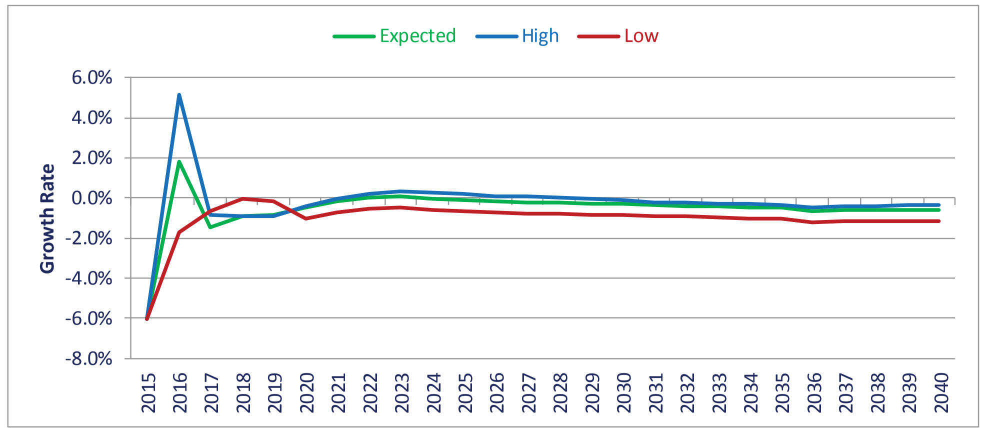
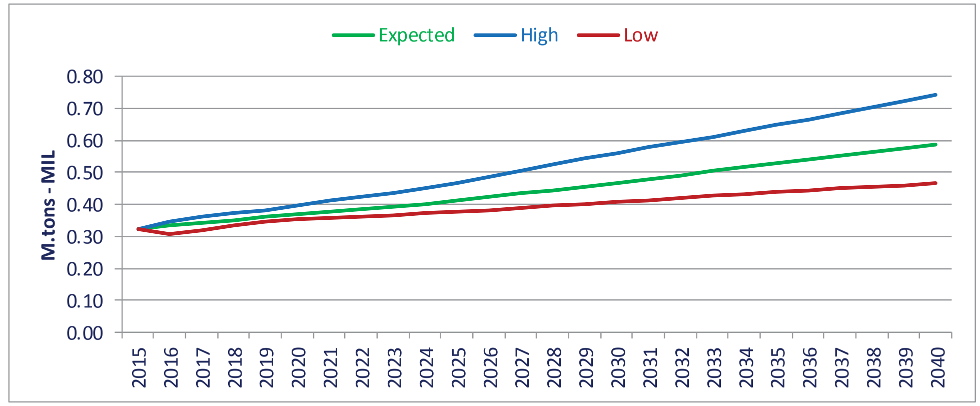



Figure 119: Forecast of Gypsum Imports via SPB Ports

| | Gypsum -- M.tons MIL | | | Gypsum -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 0.32 | 0.32 | 0.32 | 1.0% | 1.0% | 1.0% |
| 2016 | 0.33 | 0.34 | 0.31 | 3.3% | 6.9% | -4.5% |
| 2017 | 0.34 | 0.36 | 0.32 | 2.9% | 5.3% | 3.3% |
| 2018 | 0.35 | 0.37 | 0.33 | 2.4% | 2.6% | 4.9% |
| 2019 | 0.36 | 0.38 | 0.35 | 2.6% | 2.6% | 3.6% |
| 2020 | 0.37 | 0.40 | 0.35 | 2.4% | 3.7% | 2.2% |
| 2021 | 0.38 | 0.41 | 0.36 | 2.3% | 3.7% | 1.4% |
| 2022 | 0.39 | 0.42 | 0.36 | 2.1% | 3.3% | 1.0% |
| 2023 | 0.39 | 0.44 | 0.37 | 2.1% | 3.0% | 1.3% |
| 2024 | 0.40 | 0.45 | 0.37 | 2.2% | 3.6% | 1.3% |
| 2025 | 0.41 | 0.47 | 0.38 | 2.4% | 3.5% | 1.4% |
| 2026 | 0.42 | 0.49 | 0.38 | 2.6% | 4.0% | 1.6% |
| 2027 | 0.43 | 0.51 | 0.39 | 2.6% | 3.9% | 1.6% |
| 2028 | 0.45 | 0.53 | 0.40 | 2.6% | 3.9% | 1.6% |
| 2029 | 0.46 | 0.55 | 0.40 | 2.5% | 3.8% | 1.5% |
| 2030 | 0.47 | 0.56 | 0.41 | 2.5% | 2.9% | 1.5% |
| 2031 | 0.48 | 0.58 | 0.41 | 2.5% | 2.9% | 1.5% |
| 2032 | 0.49 | 0.59 | 0.42 | 2.5% | 2.9% | 1.5% |
| 2033 | 0.50 | 0.61 | 0.43 | 2.4% | 2.9% | 1.5% |
| 2034 | 0.52 | 0.63 | 0.43 | 2.4% | 2.9% | 1.4% |
| 2035 | 0.53 | 0.65 | 0.44 | 2.4% | 2.9% | 1.4% |
| 2036 | 0.54 | 0.67 | 0.44 | 2.3% | 2.9% | 1.3% |
| 2037 | 0.55 | 0.68 | 0.45 | 2.2% | 2.8% | 1.2% |
| 2038 | 0.56 | 0.70 | 0.45 | 2.2% | 2.7% | 1.2% |
| 2039 | 0.58 | 0.72 | 0.46 | 2.1% | 2.8% | 1.1% |
| 2040 | 0.59 | 0.74 | 0.46 | 2.1% | 2.8% | 1.1% |



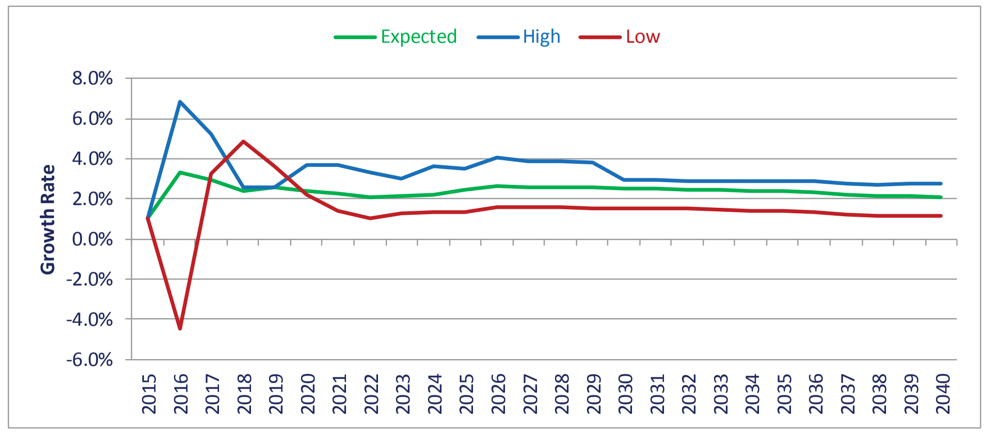
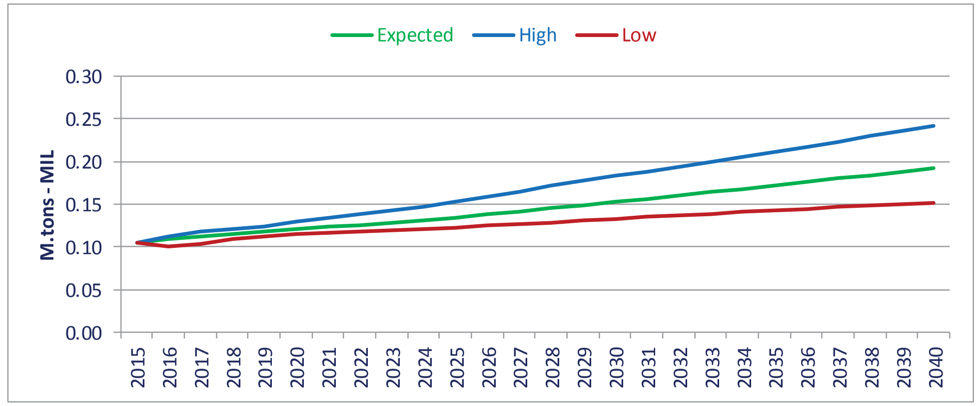



**Figure 120: Forecast of Salt Imports via SPB Ports**

| | Salt -- M.tons MIL | | | Salt -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 0.11 | 0.11 | 0.11 | 1.0% | 1.0% | 1.0% |
| 2016 | 0.11 | 0.11 | 0.10 | 3.3% | 6.9% | -4.5% |
| 2017 | 0.11 | 0.12 | 0.10 | 2.9% | 5.3% | 3.3% |
| 2018 | 0.11 | 0.12 | 0.11 | 2.4% | 2.6% | 4.9% |
| 2019 | 0.12 | 0.12 | 0.11 | 2.6% | 2.6% | 3.6% |
| 2020 | 0.12 | 0.13 | 0.12 | 2.4% | 3.7% | 2.2% |
| 2021 | 0.12 | 0.13 | 0.12 | 2.3% | 3.7% | 1.4% |
| 2022 | 0.13 | 0.14 | 0.12 | 2.1% | 3.3% | 1.0% |
| 2023 | 0.13 | 0.14 | 0.12 | 2.1% | 3.0% | 1.3% |
| 2024 | 0.13 | 0.15 | 0.12 | 2.2% | 3.6% | 1.3% |
| 2025 | 0.13 | 0.15 | 0.12 | 2.4% | 3.5% | 1.4% |
| 2026 | 0.14 | 0.16 | 0.13 | 2.6% | 4.0% | 1.6% |
| 2027 | 0.14 | 0.17 | 0.13 | 2.6% | 3.9% | 1.6% |
| 2028 | 0.15 | 0.17 | 0.13 | 2.6% | 3.9% | 1.6% |
| 2029 | 0.15 | 0.18 | 0.13 | 2.5% | 3.8% | 1.5% |
| 2030 | 0.15 | 0.18 | 0.13 | 2.5% | 2.9% | 1.5% |
| 2031 | 0.16 | 0.19 | 0.14 | 2.5% | 2.9% | 1.5% |
| 2032 | 0.16 | 0.19 | 0.14 | 2.5% | 2.9% | 1.5% |
| 2033 | 0.16 | 0.20 | 0.14 | 2.4% | 2.9% | 1.5% |
| 2034 | 0.17 | 0.21 | 0.14 | 2.4% | 2.9% | 1.4% |
| 2035 | 0.17 | 0.21 | 0.14 | 2.4% | 2.9% | 1.4% |
| 2036 | 0.18 | 0.22 | 0.14 | 2.3% | 2.9% | 1.3% |
| 2037 | 0.18 | 0.22 | 0.15 | 2.2% | 2.8% | 1.2% |
| 2038 | 0.18 | 0.23 | 0.15 | 2.2% | 2.7% | 1.2% |
| 2039 | 0.19 | 0.24 | 0.15 | 2.1% | 2.8% | 1.1% |
| 2040 | 0.19 | 0.24 | 0.15 | 2.1% | 2.8% | 1.1% |



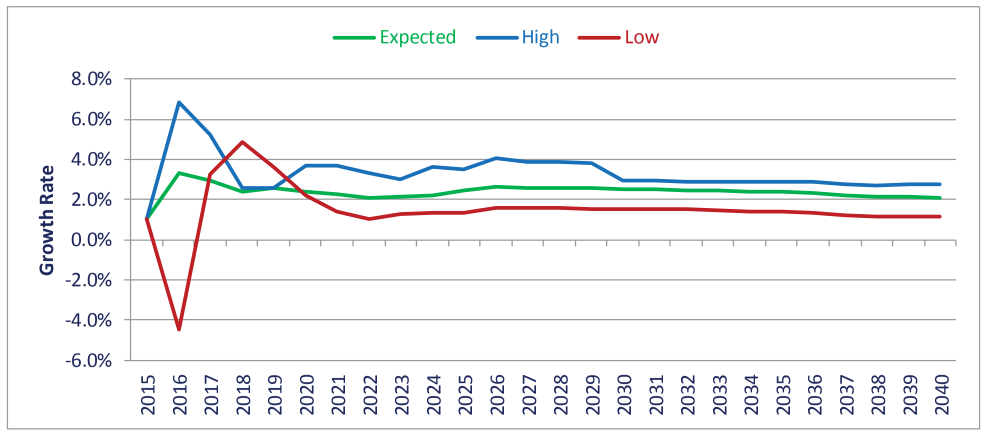
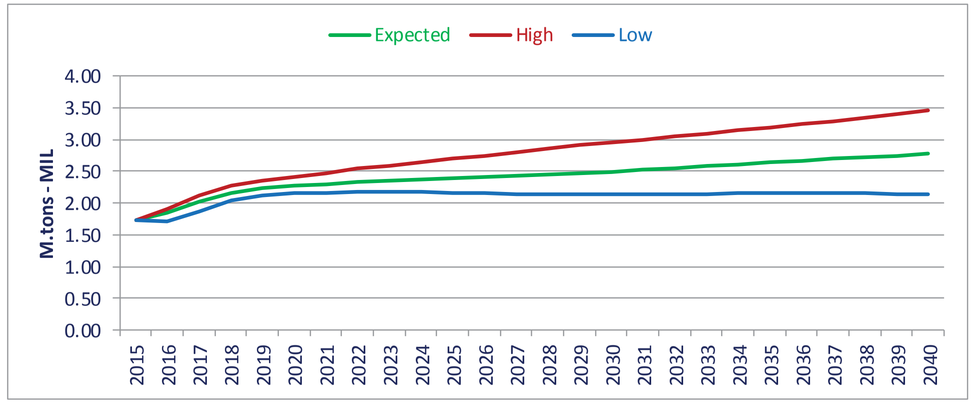



**Figure 121: Forecast of Metal Products Imports via SPB Ports**

| | Metal Products -- M.tons MIL | | | Metal Products -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 1.74 | 1.74 | 1.74 | -36.7% | -36.7% | -36.7% |
| 2016 | 1.85 | 1.92 | 1.72 | 6.3% | 10.2% | -1.0% |
| 2017 | 2.02 | 2.13 | 1.87 | 9.3% | 11.0% | 8.7% |
| 2018 | 2.16 | 2.27 | 2.04 | 6.9% | 6.9% | 8.8% |
| 2019 | 2.24 | 2.35 | 2.13 | 3.8% | 3.3% | 4.4% |
| 2020 | 2.27 | 2.41 | 2.15 | 1.5% | 2.8% | 1.3% |
| 2021 | 2.30 | 2.48 | 2.16 | 1.3% | 2.7% | 0.4% |
| 2022 | 2.34 | 2.54 | 2.17 | 1.4% | 2.6% | 0.3% |
| 2023 | 2.36 | 2.59 | 2.17 | 0.9% | 1.7% | 0.0% |
| 2024 | 2.38 | 2.65 | 2.17 | 0.9% | 2.3% | 0.0% |
| 2025 | 2.40 | 2.70 | 2.17 | 0.9% | 1.9% | -0.2% |
| 2026 | 2.41 | 2.75 | 2.15 | 0.6% | 1.9% | -0.5% |
| 2027 | 2.43 | 2.80 | 2.14 | 0.6% | 1.8% | -0.4% |
| 2028 | 2.45 | 2.85 | 2.14 | 0.8% | 2.0% | -0.3% |
| 2029 | 2.47 | 2.91 | 2.14 | 1.0% | 2.2% | -0.1% |
| 2030 | 2.50 | 2.96 | 2.14 | 1.1% | 1.5% | 0.1% |
| 2031 | 2.53 | 3.00 | 2.14 | 1.1% | 1.5% | 0.1% |
| 2032 | 2.55 | 3.05 | 2.14 | 1.1% | 1.5% | 0.1% |
| 2033 | 2.59 | 3.10 | 2.15 | 1.2% | 1.6% | 0.2% |
| 2034 | 2.61 | 3.14 | 2.15 | 1.1% | 1.5% | 0.1% |
| 2035 | 2.64 | 3.19 | 2.15 | 1.1% | 1.6% | 0.0% |
| 2036 | 2.67 | 3.24 | 2.15 | 1.1% | 1.6% | 0.1% |
| 2037 | 2.70 | 3.29 | 2.15 | 1.1% | 1.6% | 0.0% |
| 2038 | 2.73 | 3.34 | 2.15 | 1.0% | 1.5% | -0.1% |
| 2039 | 2.75 | 3.39 | 2.15 | 0.9% | 1.5% | -0.2% |
| 2040 | 2.78 | 3.45 | 2.15 | 1.2% | 1.8% | 0.1% |



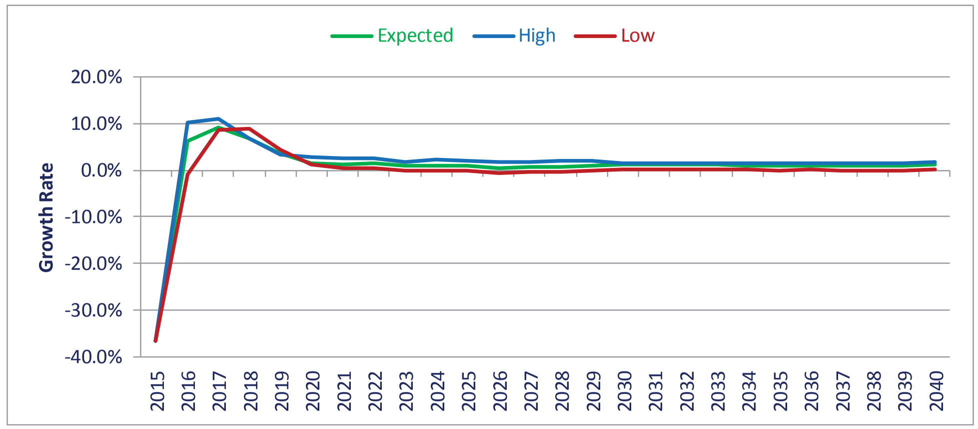
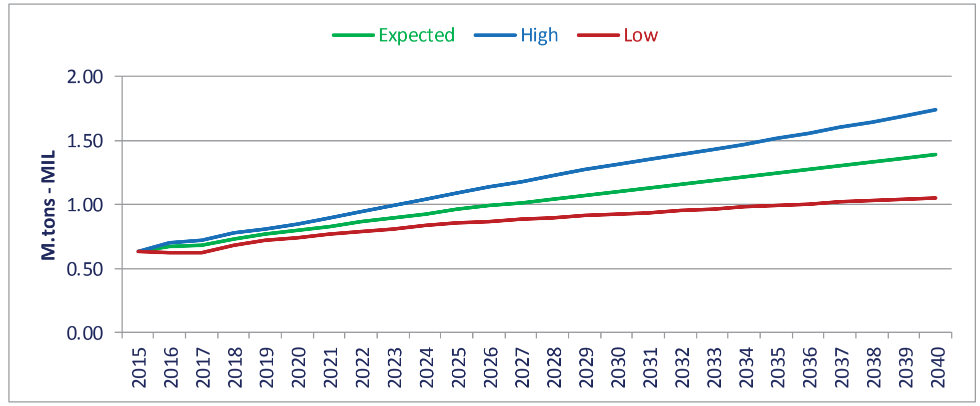



**Figure 122: Forecast of Vehicle Imports via SPB Ports**

| | Vehicles -- M.tons MIL | | | Vehicles -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 0.64 | 0.64 | 0.64 | 4.8% | 4.8% | 4.8% |
| 2016 | 0.67 | 0.70 | 0.62 | 6.3% | 9.8% | -2.2% |
| 2017 | 0.68 | 0.72 | 0.62 | 1.2% | 3.3% | 0.4% |
| 2018 | 0.73 | 0.77 | 0.68 | 7.3% | 7.4% | 8.8% |
| 2019 | 0.77 | 0.81 | 0.72 | 4.6% | 4.4% | 5.4% |
| 2020 | 0.80 | 0.85 | 0.74 | 4.1% | 5.4% | 3.8% |
| 2021 | 0.83 | 0.90 | 0.77 | 3.9% | 5.4% | 3.0% |
| 2022 | 0.86 | 0.94 | 0.79 | 4.1% | 5.4% | 3.0% |
| 2023 | 0.90 | 0.99 | 0.81 | 3.8% | 4.7% | 3.0% |
| 2024 | 0.93 | 1.04 | 0.83 | 3.6% | 5.0% | 2.6% |
| 2025 | 0.96 | 1.09 | 0.85 | 3.4% | 4.5% | 2.3% |
| 2026 | 0.99 | 1.13 | 0.87 | 3.0% | 4.4% | 1.9% |
| 2027 | 1.02 | 1.18 | 0.88 | 2.8% | 4.1% | 1.7% |
| 2028 | 1.04 | 1.23 | 0.90 | 2.7% | 4.0% | 1.6% |
| 2029 | 1.07 | 1.27 | 0.91 | 2.6% | 3.9% | 1.5% |
| 2030 | 1.10 | 1.31 | 0.92 | 2.5% | 2.9% | 1.5% |
| 2031 | 1.12 | 1.35 | 0.94 | 2.5% | 2.9% | 1.5% |
| 2032 | 1.15 | 1.39 | 0.95 | 2.5% | 2.9% | 1.5% |
| 2033 | 1.18 | 1.43 | 0.96 | 2.5% | 2.9% | 1.4% |
| 2034 | 1.21 | 1.47 | 0.98 | 2.5% | 2.9% | 1.4% |
| 2035 | 1.24 | 1.51 | 0.99 | 2.4% | 3.0% | 1.4% |
| 2036 | 1.27 | 1.56 | 1.01 | 2.4% | 2.9% | 1.3% |
| 2037 | 1.30 | 1.60 | 1.02 | 2.3% | 2.9% | 1.3% |
| 2038 | 1.33 | 1.65 | 1.03 | 2.2% | 2.8% | 1.1% |
| 2039 | 1.36 | 1.69 | 1.04 | 2.1% | 2.7% | 1.0% |
| 2040 | 1.39 | 1.74 | 1.05 | 2.3% | 3.0% | 1.3% |



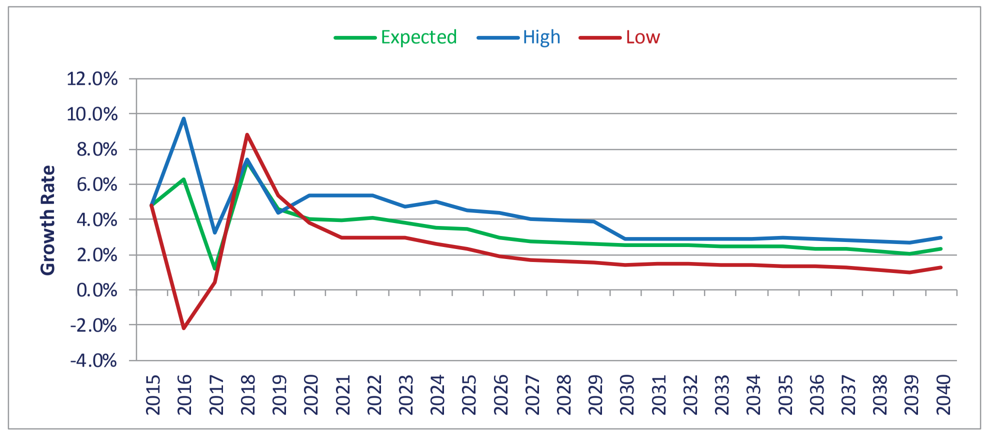
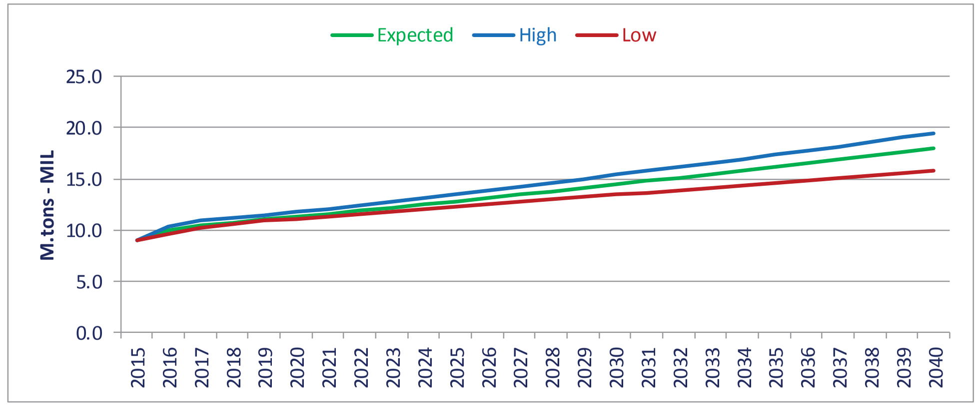



Figure 123: Forecast of Oil Non-Crude Exports via SPB Ports

| | Oil Non-Crude -- M.tons MIL | | | Oil Non-Crude -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 9.0 | 9.0 | 9.0 | 23.7% | 23.7% | 23.7% |
| 2016 | 10.0 | 10.3 | 9.6 | 10.4% | 13.9% | 6.5% |
| 2017 | 10.5 | 10.9 | 10.2 | 5.3% | 6.0% | 6.2% |
| 2018 | 10.8 | 11.2 | 10.6 | 2.6% | 2.7% | 3.5% |
| 2019 | 11.0 | 11.4 | 10.9 | 2.4% | 2.3% | 3.1% |
| 2020 | 11.3 | 11.7 | 11.1 | 2.5% | 2.6% | 2.0% |
| 2021 | 11.6 | 12.1 | 11.3 | 2.6% | 2.7% | 2.0% |
| 2022 | 11.9 | 12.4 | 11.6 | 2.5% | 2.7% | 2.0% |
| 2023 | 12.2 | 12.7 | 11.8 | 2.6% | 2.9% | 2.0% |
| 2024 | 12.5 | 13.1 | 12.0 | 2.5% | 2.8% | 2.0% |
| 2025 | 12.8 | 13.5 | 12.3 | 2.5% | 2.8% | 2.0% |
| 2026 | 13.1 | 13.8 | 12.5 | 2.5% | 2.8% | 1.9% |
| 2027 | 13.5 | 14.2 | 12.7 | 2.5% | 2.7% | 1.9% |
| 2028 | 13.8 | 14.6 | 13.0 | 2.4% | 2.6% | 1.8% |
| 2029 | 14.1 | 15.0 | 13.2 | 2.4% | 2.6% | 1.8% |
| 2030 | 14.4 | 15.4 | 13.4 | 2.4% | 2.6% | 1.9% |
| 2031 | 14.8 | 15.7 | 13.7 | 2.3% | 2.4% | 1.7% |
| 2032 | 15.1 | 16.1 | 13.9 | 2.2% | 2.4% | 1.7% |
| 2033 | 15.5 | 16.5 | 14.1 | 2.3% | 2.5% | 1.7% |
| 2034 | 15.8 | 16.9 | 14.4 | 2.2% | 2.4% | 1.7% |
| 2035 | 16.1 | 17.3 | 14.6 | 2.2% | 2.4% | 1.6% |
| 2036 | 16.5 | 17.7 | 14.8 | 2.2% | 2.4% | 1.6% |
| 2037 | 16.9 | 18.1 | 15.1 | 2.2% | 2.4% | 1.6% |
| 2038 | 17.2 | 18.6 | 15.3 | 2.2% | 2.4% | 1.6% |
| 2039 | 17.6 | 19.0 | 15.6 | 2.2% | 2.4% | 1.6% |
| 2040 | 18.0 | 19.5 | 15.8 | 2.1% | 2.4% | 1.6% |



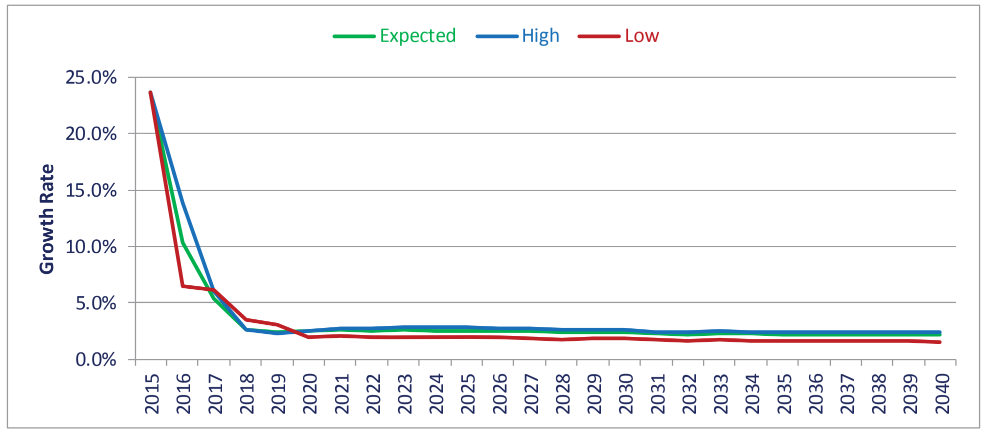
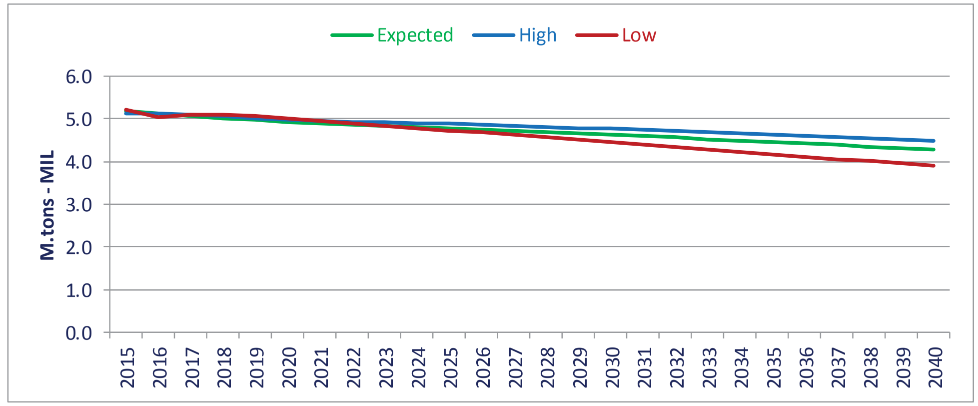



**Figure 124: Forecast of PetCoke Exports via SPB Ports**

| | PetCoke -- M.tons MIL | | | PetCoke -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 5.2 | 5.1 | 5.2 | 0.8% | -0.6% | 1.4% |
| 2016 | 5.1 | 5.1 | 5.1 | -1.2% | 0.1% | -3.2% |
| 2017 | 5.1 | 5.1 | 5.1 | -1.0% | -0.3% | 0.9% |
| 2018 | 5.0 | 5.1 | 5.1 | -1.1% | -0.8% | -0.3% |
| 2019 | 5.0 | 5.0 | 5.1 | -1.0% | -1.2% | -0.1% |
| 2020 | 4.9 | 5.0 | 5.0 | -0.7% | -0.6% | -1.3% |
| 2021 | 4.9 | 4.9 | 5.0 | -0.7% | -0.6% | -1.2% |
| 2022 | 4.9 | 4.9 | 4.9 | -0.5% | -0.3% | -1.1% |
| 2023 | 4.8 | 4.9 | 4.8 | -0.6% | -0.4% | -1.1% |
| 2024 | 4.8 | 4.9 | 4.8 | -0.6% | -0.3% | -1.1% |
| 2025 | 4.8 | 4.9 | 4.7 | -0.6% | -0.3% | -1.1% |
| 2026 | 4.8 | 4.9 | 4.7 | -0.6% | -0.4% | -1.2% |
| 2027 | 4.7 | 4.8 | 4.6 | -0.6% | -0.4% | -1.2% |
| 2028 | 4.7 | 4.8 | 4.6 | -0.7% | -0.5% | -1.2% |
| 2029 | 4.7 | 4.8 | 4.5 | -0.8% | -0.6% | -1.4% |
| 2030 | 4.6 | 4.8 | 4.5 | -0.6% | -0.5% | -1.2% |
| 2031 | 4.6 | 4.7 | 4.4 | -0.7% | -0.6% | -1.2% |
| 2032 | 4.6 | 4.7 | 4.3 | -0.7% | -0.6% | -1.3% |
| 2033 | 4.5 | 4.7 | 4.3 | -0.8% | -0.6% | -1.3% |
| 2034 | 4.5 | 4.7 | 4.2 | -0.8% | -0.6% | -1.3% |
| 2035 | 4.5 | 4.6 | 4.2 | -0.8% | -0.6% | -1.3% |
| 2036 | 4.4 | 4.6 | 4.1 | -0.8% | -0.6% | -1.3% |
| 2037 | 4.4 | 4.6 | 4.1 | -0.8% | -0.6% | -1.3% |
| 2038 | 4.4 | 4.5 | 4.0 | -0.8% | -0.6% | -1.3% |
| 2039 | 4.3 | 4.5 | 4.0 | -0.8% | -0.6% | -1.3% |
| 2040 | 4.3 | 4.5 | 3.9 | -0.8% | -0.6% | -1.3% |



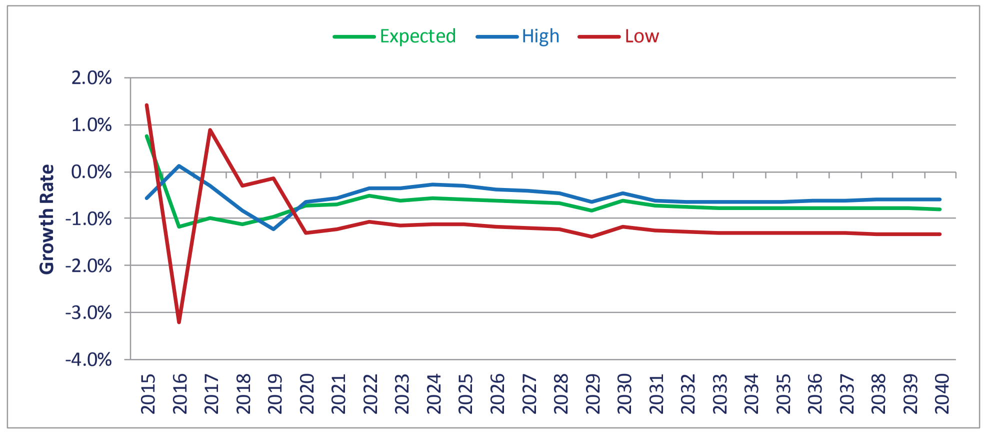
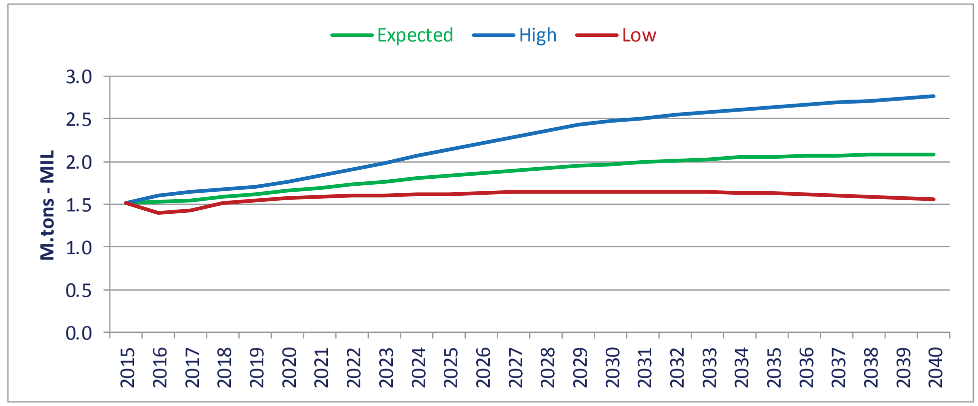



**Figure 125: Forecast of Coal Exports via SPB Ports**

| | Coal -- M.tons MIL | | | Coal -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 1.5 | 1.5 | 1.5 | -6.6% | -6.6% | -6.6% |
| 2016 | 1.5 | 1.6 | 1.4 | 0.8% | 5.8% | -7.7% |
| 2017 | 1.6 | 1.6 | 1.4 | 1.5% | 2.7% | 2.5% |
| 2018 | 1.6 | 1.7 | 1.5 | 2.2% | 1.3% | 5.7% |
| 2019 | 1.6 | 1.7 | 1.6 | 2.2% | 1.9% | 2.2% |
| 2020 | 1.7 | 1.8 | 1.6 | 2.4% | 4.1% | 1.6% |
| 2021 | 1.7 | 1.8 | 1.6 | 2.3% | 4.1% | 0.9% |
| 2022 | 1.7 | 1.9 | 1.6 | 2.1% | 3.7% | 0.5% |
| 2023 | 1.8 | 2.0 | 1.6 | 2.0% | 4.1% | 0.7% |
| 2024 | 1.8 | 2.1 | 1.6 | 1.9% | 4.0% | 0.6% |
| 2025 | 1.8 | 2.1 | 1.6 | 1.8% | 3.3% | 0.3% |
| 2026 | 1.9 | 2.2 | 1.6 | 1.8% | 3.7% | 0.6% |
| 2027 | 1.9 | 2.3 | 1.6 | 1.7% | 3.4% | 0.5% |
| 2028 | 1.9 | 2.4 | 1.6 | 1.4% | 3.1% | 0.3% |
| 2029 | 2.0 | 2.4 | 1.7 | 1.3% | 2.9% | 0.1% |
| 2030 | 2.0 | 2.5 | 1.7 | 1.2% | 1.7% | 0.1% |
| 2031 | 2.0 | 2.5 | 1.7 | 1.1% | 1.5% | 0.0% |
| 2032 | 2.0 | 2.5 | 1.6 | 0.9% | 1.4% | -0.2% |
| 2033 | 2.0 | 2.6 | 1.6 | 0.9% | 1.4% | -0.2% |
| 2034 | 2.0 | 2.6 | 1.6 | 0.8% | 1.3% | -0.3% |
| 2035 | 2.1 | 2.6 | 1.6 | 0.6% | 1.2% | -0.5% |
| 2036 | 2.1 | 2.7 | 1.6 | 0.4% | 1.0% | -0.7% |
| 2037 | 2.1 | 2.7 | 1.6 | 0.2% | 0.9% | -0.8% |
| 2038 | 2.1 | 2.7 | 1.6 | 0.2% | 0.9% | -0.9% |
| 2039 | 2.1 | 2.7 | 1.6 | 0.2% | 1.0% | -0.9% |
| 2040 | 2.1 | 2.8 | 1.6 | 0.2% | 0.9% | -0.9% |



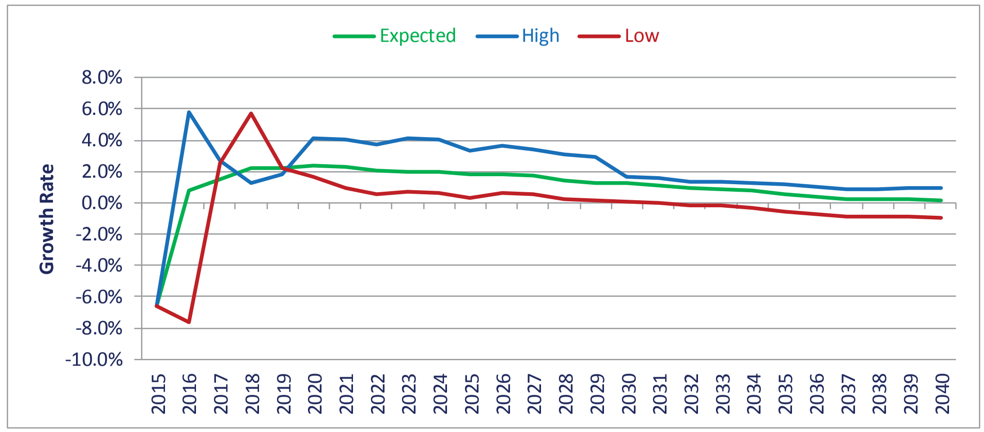
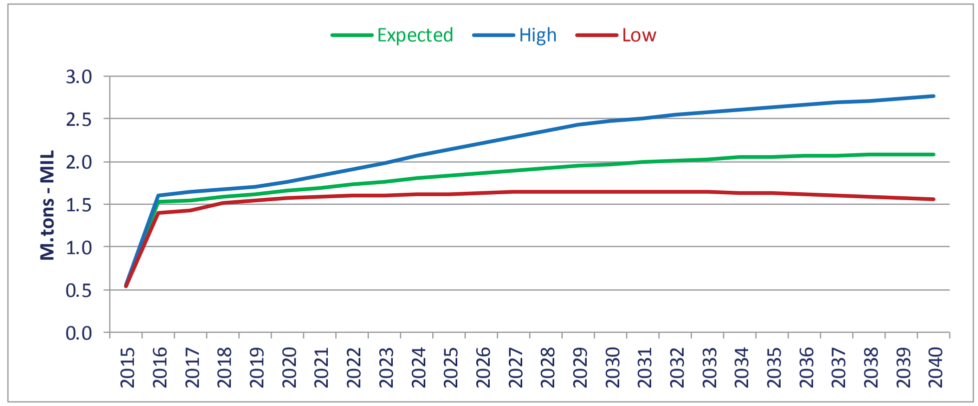
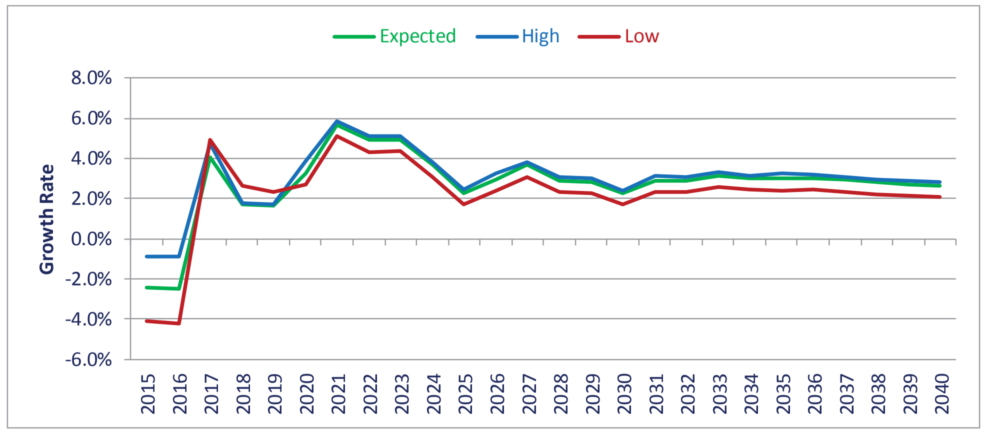



**Figure 126: Forecast of Metal Scrap Exports via SPB Ports**

| | Metal Scrap -- M.tons MIL | | | Metal Scrap -- Growth Rate | | |
|---|---|---|---|---|---|---|
| Year | Expected | High | Low | Expected | High | Low |
| 2015 | 0.5 | 0.6 | 0.5 | -2.4% | -0.9% | -4.1% |
| 2016 | 1.5 | 1.6 | 1.4 | -2.5% | -0.9% | -4.2% |
| 2017 | 1.6 | 1.6 | 1.4 | 4.1% | 4.7% | 4.9% |
| 2018 | 1.6 | 1.7 | 1.5 | 1.7% | 1.7% | 2.6% |
| 2019 | 1.6 | 1.7 | 1.6 | 1.6% | 1.7% | 2.3% |
| 2020 | 1.7 | 1.8 | 1.6 | 3.3% | 3.9% | 2.7% |
| 2021 | 1.7 | 1.8 | 1.6 | 5.7% | 5.9% | 5.1% |
| 2022 | 1.7 | 1.9 | 1.6 | 4.9% | 5.1% | 4.3% |
| 2023 | 1.8 | 2.0 | 1.6 | 4.9% | 5.1% | 4.4% |
| 2024 | 1.8 | 2.1 | 1.6 | 3.7% | 3.8% | 3.1% |
| 2025 | 1.8 | 2.1 | 1.6 | 2.3% | 2.4% | 1.7% |
| 2026 | 1.9 | 2.2 | 1.6 | 3.0% | 3.2% | 2.4% |
| 2027 | 1.9 | 2.3 | 1.6 | 3.7% | 3.8% | 3.1% |
| 2028 | 1.9 | 2.4 | 1.6 | 2.9% | 3.1% | 2.3% |
| 2029 | 2.0 | 2.4 | 1.7 | 2.8% | 3.0% | 2.3% |
| 2030 | 2.0 | 2.5 | 1.7 | 2.2% | 2.4% | 1.7% |
| 2031 | 2.0 | 2.5 | 1.7 | 2.9% | 3.2% | 2.3% |
| 2032 | 2.0 | 2.5 | 1.6 | 2.9% | 3.1% | 2.3% |
| 2033 | 2.0 | 2.6 | 1.6 | 3.1% | 3.3% | 2.6% |
| 2034 | 2.0 | 2.6 | 1.6 | 3.0% | 3.2% | 2.4% |
| 2035 | 2.1 | 2.6 | 1.6 | 3.0% | 3.3% | 2.4% |
| 2036 | 2.1 | 2.7 | 1.6 | 3.0% | 3.2% | 2.4% |
| 2037 | 2.1 | 2.7 | 1.6 | 2.9% | 3.1% | 2.4% |
| 2038 | 2.1 | 2.7 | 1.6 | 2.8% | 3.0% | 2.2% |
| 2039 | 2.1 | 2.7 | 1.6 | 2.7% | 2.9% | 2.1% |
| 2040 | 2.1 | 2.8 | 1.6 | 2.6% | 2.8% | 2.1% |



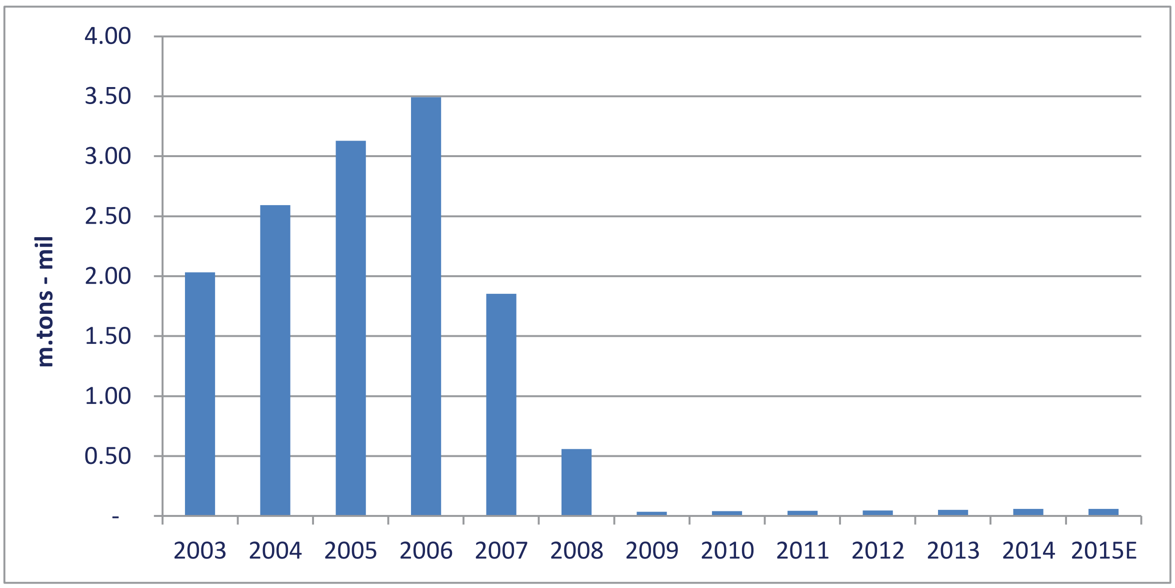
## 2.7 Analysis for the Renewal of Cement Imports

As there has been a multi-year gap in meaningful cement imports through SPB Ports forecasting the timing of the possible resumption of this activity is more speculative than the forecasts for existing cargoes handled by these Ports. As a result, the long-term macro models used to forecast other commodities were deemed inappropriate for forecasting cement imports. Therefore, the analysis in this section first identifies the likely trigger for the resumption of cement imports and then correlates the long-term growth of this commodity's import volume to regional construction activity and the capacity of domestic production sources.

### 2.7.1 Summary of Cement Imports via SPB Ports

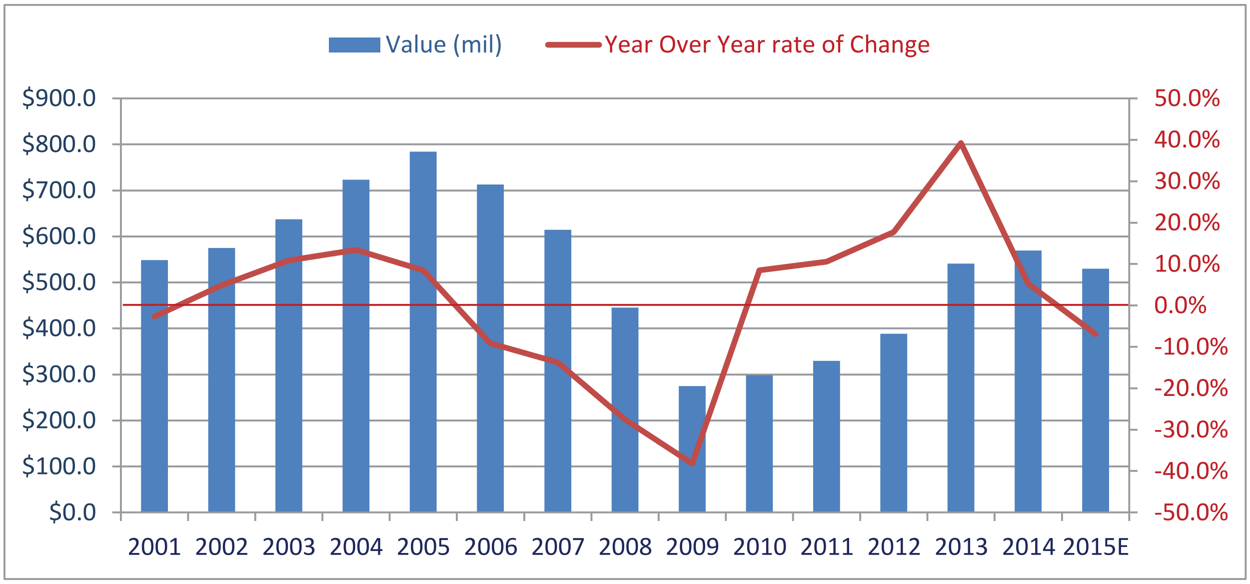
SPB Ports has two marine facilities that are equipped to handle cement imports, and these terminals received significant amounts of imported cement up through 2007, as shown in the following chart:

**Figure 127: Imports of Cement via SPB Ports**




The decline in cement imports after 2007 is considered to be the result of a contraction in California's construction activity, which is illustrated in the following chart, using the value of authorized building permits in the State as a proxy measure:

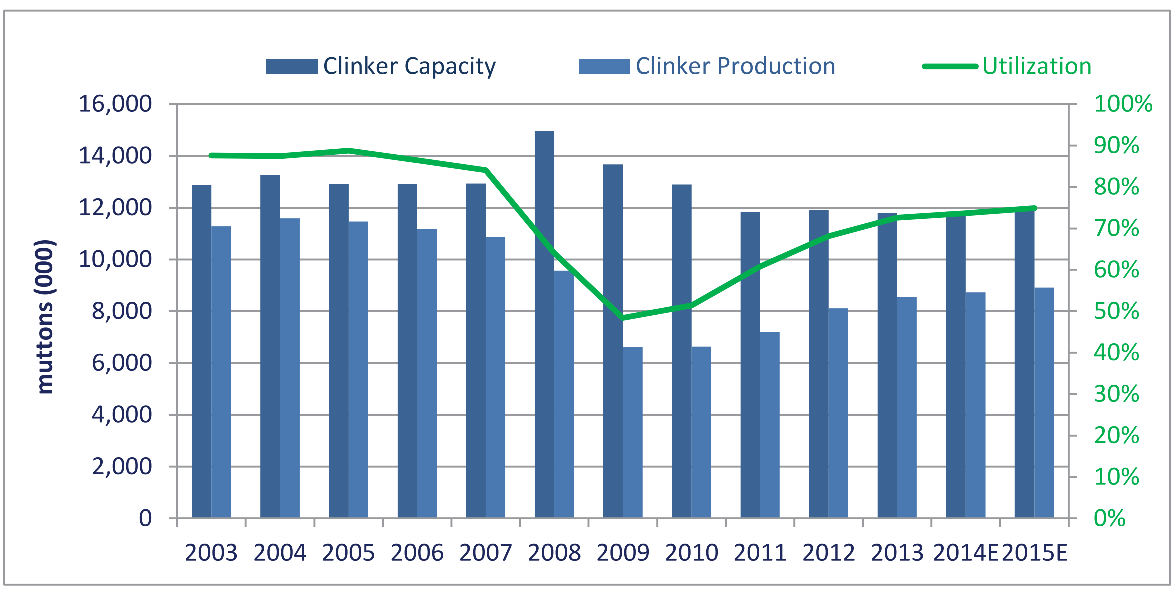
**Figure 128: Value of Authorized Building Permits in California**




The value of the building permits authorized in California contracted by 65% from its peak in 2005 to its trough in 2009. However, since bottoming out then, the value of authorized building permits in the state has recovered, but the total value is still well below the levels occurring from 2004 to 2006.

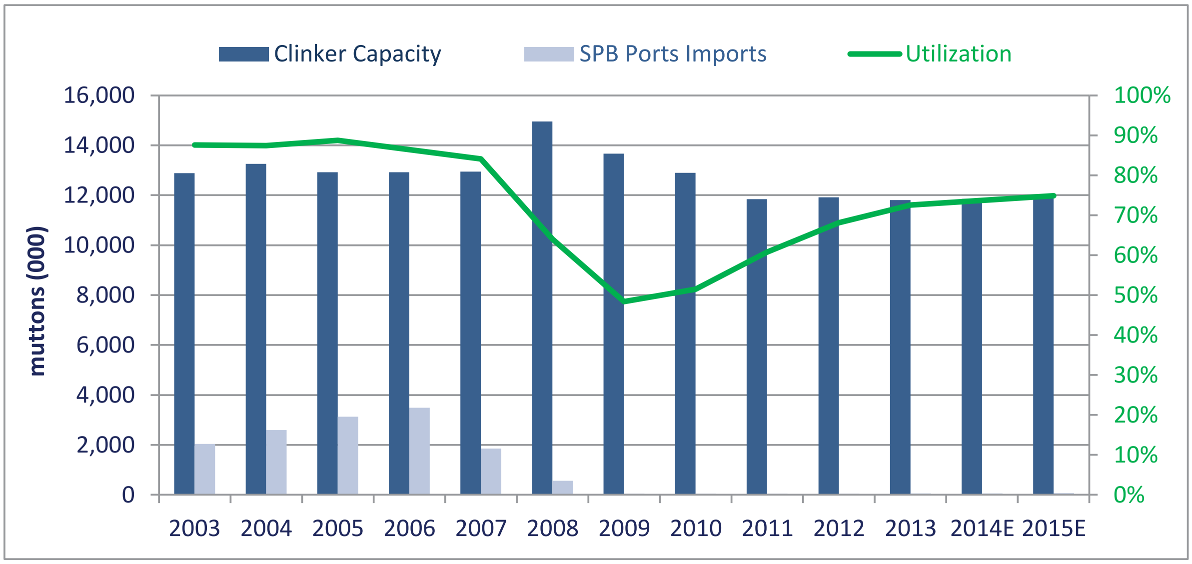
California is one of the top three states in the country in terms of clinker production (the material that is ground into Portland cement), and a review of the state's production capacity and output of clinker is shown in the following chart.

**Figure 129: Review of California's Capacity and Production of Clinker**



The chart above shows that during the early portion of the previous decade, aggregate utilization levels of California's clinker production facilities was at, or above, 80%. This corresponded to the period when SPB Ports was receiving significant tonnages of imported cement, as illustrated in the following chart.

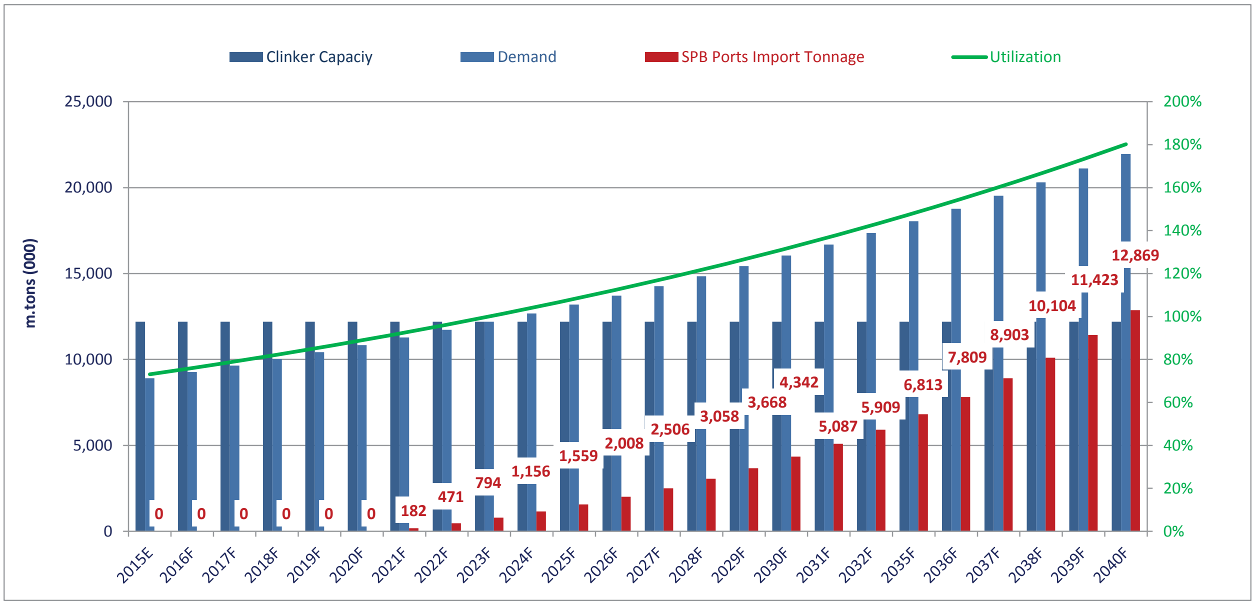
Figure 130: Overview of SPB Ports Imports of Cement in Relation to California Clinker Production




Mercator/OE project that California's construction industry will continue to grow and will eventually cause its clinker production facilities to reach an overall utilization level of 90%. Once that occurs, it is expected that cement imports will resume to bridge the gap between domestic supply and increasing demand for this commodity in California. The following chart assumes the following:

- No new clinker production facilities will be opened in California over the forecast period, given environmental concerns
- The number of maintenance days per year for California's clinker production facilities will fall back to historical levels as demand rises, and this will increase the industry's capacity
- Demand for cement in California will grow at a 4% rate
- After clinker production in California reaches the 90% capacity utilization level, additional demand for cement will be met by imports
- 65% of the cement imports into California will be handled by SPB Ports, based on the historical split of shipments between destinations in Northern versus Southern California

**Figure 131: Forecast of Cement Imports Throughput SPB Ports**




The chart above predicts that demand for cement will drive California's clinker production industry to a collective utilization rate above 90% by 2021. Furthermore, as the heating process used to produce clinker results in a significant amount of carbon gas emissions, it is not expected that any new production facilities will be opened in the state over the forecast period.

Appendix 1: Annual Container Growth Rate from Expected Macro- economic Assumptions

| US imports by broad commodity group | | | |
|---|---|---|---|
| | 2004-2014 | 2015-2020 | 2021-2040 |
| FOOD | 3.7% | 3.9% | 3.2% |
| RETAIL | 1.4% | 5.0% | 3.5% |
| CHEM & PHARM | 1.3% | 4.9% | 3.9% |
| CONSTRUCTION | 2.7% | 4.9% | 3.8% |
| MACHINERY (INCL. TRANS) | 3.9% | 4.8% | 3.8% |
| MATERIALS | 4.2% | 4.4% | 3.5% |
| MISC | 2.9% | 5.5% | 4.2% |
| TOTAL | 2.5% | 4.7% | 3.6% |

| US imports by source region | | | |
|---|---|---|---|
| | 2004-2014 | 2015-2020 | 2021-2040 |
| Africa | -1.8% | 3.2% | 4.1% |
| Europe | 2.0% | 4.8% | 3.1% |
| ISCME | 1.3% | 3.6% | 3.5% |
| Latam | 1.0% | 3.9% | 3.5% |
| Nafta | -7.4% | 11.2% | 5.5% |
| NEA | 3.2% | 4.8% | 3.6% |
| Ocean | 1.9% | 6.5% | 4.6% |
| SEA | 4.4% | 4.4% | 3.7% |
| TOTAL | 2.5% | 4.7% | 3.6% |

| US exports by commodity | | | |
|---|---|---|---|
| | 2004-2014 | 2015-2020 | 2021-2040 |
| CHEMICALS | 3.6% | 5.3% | 4.0% |
| FABRICS | -1.0% | 0.7% | -1.1% |
| FOOD | 4.6% | 4.5% | 3.2% |
| MACHINERY | 4.7% | 5.2% | 5.2% |
| METALS | 4.1% | 4.8% | 4.0% |
| MINEXTRACTS | 6.7% | 2.9% | 1.9% |
| OTHER | -0.4% | 4.3% | 4.1% |
| PLASTICS | 3.4% | 5.1% | 4.1% |
| WASTE | 8.6% | 2.5% | 4.7% |
| WOOD | 5.9% | 6.5% | 4.1% |
| TOTAL | 4.8% | 4.4% | 3.9% |

## US exports by destination region

| | 2004-2014 | 2015-2020 | 2021-2040 |
|---|---|---|---|
| **Africa** | 5.4% | 2.3% | 2.7% |
| **Europe** | 3.5% | 4.7% | 2.5% |
| **ISCME** | 7.2% | 7.8% | 5.0% |
| **Latam** | 4.1% | 1.7% | 3.4% |
| **Nafta** | 12.5% | 5.1% | 4.3% |
| **NEA** | 4.6% | 4.5% | 4.1% |
| **Ocean** | 4.6% | 3.2% | 3.7% |
| **SEA** | 6.8% | 5.8% | 4.7% |
| **TOTAL** | 4.8% | 4.4% | 3.9% |

## SPB imports by broad commodity groups

| | 2004-2014 | 2015-2020 | 2021-2040 |
|---|---|---|---|
| **FOOD** | 3.7% | 4.4% | 3.6% |
| **RETAIL** | 1.1% | 4.4% | 3.2% |
| **CHEM & PHARM** | 5.3% | 5.6% | 4.2% |
| **CONSTRUCTION** | 3.4% | 5.1% | 4.2% |
| **MACHINERY (INCL. TRANS)** | 4.0% | 5.4% | 4.4% |
| **MATERIALS** | 2.1% | 4.7% | 3.8% |
| **MISC** | 4.2% | 5.6% | 4.9% |
| **TOTAL** | 2.3% | 4.8% | 3.7% |

## SPB imports by source region

| | 2004-2014 | 2015-2020 | 2021-2040 |
|---|---|---|---|
| **Africa** | 2.0% | 6.6% | 7.1% |
| **Europe** | 0.2% | 5.6% | 3.8% |
| **ISCME** | -0.6% | 4.8% | 4.4% |
| **Latam** | 2.0% | 3.3% | 4.2% |
| **Nafta** | -9.5% | 20.9% | 5.4% |
| **NEA** | 2.6% | 4.7% | 3.7% |
| **Ocean** | -2.9% | 10.4% | 5.2% |
| **SEA** | 2.7% | 4.3% | 3.7% |
| **TOTAL** | 2.3% | 4.8% | 3.7% |

| SPB exports by commodity | | | |
|---|---|---|---|
| | 2004-2014 | 2015-2020 | 2021-2040 |
| CHEMICALS | 2.3% | 4.2% | 4.2% |
| FABRICS | -1.4% | 1.3% | -0.8% |
| FOOD | 6.8% | 5.0% | 4.9% |
| MACHINERY | 6.4% | 4.2% | 5.9% |
| METALS | 7.9% | 1.7% | 4.3% |
| MINEXTRACTS | 2.6% | 7.3% | 2.7% |
| OTHER | 1.5% | 3.5% | 4.7% |
| PLASTICS | 0.4% | 4.8% | 4.6% |
| WASTE | 12.0% | 1.6% | 5.4% |
| WOOD | 3.1% | 5.0% | 4.2% |
| TOTAL | 6.0% | 3.4% | 4.9% |

| SPB exports by destination region | | | |
|---|---|---|---|
| | 2004-2014 | 2015-2020 | 2021-2040 |
| Africa | 11.7% | 1.4% | 3.0% |
| Europe | 2.5% | 3.8% | 3.5% |
| ISCME | 1.8% | 6.5% | 5.1% |
| Latam | 5.0% | -1.3% | 3.4% |
| Nafta | 1.8% | 12.3% | 6.0% |
| NEA | 6.4% | 3.4% | 5.0% |
| Ocean | 4.5% | 0.7% | 4.0% |
| SEA | 6.3% | 4.2% | 4.9% |
| TOTAL | 6.0% | 3.4% | 4.9% |

### Appendix 2: Breakdown of SPB Ports' Forecasted Volume – Expected Macro Assumption

Base Case Adjustments

| | SPB _IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | *SPB Ports* | *Overall* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | *ALL_IMP_TEU* | IPI_LDS | LOCAL_LDS | LOCAL_MTY | IPI_MTY | *ALL_EXP_TEU* | IPI_LDS | LOCAL_LDS | IPI_MTY | LOCAL_MTY | *ALL_DOM-TEU* | LDS | MTY | LDS | MTY | *Total* | *Growth* |
| 2015 | ***8,028,953*** | 2,930,068 | 4,949,756 | 141,739 | 7,391 | ***7,051,853*** | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | ***365,507*** | 234,118 | 2,302 | 38,419 | 90,668 | ***15,446,313*** | ***1.9%*** |
| 2016 | ***8,674,879*** | 3,172,204 | 5,343,507 | 151,279 | 7,888 | ***7,238,122*** | 1,794,807 | 1,493,538 | 563,698 | 3,386,079 | ***370,989*** | 237,630 | 2,337 | 38,995 | 92,028 | ***16,283,989*** | ***5.4%*** |
| 2017 | ***9,043,491*** | 3,306,522 | 5,570,380 | 158,333 | 8,256 | ***7,559,079*** | 1,878,493 | 1,563,176 | 587,566 | 3,529,844 | ***376,554*** | 241,194 | 2,372 | 39,580 | 93,408 | ***16,979,123*** | ***4.3%*** |
| 2018 | ***9,486,827*** | 3,458,477 | 5,852,513 | 167,123 | 8,714 | ***7,948,012*** | 1,982,777 | 1,649,956 | 606,653 | 3,708,626 | ***382,202*** | 244,812 | 2,407 | 40,174 | 94,809 | ***17,817,042*** | ***4.9%*** |
| 2019 | ***9,941,058*** | 3,613,101 | 6,142,535 | 176,232 | 9,189 | ***8,348,615*** | 2,090,854 | 1,739,892 | 625,462 | 3,892,408 | ***387,935*** | 248,484 | 2,443 | 40,776 | 96,232 | ***18,677,608*** | ***4.8%*** |
| 2020 | ***10,243,928*** | 3,614,511 | 6,434,114 | 185,624 | 9,679 | ***8,638,855*** | 2,202,276 | 1,832,610 | 526,793 | 4,077,176 | ***393,754*** | 252,211 | 2,480 | 41,388 | 97,675 | ***19,276,537*** | ***3.2%*** |
| 2021 | ***10,686,574*** | 3,758,876 | 6,721,741 | 195,751 | 10,207 | ***9,052,973*** | 2,322,428 | 1,932,594 | 538,512 | 4,259,439 | ***399,661*** | 255,995 | 2,517 | 42,009 | 99,140 | ***20,139,208*** | ***4.5%*** |
| 2022 | ***11,153,126*** | 3,911,800 | 7,024,185 | 206,380 | 10,761 | ***9,487,904*** | 2,448,531 | 2,037,530 | 550,750 | 4,451,093 | ***405,656*** | 259,835 | 2,555 | 42,639 | 100,627 | ***21,046,686*** | ***4.5%*** |
| 2023 | ***11,566,706*** | 4,024,489 | 7,314,072 | 216,839 | 11,307 | ***9,883,894*** | 2,572,617 | 2,140,787 | 535,702 | 4,634,788 | ***411,740*** | 263,732 | 2,593 | 43,278 | 102,137 | ***21,862,340*** | ***3.9%*** |
| 2024 | ***11,962,432*** | 4,118,097 | 7,604,862 | 227,605 | 11,868 | ***10,271,361*** | 2,700,351 | 2,247,081 | 504,873 | 4,819,056 | ***417,917*** | 267,688 | 2,632 | 43,928 | 103,669 | ***22,651,710*** | ***3.6%*** |
| 2025 | ***12,363,549*** | 4,210,739 | 7,900,850 | 239,474 | 12,487 | ***10,682,729*** | 2,841,161 | 2,364,255 | 470,694 | 5,006,619 | ***424,185*** | 271,703 | 2,672 | 44,587 | 105,224 | ***23,470,464*** | ***3.6%*** |
| 2026 | ***12,748,571*** | 4,294,438 | 8,190,419 | 250,644 | 13,069 | ***11,070,615*** | 2,973,692 | 2,474,539 | 432,271 | 5,190,113 | ***430,548*** | 275,779 | 2,712 | 45,255 | 106,802 | ***24,249,733*** | ***3.3%*** |
| 2027 | ***13,221,008*** | 4,454,529 | 8,489,438 | 263,311 | 13,730 | ***11,552,284*** | 3,123,974 | 2,599,596 | 449,119 | 5,379,595 | ***437,006*** | 279,916 | 2,752 | 45,934 | 108,404 | ***25,210,298*** | ***4.0%*** |
| 2028 | ***13,712,393*** | 4,621,842 | 8,799,815 | 276,327 | 14,409 | ***12,049,532*** | 3,278,401 | 2,728,101 | 466,754 | 5,576,276 | ***443,561*** | 284,114 | 2,794 | 46,623 | 110,030 | ***26,205,487*** | ***3.9%*** |
| 2029 | ***14,221,501*** | 4,795,590 | 9,120,897 | 289,898 | 15,116 | ***12,566,229*** | 3,439,408 | 2,862,083 | 484,999 | 5,779,739 | ***450,215*** | 288,376 | 2,836 | 47,323 | 111,681 | ***27,237,946*** | ***3.9%*** |
| 2030 | ***14,752,389*** | 4,977,370 | 9,455,224 | 303,946 | 15,849 | ***13,102,549*** | 3,606,071 | 3,000,770 | 504,113 | 5,991,596 | ***456,968*** | 292,702 | 2,878 | 48,032 | 113,356 | ***28,311,906*** | ***3.9%*** |
| 2031 | ***15,303,625*** | 5,166,307 | 9,801,870 | 318,823 | 16,625 | ***13,665,533*** | 3,782,580 | 3,147,651 | 524,043 | 6,211,259 | ***463,823*** | 297,092 | 2,921 | 48,753 | 115,056 | ***29,432,980*** | ***4.0%*** |
| 2032 | ***15,870,010*** | 5,360,445 | 10,157,866 | 334,269 | 17,430 | ***14,247,393*** | 3,965,831 | 3,300,142 | 544,573 | 6,436,847 | ***470,780*** | 301,549 | 2,965 | 49,484 | 116,782 | ***30,588,183*** | ***3.9%*** |
| 2033 | ***16,451,896*** | 5,560,233 | 10,523,018 | 350,375 | 18,270 | ***14,850,018*** | 4,156,916 | 3,459,152 | 565,713 | 6,668,236 | ***477,842*** | 306,072 | 3,010 | 50,226 | 118,534 | ***31,779,755*** | ***3.9%*** |
| 2034 | ***17,052,375*** | 5,766,428 | 10,899,619 | 367,182 | 19,146 | ***15,475,852*** | 4,356,321 | 3,625,086 | 587,563 | 6,906,882 | ***485,009*** | 310,663 | 3,055 | 50,980 | 120,312 | ***33,013,237*** | ***3.9%*** |
| 2035 | ***17,667,252*** | 5,977,917 | 11,284,676 | 384,604 | 20,055 | ***16,121,060*** | 4,563,018 | 3,797,087 | 610,071 | 7,150,885 | ***492,284*** | 315,323 | 3,100 | 51,745 | 122,117 | ***34,280,596*** | ***3.8%*** |
| 2036 | ***18,295,943*** | 6,194,729 | 11,677,573 | 402,646 | 20,995 | ***16,785,315*** | 4,777,072 | 3,975,211 | 633,177 | 7,399,856 | ***499,669*** | 320,053 | 3,147 | 52,521 | 123,948 | ***35,580,927*** | ***3.8%*** |
| 2037 | ***18,940,160*** | 6,417,091 | 12,079,817 | 421,285 | 21,967 | ***17,469,129*** | 4,998,205 | 4,159,225 | 656,948 | 7,654,751 | ***507,164*** | 324,853 | 3,194 | 53,308 | 125,808 | ***36,916,452*** | ***3.8%*** |
| 2038 | ***19,597,082*** | 6,643,952 | 12,489,610 | 440,548 | 22,972 | ***18,171,822*** | 5,226,745 | 4,349,404 | 681,244 | 7,914,429 | ***514,771*** | 329,726 | 3,242 | 54,108 | 127,695 | ***38,283,675*** | ***3.7%*** |
| 2039 | ***20,262,658*** | 6,873,624 | 12,904,584 | 460,440 | 24,009 | ***18,891,827*** | 5,462,756 | 4,545,799 | 705,882 | 8,177,390 | ***522,493*** | 334,672 | 3,291 | 54,920 | 129,610 | ***39,676,978*** | ***3.6%*** |
| 2040 | ***20,939,633*** | 7,106,557 | 13,326,738 | 481,244 | 25,094 | ***19,635,203*** | 5,709,577 | 4,751,189 | 729,536 | 8,444,901 | ***530,330*** | 339,692 | 3,340 | 55,744 | 131,554 | ***41,105,166*** | ***3.6%*** |

Upside Adjustments

| | SPB _IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | SPB Ports | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | ALL_IMP_TEU | RAIL_LDS | LOCAL_LDS | LOCAL_MTY | RAIL_MTY | ALL_EXP_TEU | RAIL_LDS | LOCAL_LDS | RAIL_MTY | LOCAL_MTY | ALL_DOM-TEU | LDS | MTY | LDS | MTY | Total | Growth |
| 2015 | ***8,028,953*** | 2,930,068 | 4,949,756 | 141,739 | 7,391 | ***7,051,853*** | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | ***365,507*** | 234,118 | 2,302 | 38,419 | 90,668 | ***15,446,313*** | ***1.9%*** |
| 2016 | ***8,674,879*** | 3,172,204 | 5,343,507 | 151,279 | 7,888 | ***7,238,122*** | 1,794,807 | 1,493,538 | 563,698 | 3,386,079 | ***372,817*** | 236,459 | 2,325 | 38,803 | 95,230 | ***16,285,817*** | ***5.4%*** |
| 2017 | ***9,043,491*** | 3,306,522 | 5,570,380 | 158,333 | 8,256 | ***7,559,079*** | 1,878,493 | 1,563,176 | 587,566 | 3,529,844 | ***380,273*** | 238,824 | 2,348 | 39,191 | 99,910 | ***16,982,842*** | ***4.3%*** |
| 2018 | ***9,500,282*** | 3,471,932 | 5,852,513 | 167,123 | 8,714 | ***7,958,319*** | 1,982,777 | 1,649,956 | 616,959 | 3,708,626 | ***387,879*** | 241,212 | 2,372 | 39,583 | 104,712 | ***17,846,479*** | ***5.1%*** |
| 2019 | ***9,969,246*** | 3,641,289 | 6,142,535 | 176,232 | 9,189 | ***8,370,207*** | 2,090,854 | 1,739,892 | 647,054 | 3,892,408 | ***395,636*** | 243,624 | 2,395 | 39,979 | 109,638 | ***18,735,089*** | ***5.0%*** |
| 2020 | ***10,398,204*** | 3,768,787 | 6,434,114 | 185,624 | 9,679 | ***8,757,031*** | 2,202,276 | 1,832,610 | 644,969 | 4,077,176 | ***403,549*** | 246,060 | 2,419 | 40,379 | 114,691 | ***19,558,783*** | ***4.4%*** |
| 2021 | ***10,862,750*** | 3,935,052 | 6,721,741 | 195,751 | 10,207 | ***9,187,924*** | 2,322,428 | 1,932,594 | 673,463 | 4,259,439 | ***411,620*** | 248,521 | 2,444 | 40,782 | 119,873 | ***20,462,294*** | ***4.6%*** |
| 2022 | ***11,352,820*** | 4,111,494 | 7,024,185 | 206,380 | 10,761 | ***9,640,869*** | 2,448,531 | 2,037,530 | 703,715 | 4,451,093 | ***419,852*** | 251,006 | 2,468 | 41,190 | 125,188 | ***21,413,542*** | ***4.6%*** |
| 2023 | ***11,824,207*** | 4,281,991 | 7,314,072 | 216,839 | 11,307 | ***10,081,140*** | 2,572,617 | 2,140,787 | 732,948 | 4,634,788 | ***428,249*** | 253,516 | 2,493 | 41,602 | 130,638 | ***22,333,597*** | ***4.3%*** |
| 2024 | ***12,298,803*** | 4,454,468 | 7,604,862 | 227,605 | 11,868 | ***10,529,021*** | 2,700,351 | 2,247,081 | 762,532 | 4,819,056 | ***436,814*** | 256,051 | 2,518 | 42,018 | 136,227 | ***23,264,638*** | ***4.2%*** |
| 2025 | ***12,784,154*** | 4,631,343 | 7,900,850 | 239,474 | 12,487 | ***11,004,912*** | 2,841,161 | 2,364,255 | 792,877 | 5,006,619 | ***445,550*** | 258,612 | 2,543 | 42,438 | 141,958 | ***24,234,616*** | ***4.2%*** |
| 2026 | ***13,257,986*** | 4,803,853 | 8,190,419 | 250,644 | 13,069 | ***11,460,826*** | 2,973,692 | 2,474,539 | 822,482 | 5,190,113 | ***454,461*** | 261,198 | 2,568 | 42,863 | 147,833 | ***25,173,274*** | ***3.9%*** |
| 2027 | ***13,748,283*** | 4,981,804 | 8,489,438 | 263,311 | 13,730 | ***11,956,177*** | 3,123,974 | 2,599,596 | 853,012 | 5,379,595 | ***463,551*** | 263,810 | 2,594 | 43,291 | 153,856 | ***26,168,011*** | ***4.0%*** |
| 2028 | ***14,258,295*** | 5,167,744 | 8,799,815 | 276,327 | 14,409 | ***12,467,692*** | 3,278,401 | 2,728,101 | 884,914 | 5,576,276 | ***472,822*** | 266,448 | 2,620 | 43,724 | 160,030 | ***27,198,809*** | ***3.9%*** |
| 2029 | ***14,786,849*** | 5,360,937 | 9,120,897 | 289,898 | 15,116 | ***12,999,285*** | 3,439,408 | 2,862,083 | 918,055 | 5,779,739 | ***482,278*** | 269,112 | 2,646 | 44,161 | 166,358 | ***28,268,412*** | ***3.9%*** |
| 2030 | ***15,338,043*** | 5,563,024 | 9,455,224 | 303,946 | 15,849 | ***13,551,160*** | 3,606,071 | 3,000,770 | 952,723 | 5,991,596 | ***491,924*** | 271,804 | 2,673 | 44,603 | 172,845 | ***29,381,127*** | ***3.9%*** |
| 2031 | ***15,910,288*** | 5,772,970 | 9,801,870 | 318,823 | 16,625 | ***14,130,235*** | 3,782,580 | 3,147,651 | 988,745 | 6,211,259 | ***501,762*** | 274,522 | 2,699 | 45,049 | 179,492 | ***30,542,285*** | ***4.0%*** |
| 2032 | ***16,498,179*** | 5,988,614 | 10,157,866 | 334,269 | 17,430 | ***14,728,570*** | 3,965,831 | 3,300,142 | 1,025,750 | 6,436,847 | ***511,797*** | 277,267 | 2,726 | 45,500 | 186,305 | ***31,738,546*** | ***3.9%*** |
| 2033 | ***17,102,179*** | 6,210,516 | 10,523,018 | 350,375 | 18,270 | ***15,348,134*** | 4,156,916 | 3,459,152 | 1,063,829 | 6,668,236 | ***522,033*** | 280,039 | 2,754 | 45,955 | 193,286 | ***32,972,346*** | ***3.9%*** |
| 2034 | ***17,725,432*** | 6,439,484 | 10,899,619 | 367,182 | 19,146 | ***15,991,413*** | 4,356,321 | 3,625,086 | 1,103,124 | 6,906,882 | ***532,474*** | 282,840 | 2,781 | 46,414 | 200,439 | ***34,249,319*** | ***3.9%*** |
| 2035 | ***18,363,518*** | 6,674,183 | 11,284,676 | 384,604 | 20,055 | ***16,654,399*** | 4,563,018 | 3,797,087 | 1,143,410 | 7,150,885 | ***543,124*** | 285,668 | 2,809 | 46,878 | 207,768 | ***35,561,040*** | ***3.8%*** |
| 2036 | ***19,015,954*** | 6,914,740 | 11,677,573 | 402,646 | 20,995 | ***17,336,843*** | 4,777,072 | 3,975,211 | 1,184,704 | 7,399,856 | ***553,986*** | 288,525 | 2,837 | 47,347 | 215,277 | ***36,906,783*** | ***3.8%*** |
| 2037 | ***19,684,410*** | 7,161,341 | 12,079,817 | 421,285 | 21,967 | ***18,039,223*** | 4,998,205 | 4,159,225 | 1,227,042 | 7,654,751 | ***565,066*** | 291,410 | 2,865 | 47,820 | 222,970 | ***38,288,699*** | ***3.7%*** |
| 2038 | ***20,365,993*** | 7,412,864 | 12,489,610 | 440,548 | 22,972 | ***18,760,807*** | 5,226,745 | 4,349,404 | 1,270,229 | 7,914,429 | ***576,367*** | 294,324 | 2,894 | 48,299 | 230,850 | ***39,703,168*** | ***3.7%*** |
| 2039 | ***21,056,473*** | 7,667,439 | 12,904,584 | 460,440 | 24,009 | ***19,499,889*** | 5,462,756 | 4,545,799 | 1,313,944 | 8,177,390 | ***587,894*** | 297,268 | 2,923 | 48,782 | 238,922 | ***41,144,257*** | ***3.6%*** |
| 2040 | ***21,760,761*** | 7,927,685 | 13,326,738 | 481,244 | 25,094 | ***20,264,185*** | 5,709,577 | 4,751,189 | 1,358,519 | 8,444,901 | ***599,652*** | 300,240 | 2,952 | 49,269 | 247,190 | ***42,624,598*** | ***3.6%*** |

| | SPB_IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | SPB Ports | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | *ALL_IMP_TEU* | RAIL_LDS | LOCAL_LDS | LOCAL_MTY | RAIL_MTY | *ALL_EXP_TEU* | RAIL_LDS | LOCAL_LDS | RAIL_MTY | LOCAL_MTY | *ALL_DOM-TEU* | LDS | MTY | LDS | MTY | *Total* | *Growth* |
| 2015 | ***8,028,953*** | 2,930,068 | 4,949,756 | 141,739 | 7,391 | ***7,051,853*** | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | ***365,507*** | 234,118 | 2,302 | 38,419 | 90,668 | ***15,446,313*** | ***1.9%*** |
| 2016 | ***8,674,879*** | 3,172,204 | 5,343,507 | 151,279 | 7,888 | ***7,238,122*** | 1,794,807 | 1,493,538 | 563,698 | 3,386,079 | ***368,248*** | 236,459 | 2,325 | 38,803 | 90,661 | ***16,281,248*** | ***5.4%*** |
| 2017 | ***9,043,491*** | 3,306,522 | 5,570,380 | 158,333 | 8,256 | ***7,559,079*** | 1,878,493 | 1,563,176 | 587,566 | 3,529,844 | ***371,010*** | 238,824 | 2,348 | 39,191 | 90,647 | ***16,973,579*** | ***4.3%*** |
| 2018 | ***9,473,244*** | 3,444,894 | 5,852,513 | 167,123 | 8,714 | ***7,937,608*** | 1,982,777 | 1,649,956 | 596,248 | 3,708,626 | ***373,792*** | 241,212 | 2,372 | 39,583 | 90,626 | ***17,784,644*** | ***4.8%*** |
| 2019 | ***9,912,602*** | 3,584,645 | 6,142,535 | 176,232 | 9,189 | ***8,326,818*** | 2,090,854 | 1,739,892 | 603,664 | 3,892,408 | ***376,596*** | 243,624 | 2,395 | 39,979 | 90,598 | ***18,616,015*** | ***4.7%*** |
| 2020 | ***10,213,369*** | 3,583,952 | 6,434,114 | 185,624 | 9,679 | ***8,615,447*** | 2,202,276 | 1,832,610 | 503,385 | 4,077,176 | ***379,420*** | 246,060 | 2,419 | 40,379 | 90,562 | ***19,208,236*** | ***3.2%*** |
| 2021 | ***10,639,226*** | 3,711,528 | 6,721,741 | 195,751 | 10,207 | ***9,016,704*** | 2,322,428 | 1,932,594 | 502,244 | 4,259,439 | ***382,266*** | 248,521 | 2,444 | 40,782 | 90,519 | ***20,038,197*** | ***4.3%*** |
| 2022 | ***11,087,606*** | 3,846,279 | 7,024,185 | 206,380 | 10,761 | ***9,437,716*** | 2,448,531 | 2,037,530 | 500,562 | 4,451,093 | ***385,133*** | 251,006 | 2,468 | 41,190 | 90,469 | ***20,910,455*** | ***4.4%*** |
| 2023 | ***11,448,217*** | 3,906,000 | 7,314,072 | 216,839 | 11,307 | ***9,793,132*** | 2,572,617 | 2,140,787 | 444,940 | 4,634,788 | ***388,021*** | 253,516 | 2,493 | 41,602 | 90,410 | ***21,629,371*** | ***3.4%*** |
| 2024 | ***11,607,650*** | 3,763,315 | 7,604,862 | 227,605 | 11,868 | ***9,999,599*** | 2,700,351 | 2,247,081 | 233,110 | 4,819,056 | ***390,932*** | 256,051 | 2,518 | 42,018 | 90,345 | ***21,998,180*** | ***1.7%*** |
| 2025 | ***11,923,165*** | 3,770,354 | 7,900,850 | 239,474 | 12,487 | ***10,345,395*** | 2,841,161 | 2,364,255 | 133,360 | 5,006,619 | ***393,864*** | 258,612 | 2,543 | 42,438 | 90,271 | ***22,662,423*** | ***3.0%*** |
| 2026 | ***12,217,982*** | 3,763,850 | 8,190,419 | 250,644 | 13,069 | ***10,664,184*** | 2,973,692 | 2,474,539 | 25,840 | 5,190,113 | ***396,817*** | 261,198 | 2,568 | 42,863 | 90,189 | ***23,278,983*** | ***2.7%*** |
| 2027 | ***12,671,816*** | 3,905,338 | 8,489,438 | 263,311 | 13,730 | ***11,131,604*** | 3,123,974 | 2,599,596 | 28,438 | 5,379,595 | ***399,794*** | 263,810 | 2,594 | 43,291 | 90,099 | ***24,203,214*** | ***4.0%*** |
| 2028 | ***13,143,802*** | 4,053,251 | 8,799,815 | 276,327 | 14,409 | ***11,613,991*** | 3,278,401 | 2,728,101 | 31,213 | 5,576,276 | ***402,792*** | 266,448 | 2,620 | 43,724 | 90,000 | ***25,160,585*** | ***4.0%*** |
| 2029 | ***13,632,656*** | 4,206,745 | 9,120,897 | 289,898 | 15,116 | ***12,115,174*** | 3,439,408 | 2,862,083 | 33,944 | 5,779,739 | ***405,813*** | 269,112 | 2,646 | 44,161 | 89,893 | ***26,153,643*** | ***3.9%*** |
| 2030 | ***14,142,392*** | 4,367,373 | 9,455,224 | 303,946 | 15,849 | ***12,635,292*** | 3,606,071 | 3,000,770 | 36,855 | 5,991,596 | ***408,857*** | 271,804 | 2,673 | 44,603 | 89,777 | ***27,186,540*** | ***3.9%*** |
| 2031 | ***14,671,747*** | 4,534,430 | 9,801,870 | 318,823 | 16,625 | ***13,181,514*** | 3,782,580 | 3,147,651 | 40,024 | 6,211,259 | ***411,923*** | 274,522 | 2,699 | 45,049 | 89,653 | ***28,265,185*** | ***4.0%*** |
| 2032 | ***15,215,732*** | 4,706,167 | 10,157,866 | 334,269 | 17,430 | ***13,746,215*** | 3,965,831 | 3,300,142 | 43,396 | 6,436,847 | ***415,012*** | 277,267 | 2,726 | 45,500 | 89,520 | ***29,376,960*** | ***3.9%*** |
| 2033 | ***15,774,585*** | 4,882,922 | 10,523,018 | 350,375 | 18,270 | ***14,331,197*** | 4,156,916 | 3,459,152 | 46,892 | 6,668,236 | ***418,125*** | 280,039 | 2,754 | 45,955 | 89,377 | ***30,523,907*** | ***3.9%*** |
| 2034 | ***16,351,345*** | 5,065,397 | 10,899,619 | 367,182 | 19,146 | ***14,938,862*** | 4,356,321 | 3,625,086 | 50,573 | 6,906,882 | ***421,261*** | 282,840 | 2,781 | 46,414 | 89,226 | ***31,711,468*** | ***3.9%*** |
| 2035 | ***16,942,046*** | 5,252,712 | 11,284,676 | 384,604 | 20,055 | ***15,565,552*** | 4,563,018 | 3,797,087 | 54,563 | 7,150,885 | ***424,420*** | 285,668 | 2,809 | 46,878 | 89,065 | ***32,932,019*** | ***3.8%*** |
| 2036 | ***17,546,006*** | 5,444,792 | 11,677,573 | 402,646 | 20,995 | ***16,210,863*** | 4,777,072 | 3,975,211 | 58,724 | 7,399,856 | ***427,604*** | 288,525 | 2,837 | 47,347 | 88,895 | ***34,184,473*** | ***3.8%*** |
| 2037 | ***18,164,976*** | 5,641,907 | 12,079,817 | 421,285 | 21,967 | ***16,875,338*** | 4,998,205 | 4,159,225 | 63,157 | 7,654,751 | ***430,811*** | 291,410 | 2,865 | 47,820 | 88,715 | ***35,471,125*** | ***3.8%*** |
| 2038 | ***18,796,212*** | 5,843,082 | 12,489,610 | 440,548 | 22,972 | ***17,558,355*** | 5,226,745 | 4,349,404 | 67,777 | 7,914,429 | ***434,042*** | 294,324 | 2,894 | 48,299 | 88,525 | ***36,788,609*** | ***3.7%*** |
| 2039 | ***19,435,849*** | 6,046,815 | 12,904,584 | 460,440 | 24,009 | ***18,258,491*** | 5,462,756 | 4,545,799 | 72,546 | 8,177,390 | ***437,297*** | 297,268 | 2,923 | 48,782 | 88,325 | ***38,131,637*** | ***3.7%*** |
| 2040 | ***20,084,377*** | 6,251,301 | 13,326,738 | 481,244 | 25,094 | ***18,980,076*** | 5,709,577 | 4,751,189 | 74,409 | 8,444,901 | ***440,577*** | 300,240 | 2,952 | 49,269 | 88,115 | ***39,505,030*** | ***3.6%*** |

## Appendix 3: Breakdown of SPB Ports' Forecasted Volume – High Macro Assumptions

Base Case Adjustments

| | SPB _IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | *SPB Ports* | *Overall* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | *ALL_IMP_TEU* | RAIL_LDS | LOCAL_LDS | LOCAL_MTY | RAIL_MTY | *ALL_EXP_TEU* | RAIL_LDS | LOCAL_LDS | RAIL_MTY | LOCAL_MTY | *ALL_DOM-TEU* | LDS | MTY | LDS | MTY | *Total* | *Growth* |
| 2015 | ***8,028,953*** | 2,930,068 | 4,949,756 | 141,739 | 7,391 | ***7,051,853*** | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | ***365,507*** | 234,118 | 2,302 | 38,419 | 90,668 | ***15,446,313*** | ***1.9%*** |
| 2016 | ***8,951,954*** | 3,277,733 | 5,509,694 | 156,373 | 8,154 | ***7,477,348*** | 1,855,241 | 1,543,827 | 586,891 | 3,491,388 | ***370,989*** | 237,630 | 2,337 | 38,995 | 92,028 | ***16,800,291*** | ***8.8%*** |
| 2017 | ***9,534,522*** | 3,496,944 | 5,862,317 | 166,575 | 8,686 | ***7,961,802*** | 1,976,275 | 1,644,545 | 626,142 | 3,714,839 | ***376,554*** | 241,194 | 2,372 | 39,580 | 93,408 | ***17,872,877*** | ***6.4%*** |
| 2018 | ***10,018,147*** | 3,667,306 | 6,165,505 | 176,151 | 9,185 | ***8,384,690*** | 2,089,889 | 1,739,089 | 648,749 | 3,906,964 | ***382,202*** | 244,812 | 2,407 | 40,174 | 94,809 | ***18,785,040*** | ***5.1%*** |
| 2019 | ***10,506,274*** | 3,839,140 | 6,472,331 | 185,148 | 9,654 | ***8,796,816*** | 2,196,636 | 1,827,917 | 670,869 | 4,101,393 | ***387,935*** | 248,484 | 2,443 | 40,776 | 96,232 | ***19,691,026*** | ***4.8%*** |
| 2020 | ***10,978,008*** | 3,903,511 | 6,865,903 | 198,256 | 10,338 | ***9,243,972*** | 2,352,149 | 1,957,327 | 583,704 | 4,350,792 | ***393,754*** | 252,211 | 2,480 | 41,388 | 97,675 | ***20,615,734*** | ***4.7%*** |
| 2021 | ***11,617,626*** | 4,120,681 | 7,273,095 | 212,756 | 11,094 | ***9,842,176*** | 2,524,184 | 2,100,484 | 608,686 | 4,608,822 | ***399,661*** | 255,995 | 2,517 | 42,009 | 99,140 | ***21,859,463*** | ***6.0%*** |
| 2022 | ***12,280,289*** | 4,346,151 | 7,694,348 | 227,906 | 11,884 | ***10,463,891*** | 2,703,922 | 2,250,052 | 634,156 | 4,875,762 | ***405,656*** | 259,835 | 2,555 | 42,639 | 100,627 | ***23,149,836*** | ***5.9%*** |
| 2023 | ***12,860,851*** | 4,519,971 | 8,083,730 | 244,406 | 12,744 | ***11,065,426*** | 2,899,682 | 2,412,952 | 630,286 | 5,122,506 | ***411,740*** | 263,732 | 2,593 | 43,278 | 102,137 | ***24,338,018*** | ***5.1%*** |
| 2024 | ***13,504,943*** | 4,705,049 | 8,524,499 | 261,747 | 13,648 | ***11,707,452*** | 3,105,416 | 2,584,153 | 616,071 | 5,401,813 | ***417,917*** | 267,688 | 2,632 | 43,928 | 103,669 | ***25,630,312*** | ***5.3%*** |
| 2025 | ***14,119,994*** | 4,876,816 | 8,949,258 | 279,354 | 14,567 | ***12,339,565*** | 3,314,307 | 2,757,980 | 596,303 | 5,670,975 | ***424,185*** | 271,703 | 2,672 | 44,587 | 105,224 | ***26,883,744*** | ***4.9%*** |
| 2026 | ***14,778,508*** | 5,061,363 | 9,403,938 | 297,685 | 15,522 | ***13,006,018*** | 3,531,791 | 2,938,958 | 576,173 | 5,959,097 | ***430,548*** | 275,779 | 2,712 | 45,255 | 106,802 | ***28,215,075*** | ***5.0%*** |
| 2027 | ***15,528,452*** | 5,323,708 | 9,870,123 | 318,037 | 16,584 | ***13,779,234*** | 3,773,257 | 3,139,893 | 611,574 | 6,254,510 | ***437,006*** | 279,916 | 2,752 | 45,934 | 108,404 | ***29,744,692*** | ***5.4%*** |
| 2028 | ***16,316,302*** | 5,600,374 | 10,358,904 | 339,330 | 17,694 | ***14,589,272*** | 4,025,879 | 3,350,110 | 649,043 | 6,564,241 | ***443,561*** | 284,114 | 2,794 | 46,623 | 110,030 | ***31,349,136*** | ***5.4%*** |
| 2029 | ***17,140,605*** | 5,890,489 | 10,869,462 | 361,789 | 18,865 | ***15,440,341*** | 4,292,338 | 3,571,843 | 688,389 | 6,887,772 | ***450,215*** | 288,376 | 2,836 | 47,323 | 111,681 | ***33,031,161*** | ***5.4%*** |
| 2030 | ***17,851,282*** | 6,139,628 | 11,310,844 | 380,946 | 19,864 | ***16,167,901*** | 4,519,620 | 3,760,974 | 719,840 | 7,167,467 | ***456,968*** | 292,702 | 2,878 | 48,032 | 113,356 | ***34,476,151*** | ***4.4%*** |
| 2031 | ***18,598,319*** | 6,401,951 | 11,774,115 | 401,328 | 20,927 | ***16,937,855*** | 4,761,430 | 3,962,195 | 753,198 | 7,461,033 | ***463,823*** | 297,092 | 2,921 | 48,753 | 115,056 | ***35,999,997*** | ***4.4%*** |
| 2032 | ***19,366,469*** | 6,671,680 | 12,250,110 | 422,641 | 22,038 | ***17,737,135*** | 5,014,298 | 4,172,617 | 787,558 | 7,762,662 | ***470,780*** | 301,549 | 2,965 | 49,484 | 116,782 | ***37,574,384*** | ***4.4%*** |
| 2033 | ***20,167,096*** | 6,953,419 | 12,745,277 | 445,186 | 23,214 | ***18,577,077*** | 5,281,770 | 4,395,192 | 823,676 | 8,076,440 | ***477,842*** | 306,072 | 3,010 | 50,226 | 118,534 | ***39,222,015*** | ***4.4%*** |
| 2034 | ***20,999,005*** | 7,246,307 | 13,259,373 | 468,876 | 24,449 | ***19,455,487*** | 5,562,834 | 4,629,078 | 861,362 | 8,402,213 | ***485,009*** | 310,663 | 3,055 | 50,980 | 120,312 | ***40,939,502*** | ***4.4%*** |
| 2035 | ***21,876,844*** | 7,556,219 | 13,800,850 | 494,016 | 25,760 | ***20,385,531*** | 5,861,101 | 4,877,279 | 901,814 | 8,745,336 | ***492,284*** | 315,323 | 3,100 | 51,745 | 122,117 | ***42,754,660*** | ***4.4%*** |
| 2036 | ***22,783,480*** | 7,877,102 | 14,358,774 | 520,465 | 27,139 | ***21,356,067*** | 6,174,898 | 5,138,403 | 943,883 | 9,098,882 | ***499,669*** | 320,053 | 3,147 | 52,521 | 123,948 | ***44,639,216*** | ***4.4%*** |
| 2037 | ***23,719,599*** | 8,208,796 | 14,934,218 | 548,010 | 28,575 | ***22,363,143*** | 6,501,697 | 5,410,347 | 987,568 | 9,463,530 | ***507,164*** | 324,853 | 3,194 | 53,308 | 125,808 | ***46,589,906*** | ***4.4%*** |
| 2038 | ***24,684,882*** | 8,551,149 | 15,526,877 | 576,780 | 30,075 | ***23,409,389*** | 6,843,029 | 5,694,385 | 1,032,888 | 9,839,087 | ***514,771*** | 329,726 | 3,242 | 54,108 | 127,695 | ***48,609,042*** | ***4.3%*** |
| 2039 | ***25,693,848*** | 8,909,176 | 16,145,615 | 607,385 | 31,671 | ***24,514,709*** | 7,206,138 | 5,996,544 | 1,080,857 | 10,231,169 | ***522,493*** | 334,672 | 3,291 | 54,920 | 129,610 | ***50,731,049*** | ***4.4%*** |
| 2040 | ***26,739,280*** | 9,280,078 | 16,786,298 | 639,556 | 33,349 | ***25,668,695*** | 7,587,813 | 6,314,152 | 1,129,572 | 10,637,158 | ***530,330*** | 339,692 | 3,340 | 55,744 | 131,554 | ***52,938,305*** | ***4.4%*** |

Upside Adjustments

| | SPB _IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | SPB Ports | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | *ALL_IMP_TEU* | RAIL_LDS | LOCAL_LDS | LOCAL_MTY | RAIL_MTY | *ALL_EXP_TEU* | RAIL_LDS | LOCAL_LDS | RAIL_MTY | LOCAL_MTY | *ALL_DOM-TEU* | LDS | MTY | LDS | MTY | *Total* | *Growth* |
| 2015 | ***8,028,953*** | 2,930,068 | 4,949,756 | 141,739 | 7,391 | ***7,051,853*** | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | ***365,507*** | 234,118 | 2,302 | 38,419 | 90,668 | ***15,446,313*** | ***1.9%*** |
| 2016 | ***8,951,954*** | 3,277,733 | 5,509,694 | 156,373 | 8,154 | ***7,477,348*** | 1,855,241 | 1,543,827 | 586,891 | 3,491,388 | ***372,817*** | 236,459 | 2,325 | 38,803 | 95,230 | ***16,802,118*** | ***8.8%*** |
| 2017 | ***9,534,522*** | 3,496,944 | 5,862,317 | 166,575 | 8,686 | ***7,961,802*** | 1,976,275 | 1,644,545 | 626,142 | 3,714,839 | ***380,273*** | 238,824 | 2,348 | 39,191 | 99,910 | ***17,876,596*** | ***6.4%*** |
| 2018 | ***10,031,602*** | 3,680,761 | 6,165,505 | 176,151 | 9,185 | ***8,394,997*** | 2,089,889 | 1,739,089 | 659,055 | 3,906,964 | ***387,879*** | 241,212 | 2,372 | 39,583 | 104,712 | ***18,814,478*** | ***5.2%*** |
| 2019 | ***10,534,463*** | 3,867,329 | 6,472,331 | 185,148 | 9,654 | ***8,818,408*** | 2,196,636 | 1,827,917 | 692,461 | 4,101,393 | ***395,636*** | 243,624 | 2,395 | 39,979 | 109,638 | ***19,748,507*** | ***5.0%*** |
| 2020 | ***11,132,284*** | 4,057,787 | 6,865,903 | 198,256 | 10,338 | ***9,362,148*** | 2,352,149 | 1,957,327 | 701,879 | 4,350,792 | ***403,549*** | 246,060 | 2,419 | 40,379 | 114,691 | ***20,897,980*** | ***5.8%*** |
| 2021 | ***11,793,802*** | 4,296,857 | 7,273,095 | 212,756 | 11,094 | ***9,977,127*** | 2,524,184 | 2,100,484 | 743,637 | 4,608,822 | ***411,620*** | 248,521 | 2,444 | 40,782 | 119,873 | ***22,182,549*** | ***6.1%*** |
| 2022 | ***12,479,983*** | 4,545,845 | 7,694,348 | 227,906 | 11,884 | ***10,616,856*** | 2,703,922 | 2,250,052 | 787,121 | 4,875,762 | ***419,852*** | 251,006 | 2,468 | 41,190 | 125,188 | ***23,516,691*** | ***6.0%*** |
| 2023 | ***13,118,353*** | 4,777,472 | 8,083,730 | 244,406 | 12,744 | ***11,262,672*** | 2,899,682 | 2,412,952 | 827,532 | 5,122,506 | ***428,249*** | 253,516 | 2,493 | 41,602 | 130,638 | ***24,809,274*** | ***5.5%*** |
| 2024 | ***13,841,314*** | 5,041,420 | 8,524,499 | 261,747 | 13,648 | ***11,965,112*** | 3,105,416 | 2,584,153 | 873,731 | 5,401,813 | ***436,814*** | 256,051 | 2,518 | 42,018 | 136,227 | ***26,243,240*** | ***5.8%*** |
| 2025 | ***14,540,599*** | 5,297,421 | 8,949,258 | 279,354 | 14,567 | ***12,661,747*** | 3,314,307 | 2,757,980 | 918,486 | 5,670,975 | ***445,550*** | 258,612 | 2,543 | 42,438 | 141,958 | ***27,647,897*** | ***5.4%*** |
| 2026 | ***15,287,924*** | 5,570,778 | 9,403,938 | 297,685 | 15,522 | ***13,396,230*** | 3,531,791 | 2,938,958 | 966,385 | 5,959,097 | ***454,461*** | 261,198 | 2,568 | 42,863 | 147,833 | ***29,138,615*** | ***5.4%*** |
| 2027 | ***16,055,728*** | 5,850,984 | 9,870,123 | 318,037 | 16,584 | ***14,183,126*** | 3,773,257 | 3,139,893 | 1,015,467 | 6,254,510 | ***463,551*** | 263,810 | 2,594 | 43,291 | 153,856 | ***30,702,405*** | ***5.4%*** |
| 2028 | ***16,862,204*** | 6,146,276 | 10,358,904 | 339,330 | 17,694 | ***15,007,433*** | 4,025,879 | 3,350,110 | 1,067,203 | 6,564,241 | ***472,822*** | 266,448 | 2,620 | 43,724 | 160,030 | ***32,342,458*** | ***5.3%*** |
| 2029 | ***17,705,952*** | 6,455,836 | 10,869,462 | 361,789 | 18,865 | ***15,873,397*** | 4,292,338 | 3,571,843 | 1,121,445 | 6,887,772 | ***482,278*** | 269,112 | 2,646 | 44,161 | 166,358 | ***34,061,627*** | ***5.3%*** |
| 2030 | ***18,436,936*** | 6,725,282 | 11,310,844 | 380,946 | 19,864 | ***16,616,512*** | 4,519,620 | 3,760,974 | 1,168,451 | 7,167,467 | ***491,924*** | 271,804 | 2,673 | 44,603 | 172,845 | ***35,545,372*** | ***4.4%*** |
| 2031 | ***19,204,982*** | 7,008,613 | 11,774,115 | 401,328 | 20,927 | ***17,402,558*** | 4,761,430 | 3,962,195 | 1,217,900 | 7,461,033 | ***501,762*** | 274,522 | 2,699 | 45,049 | 179,492 | ***37,109,302*** | ***4.4%*** |
| 2032 | ***19,994,638*** | 7,299,849 | 12,250,110 | 422,641 | 22,038 | ***18,218,312*** | 5,014,298 | 4,172,617 | 1,268,735 | 7,762,662 | ***511,797*** | 277,267 | 2,726 | 45,500 | 186,305 | ***38,724,748*** | ***4.4%*** |
| 2033 | ***20,817,379*** | 7,603,702 | 12,745,277 | 445,186 | 23,214 | ***19,075,194*** | 5,281,770 | 4,395,192 | 1,321,792 | 8,076,440 | ***522,033*** | 280,039 | 2,754 | 45,955 | 193,286 | ***40,414,606*** | ***4.4%*** |
| 2034 | ***21,672,062*** | 7,919,364 | 13,259,373 | 468,876 | 24,449 | ***19,971,048*** | 5,562,834 | 4,629,078 | 1,376,922 | 8,402,213 | ***532,474*** | 282,840 | 2,781 | 46,414 | 200,439 | ***42,175,583*** | ***4.4%*** |
| 2035 | ***22,573,111*** | 8,252,485 | 13,800,850 | 494,016 | 25,760 | ***20,918,870*** | 5,861,101 | 4,877,279 | 1,435,153 | 8,745,336 | ***543,124*** | 285,668 | 2,809 | 46,878 | 207,768 | ***44,035,104*** | ***4.4%*** |
| 2036 | ***23,503,491*** | 8,597,113 | 14,358,774 | 520,465 | 27,139 | ***21,907,595*** | 6,174,898 | 5,138,403 | 1,495,411 | 9,098,882 | ***553,986*** | 288,525 | 2,837 | 47,347 | 215,277 | ***45,965,072*** | ***4.4%*** |
| 2037 | ***24,463,849*** | 8,953,046 | 14,934,218 | 548,010 | 28,575 | ***22,933,237*** | 6,501,697 | 5,410,347 | 1,557,663 | 9,463,530 | ***565,066*** | 291,410 | 2,865 | 47,820 | 222,970 | ***47,962,152*** | ***4.3%*** |
| 2038 | ***25,453,793*** | 9,320,061 | 15,526,877 | 576,780 | 30,075 | ***23,998,375*** | 6,843,029 | 5,694,385 | 1,621,874 | 9,839,087 | ***576,367*** | 294,324 | 2,894 | 48,299 | 230,850 | ***50,028,535*** | ***4.3%*** |
| 2039 | ***26,487,663*** | 9,702,992 | 16,145,615 | 607,385 | 31,671 | ***25,122,771*** | 7,206,138 | 5,996,544 | 1,688,919 | 10,231,169 | ***587,894*** | 297,268 | 2,923 | 48,782 | 238,922 | ***52,198,328*** | ***4.3%*** |
| 2040 | ***27,560,407*** | 10,101,205 | 16,786,298 | 639,556 | 33,349 | ***26,297,678*** | 7,587,813 | 6,314,152 | 1,758,554 | 10,637,158 | ***599,652*** | 300,240 | 2,952 | 49,269 | 247,190 | ***54,457,737*** | ***4.3%*** |

Downside Adjustment

| | SPB _IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | SPB Ports | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | *ALL_IMP_TEU* | RAIL_LDS | LOCAL_LDS | LOCAL_MTY | RAIL_MTY | *ALL_EXP_TEU* | RAIL_LDS | LOCAL_LDS | RAIL_MTY | LOCAL_MTY | *ALL_DOM-TEU* | LDS | MTY | LDS | MTY | *Total* | *Growth* |
| 2015 | ***8,028,953*** | 2,930,068 | 4,949,756 | 141,739 | 7,391 | ***7,051,853*** | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | ***365,507*** | 234,118 | 2,302 | 38,419 | 90,668 | ***15,446,313*** | ***1.9%*** |
| 2016 | ***8,951,954*** | 3,277,733 | 5,509,694 | 156,373 | 8,154 | ***7,477,348*** | 1,855,241 | 1,543,827 | 586,891 | 3,491,388 | ***368,248*** | 236,459 | 2,325 | 38,803 | 90,661 | ***16,797,549*** | ***8.7%*** |
| 2017 | ***9,534,522*** | 3,496,944 | 5,862,317 | 166,575 | 8,686 | ***7,961,802*** | 1,976,275 | 1,644,545 | 626,142 | 3,714,839 | ***371,010*** | 238,824 | 2,348 | 39,191 | 90,647 | ***17,867,333*** | ***6.4%*** |
| 2018 | ***10,004,564*** | 3,653,723 | 6,165,505 | 176,151 | 9,185 | ***8,374,286*** | 2,089,889 | 1,739,089 | 638,344 | 3,906,964 | ***373,792*** | 241,212 | 2,372 | 39,583 | 90,626 | ***18,752,642*** | ***5.0%*** |
| 2019 | ***10,477,819*** | 3,810,685 | 6,472,331 | 185,148 | 9,654 | ***8,775,019*** | 2,196,636 | 1,827,917 | 649,072 | 4,101,393 | ***376,596*** | 243,624 | 2,395 | 39,979 | 90,598 | ***19,629,433*** | ***4.7%*** |
| 2020 | ***10,947,448*** | 3,872,951 | 6,865,903 | 198,256 | 10,338 | ***9,220,564*** | 2,352,149 | 1,957,327 | 560,296 | 4,350,792 | ***379,420*** | 246,060 | 2,419 | 40,379 | 90,562 | ***20,547,433*** | ***4.7%*** |
| 2021 | ***11,570,278*** | 4,073,333 | 7,273,095 | 212,756 | 11,094 | ***9,805,908*** | 2,524,184 | 2,100,484 | 572,418 | 4,608,822 | ***382,266*** | 248,521 | 2,444 | 40,782 | 90,519 | ***21,758,452*** | ***5.9%*** |
| 2022 | ***12,214,769*** | 4,280,631 | 7,694,348 | 227,906 | 11,884 | ***10,413,703*** | 2,703,922 | 2,250,052 | 583,967 | 4,875,762 | ***385,133*** | 251,006 | 2,468 | 41,190 | 90,469 | ***23,013,604*** | ***5.8%*** |
| 2023 | ***12,742,363*** | 4,401,482 | 8,083,730 | 244,406 | 12,744 | ***10,974,664*** | 2,899,682 | 2,412,952 | 539,524 | 5,122,506 | ***388,021*** | 253,516 | 2,493 | 41,602 | 90,410 | ***24,105,048*** | ***4.7%*** |
| 2024 | ***13,150,161*** | 4,350,267 | 8,524,499 | 261,747 | 13,648 | ***11,435,690*** | 3,105,416 | 2,584,153 | 344,309 | 5,401,813 | ***390,932*** | 256,051 | 2,518 | 42,018 | 90,345 | ***24,976,782*** | ***3.6%*** |
| 2025 | ***13,679,610*** | 4,436,432 | 8,949,258 | 279,354 | 14,567 | ***12,002,230*** | 3,314,307 | 2,757,980 | 258,969 | 5,670,975 | ***393,864*** | 258,612 | 2,543 | 42,438 | 90,271 | ***26,075,704*** | ***4.4%*** |
| 2026 | ***14,247,920*** | 4,530,775 | 9,403,938 | 297,685 | 15,522 | ***12,599,587*** | 3,531,791 | 2,938,958 | 169,742 | 5,959,097 | ***396,817*** | 261,198 | 2,568 | 42,863 | 90,189 | ***27,244,325*** | ***4.5%*** |
| 2027 | ***14,979,261*** | 4,774,517 | 9,870,123 | 318,037 | 16,584 | ***13,358,553*** | 3,773,257 | 3,139,893 | 190,893 | 6,254,510 | ***399,794*** | 263,810 | 2,594 | 43,291 | 90,099 | ***28,737,608*** | ***5.5%*** |
| 2028 | ***15,747,711*** | 5,031,783 | 10,358,904 | 339,330 | 17,694 | ***14,153,731*** | 4,025,879 | 3,350,110 | 213,502 | 6,564,241 | ***402,792*** | 266,448 | 2,620 | 43,724 | 90,000 | ***30,304,234*** | ***5.5%*** |
| 2029 | ***16,551,760*** | 5,301,643 | 10,869,462 | 361,789 | 18,865 | ***14,989,286*** | 4,292,338 | 3,571,843 | 237,333 | 6,887,772 | ***405,813*** | 269,112 | 2,646 | 44,161 | 89,893 | ***31,946,858*** | ***5.4%*** |
| 2030 | ***17,241,285*** | 5,529,631 | 11,310,844 | 380,946 | 19,864 | ***15,700,644*** | 4,519,620 | 3,760,974 | 252,583 | 7,167,467 | ***408,857*** | 271,804 | 2,673 | 44,603 | 89,777 | ***33,350,786*** | ***4.4%*** |
| 2031 | ***17,966,442*** | 5,770,073 | 11,774,115 | 401,328 | 20,927 | ***16,453,837*** | 4,761,430 | 3,962,195 | 269,179 | 7,461,033 | ***411,923*** | 274,522 | 2,699 | 45,049 | 89,653 | ***34,832,202*** | ***4.4%*** |
| 2032 | ***18,712,191*** | 6,017,402 | 12,250,110 | 422,641 | 22,038 | ***17,235,958*** | 5,014,298 | 4,172,617 | 286,381 | 7,762,662 | ***415,012*** | 277,267 | 2,726 | 45,500 | 89,520 | ***36,363,161*** | ***4.4%*** |
| 2033 | ***19,489,785*** | 6,276,108 | 12,745,277 | 445,186 | 23,214 | ***18,058,257*** | 5,281,770 | 4,395,192 | 304,855 | 8,076,440 | ***418,125*** | 280,039 | 2,754 | 45,955 | 89,377 | ***37,966,167*** | ***4.4%*** |
| 2034 | ***20,297,975*** | 6,545,276 | 13,259,373 | 468,876 | 24,449 | ***18,918,497*** | 5,562,834 | 4,629,078 | 324,372 | 8,402,213 | ***421,261*** | 282,840 | 2,781 | 46,414 | 89,226 | ***39,637,733*** | ***4.4%*** |
| 2035 | ***21,151,639*** | 6,831,014 | 13,800,850 | 494,016 | 25,760 | ***19,830,023*** | 5,861,101 | 4,877,279 | 346,306 | 8,745,336 | ***424,420*** | 285,668 | 2,809 | 46,878 | 89,065 | ***41,406,083*** | ***4.5%*** |
| 2036 | ***22,033,543*** | 7,127,165 | 14,358,774 | 520,465 | 27,139 | ***20,781,615*** | 6,174,898 | 5,138,403 | 369,431 | 9,098,882 | ***427,604*** | 288,525 | 2,837 | 47,347 | 88,895 | ***43,242,762*** | ***4.4%*** |
| 2037 | ***22,944,416*** | 7,433,613 | 14,934,218 | 548,010 | 28,575 | ***21,769,352*** | 6,501,697 | 5,410,347 | 393,778 | 9,463,530 | ***430,811*** | 291,410 | 2,865 | 47,820 | 88,715 | ***45,144,578*** | ***4.4%*** |
| 2038 | ***23,884,012*** | 7,750,279 | 15,526,877 | 576,780 | 30,075 | ***22,795,923*** | 6,843,029 | 5,694,385 | 419,422 | 9,839,087 | ***434,042*** | 294,324 | 2,894 | 48,299 | 88,525 | ***47,113,976*** | ***4.4%*** |
| 2039 | ***24,867,039*** | 8,082,367 | 16,145,615 | 607,385 | 31,671 | ***23,881,373*** | 7,206,138 | 5,996,544 | 447,521 | 10,231,169 | ***437,297*** | 297,268 | 2,923 | 48,782 | 88,325 | ***49,185,709*** | ***4.4%*** |
| 2040 | ***25,884,024*** | 8,424,822 | 16,786,298 | 639,556 | 33,349 | ***25,013,568*** | 7,587,813 | 6,314,152 | 474,445 | 10,637,158 | ***440,577*** | 300,240 | 2,952 | 49,269 | 88,115 | ***51,338,168*** | ***4.4%*** |

## Appendix 4: Breakdown of SPB Ports' Forecasted Volume – Low Macro Assumptions

Base Case Adjustments

| | SPB _IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | SPB Ports | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | *ALL_IMP_TEU* | RAIL_LDS | LOCAL_LDS | LOCAL_MTY | RAIL_MTY | *ALL_EXP_TEU* | RAIL_LDS | LOCAL_LDS | RAIL_MTY | LOCAL_MTY | *ALL_DOM-TEU* | LDS | MTY | LDS | MTY | *Total* | *Growth* |
| 2015 | ***8,028,953*** | 2,930,068 | 4,949,756 | 141,739 | 7,391 | ***7,051,853*** | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | ***365,507*** | 234,118 | 2,302 | 38,419 | 90,668 | ***15,446,313*** | ***1.9%*** |
| 2016 | ***8,039,827*** | 2,934,562 | 4,956,640 | 141,258 | 7,366 | ***6,736,895*** | 1,675,917 | 1,394,604 | 525,445 | 3,140,929 | ***370,989*** | 237,630 | 2,337 | 38,995 | 92,028 | ***15,147,711*** | ***-1.9%*** |
| 2017 | ***8,403,797*** | 3,072,685 | 5,175,096 | 148,285 | 7,732 | ***7,052,787*** | 1,759,278 | 1,463,973 | 550,177 | 3,279,360 | ***376,554*** | 241,194 | 2,372 | 39,580 | 93,408 | ***15,833,139*** | ***4.5%*** |
| 2018 | ***9,001,478*** | 3,293,475 | 5,541,514 | 158,238 | 8,251 | ***7,532,974*** | 1,877,369 | 1,562,241 | 581,813 | 3,511,552 | ***382,202*** | 244,812 | 2,407 | 40,174 | 94,809 | ***16,916,655*** | ***6.8%*** |
| 2019 | ***9,530,530*** | 3,481,478 | 5,872,291 | 168,001 | 8,760 | ***7,979,808*** | 1,993,195 | 1,658,625 | 606,828 | 3,721,159 | ***387,935*** | 248,484 | 2,443 | 40,776 | 96,232 | ***17,898,273*** | ***5.8%*** |
| 2020 | ***9,798,609*** | 3,471,546 | 6,142,128 | 175,770 | 9,165 | ***8,219,210*** | 2,085,372 | 1,735,330 | 506,359 | 3,892,150 | ***393,754*** | 252,211 | 2,480 | 41,388 | 97,675 | ***18,411,573*** | ***2.9%*** |
| 2021 | ***10,133,481*** | 3,577,868 | 6,363,163 | 182,912 | 9,538 | ***8,519,644*** | 2,170,100 | 1,805,835 | 511,493 | 4,032,216 | ***399,661*** | 255,995 | 2,517 | 42,009 | 99,140 | ***19,052,785*** | ***3.5%*** |
| 2022 | ***10,467,934*** | 3,683,860 | 6,584,141 | 190,024 | 9,909 | ***8,818,350*** | 2,254,482 | 1,876,053 | 515,570 | 4,172,245 | ***405,656*** | 259,835 | 2,555 | 42,639 | 100,627 | ***19,691,940*** | ***3.4%*** |
| 2023 | ***10,765,583*** | 3,755,490 | 6,802,679 | 197,134 | 10,279 | ***9,089,212*** | 2,338,834 | 1,946,247 | 493,403 | 4,310,729 | ***411,740*** | 263,732 | 2,593 | 43,278 | 102,137 | ***20,266,535*** | ***2.9%*** |
| 2024 | ***11,031,744*** | 3,802,984 | 7,013,903 | 204,209 | 10,648 | ***9,337,993*** | 2,422,770 | 2,016,093 | 454,553 | 4,444,577 | ***417,917*** | 267,688 | 2,632 | 43,928 | 103,669 | ***20,787,653*** | ***2.6%*** |
| 2025 | ***11,275,209*** | 3,839,230 | 7,213,254 | 211,687 | 11,038 | ***9,582,846*** | 2,511,498 | 2,089,927 | 410,519 | 4,570,902 | ***424,185*** | 271,703 | 2,672 | 44,587 | 105,224 | ***21,282,241*** | ***2.4%*** |
| 2026 | ***11,499,054*** | 3,865,072 | 7,403,653 | 218,913 | 11,415 | ***9,812,026*** | 2,597,231 | 2,161,269 | 361,972 | 4,691,554 | ***430,548*** | 275,779 | 2,712 | 45,255 | 106,802 | ***21,741,628*** | ***2.2%*** |
| 2027 | ***11,800,942*** | 3,963,964 | 7,597,813 | 227,313 | 11,853 | ***10,123,771*** | 2,696,882 | 2,244,194 | 368,106 | 4,814,590 | ***437,006*** | 279,916 | 2,752 | 45,934 | 108,404 | ***22,361,720*** | ***2.9%*** |
| 2028 | ***12,112,988*** | 4,066,785 | 7,798,081 | 235,825 | 12,297 | ***10,442,061*** | 2,797,880 | 2,328,238 | 374,448 | 4,941,496 | ***443,561*** | 284,114 | 2,794 | 46,623 | 110,030 | ***22,998,611*** | ***2.8%*** |
| 2029 | ***12,434,103*** | 4,172,845 | 8,003,884 | 244,619 | 12,755 | ***10,770,008*** | 2,902,207 | 2,415,054 | 380,838 | 5,071,909 | ***450,215*** | 288,376 | 2,836 | 47,323 | 111,681 | ***23,654,326*** | ***2.9%*** |
| 2030 | ***12,765,470*** | 4,282,650 | 8,216,031 | 253,568 | 13,222 | ***11,105,468*** | 3,008,380 | 2,503,405 | 387,341 | 5,206,342 | ***456,968*** | 292,702 | 2,878 | 48,032 | 113,356 | ***24,327,906*** | ***2.8%*** |
| 2031 | ***13,108,099*** | 4,396,257 | 8,435,093 | 263,033 | 13,716 | ***11,456,761*** | 3,120,679 | 2,596,854 | 394,070 | 5,345,158 | ***463,823*** | 297,092 | 2,921 | 48,753 | 115,056 | ***25,028,683*** | ***2.9%*** |
| 2032 | ***13,457,701*** | 4,512,061 | 8,658,615 | 272,800 | 14,225 | ***11,817,494*** | 3,236,550 | 2,693,275 | 400,869 | 5,486,800 | ***470,780*** | 301,549 | 2,965 | 49,484 | 116,782 | ***25,745,975*** | ***2.9%*** |
| 2033 | ***13,812,511*** | 4,629,959 | 8,884,896 | 282,905 | 14,752 | ***12,187,320*** | 3,356,439 | 2,793,040 | 407,650 | 5,630,190 | ***477,842*** | 306,072 | 3,010 | 50,226 | 118,534 | ***26,477,672*** | ***2.8%*** |
| 2034 | ***14,173,118*** | 4,749,043 | 9,115,522 | 293,261 | 15,292 | ***12,565,129*** | 3,479,301 | 2,895,279 | 414,217 | 5,776,333 | ***485,009*** | 310,663 | 3,055 | 50,980 | 120,312 | ***27,223,256*** | ***2.8%*** |
| 2035 | ***14,535,364*** | 4,868,967 | 9,346,727 | 303,828 | 15,843 | ***12,947,786*** | 3,604,680 | 2,999,612 | 420,650 | 5,922,843 | ***492,284*** | 315,323 | 3,100 | 51,745 | 122,117 | ***27,975,435*** | ***2.8%*** |
| 2036 | ***14,901,939*** | 4,990,636 | 9,580,218 | 314,676 | 16,408 | ***13,337,947*** | 3,733,383 | 3,106,712 | 427,050 | 6,070,802 | ***499,669*** | 320,053 | 3,147 | 52,521 | 123,948 | ***28,739,554*** | ***2.7%*** |
| 2037 | ***15,269,815*** | 5,112,629 | 9,814,547 | 325,658 | 16,981 | ***13,731,281*** | 3,863,672 | 3,215,131 | 433,187 | 6,219,292 | ***507,164*** | 324,853 | 3,194 | 53,308 | 125,808 | ***29,508,260*** | ***2.7%*** |
| 2038 | ***15,635,333*** | 5,233,585 | 10,047,439 | 336,749 | 17,559 | ***14,125,631*** | 3,995,262 | 3,324,633 | 438,865 | 6,366,871 | ***514,771*** | 329,726 | 3,242 | 54,108 | 127,695 | ***30,275,735*** | ***2.6%*** |
| 2039 | ***16,001,054*** | 5,354,287 | 10,280,492 | 348,122 | 18,152 | ***14,525,995*** | 4,130,190 | 3,436,912 | 444,340 | 6,514,552 | ***522,493*** | 334,672 | 3,291 | 54,920 | 129,610 | ***31,049,541*** | ***2.6%*** |
| 2040 | ***16,371,733*** | 5,475,824 | 10,517,300 | 359,846 | 18,764 | ***14,934,955*** | 4,269,281 | 3,552,656 | 448,404 | 6,664,613 | ***530,330*** | 339,692 | 3,340 | 55,744 | 131,554 | ***31,837,018*** | ***2.5%*** |

## Upside Adjustments

| | SPB _IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | SPB Ports | Overall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | ALL_IMP_TEU | RAIL_LDS | LOCAL_LDS | LOCAL_MTY | RAIL_MTY | ALL_EXP_TEU | RAIL_LDS | LOCAL_LDS | RAIL_MTY | LOCAL_MTY | ALL_DOM-TEU | LDS | MTY | LDS | MTY | Total | Growth |
| 2015 | 8,028,953 | 2,930,068 | 4,949,756 | 141,739 | 7,391 | 7,051,853 | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | 365,507 | 234,118 | 2,302 | 38,419 | 90,668 | 15,446,313 | 1.9% |
| 2016 | 8,039,827 | 2,934,562 | 4,956,640 | 141,258 | 7,366 | 6,736,895 | 1,675,917 | 1,394,604 | 525,445 | 3,140,929 | 372,817 | 236,459 | 2,325 | 38,803 | 95,230 | 15,149,539 | -1.9% |
| 2017 | 8,403,797 | 3,072,685 | 5,175,096 | 148,285 | 7,732 | 7,052,787 | 1,759,278 | 1,463,973 | 550,177 | 3,279,360 | 380,273 | 238,824 | 2,348 | 39,191 | 99,910 | 15,836,858 | 4.5% |
| 2018 | 9,014,933 | 3,306,930 | 5,541,514 | 158,238 | 8,251 | 7,543,281 | 1,877,369 | 1,562,241 | 592,119 | 3,511,552 | 387,879 | 241,212 | 2,372 | 39,583 | 104,712 | 16,946,093 | 7.0% |
| 2019 | 9,558,718 | 3,509,666 | 5,872,291 | 168,001 | 8,760 | 8,001,400 | 1,993,195 | 1,658,625 | 628,420 | 3,721,159 | 395,636 | 243,624 | 2,395 | 39,979 | 109,638 | 17,955,754 | 6.0% |
| 2020 | 9,952,885 | 3,625,821 | 6,142,128 | 175,770 | 9,165 | 8,337,385 | 2,085,372 | 1,735,330 | 624,534 | 3,892,150 | 403,549 | 246,060 | 2,419 | 40,379 | 114,691 | 18,693,819 | 4.1% |
| 2021 | 10,309,656 | 3,754,044 | 6,363,163 | 182,912 | 9,538 | 8,654,595 | 2,170,100 | 1,805,835 | 646,444 | 4,032,216 | 411,620 | 248,521 | 2,444 | 40,782 | 119,873 | 19,375,871 | 3.6% |
| 2022 | 10,667,628 | 3,883,554 | 6,584,141 | 190,024 | 9,909 | 8,971,316 | 2,254,482 | 1,876,053 | 668,535 | 4,172,245 | 419,852 | 251,006 | 2,468 | 41,190 | 125,188 | 20,058,796 | 3.5% |
| 2023 | 11,023,084 | 4,012,992 | 6,802,679 | 197,134 | 10,279 | 9,286,458 | 2,338,834 | 1,946,247 | 690,649 | 4,310,729 | 428,249 | 253,516 | 2,493 | 41,602 | 130,638 | 20,737,792 | 3.4% |
| 2024 | 11,368,115 | 4,139,355 | 7,013,903 | 204,209 | 10,648 | 9,595,653 | 2,422,770 | 2,016,093 | 712,213 | 4,444,577 | 436,814 | 256,051 | 2,518 | 42,018 | 136,227 | 21,400,582 | 3.2% |
| 2025 | 11,695,814 | 4,259,835 | 7,213,254 | 211,687 | 11,038 | 9,905,029 | 2,511,498 | 2,089,927 | 732,702 | 4,570,902 | 445,550 | 258,612 | 2,543 | 42,438 | 141,958 | 22,046,394 | 3.0% |
| 2026 | 12,008,469 | 4,374,488 | 7,403,653 | 218,913 | 11,415 | 10,202,238 | 2,597,231 | 2,161,269 | 752,184 | 4,691,554 | 454,461 | 261,198 | 2,568 | 42,863 | 147,833 | 22,665,168 | 2.8% |
| 2027 | 12,328,218 | 4,491,240 | 7,597,813 | 227,313 | 11,853 | 10,527,664 | 2,696,882 | 2,244,194 | 771,999 | 4,814,590 | 463,551 | 263,810 | 2,594 | 43,291 | 153,856 | 23,319,433 | 2.9% |
| 2028 | 12,658,890 | 4,612,686 | 7,798,081 | 235,825 | 12,297 | 10,860,222 | 2,797,880 | 2,328,238 | 792,608 | 4,941,496 | 472,822 | 266,448 | 2,620 | 43,724 | 160,030 | 23,991,933 | 2.9% |
| 2029 | 12,999,451 | 4,738,192 | 8,003,884 | 244,619 | 12,755 | 11,203,063 | 2,902,207 | 2,415,054 | 813,893 | 5,071,909 | 482,278 | 269,112 | 2,646 | 44,161 | 166,358 | 24,684,792 | 2.9% |
| 2030 | 13,351,125 | 4,868,304 | 8,216,031 | 253,568 | 13,222 | 11,554,078 | 3,008,380 | 2,503,405 | 835,951 | 5,206,342 | 491,924 | 271,804 | 2,673 | 44,603 | 172,845 | 25,397,127 | 2.9% |
| 2031 | 13,714,761 | 5,002,919 | 8,435,093 | 263,033 | 13,716 | 11,921,464 | 3,120,679 | 2,596,854 | 858,773 | 5,345,158 | 501,762 | 274,522 | 2,699 | 45,049 | 179,492 | 26,137,988 | 2.9% |
| 2032 | 14,085,870 | 5,140,230 | 8,658,615 | 272,800 | 14,225 | 12,298,671 | 3,236,550 | 2,693,275 | 882,046 | 5,486,800 | 511,797 | 277,267 | 2,726 | 45,500 | 186,305 | 26,896,339 | 2.9% |
| 2033 | 14,462,794 | 5,280,242 | 8,884,896 | 282,905 | 14,752 | 12,685,436 | 3,356,439 | 2,793,040 | 905,767 | 5,630,190 | 522,033 | 280,039 | 2,754 | 45,955 | 193,286 | 27,670,263 | 2.9% |
| 2034 | 14,846,174 | 5,422,100 | 9,115,522 | 293,261 | 15,292 | 13,080,690 | 3,479,301 | 2,895,279 | 929,777 | 5,776,333 | 532,474 | 282,840 | 2,781 | 46,414 | 200,439 | 28,459,338 | 2.9% |
| 2035 | 15,231,631 | 5,565,233 | 9,346,727 | 303,828 | 15,843 | 13,481,125 | 3,604,680 | 2,999,612 | 953,989 | 5,922,843 | 543,124 | 285,668 | 2,809 | 46,878 | 207,768 | 29,255,879 | 2.8% |
| 2036 | 15,621,950 | 5,710,647 | 9,580,218 | 314,676 | 16,408 | 13,889,474 | 3,733,383 | 3,106,712 | 978,577 | 6,070,802 | 553,986 | 288,525 | 2,837 | 47,347 | 215,277 | 30,065,410 | 2.8% |
| 2037 | 16,014,065 | 5,856,878 | 9,814,547 | 325,658 | 16,981 | 14,301,376 | 3,863,672 | 3,215,131 | 1,003,282 | 6,219,292 | 565,066 | 291,410 | 2,865 | 47,820 | 222,970 | 30,880,507 | 2.7% |
| 2038 | 16,404,244 | 6,002,496 | 10,047,439 | 336,749 | 17,559 | 14,714,616 | 3,995,262 | 3,324,633 | 1,027,850 | 6,366,871 | 576,367 | 294,324 | 2,894 | 48,299 | 230,850 | 31,695,228 | 2.6% |
| 2039 | 16,794,869 | 6,148,103 | 10,280,492 | 348,122 | 18,152 | 15,134,057 | 4,130,190 | 3,436,912 | 1,052,402 | 6,514,552 | 587,894 | 297,268 | 2,923 | 48,782 | 238,922 | 32,516,820 | 2.6% |
| 2040 | 17,192,861 | 6,296,951 | 10,517,300 | 359,846 | 18,764 | 15,563,937 | 4,269,281 | 3,552,656 | 1,077,387 | 6,664,613 | 599,652 | 300,240 | 2,952 | 49,269 | 247,190 | 33,356,451 | 2.6% |

| | SPB _IMPORT | | | | | SPB_EXPORT | | | | | | DOM_EXPORTS | | DOM_IMPORTS | | *SPB Ports* | *Overall* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | *ALL_IMP_TEU* | RAIL_LDS | LOCAL_LDS | LOCAL_MTY | RAIL_MTY | *ALL_EXP_TEU* | RAIL_LDS | LOCAL_LDS | RAIL_MTY | LOCAL_MTY | *ALL_DOM-TEU* | LDS | MTY | LDS | MTY | *Total* | *Growth* |
| 2015 | ***8,028,953*** | 2,930,068 | 4,949,756 | 141,739 | 7,391 | ***7,051,853*** | 1,681,614 | 1,399,345 | 520,670 | 3,450,223 | ***365,507*** | 234,118 | 2,302 | 38,419 | 90,668 | ***15,446,313*** | ***1.9%*** |
| 2016 | ***8,039,827*** | 2,934,562 | 4,956,640 | 141,258 | 7,366 | ***6,798,342*** | 1,675,917 | 1,394,604 | 586,891 | 3,140,929 | ***368,248*** | 236,459 | 2,325 | 38,803 | 90,661 | ***15,206,416*** | ***-1.6%*** |
| 2017 | ***8,403,797*** | 3,072,685 | 5,175,096 | 148,285 | 7,732 | ***7,128,752*** | 1,759,278 | 1,463,973 | 626,142 | 3,279,360 | ***371,010*** | 238,824 | 2,348 | 39,191 | 90,647 | ***15,903,560*** | ***4.6%*** |
| 2018 | ***8,987,895*** | 3,279,892 | 5,541,514 | 158,238 | 8,251 | ***7,589,506*** | 1,877,369 | 1,562,241 | 638,344 | 3,511,552 | ***373,792*** | 241,212 | 2,372 | 39,583 | 90,626 | ***16,951,194*** | ***6.6%*** |
| 2019 | ***9,502,074*** | 3,453,022 | 5,872,291 | 168,001 | 8,760 | ***8,022,051*** | 1,993,195 | 1,658,625 | 649,072 | 3,721,159 | ***376,596*** | 243,624 | 2,395 | 39,979 | 90,598 | ***17,900,721*** | ***5.6%*** |
| 2020 | ***9,768,050*** | 3,440,986 | 6,142,128 | 175,770 | 9,165 | ***8,273,147*** | 2,085,372 | 1,735,330 | 560,296 | 3,892,150 | ***379,420*** | 246,060 | 2,419 | 40,379 | 90,562 | ***18,420,617*** | ***2.9%*** |
| 2021 | ***10,086,132*** | 3,530,520 | 6,363,163 | 182,912 | 9,538 | ***8,580,568*** | 2,170,100 | 1,805,835 | 572,418 | 4,032,216 | ***382,266*** | 248,521 | 2,444 | 40,782 | 90,519 | ***19,048,967*** | ***3.4%*** |
| 2022 | ***10,402,414*** | 3,618,340 | 6,584,141 | 190,024 | 9,909 | ***8,886,748*** | 2,254,482 | 1,876,053 | 583,967 | 4,172,245 | ***385,133*** | 251,006 | 2,468 | 41,190 | 90,469 | ***19,674,295*** | ***3.3%*** |
| 2023 | ***10,647,094*** | 3,637,002 | 6,802,679 | 197,134 | 10,279 | ***9,135,334*** | 2,338,834 | 1,946,247 | 539,524 | 4,310,729 | ***388,021*** | 253,516 | 2,493 | 41,602 | 90,410 | ***20,170,449*** | ***2.5%*** |
| 2024 | ***10,676,962*** | 3,448,202 | 7,013,903 | 204,209 | 10,648 | ***9,227,749*** | 2,422,770 | 2,016,093 | 344,309 | 4,444,577 | ***390,932*** | 256,051 | 2,518 | 42,018 | 90,345 | ***20,295,643*** | ***0.6%*** |
| 2025 | ***10,834,825*** | 3,398,846 | 7,213,254 | 211,687 | 11,038 | ***9,431,296*** | 2,511,498 | 2,089,927 | 258,969 | 4,570,902 | ***393,864*** | 258,612 | 2,543 | 42,438 | 90,271 | ***20,659,985*** | ***1.8%*** |
| 2026 | ***10,968,465*** | 3,334,484 | 7,403,653 | 218,913 | 11,415 | ***9,619,796*** | 2,597,231 | 2,161,269 | 169,742 | 4,691,554 | ***396,817*** | 261,198 | 2,568 | 42,863 | 90,189 | ***20,985,079*** | ***1.6%*** |
| 2027 | ***11,251,751*** | 3,414,773 | 7,597,813 | 227,313 | 11,853 | ***9,946,558*** | 2,696,882 | 2,244,194 | 190,893 | 4,814,590 | ***399,794*** | 263,810 | 2,594 | 43,291 | 90,099 | ***21,598,103*** | ***2.9%*** |
| 2028 | ***11,544,397*** | 3,498,194 | 7,798,081 | 235,825 | 12,297 | ***10,281,116*** | 2,797,880 | 2,328,238 | 213,502 | 4,941,496 | ***402,792*** | 266,448 | 2,620 | 43,724 | 90,000 | ***22,228,305*** | ***2.9%*** |
| 2029 | ***11,845,258*** | 3,584,000 | 8,003,884 | 244,619 | 12,755 | ***10,626,503*** | 2,902,207 | 2,415,054 | 237,333 | 5,071,909 | ***405,813*** | 269,112 | 2,646 | 44,161 | 89,893 | ***22,877,574*** | ***2.9%*** |
| 2030 | ***12,155,474*** | 3,672,653 | 8,216,031 | 253,568 | 13,222 | ***10,970,710*** | 3,008,380 | 2,503,405 | 252,583 | 5,206,342 | ***408,857*** | 271,804 | 2,673 | 44,603 | 89,777 | ***23,535,040*** | ***2.9%*** |
| 2031 | ***12,476,221*** | 3,764,379 | 8,435,093 | 263,033 | 13,716 | ***11,331,871*** | 3,120,679 | 2,596,854 | 269,179 | 5,345,158 | ***411,923*** | 274,522 | 2,699 | 45,049 | 89,653 | ***24,220,015*** | ***2.9%*** |
| 2032 | ***12,803,422*** | 3,857,783 | 8,658,615 | 272,800 | 14,225 | ***11,703,006*** | 3,236,550 | 2,693,275 | 286,381 | 5,486,800 | ***415,012*** | 277,267 | 2,726 | 45,500 | 89,520 | ***24,921,440*** | ***2.9%*** |
| 2033 | ***13,135,200*** | 3,952,648 | 8,884,896 | 282,905 | 14,752 | ***12,084,524*** | 3,356,439 | 2,793,040 | 304,855 | 5,630,190 | ***418,125*** | 280,039 | 2,754 | 45,955 | 89,377 | ***25,637,849*** | ***2.9%*** |
| 2034 | ***13,472,087*** | 4,048,012 | 9,115,522 | 293,261 | 15,292 | ***12,475,285*** | 3,479,301 | 2,895,279 | 324,372 | 5,776,333 | ***421,261*** | 282,840 | 2,781 | 46,414 | 89,226 | ***26,368,633*** | ***2.9%*** |
| 2035 | ***13,810,159*** | 4,143,761 | 9,346,727 | 303,828 | 15,843 | ***12,873,442*** | 3,604,680 | 2,999,612 | 346,306 | 5,922,843 | ***424,420*** | 285,668 | 2,809 | 46,878 | 89,065 | ***27,108,021*** | ***2.8%*** |
| 2036 | ***14,152,001*** | 4,240,699 | 9,580,218 | 314,676 | 16,408 | ***13,280,328*** | 3,733,383 | 3,106,712 | 369,431 | 6,070,802 | ***427,604*** | 288,525 | 2,837 | 47,347 | 88,895 | ***27,859,933*** | ***2.8%*** |
| 2037 | ***14,494,632*** | 4,337,445 | 9,814,547 | 325,658 | 16,981 | ***13,691,872*** | 3,863,672 | 3,215,131 | 393,778 | 6,219,292 | ***430,811*** | 291,410 | 2,865 | 47,820 | 88,715 | ***28,617,314*** | ***2.7%*** |
| 2038 | ***14,834,463*** | 4,432,715 | 10,047,439 | 336,749 | 17,559 | ***14,106,188*** | 3,995,262 | 3,324,633 | 419,422 | 6,366,871 | ***434,042*** | 294,324 | 2,894 | 48,299 | 88,525 | ***29,374,692*** | ***2.6%*** |
| 2039 | ***15,174,245*** | 4,527,478 | 10,280,492 | 348,122 | 18,152 | ***14,529,177*** | 4,130,190 | 3,436,912 | 447,521 | 6,514,552 | ***437,297*** | 297,268 | 2,923 | 48,782 | 88,325 | ***30,140,718*** | ***2.6%*** |
| 2040 | ***15,516,477*** | 4,620,568 | 10,517,300 | 359,846 | 18,764 | ***14,960,995*** | 4,269,281 | 3,552,656 | 474,445 | 6,664,613 | ***440,577*** | 300,240 | 2,952 | 49,269 | 88,115 | ***30,918,049*** | ***2.6%*** |

Import Commodities Breakdown for Expected – Base Case

| | TEUs - Mil | | | | | | CAGRs | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commodity Groupings | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 15' to 20' | 20' to 25' | 25' to 30' | 30' to 35' | 35' to 40' | 15' to 40' |
| Animal Feed | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 3.1% | 4.9% | 4.4% | 4.1% | 3.3% | 4.0% |
| Apparel | 1.18 | 1.46 | 1.71 | 1.93 | 2.16 | 2.40 | 4.3% | 3.1% | 2.5% | 2.3% | 2.1% | 2.9% |
| Chemicals and related products | 0.28 | 0.38 | 0.43 | 0.51 | 0.63 | 0.76 | 6.0% | 2.7% | 3.4% | 4.1% | 4.0% | 4.0% |
| Construction | 0.08 | 0.11 | 0.13 | 0.17 | 0.21 | 0.26 | 6.0% | 3.9% | 4.6% | 4.4% | 4.2% | 4.6% |
| Electric Machinery | 0.48 | 0.70 | 0.94 | 1.24 | 1.62 | 2.11 | 7.9% | 6.0% | 5.6% | 5.6% | 5.4% | 6.1% |
| Food Products | 0.43 | 0.52 | 0.63 | 0.74 | 0.87 | 1.00 | 4.1% | 3.7% | 3.4% | 3.2% | 2.9% | 3.5% |
| Furniture | 0.94 | 1.29 | 1.62 | 1.98 | 2.41 | 2.88 | 6.5% | 4.7% | 4.1% | 4.0% | 3.7% | 4.6% |
| General Retail | 1.67 | 2.02 | 2.35 | 2.70 | 3.11 | 3.54 | 3.9% | 3.0% | 2.8% | 2.9% | 2.6% | 3.1% |
| Home Construction | 0.70 | 0.90 | 1.10 | 1.35 | 1.66 | 2.01 | 5.2% | 4.2% | 4.1% | 4.2% | 3.9% | 4.3% |
| Metal manufactures | 0.30 | 0.37 | 0.38 | 0.42 | 0.49 | 0.57 | 4.1% | 0.5% | 2.2% | 3.3% | 2.7% | 2.6% |
| Miscellaneous | 0.04 | 0.05 | 0.07 | 0.08 | 0.10 | 0.13 | 6.4% | 4.7% | 4.5% | 4.9% | 5.2% | 5.2% |
| Non-electric Machinery | 0.60 | 0.78 | 0.99 | 1.23 | 1.53 | 1.89 | 5.4% | 4.8% | 4.4% | 4.4% | 4.3% | 4.7% |
| Non-metallic mineral manufactures | 0.04 | 0.06 | 0.07 | 0.09 | 0.11 | 0.13 | 6.0% | 3.6% | 4.0% | 4.4% | 3.6% | 4.3% |
| Paper Products | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 5.2% | 6.6% | 5.3% | 4.7% | 4.2% | 5.2% |
| Passenger Vehicles and Parts | 0.44 | 0.53 | 0.64 | 0.75 | 0.88 | 1.04 | 3.8% | 3.7% | 3.3% | 3.2% | 3.3% | 3.5% |
| Pharmaceuticals | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 0.10 | 5.4% | 4.9% | 4.4% | 4.3% | 3.6% | 4.5% |
| Rubber and Plastic Items | 0.11 | 0.15 | 0.19 | 0.24 | 0.30 | 0.36 | 5.4% | 5.5% | 4.6% | 4.3% | 4.0% | 4.8% |
| Steel/Iron Manufacturing | 0.11 | 0.13 | 0.16 | 0.18 | 0.21 | 0.25 | 3.6% | 2.9% | 3.0% | 3.3% | 3.0% | 3.2% |
| Other Transport Equipment | 0.34 | 0.42 | 0.49 | 0.57 | 0.64 | 0.72 | 4.4% | 3.1% | 2.8% | 2.6% | 2.2% | 3.0% |
| Wine and Spirits | 0.05 | 0.07 | 0.09 | 0.11 | 0.14 | 0.18 | 6.4% | 5.9% | 5.0% | 4.6% | 4.3% | 5.2% |
| **Totals** | **7.88** | **10.05** | **12.11** | **14.43** | **17.26** | **20.43** | **5.0%** | **3.8%** | **3.6%** | **3.6%** | **3.4%** | **3.9%** |

Export Commodities Breakdown for Expected – Base Case

| Commodity Groupings | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 15' to 20' | 20' to 25' | 25' to 30' | 30' to 35' | 35' to 40' | 15' to 40' |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chemicals | 0.27 | 0.34 | 0.42 | 0.52 | 0.64 | 0.77 | 5.0% | 3.9% | 4.5% | 4.2% | 3.9% | 4.3% |
| Fabrics | 0.13 | 0.13 | 0.13 | 0.13 | 0.12 | 0.11 | 0.3% | -0.9% | -0.4% | -0.8% | -1.1% | -0.6% |
| Food Products | 0.76 | 0.99 | 1.26 | 1.64 | 2.07 | 2.58 | 5.5% | 4.9% | 5.4% | 4.8% | 4.5% | 5.0% |
| Machinery | 0.27 | 0.34 | 0.45 | 0.61 | 0.81 | 1.07 | 5.3% | 5.6% | 6.1% | 5.9% | 5.8% | 5.7% |
| Metals | 0.06 | 0.07 | 0.09 | 0.11 | 0.13 | 0.16 | 4.7% | 4.1% | 4.6% | 4.2% | 4.1% | 4.3% |
| Mineral Extracts | 0.07 | 0.09 | 0.10 | 0.12 | 0.14 | 0.15 | 4.4% | 2.9% | 2.8% | 2.6% | 2.6% | 3.0% |
| Miscellaneous | 0.17 | 0.22 | 0.27 | 0.35 | 0.44 | 0.54 | 4.8% | 4.5% | 5.1% | 4.7% | 4.4% | 4.7% |
| Plastic Products | 0.25 | 0.33 | 0.40 | 0.52 | 0.65 | 0.80 | 5.0% | 4.4% | 5.1% | 4.7% | 4.2% | 4.7% |
| Waste Products | 0.99 | 1.37 | 1.90 | 2.39 | 3.08 | 3.92 | 6.7% | 6.8% | 4.7% | 5.2% | 5.0% | 5.7% |
| Wood Products | 0.11 | 0.15 | 0.18 | 0.23 | 0.29 | 0.34 | 6.0% | 4.0% | 4.7% | 4.4% | 3.6% | 4.5% |
| Grand Total | 3.08 | 4.03 | 5.21 | 6.61 | 8.36 | 10.46 | 5.5% | 5.2% | 4.9% | 4.8% | 4.6% | 5.0% |
| **Totals** | 6.16 | 8.07 | 10.41 | 13.21 | 16.72 | 20.92 | 5.5% | 5.2% | 4.9% | 4.8% | 4.6% | 5.0% |

Import Commodities Breakdown for Expected – Upside

| | TEUs - Mil | | | | | | CAGRs | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Commodity Groupings** | **2015** | **2020** | **2025** | **2030** | **2035** | **2040** | **15' to 20'** | **20' to 25'** | **25' to 30'** | **30' to 35'** | **35' to 40'** | **15' to 40'** |
| Animal Feed | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 3.5% | 5.4% | 4.5% | 4.0% | 3.2% | 4.1% |
| Apparel | 1.18 | 1.48 | 1.73 | 1.95 | 2.19 | 2.43 | 4.6% | 3.1% | 2.5% | 2.3% | 2.0% | 2.9% |
| Chemicals and related products | 0.28 | 0.39 | 0.49 | 0.60 | 0.73 | 0.89 | 6.6% | 4.6% | 4.0% | 4.1% | 4.0% | 4.7% |
| Construction | 0.08 | 0.11 | 0.14 | 0.17 | 0.22 | 0.27 | 6.3% | 4.3% | 4.7% | 4.4% | 4.2% | 4.8% |
| Electric Machinery | 0.48 | 0.71 | 0.95 | 1.25 | 1.65 | 2.14 | 8.2% | 6.0% | 5.6% | 5.6% | 5.4% | 6.1% |
| Food Products | 0.43 | 0.53 | 0.64 | 0.76 | 0.89 | 1.02 | 4.4% | 3.8% | 3.4% | 3.2% | 2.9% | 3.5% |
| Furniture | 0.94 | 1.31 | 1.67 | 2.04 | 2.48 | 2.97 | 6.8% | 5.0% | 4.1% | 4.0% | 3.6% | 4.7% |
| General Retail | 1.67 | 2.05 | 2.44 | 2.83 | 3.26 | 3.71 | 4.3% | 3.5% | 3.0% | 2.9% | 2.6% | 3.3% |
| Home Construction | 0.70 | 0.91 | 1.14 | 1.39 | 1.71 | 2.07 | 5.5% | 4.5% | 4.2% | 4.2% | 3.9% | 4.4% |
| Metal manufactures | 0.30 | 0.38 | 0.45 | 0.53 | 0.63 | 0.74 | 5.0% | 3.4% | 3.3% | 3.5% | 3.3% | 3.7% |
| Miscellaneous | 0.04 | 0.05 | 0.07 | 0.08 | 0.11 | 0.14 | 6.7% | 4.7% | 4.6% | 4.9% | 5.2% | 5.2% |
| Non-electric Machinery | 0.60 | 0.79 | 1.00 | 1.25 | 1.55 | 1.91 | 5.6% | 4.9% | 4.4% | 4.4% | 4.3% | 4.7% |
| Non-metallic mineral manufactures | 0.04 | 0.06 | 0.08 | 0.10 | 0.12 | 0.14 | 6.6% | 5.2% | 4.5% | 4.3% | 3.7% | 4.8% |
| Paper Products | 0.02 | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 5.4% | 6.6% | 5.3% | 4.7% | 4.1% | 5.2% |
| Passenger Vehicles and Parts | 0.44 | 0.54 | 0.65 | 0.76 | 0.89 | 1.05 | 4.0% | 3.8% | 3.3% | 3.2% | 3.3% | 3.5% |
| Pharmaceuticals | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 0.10 | 5.7% | 4.9% | 4.4% | 4.3% | 3.6% | 4.6% |
| Rubber and Plastic Items | 0.11 | 0.15 | 0.20 | 0.25 | 0.30 | 0.37 | 5.7% | 5.6% | 4.6% | 4.3% | 3.9% | 4.8% |
| Steel/Iron Manufacturing | 0.11 | 0.14 | 0.17 | 0.20 | 0.23 | 0.27 | 4.1% | 3.9% | 3.3% | 3.2% | 3.0% | 3.5% |
| Other Transport Equipment | 0.34 | 0.43 | 0.51 | 0.59 | 0.68 | 0.76 | 4.7% | 3.6% | 3.0% | 2.7% | 2.3% | 3.2% |
| Wine and Spirits | 0.05 | 0.07 | 0.09 | 0.12 | 0.14 | 0.18 | 6.6% | 6.0% | 5.0% | 4.6% | 4.3% | 5.3% |
| **Totals** | **7.88** | **10.20** | **12.53** | **15.02** | **17.96** | **21.25** | **5.3%** | **4.2%** | **3.7%** | **3.6%** | **3.4%** | **4.0%** |

Import Commodities Breakdown for Expected – Downside

| | TEUs - Mil | | | | | | CAGRs | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Commodity Groupings** | **2015** | **2020** | **2025** | **2030** | **2035** | **2040** | **15' to 20'** | **20' to 25'** | **25' to 30'** | **30' to 35'** | **35' to 40'** | **15' to 40'** |
| Animal Feed | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 3.1% | 4.3% | 4.4% | 4.1% | 3.3% | 3.8% |
| Apparel | 1.18 | 1.47 | 1.68 | 1.90 | 2.14 | 2.37 | 4.4% | 2.8% | 2.5% | 2.4% | 2.1% | 2.8% |
| Chemicals and related products | 0.28 | 0.37 | 0.38 | 0.44 | 0.54 | 0.66 | 5.6% | 0.5% | 2.8% | 4.1% | 4.1% | 3.4% |
| Construction | 0.08 | 0.11 | 0.11 | 0.14 | 0.18 | 0.22 | 5.4% | 1.1% | 4.2% | 4.7% | 4.4% | 4.0% |
| Electric Machinery | 0.48 | 0.70 | 0.93 | 1.22 | 1.60 | 2.08 | 7.9% | 5.7% | 5.6% | 5.6% | 5.4% | 6.0% |
| Food Products | 0.43 | 0.52 | 0.59 | 0.68 | 0.80 | 0.92 | 3.9% | 2.5% | 3.1% | 3.2% | 2.9% | 3.1% |
| Furniture | 0.94 | 1.28 | 1.56 | 1.90 | 2.31 | 2.77 | 6.5% | 4.0% | 3.9% | 4.0% | 3.7% | 4.4% |
| General Retail | 1.67 | 2.02 | 2.26 | 2.58 | 2.97 | 3.38 | 3.9% | 2.3% | 2.7% | 2.8% | 2.6% | 2.9% |
| Home Construction | 0.70 | 0.90 | 1.07 | 1.30 | 1.60 | 1.95 | 5.2% | 3.6% | 4.0% | 4.2% | 3.9% | 4.2% |
| Metal manufactures | 0.30 | 0.36 | 0.32 | 0.33 | 0.38 | 0.43 | 3.7% | -2.5% | 1.0% | 3.0% | 2.4% | 1.5% |
| Miscellaneous | 0.04 | 0.05 | 0.06 | 0.08 | 0.10 | 0.13 | 6.5% | 4.4% | 4.5% | 4.9% | 5.2% | 5.1% |
| Non-electric Machinery | 0.60 | 0.78 | 0.98 | 1.21 | 1.51 | 1.86 | 5.4% | 4.5% | 4.4% | 4.4% | 4.3% | 4.6% |
| Non-metallic mineral manufactures | 0.04 | 0.06 | 0.06 | 0.08 | 0.09 | 0.11 | 5.7% | 1.9% | 3.6% | 4.4% | 3.7% | 3.9% |
| Paper Products | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 5.1% | 5.5% | 5.1% | 4.7% | 4.2% | 4.9% |
| Passenger Vehicles and Parts | 0.44 | 0.54 | 0.63 | 0.74 | 0.87 | 1.02 | 3.8% | 3.4% | 3.3% | 3.2% | 3.3% | 3.4% |
| Pharmaceuticals | 0.03 | 0.04 | 0.05 | 0.07 | 0.08 | 0.10 | 5.5% | 4.6% | 4.4% | 4.3% | 3.6% | 4.5% |
| Rubber and Plastic Items | 0.11 | 0.15 | 0.19 | 0.24 | 0.30 | 0.36 | 5.4% | 5.2% | 4.6% | 4.3% | 4.0% | 4.7% |
| Steel/Iron Manufacturing | 0.11 | 0.13 | 0.15 | 0.18 | 0.21 | 0.24 | 3.6% | 2.5% | 3.0% | 3.3% | 3.1% | 3.1% |
| Other Transport Equipment | 0.34 | 0.42 | 0.47 | 0.54 | 0.61 | 0.68 | 4.3% | 2.4% | 2.6% | 2.6% | 2.1% | 2.8% |
| Wine and Spirits | 0.05 | 0.07 | 0.09 | 0.11 | 0.14 | 0.17 | 6.4% | 5.6% | 5.0% | 4.6% | 4.3% | 5.2% |
| **Totals** | **7.88** | **10.02** | **11.67** | **13.82** | **16.54** | **19.58** | **4.9%** | **3.1%** | **3.4%** | **3.7%** | **3.4%** | **3.7%** |

### Appendix 6: Comparison of SPB Ports Infrastructure to Competitors

***SPB Ports' Infrastructure Summary***

As indicated previously, the total throughput of SPB Ports is clearly driven by the level of international import volume, 94% of which originates in Asia. Moreover, 38% of SPB Ports' import volume moves inland by rail service (includes containers handled at on-dock and off-dock intermodal facilities).

As will be discuss in more detail later in this report, several other port complexes compete aggressively with SPB Ports for these intermodal Asian import container flows. The list of the most important of SPB Ports' competitors includes:

- Seattle/Tacoma for U.S. Midwest/Ohio Valley traffic
- Prince Rupert/Vancouver for U.S. Midwest/Ohio Valley/lower Mississippi Valley traffic
- New York/ New Jersey and Hampton Roads for Ohio Valley traffic
- Savannah for Southeast U.S. traffic
- Houston for South Central U.S. traffic

In this section of the report, Mercator compares the terminal and rail infrastructure of SPB Ports to that of its competitors.

Los Angeles has eight functioning container terminals, the newest of which is the APMT Pier 400 facility, which was completed in 2002. All eight of Los Angeles' terminals principally handle liner services that are controlled by the carriers leasing these terminals. These are identified in the table below.

**Summary of Los Angeles' Container Terminals and Carrier Affiliations**

| Terminal/ Berths | Operator | Carrier Affiliations |
|---|---|---|
| WBCT/B100-102 | Ports America | China Shipping Container Line |
| WBCT/B121-131 | Ports America | Yang Ming |
| TraPac | TraPac | MOL |
| Yusen | Yusen | NYK |
| Seaside | Seaside | Evergreen |
| Global Gateway | EagleMarine | APL |
| PIER 400 | APMT | Maersk |
| CUT | CUT | Hyundai |
| B206-209 | Vacant | |

Four of the terminals – APMT, CUT, WBCT, and Global Gateway – have on-dock rail transfer facilities of varying capacities. Two terminals – Evergreen and Yusen – share an adjacent near-dock terminal, and the City of Los Angeles Harbor Department is building a new on-dock rail transfer facility for Trapac. Four of the terminals in this port (WBCT, Trapac, Yusen, Evergreen) have older, irregular-shaped facilities making them less efficient than modern terminals with a rectangular design that lends itself to automation.

The Port of Long Beach has six functioning container terminals, one of which (the OOCL facility at Pier F) is being expanded and automated at this time. The others are Pier A (operated by SSA, with MSC as the minority shareholder), Pier C (also operated by SSA, with Matson as the minority shareholder), Pier G (operated by Ports America, with K Line/ITS as the majority shareholder), Pier J (operated by SSA, with COSCO as the minority shareholder), and Pier T (operated by Hanjin's TTI subsidiary, with TIL/MSC as a minority shareholder).

Although MSC, Hanjin, COSCO, and K Line are the main container shipping line users of Pier A, Pier T, Pier J, and Pier G, respectively, the operators of these four terminals all solicit stevedoring work from other shipping lines. When OOCL's expansion project – known as the Middle Harbor Terminal – opens its first phase (in 2016), the operator of this facility (LBCT, a wholly-owned subsidiary of OOCL's parent company) will be aggressively seeking terminal service business from other lines besides OOCL. The only terminal in Long Beach that is focused exclusively on the ships of one carrier is Pier C, which is dedicated to serving only Matson ships.

Collectively, then, the SPB gateway has thirteen separate container terminals (counting the APMT and CUT operations as separate facilities). Key infrastructure parameters for these terminals are displayed in the following table.

### Infrastructure Attributes of San Pedro Bay Terminals

| Port | Operator | Carrier Involvement | Terminal/ Berths | Area hc / ac | Berth Length m / ft | Cranes SPPX* | Cranes PPMX* | Cranes PM* | Depth m / ft | On-dock Rail Y/N |
|---|---|---|---|---|---|---|---|---|---|---|
| Los Angeles | Ports America | CSCL | WBCT/B100-102 | 14 / 101 | 648 / 2125 | 8 | | | 16.2 / 53 | Y |
| | | Yang Ming | WBCT/B121-131 | 75 / 186 | 1067 / 3500 | | 5 | 3 | 10.7-13.7 / 35-45 | Y |
| | TraPac | MOL | TraPac | 70 / 173 | 1234 / 4050 | | 11 | | 10.7-14 / 35-46 | Y[1] |
| | Yusen | NYK | Yusen | 75 / 185 | 1767 / 5800 | 4 | 4 | 2 | 10.7-13.7 / 35-45 | Y[1] |
| | Seaside | Evergreen | Seaside | 83 / 205 | 1433 / 4700 | | 8 | | 11.6-13.7 / 38-45 | Y |
| | EagleMarine | APL | Global Gateway | 118 / 292 | 1219 / 4000 | | 12 | | 15.2 / 50 | Y |
| | APMT | Maersk | PIER 400 | 159 / 393 | 1582 / 5190 | 14 | | | 16.8 / 55 | Y |
| | CUT | HYMM | CUT | 37 / 91 | 610 / 2000 | 4 | | | 16.8 / 55 | Y |
| | Vacant | | B206-209 | | | | | | | |
| Long Beach | SSA | MSC | PIER A | 81 / 200 | 1097 / 3600 | 10 | | | 15.2 / 50 | Y |
| | SSA | Matson | PIER C | 28 / 70 | 549 / 1800 | | | 3 | 12.8 / 42 | N |
| | LBCT | OOCL | PIER F | 41 / 102 | 838 / 2750 | 2 | 5 | | 15.2 / 50 | Y |
| | ITS | K-Line | ITS | 100 / 246 | 1945 / 6379 | 6 | 11 | | 11-12.8 / 42-52 | Y |
| | SSA | COSCO | Pacific | 104 / 256 | 1799 / 5900 | 15 | | | 12-15.2 / 49-50 | Y |
| | TTI | Hanjin | PIER T | 156 / 385 | 1524 / 5000 | 14 | | | 16.8 / 55 | Y |
| | Vacant | | E24-26 | | | | | | | |

*** SPPX -** Super Post-panamax cranes (20+ Rows) **/ PPMX**- Post Pananamanx (17 to 19 Rows) **/ PM** - Panamax

1) Yusen and Seaside Terminals share and intermodal facility known as the Terminal Island Container Transfer Facility (TICTF)

Several of the terminals in SPB – particularly the Yang Ming portion of WBCT, Yusen, Seaside, and ITS – will need major upgrades (and dredging, in certain instances) in order to be able to handle ultra-large containerships. However, there are a few terminals that can or will be able to handle three such ships concurrently – Pier 400, Pier T, PCT, and the new OOCL Middle Harbor Terminal.

The information on SPB Ports' container terminals versus those of other port areas along the Pacific Coast reveal that there are a few SPB terminals that are far larger than other facilities in region. These include the Pier 400, Global Gateway, and Pier T terminals.

Of greater importance in the competition for discretionary intermodal traffic between the SPB Ports and other Pacific coast ports is the rail transfer infrastructure and rail connectivity of this gateway. In this regard, it should be noted that all of Long Beach's container terminals – aside from Pier C – have an on-dock rail transfer facility (Matson, which handles relatively small intermodal volumes, drays those boxes to/from off-dock intermodal facilities of the UP and BNSF). In Los Angeles, the NYK and Evergreen terminals share a rail transfer facility that they can access with a private road, as do APMT and CUT. The WBCT and Global Gateway terminals have their own rail transfer facilities, and the Port of Los Angeles is close to completing a new on-dock rail transfer facility for the TraPac terminal.

The rail transfer facilities of the SPB terminals vary greatly in the number and length of working tracks and support tracks that they have. Most of them, however, would have more working track capacity and on-dock support track capacity than their Pacific Coast competitors.

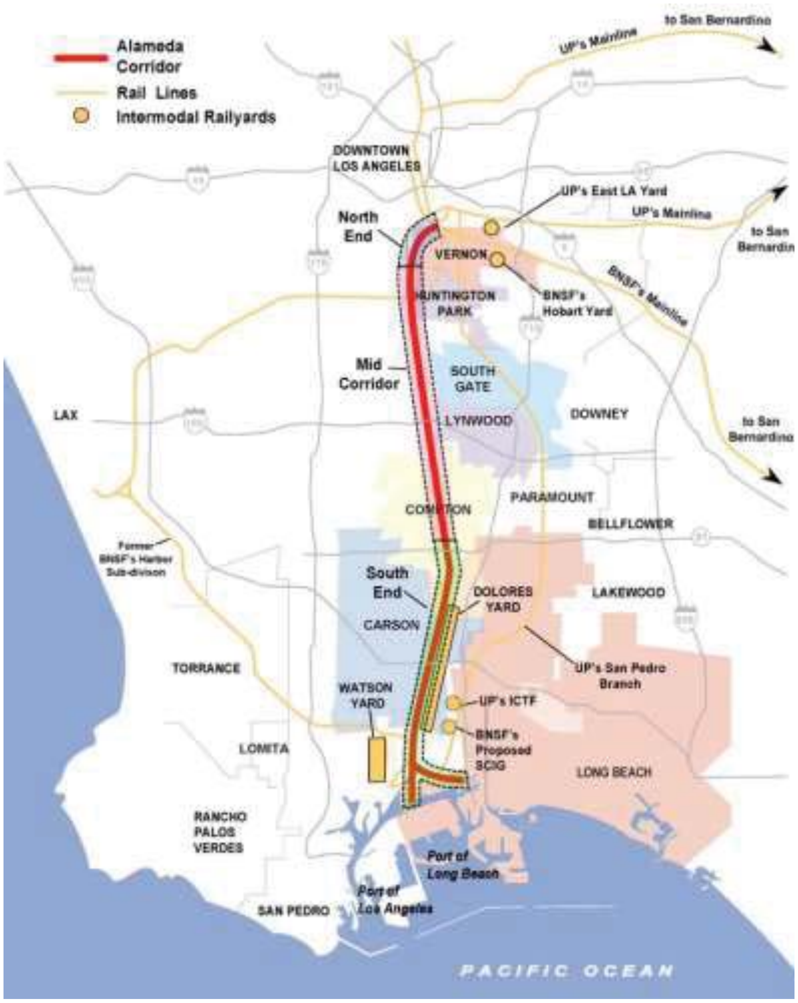
In terms of rail connectivity, moving trains between the main lines of the BNSF or UP and the various container terminals in San Pedro Bay involves traversing a complex rail network through a highly developed urban area. The UP's primary route for intermodal trains between the Midwest or South Central states and SPB approaches the Los Angeles Basin from the southeast (coming from El Paso, Tucson, and Yuma) and crosses over the San Jacinto Mountain Range via San Gorgonio Pass to San Bernardino (the yellow line in the satellite photo below).

**UP and BNSF Transcontinental Routes to Los Angeles**

BNSF's only route for intermodal trains between the Midwest or South-Central states and San Pedro Bay approaches the Basin from the northeast (coming from a point near Albuquerque, Flagstaff, and Barstow) and crosses over the San Gabriel Mountain Range via Cajon Pass also to San Bernardino. After intersecting with each other in San Bernardino, each railroad's main line runs across the Basin for approximately 60 (UP) – 70 (BNSF) miles to East Los Angeles. In this area, both lines have multiple grade crossings and are frequently congested as a result of having to handle not only the harbor's intermodal trains, but also domestic intermodal trains, inter-state passenger trains, regional commuter trains, and general freight trains.

However, between East Los Angeles and a point immediately north of the SPB Harbor, intermodal trains are able to operate on a dedicated, grade-separated, 20-mile long triple-tracked rail line known as the Alameda Corridor. This Corridor greatly facilitates the movement of trains between the East Los Angeles end-points of the BNSF and UP main lines, although the special-purpose authority that manages the Corridor levies a fee on all intermodal boxes moving through SPB terminals (whether those boxes run the Corridor or not). A map of the Corridor is shown in the next figure.

### Alameda Corridor between East LA and SPB

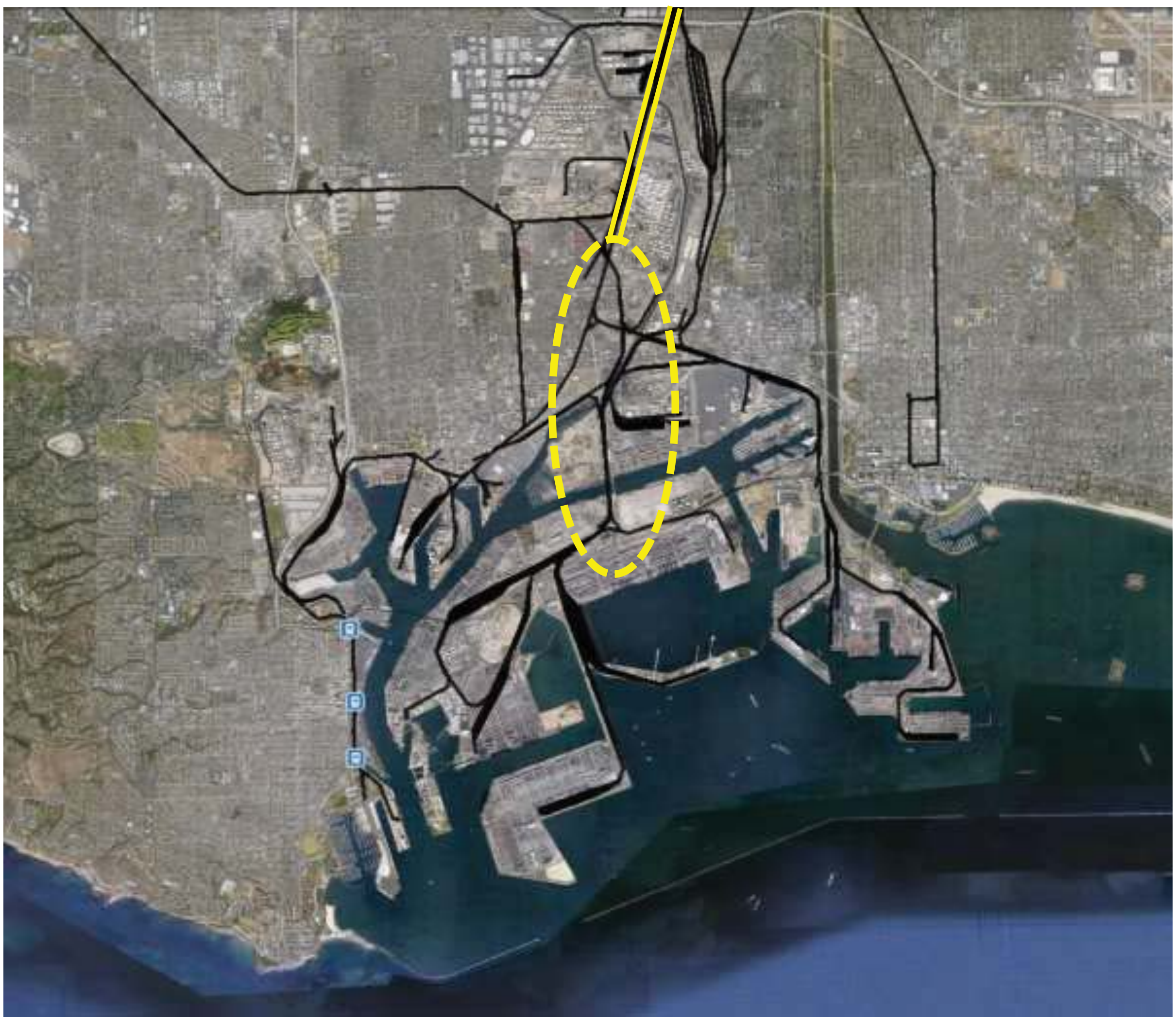


Once trains depart the southern endpoint of the Corridor and head to the rail transfer facilities within the harbor (or vice versa, as trains depart those transfer facilities and head to that Corridor endpoint), they have to traverse through a congested rail network in and around the harbor. One line of the network branches southwest to the TraPac and WBCT terminals, another branches southeast to the Middle Harbor Terminal, Pier E/F, Pier G, and Pier J terminals of Long Beach, and the third runs south across a draw-bridge onto Terminal Island, with further lead tracks branching out to the rail transfer facilities serving the Yusen/Seaside terminals, the APL terminal, Pier 400, and Pier T.

Given the volume of train movements to/from the various intermodal facilities around the harbor, as well as the number of trains hauling non-containerized cargoes to liquid bulk, dry bulk, break-bulk, and RO-RO terminals, there can often be delays to trains arriving into or departing from SPB – especially for the Terminal Island portion of the port complex.

An aerial photograph of this part of the network is displayed in the following figure.

**Rail Network Between SPB Ports and Alameda Corridor**



In conclusion, the SPB port complex will have at least four marine terminals with the infrastructure and capacity to efficiently handle multiple ultra-large ships concurrently and the on-dock rail transfer facilities to efficiently load and unload two or more trains at the same time. These terminals will be highly competitive – in terms of infrastructure, capacity, and operational efficiency. Two of the SPB terminals - TraPac and Middle Harbor – will also be automated, and thus will have competitive variable costs.

Because the local market of Southern California is so much larger than the market elsewhere along the Pacific coast, the SPB port complex also benefits from a higher number of sailings. Presently, SPB receives first-inbound calls from 25 separate Transpacific vessel strings, compared, for example to three first-inbound calls to Prince Rupert (soon to become four, with the new M2 call), and four first-inbound calls to Vancouver.

***<u>Northwest Seaport Alliance (Seattle/Tacoma) Infrastructure Summary</u>***

The two port authorities with container terminals in the Puget Sound – Seattle and Tacoma – recently formed a joint venture, the Northwest Seaport Alliance (NSA), to jointly manage their respective cargo-handling facilities, operations, and business. The NSA has four container terminals in Seattle, located within the harbor as shown below. One of these terminals (T-5) is presently vacant, although it had previously been operated by a subsidiary of APL. Neither T-30 (operated by SSA) nor T-46 (operated by TTI) has on-dock rail, and neither can be expanded, because they are hemmed in by a highway and urban development. T-18 (also operated by SSA) has some expansion potential, but it lacks an effective on-dock rail transfer facility. T-30 is expected to be converted to non-container cargo operations in the near future.

**Overview of Seattle Container Terminals**

The NSA also has five international-cargo container terminals in Tacoma, about 35 miles to the south of Seattle, and located within the harbor as shown in the following figure. All but one of these terminals (APMT) has an on-dock rail transfer area. The OCT, ITS, and PCT terminals are used mainly by the carriers leasing those terminals (Yang Ming, K Line, and Evergreen, respectively), while WUT is used by its lessor (HMM), as well as by the other G-6 carriers.

Except for WUT, the other four terminals are under-utilized, and three of them (APMT, OCT, and ITS) need extensive refurbishments in order to be able to handle 8,000+ TEU ships. Although horizontal expansion for these terminals would be difficult, all of them can be densified.

**Overview of Tacoma Container Terminals**


With the exception of SSA's T-18 terminal, the other terminals of the NSA were originally developed to serve a particular ship line and its vessel sharing partners, and most of these facilities were built more than fifteen years ago. Only a few of them have the infrastructure required to handle very large container ships (of 13,000+ TEU capacity) and only one (T-18) can handle two such ships concurrently. The key physical parameters of these terminals are summarized in the following table.

### Infrastructure Attributes of NSA Terminals

| Terminal | Berth Length (m) | Water Depth (m) | Cranes | Area (acres) | Approx Capacity (k-TEU/yr) | On-Dock Rail Trackage (feet) |
|---|---|---|---|---|---|---|
| T-18 | 1,353 | 15.2 | 6X25W 1X24W 3X19W | 196 | 1,275 | 4 X 1,900’ |
| T-5 | 884 | 15.2 | 6X16W | 158 | 623 | 6 X 3,000’ |
| T-46 | 701 | 15.2 | 3X22W2 X16W | 82 | 712 | None |
| T-25/30 | 823 | 15.2 | 3X24W3 X18W | 70 | 467 | None |
| APMT | 671 | 15.5 | 4X18W 1X14W | 135 | 659 | Near-dock rail |
| OCT | 343 | 15.5 | 3X15W 1X14W | 54 | 348 | 8 X 2,800’ |
| ITS | 823 | 15.5 | 1X18W 1X17W 2X16W | 93 | 813 | 8 X 2,800’ |
| WUT | 792 | 15.5 | 4X18W 2X24W | 123 | 851 | 4 X 2,400’ |
| PCT | 636 | 15.5 | 7X23W | 141 | 915 | 12 X 2,000’ |

As mentioned previously, T-30 and T-46 in Seattle have no ability to expand horizontally, and no on-dock rail transfer facilities. Given their locations (with T-46, in particular, adjacent to the city’s football and baseball stadiums and its downtown district), these two terminals are ineffective competitors to the terminals of Prince Rupert and Deltaport, and are likely to be repurposed to non-container uses within the next five years. The NSA is also attempting to issue a concession for the refurbishment and operation of the T-5 terminal – the facility’s wharf structure needs to be re-engineered and rebuilt in order to be able to support super-Post Panamax gantry cranes.

In Tacoma, OCT and ITS will likely be consolidated into one concession and refurbished, while the facility now leased by APMT (for two more years) will likely be either refurbished as a common-user container terminal or re-purposed to non-container cargoes, after 2017. In addition, WUT will likely be densified during the next five years, with similar programs implemented for T-18 and PCT thereafter.

Thus, the NSA terminals competing for intermodal traffic with Prince Rupert and Vancouver’s terminals in the future are likely to be the refurbished ITS/OCT terminal, T-18, a potentially refurbished T-5, a potentially refurbished West Sitcum terminal (now known as the APMT terminal), WUT, and PCT. With the exception of PCT, all of these terminals will likely have enough berth length and wide-outreach gantry cranes to simultaneously handle two ultra-large ships.

Given that there are presently only 12 weekly liner services operating between Asia and the Pacific Northwest region, it is highly unlikely that any one of these 5-6 terminals will need to handle more than two 13,000+ TEU ships at the same time. Thus, even though the Deltaport terminal has sufficient berth length to work three large ships concurrently, and though the Fairview terminal could eventually have the same capability, that should not be much of a competitive advantage.  However, several of NSA's terminals have relatively small intermodal rail transfer facilities.

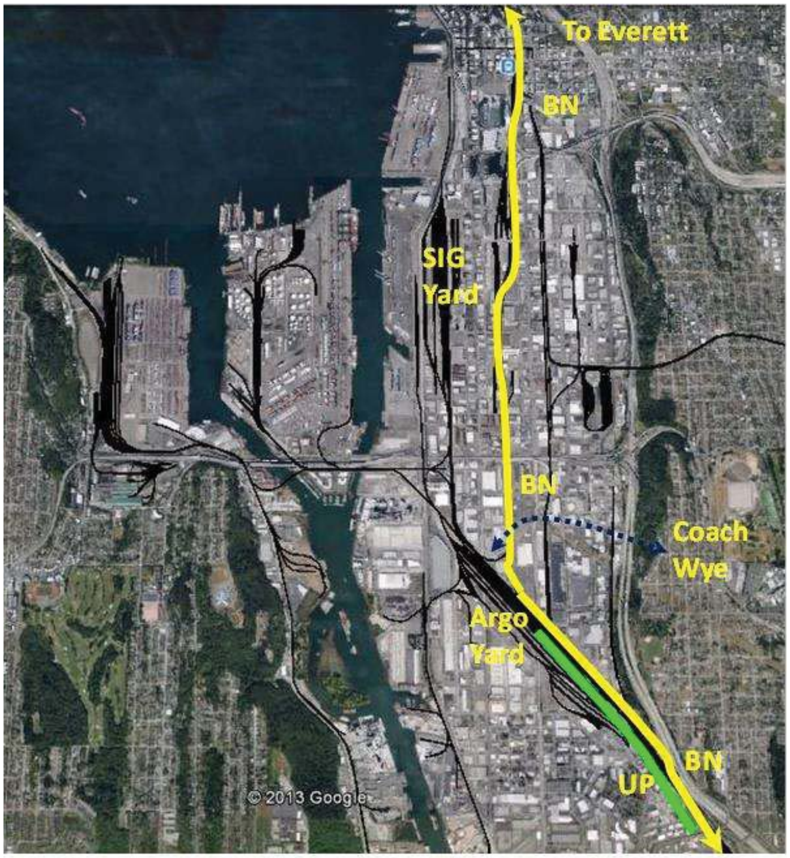
An even more important parameter of competitiveness between the NSA's terminals and the terminals of BC's ports relates to connectivity between the port/rail transfer facilities serving these terminals and the main lines of the railroads linking these ports with the hinterland regions they are attempting to be gateways to/from.

Train connectivity in Seattle between the marine terminals and the main lines of its two railroads (BNSF/UP) varies by facility and carrier.  Although T-5 has an on-dock rail transfer facility with the ability to work an inbound train and a separate outbound train simultaneously, the rail branch line that links the terminal with the main lines of the BNSF and UP railroads has some single-track bottlenecks and curvatures that can delay the expeditious arrival/departure of intermodal trains for the marine terminal and that prevent the concurrent arrival of one train with the departure of another.

**Rail Access Bottleneck Area for T-5**

Given the absence of on-dock rail at T-18, T-46, and T-30, almost all of BNSF's intermodal traffic to/from the Port is handled through its Seattle International Gateway (SIG) Yard terminal, which can be seen in the next figure.

### Rail Connections for Seattle Container Terminals




Since the majority of BNSF intermodal trains use that railroad's Everett – Stevens Pass route across the state to/from Spokane, most trains departing from SIG Yard run south through the Coach Wye to get on the main line north to Everett. Because of track layouts and curvatures in this area, BNSF trains are not able to come off of Harbor Island and directly access the Coach Wye. When T-5 was operational, stack trains moved to/from it via a sharply curved lead track, across a draw-bridge, and thru a congested yard to reach either the UP or BNSF main lines.

Tacoma's terminals also have rail connectivity constraints. All trains departing from or arriving at any of Tacoma's marine terminals have to pass through a rail intersection known as Bullfrog Junction. Moreover, eastbound BNSF trains routed via Everett & Stevens Pass require locomotives to run-around their trains in BN's Tacoma Yard. BNSF's line into Bullfrog Junction is also only single-track, so BNSF cannot arrive a westbound train into the on-dock terminal of either WUT or PCT at the same time that UP is trying to depart an eastbound train from the ITS terminal. The track configuration within the port area here is shown in the satellite photo below.

### Rail Connectivity for Tacoma's Terminals


The aforementioned limitations of this track network result in trains requiring an additional 45 to 60 minutes to enter / exit the port complex.

Beyond the challenges of moving trains between the rail transfer facilities serving NSA terminals and the main lines of the BNSF and UP, the competitiveness of the Puget Sound gateway is also impacted by the configuration of the main line rail networks that connect the gateway with Chicago and other interior markets. It is worth noting that the BNSF is the dominant railroad for intermodal container movements to/from NSA terminals, largely because the UP does not have its own main line across Washington State, but instead has trackage rights on the BNSF main line that runs between Portland and Tacoma. In other words, UP trains operating from NSA terminals to Chicago (or vice versa) have to run 140-167 miles (depending upon whether the train originates in a Tacoma or Seattle yard) due south before switching onto the UP's own main line at Portland and heading east across Oregon.

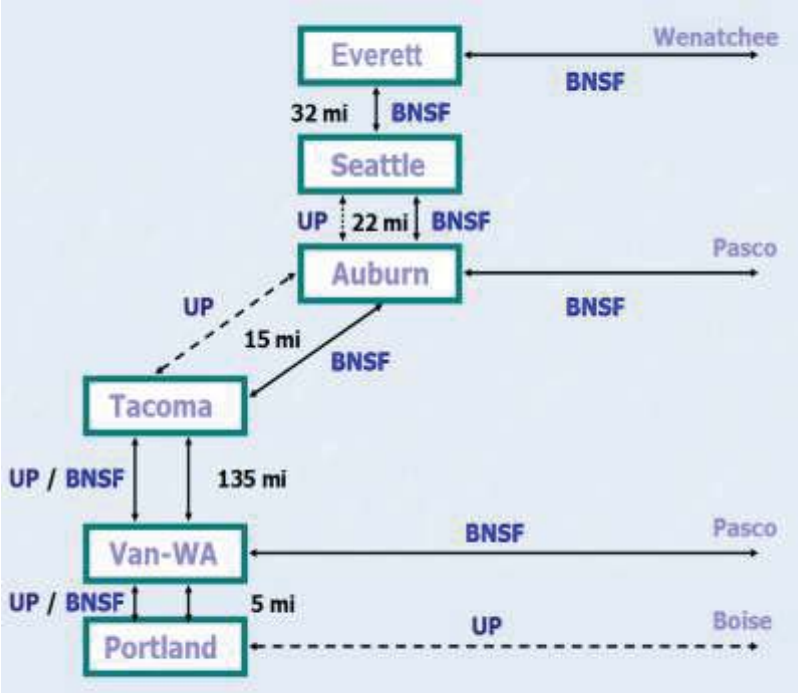
BNSF, conversely, has three separate main lines that traverse Washington State, as shown in the map below. Two of these lines – the Stampede Pass route and the Stevens Pass route – ascend and descend the Cascade Mountain Range, while the Columbia Gorge route follows the Columbia River, which cuts through the Range. However, this latter route – which is mostly a single-track railroad (like the other two) – is used extensively by slow unit bulk trains and thus has limited capacity available for intermodal trains, and is a much longer route for NSA – Chicago trains.

### BNSF Main Lines in Washington State


The Stampede Pass Line is also a slow and circuitous single-track route that needs extensive improvements in order to handle more train volumes, so the Stevens Pass Line is BNSF's preferred route for transit-time sensitive eastbound intermodal trains. However, this latter line has a 9-mile long tunnel at the pass, with a ventilation system that limits its capacity to 25-27 train transits per day.

As indicated earlier, eastbound trains departing from either the Seattle or Tacoma harbor areas have to first utilize the BNSF north-south line in order to access any of the east-west main lines. A schematic of this network is shown in the diagram below:

**Main Line Rail Network of Western Washington**




Although UP has its own main line between Tacoma and Seattle, the north-south corridor can often get congested, because in addition to handling the intermodal trains departing from or arriving to the Puget Sound's two container ports, it also handles domestic intermodal trains between this region and the Midwest, interstate passenger trains, regional commuter trains, unit coal and oil trains, and other general freight trains.

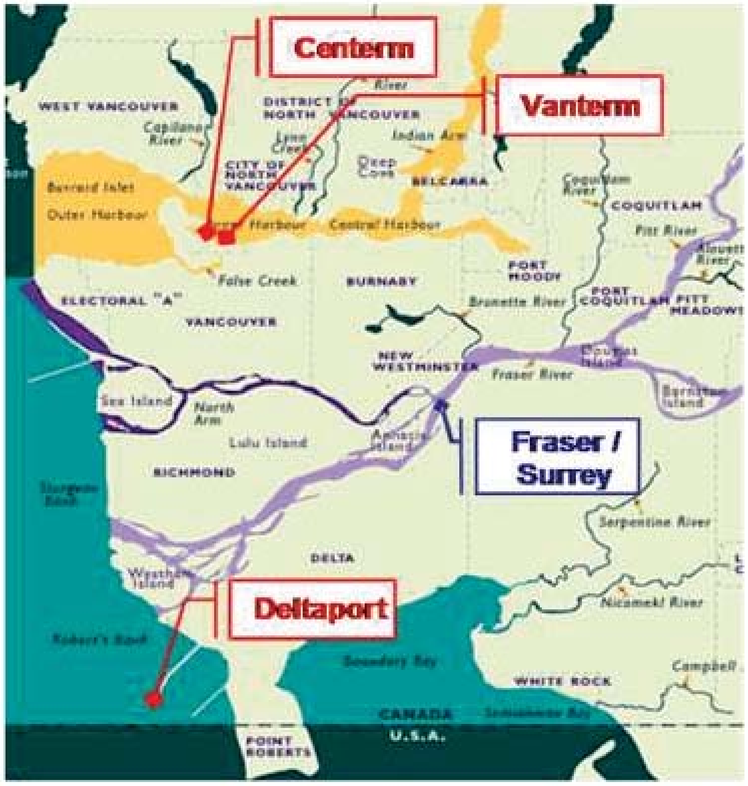
In conclusion, the Puget Sound gateway has inferior main line rail connectivity, relative to SPB Ports.

***Vancouver Infrastructure Summary***

In recent years, Port Metro Vancouver (PMV) and its container operators, in partnership with CN, have aggressively pursued Asian imports into the U.S. Midwest that historically have been routed via SPB and/or the Puget Sound.

Vancouver has three dedicated container terminals – Deltaport, Centerm, and Vanterm – as well as a multi-purpose terminal with container-handling capabilities (Fraser Surrey Docks, or FSD).

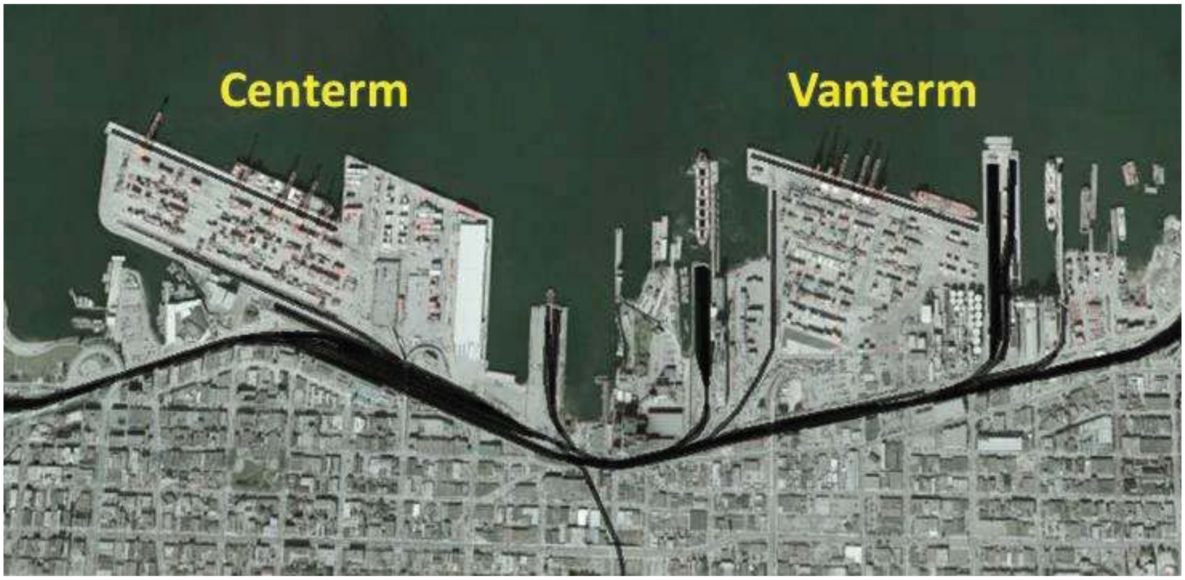
### Map of Metro Vancouver's Container Terminals Locations




However, FSD is located 35km up the Fraser River, which has only an 11-meter water depth, and consequently can only receive ships of about 4,000 TEUs in size. Given that almost all Asia – Pacific Northwest liner services are now operated with 5,000+ TEU ships, FSD is confined to handling vessel services for the secondary Australian, Latin American, and European trades, and therefore FSD is not a meaningful competitor to SPB Ports.

Centerm (operated by DPW) and Vanterm (operated by GCT) are located within the Burrard Inlet and are located proximate to Vancouver's downtown area. Both Centerm and Vanterm presently have relatively small properties (at 70+ acres apiece) and linear berths of less than 700m. Moreover, both of these terminals abut a densely developed neighborhood within the City of Vancouver, as shown in the following image.

### Aerial Image of Centerm and Vanterm




This neighborhood and the CP rail line shown in the photo above prevent either terminal from expanding its container yard to the south. While there is an active grain export terminal, and some underutilized finger piers that lie in between the two container terminals could supply land for expansion, but demolition and landfill here (to expand either or both container terminals) would be very expensive and actively opposed by residents

Vancouver's other terminal, Deltaport (also operated by GCT), is located in an agricultural area adjacent to the suburb of Delta, and just south of the mouth of the Fraser River. The photo below shows Deltaport is located at the end of a two-mile-long causeway, built entirely on landfill and adjacent to the largest export coal terminal in North America.

### Aerial Photograph of Deltaport

Deltaport's 1100-meter linear berth can accommodate three Transpacific ships concurrently (unless all three are 10,000+ TEU ships). This terminal's container yard, although partially bisected by its rail yard, is well suited to handle high volumes of intermodal traffic, as it has eight working tracks, each one 3,500' long. Given the length of trains that CN and CP prefer to operate, this intermodal transfer area can hold the equivalent of three unit trains concurrently. There are also multiple tracks on the causeway for trains to be held prior to being switched into the working tracks (or conversely, to be assembled, after being pulled from the working tracks)

GCT is also in the process of significantly expanding its intermodal transfer facility, adding over 600,000 TEUs in doing so. Although it would encounter opposition from environmental groups, Deltaport's berth and CY could also be feasibly expanded back towards the mainland.

Deltaport is linked with the transcontinental main lines of the CN and CP with a single-track branch line owned by BC Rail (a subsidiary of the provincial government). The route of this branch line (also known as the Roberts Bank Rail Corridor, or RBRC), as shown below, enables container trains going from or to Deltaport to bypass the more congested rail lines within the central metropolitan area.

**Map of Deltaport Rail Access**


A consortium of government agencies has implemented a program to remove multiple grade-crossings on this line to expedite train movements across it.

Between the Mission City area (a Vancouver suburb) and Kamloops, the CN and CP transcontinental main lines parallel the Fraser River and each other. This configuration has enabled the two railroads to establish a track-sharing agreement, whereby in this 145-mile section, all of the eastbound trains of both carriers use the CP line, while all of the westbound trains use the CN line, which increases the network's capacity for both railroads. However, east and northeast of Kamloops, both the CP and CN have various capacity constraints on their respective main lines that will require significant capital spending to mitigate.

The table below compares key infrastructure attributes of the dedicated container terminals in Vancouver.

**Summary of Vancouver's Container Terminal Characteristics**

| Operating Characteristic | Units | Vancouver Deltaport | Vanterm | Centerm |
|---|---|---|---|---|
| **Total Area:** | **Hec / Arc** | 85 / 210 | 31 / 76 | 29 / 72 |
| **Ops Capacity:** | **TEUS** | 1,800,000 | 650,000 | 650,000 |
| **Berths:** | **M** | 1 X 1,100 | 1 X 619 | 1 X 649 |
| **Water Depth:** | **M / Ft** | 15.9 / 52 | 15.5 / 51 | 15.5 / 51 |
| **On-Dock Rail:** | | Yes | Yes | Yes |
| **Rail Provider:** | | CN / CP / BNSF | CN / CP / BNSF | CN / CP / BNSF |
| **IM Yard:** | | 8,534m of trackage | 2,926m of trackage | 2,436m of trackage |
| **Rail Services:** | | 8 working tracks 1037m each | 6 tracks at 305m each and 3 at 366m | 4 working tracks 609m each |
| **Cranes*** | | 6 X SPPX / 4 X PPMX | 3 X SPPX / 1 X PPX / 2 X PM | 2 X SPPX /31 X PPX / 1 X PM |

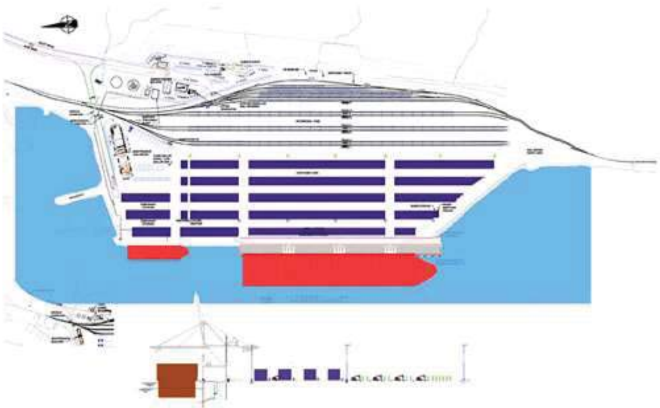
*** SPPX -** Super Post-panamax cranes (20+ Rows) **/ PPMX** - Post Pananamanx (17 to 19 Rows) **/ PM** - Panamax

With its excellent connectivity to/from the main lines of the CN and CP (largely bypassing the dense parts of the Vancouver metropolitan area, together with its pending increase in intermodal capacity, Deltaport is well positioned to compete with SPB Ports' for rail to/from the locations in the United States.

***Prince Rupert Infrastructure Summary***

Fairview Container Terminal (FCT), which is Prince Rupert only container, was developed by Maher and CN with a clear intent to capture Asia – Midwest traffic away from Pacific coast ports. This terminal presently has a linear berth of only 360 meters, and thus can handle only one line-haul ship at a time. This port's navigation channel and FCT's water depth alongside the berth are both 61 feet, which is more than enough to handle the world's biggest containerships. FCT's total area is only 59.4 acres, which is smaller than all of the terminals in Vancouver, Seattle, SPB Ports, and smaller than all but one terminal in Tacoma.

### Overview of FCT's Existing Infrastructure



| | |
|---|---|
| **Total Area:** | 24 Hectares (59.4 Acres) |
| **Ops Capacity:** | 750,000 TEUs |
| **Rail Provider:** | Only Served by CN Railroad |
| **Container Yard:** | Handle 9,000 TEUs, 72 Reefer plugs |
| **Intermodal Yard:** | 6100 metres (20,000 feet) of trackage |
| **Rail Services:** | 7 working tracks, 6 storage tracks 5,182 metres |
| **Equipment:** | **Cranes:** 4 Super Post-panamax cranes; 22 container rows |

FCT's intermodal rail transfer facility can hold two trains in its working tracks, along with a train-load of stack-cars on support tracks – it has less capacity than many of the other West Coast terminals, but more than several others. Prince Rupert is served by only one railway operator – CN – whereas the other North American West Coast gateways (LA/Long Beach, Seattle/Tacoma, and Vancouver) are all linked with the U.S. Midwest by two major railroads. Despite this comparative weakness, CN clearly recognizes that its ability to derive significant revenues from FCT depends on its willingness to provide very reliable train service at attractive rates to ocean carriers and their customers.

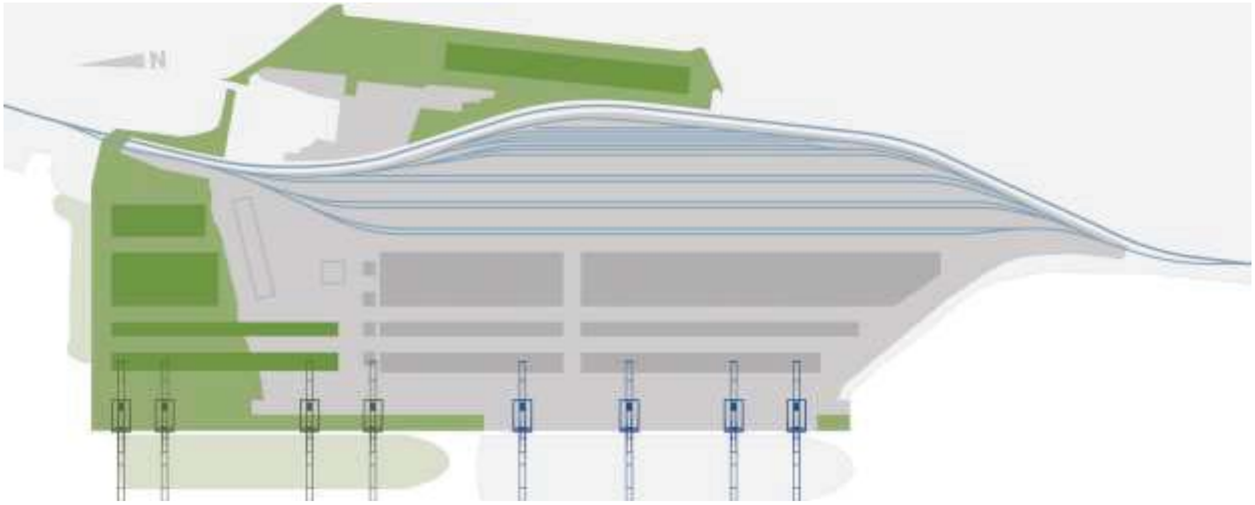
Unlike most other major container terminals in North America, FCT is located in a very small town (population of about 12,500). As shown in the aerial photo below, FCT is directly connected to the CN's main line between Prince Rupert and Prince George – unlike in most other North American ports, there are no branch lines, spur tracks, or secondary main lines that link the container terminal with the railway's transcontinental main line.

### Map of Prince Rupert Rail Connectivity


In addition to being adjacent to the CN main line, FCT's rail connectivity is enhanced by other attributes of that railway line (besides the fact that it runs through sparsely populated areas almost right to/from the terminal). First, there are only two other principal industrial users at Prince Rupert of the CN main line – an export coal terminal and an export grain terminal – each of which has its own support yard, so there is minimal congestion on the main line in departing intermodal trains from (or arriving them to) FCT. Second, the route from Prince Rupert through Prince George and Jasper to Edmonton has the most gradual ascents and descents and the lowest elevation across the Rocky Mountains of any transcontinental main line in North America – this enables CN to have lower fuel costs than its competing Western railroads.

With the recent sale of the Fairview Container Terminal concession by Deutsche Bank to DP World, the Port Authority of Prince Rupert now has the ability to complete a second phase of expansion for the terminal (which had been long delayed by DB's unwillingness to fund the project). In this second phase, the terminal will add over 400 meters of berth and four more gantry cranes to be able to accommodate two ships concurrently, while also increasing its container yard – a diagram showing this expansion is shown below.

**Diagram of FCT Current Expansion**



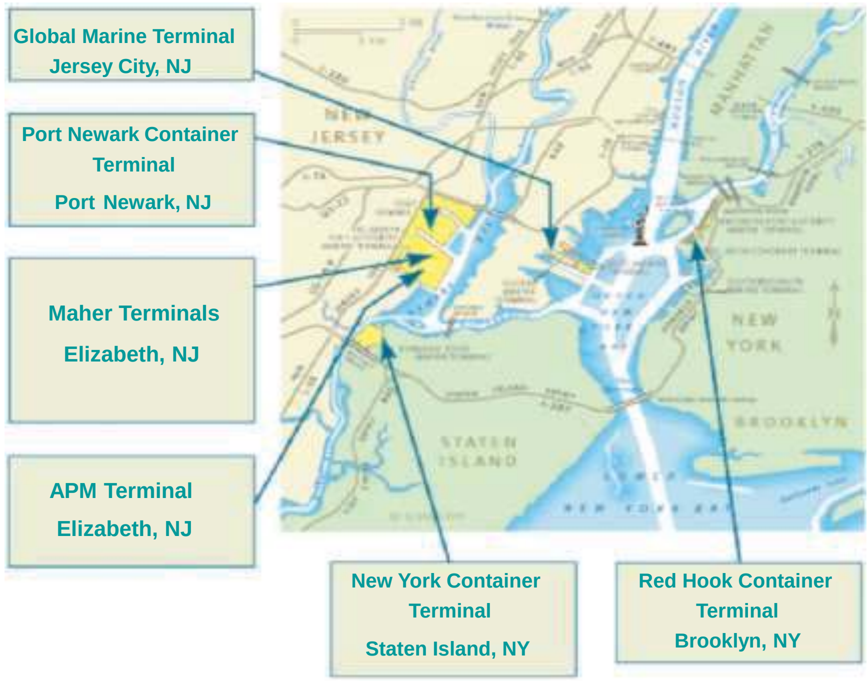

The Port Authority and DPW are indicating that these improvements will add 450,000 TEUs of capacity to FCT. Although DPW will likely shift some traffic from Vancouver, the majority of this incremental space is targeted at the Asia – Midwest traffic that now moves through U.S. West Coast ports.

***NY/NJ Infrastructure Summary***

The largest port complex on the East Coast of North America competes with the SPB Ports for Asian traffic to/from the Ohio Valley, Michigan, and other parts of the Midwest, especially for cargoes originating or terminating in South East Asian and Indian Subcontinent countries. New York/New Jersey (NY/NJ) receives nine first-inbound calls of Asia services – six via Suez and three via Panama – because it has the continent's second largest local market for imports (after LA/LB).

In terms of its infrastructure, there are six container terminals in this port complex – four in New Jersey and two in New York. The locations of these terminals are displayed in the following figure.

## NY/NJ Container Terminals




The Red Hook terminal in Brooklyn has no on-dock or near-dock rail service, poor highway access, and is effectively confined to handling niche shipping lines and relatively small ships. Four of the other five terminals – Maher, APMT, PNCT, and Global – are (or shortly will be) capable of handling two ultra-large container ships at the same time. The NYCT terminal will need further dredging in order to handle any fully laden super-post Panamax ships.

Four of the port's six terminals are located behind the Bayonne Bridge – PNCT, Maher, APMT, and NYCT. This bridge has an air draft of only 151 feet, which impedes the safe passage under it by conventionally-designed vessels with more than 9500 TEUs of capacity. However, the Port Authority has a construction project underway to raise the deck of this bridge by more than 60' and this project is scheduled for completion by the middle of 2017.

The PNCT concession is owned 50% by MSC (with Ports America holding the balance) and mainly handles the vessel services of that ocean carrier, but also chases after other ship lines. APMT handles the liner services of its affiliate Maersk, but also aggressively pursues the stevedoring business of other carriers, as do both Maher and GCT (which operates Global and NYCT).

Information on the key parameters of these terminals is provided in the table below:

### NY/NJ Container Terminal Attributes

| | Maher | APMT | PNCT | Global | NYCT | Red Hook | Totals |
|---|---|---|---|---|---|---|---|
| **Lift Capacity - 2014-mil** | 1.85 | 1.20 | 0.80 | 0.88 | 0.66 | 0.20 | **5.59** |
| **Terminal Acreage** | 180 / 445 | 147 / 363 | 103 / 255 | 68 / 167 | 76 / 187 | 32 / 80 | **606 / 1497** |
| **No. Berths / Length - m-ft** | 10 / 3114-10,128 | 5 / 1829-6000 | / 1341-4400 | 2 / 823-2700 | 3 / 914-3000 | 1 / 634-2080 | **/ 8655-28308** |
| **Water Depth** | All @ 45ft to 50ft | 3 @ 50 ft/<br>1 @ 45ft/<br>1 @ 40ft | 2 @ 50 ft/<br>1 @ 40ft | 2 @ 50 ft | 1 @ 45 ft/<br>1 @ 41ft/<br>1 @ 35ft | 1 @ 42ft | |
| **Total No. Cranes** | 16 | 15 | 7 | 6 | 9 | 4 | **57** |
| **SPPX** | 9 | 4 | 3 | 6 | 4 | | **26** |
| **Post Panamax** | 6 | 8 | 3 | | 2 | 1 | **20** |
| **Panamax** | 1 | 3 | 1 | | 3 | 3 | **11** |
| **Rail Access** | On-dock | On-dock | Off-dock | Off-dock | On-dock | On-dock | |

As noted above, NYCT and PNCT have near-dock rail transfer facilities, but with private ramps to efficiently access them, while Maher and APMT share an on-dock rail operation. There is a new rail facility is being built for Global.

However, for trains to move between these near-dock rail transfer facilities and the main lines of CSXT and NS that link the port complex with the Ohio Valley and U.S. Midwest (the primary inland regions using intermodal service to/from NY/NJ), they have to traverse through a dense, congested rail network within the tri-state metropolitan area, particularly inside the circled area in the map below. This can typically take up to 3-4 hours, given the number of other trains being operated within the network.

### Rail Main Lines to/from NY/NJ Container Terminals


The CSXT main line linking the port complex with the Ohio Valley and points beyond runs north from the container terminals (as shown in the map above), paralleling the Hudson River to Albany, before heading west to Buffalo. This route has minimal grades, is entirely double-tracked, cleared for double-stack equipment, and enables intermodal trains to operate at relatively high speeds (of 55-60 miles per hour) for most of its length. It provides the NY/NJ port complex with very competitive rail service to/from the Ohio Valley, especially for containers from/to South East Asia. At Syracuse, a secondary main line of CSXT runs north to Montreal, providing that carrier with a direct, fast route between New York Harbor and Canada's second largest city.

**Map of CSXT Main Line between NY/NJ Port and Chicago**


The Norfolk Southern (NS) route between the port complex and Ohio is more direct, but has far more curvature and crosses over the Allegheny Mountains in central Pennsylvania. It is also double-tracked and cleared for double-stack railcars, but is a higher-cost, slower route.

**Map of NS Main Line between Port of NY/NJ and Chicago**


In conclusion, by 2018 from an infrastructure perspective, the port complex of NY/NJ will have marine terminals that are capable of handling a number of ultra-large container ships at the same time. It is believed that trains can move between main lines and the rail transfer facilities in SPB Ports' operations NY/NJ port complex at a similar level of efficiency. Thus, for container traffic between South East Asia and the Ohio Valley (and to a lesser extent, between South China and the Ohio Valley), the NY/NJ port complex should have rail connectivity that is very competitive with the SPB Ports.

***Summary of Savannah's Infrastructure***

Savannah is the fourth largest port in North America and it competes with SPB Ports mainly for Asian imports to Southeast states. There is only one container terminal in the Port of Savannah, at Garden City, and it is operated directly by the Georgia Ports Authority (GPA). The terminal is accessed by a 32-mile navigation channel through the last 21 miles of the Savannah River and across a sandbar in the Atlantic Ocean -- currently, the channel has a depth at MLW (Mean Low Water) of only 42 feet.

**Overview of Savannah's Container Terminal Access**


The GPA has received the approvals required for the Army Corps of Engineers to dredge this channel to 47ft at MLW, but still needs to obtain at least $400 million in federal funds for the project – until those funds are procured and the project is completed (which could take four years or more), Savannah will only be able to handle ships with capacities of 8500 TEUs or less, and only if their arrivals and departures are during high tides.

Although the Garden City Terminal has multiple gates and different sections, GPA operates it as single, integrated facility – there are no berths or supporting yard acres that are assigned to individual carriers or alliances. Key infrastructure attributes of the terminal are shown in the following table, while an aerial photo of the facility is presented below as well.

## Overview of Garden City Infrastructure

| Terminal | | Garden City |
|---|---|---|
| Berth Length | ft | 9,693 |
| Depth | ft | 42-48 |
| Acreage | | 1200 |
| Total No. Cranes | | **27** |
| - SPPX (20+ rows) | | 16 |
| - PPX | | 11 |
| - PX | | |
| Channel Depth | ft | 42 |
| Air Draft Limit | | 185 |
| On-Dock Rail | | Yes |
| Capacity - current | '000 TEU | 4,800 |
| Capacity - future | '000 TEU | |

While a significant portion of the 1200 acres of the complex are not utilized for container marshalling and storage, this facility is still the single largest container terminal in North America, and is clearly capable of handling multiple large containerships concurrently, in terms of its landside infrastructure.

***Summary of Houston's Infrastructure***

The Port of Houston receives weekly calls from two all-water vessel services from Asia and thus is competing with SPB Ports for Far East shipments to South Central markets. The port has two dedicated container terminals, which are identified in the map to the below.

## Overview of the Port of Houston's Container Locations

Barbours Cut is the older of the two, having been developed over 40 years ago, and is operated by the Port Authority, with ocean carriers selecting their stevedoring firms. Bayport was opened in 2007 with the Authority managing the facility, but with Ports America and CMA in a JV to undertake the stevedoring and depot operations. Both of these terminals only have channel depths of 40 ft, which limits ship sizes to 6,500 TEUs. While both terminals have near-dock or on-dock intermodal transfer facilities, intermodal movements through the port are relatively small and are limited to shipments between California and Latin America/Europe.

The table below provides information on Houston's container terminal complexes capabilities.

**Summary of Houston's Terminal Characteristics**

| Terminal | Unit | Barbours Cut | Bayport |
|---|---|---|---|
| Berth Length | ft | 6,000 | 3,300 |
| Depth | ft | 40 | 40 |
| Acreage | | 235 | 193 |
| Total No. Cranes | | **13** | **9** |
| - SPPX (20+ rows) | | 4 | 3 |
| - PPX | | 4 | 6 |
| - PX | | 5 | |
| Channel Depth | ft | 40 | 40 |
| Air Draft Limit | | No | No |
| On-Dock Rail | | Yes | No |
| Capacity - current | '000 TEU | 1,700 | 900 |
| Capacity - future | '000 TEU | 2,500 | 3,000 |

## *SPB Ports' Liquid Bulk Facilities*

This section provides an overview of the primary liquid bulk cargo facilities in SPB Ports. A brief overview of each facility is provided, followed by a summary view on the capabilities of such facilities first for the PLA and then for the PLB.

### Review of Port of Los Angeles Liquid Bulk Facilities

This port has seven liquid bulk facilities encompassing 117 acres to handle various inbound and outbound liquid commodities. The total capacity of the seven liquid bulk facilities is 8,115,000 barrels. Cargo handling equipment includes tankers, barges, bulk freighters, and storage tanks with rail accessibility. Petroleum products handled at these terminals include: gasoline, blending stocks, MTBE, diesel, naphtha jet fuel, nonenes tetramers, fuel oils, carbon black, crude oil. From the seven facilities, Vopak and Exxon Mobil are the ones with greater total capacity, and Vopak has the greatest land area and total berth length. Table A1 documents the terminal features of the seven PLA liquid bulk facilities.

**Summary of Port of Los Angeles Liquid Bulk Facilities Operating Characteristic**

| Terminal Feature | Kinder Morgan | Conoco Phillips | NuStar Energy | Valero | Shell | Vopak | Exxon Mobil |
|---|---|---|---|---|---|---|---|
| **Berths** | 118-120 | 148-151 | 163 | 164 | 167-169 | 187-191 | 238-240C |
| **Land area (acres)** | 12.4 | 13.5 | 5.8 | 10.5 | 9.1 | 34.7 | 31.4 |
| **Tot. berth length (ft)** | 825 | 1,328 | 400 | 488 | 1,238 | 2,336 | 903 |
| **No. of berths** | 2 | 2 | 1 | 1 | 2 | 2 | 4 |
| **Height (ft)** | 13 | 15.2 | 13.7 | 13.7 | 13.0 | 15 | 14 |
| **Water depth (ft)** | 35 | 35 | 37.5 | 40 | 38 | 35; 45 | 35 |
| **Total capacity (barrels)** | 570,000 | 800,000 | 600,000 | 947,000 | 485,000 | 700,000; 1,700,000 | 2,313,000 |
| **Commodities** | Receiving/ exporting petroleum products | Receiving refined petroleum products | Marine oil | Fuels and lubricants | Fuels and lubricants | Liquid bulk chemical products | Fuels and lubricants |

### Review of Port of Long Beach Liquid Bulk Facilities

This port has six liquid bulk facilities encompassing 56 acres to handle various inbound and outbound liquid commodities. The total capacity of six liquid bulk facilities surpasses 3,536,190 barrels and the equipment at these locations includes tankers, barges, bulk freighters, pipelines, crude unloading arms, and storage tanks with rail accessibility. Tesoro Logistics Operations controls three from the six facilities with berths B76-B80 providing the greater capacity, the largest land area and total berth length. The table below documents these terminals operating characteristics.

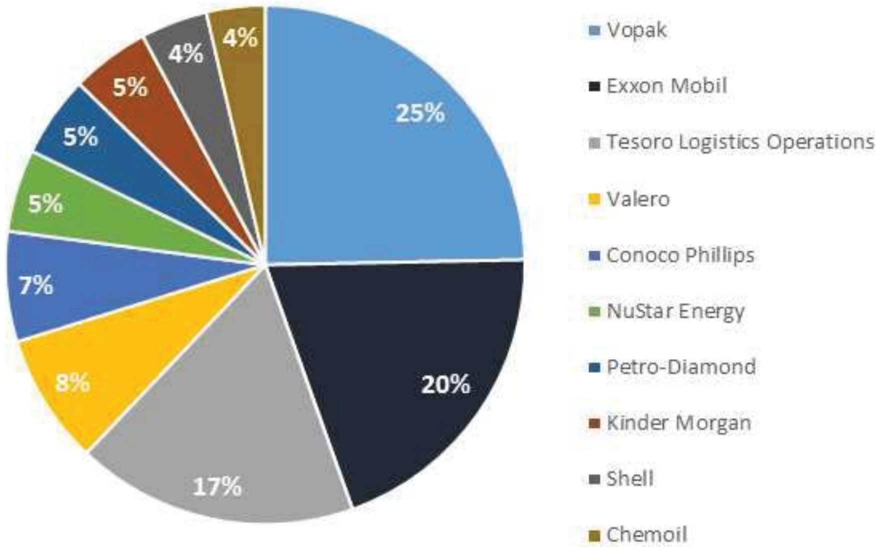
### Summary of Port of Long Beach Liquid Bulk Facilities Operating Characteristics

| Terminal Feature | Chemoil | Petro-Diamond | Tesoro Logistics Operations | | | Vopak |
|---|---|---|---|---|---|---|
| **Berths** | F209, G211A | B82, B83 | B76-B80 | B84-B87 | T121 | S101 |
| **Land area (acres)** | 5 | 6 | 18 | 11 | 6 | 10 |
| **Tot. berth length (ft)** | 800 | 1,060 | 2,200 | 1,980 | 1,140 | 700 |
| **No. of berths** | 2 | 2 | 5 | 4 | 1 | 1 |
| **Height (ft)** | 19.1 | 14.4 | 14.4 | 16.8 | 22.4 | 15.5 |
| **Water depth (ft)** | 40 | 38 | 46 | 52 | 76 | 36 |
| **Total capacity (barrels)** | 425,000 | 590,000 | 1,800,000 | 245,000 | n/a | 476,190 |
| **Commodities** | Petroleum products and bunker fuel | Gasoline, ethanol, gasoline blend stocks, diesel, biodiesel | Petroleum products | Crude oil, petroleum products, bunker fuel. | Crude oil and petroleum products | Miscellaneous bulk liquid chemicals |

**Overview of SPB Ports Combined Liquid Bulk Capacity**

This port area's liquid bulk terminals occupy about 173 acres of land area with storage capacity surpassing 11,651,190 barrels of liquid bulk and 15,398 feet of berth. These terminals serve as primary gateways for Vopak, Exxon Mobil, and Tesoro Logistics Operations.

Capacity Participation per Company as a Percentage of SPB Total Capacity




***SPB Ports Breakbulk Facilities***

This section provides an overview of SPB Ports' breakbulk cargo facilities. A brief overview of each facility is provided, followed by a summary view on the capabilities of such facilities first for the Port of Los Angeles and then for the Port of Long Beach.

**Review of Port of Los Angeles Liquid Breakbulk Facilities**

This port has three breakbulk facilities comprising 76 acres and 6,740 ft of total berth length to handle various inbound and outbound break bulk commodities. Pasha Properties, Stevedoring Services of America, and PLA are the three break bulk terminal operators at Los Angeles. Pasha Properties is the most significant terminal operator with a total berth length of 3,300 ft, a land area of 40 acres, and a transit shed area of 235,000 ft2; it also operates the 24 acres terminal on berths 49-53. Stevedoring Services of America, the other breakbulk operator at the Port of Los Angeles and its terminal has a total berth length of 1,340 ft, as well as a transit shed area of 211,290 ft2 over 12 acres of land. The following table summarizes terminal features of the three Port of Los Angeles' breakbulk facilities.

Overview of Port of Los Angeles Breakbulk Facilities

| Terminal Feature | Port of Los Angeles | Stevedoring Services of America | Pasha Properties |
|---|---|---|---|
| **Berths** | 49-53 | 54-55 | 174-181 |
| **Land area (acres)** | 24 | 12 | 40 |
| **Tot. berth length (ft)** | 2,100 | 1,340 | 3,300 |
| **No. of berths** | 2 | 2 | 3 |

| | | | |
|---|---|---|---|
| **Height (ft)** | 14 - 14.6 | 14 - 14 | 11.2 - 15 |
| **Water depth (ft)** | 35 - 51 | 35 | 35 - 45 |
| **Transit shed area (ft$^2$)** | n/a | 211,290 | 235,000 |
| **Shipping lines served** | Pasha | NYK, LauritzenCool, CSAV | Pasha |
| **Commodities** | Breakbulk, steel | Imported meats, Chilean fruit, kiwis, apples | Steel |

**Review of Port of Long Beach's Breakbulk Facilities**

This port has five break bulk facilities comprising 91.2 acres and 6,035 ft of total berth length to handle various inbound and outbound break bulk commodities. Crescent Terminal for SSA Marine are the largest facilities with 22 acres of land and an open storage area of 12.2 acres. Overall, the five breakbulk facilities at Long Beach provide 42.2 acres of open storage, 32,550 ft2 of loading platforms, and more than 894,800 ft2 of transit shed areas.

The following table summarizes the terminal features of Long Beach's five breakbulk facilities.

**Summary of the Port of Long Beach Breakbulk Facilities Operating Characteristics**

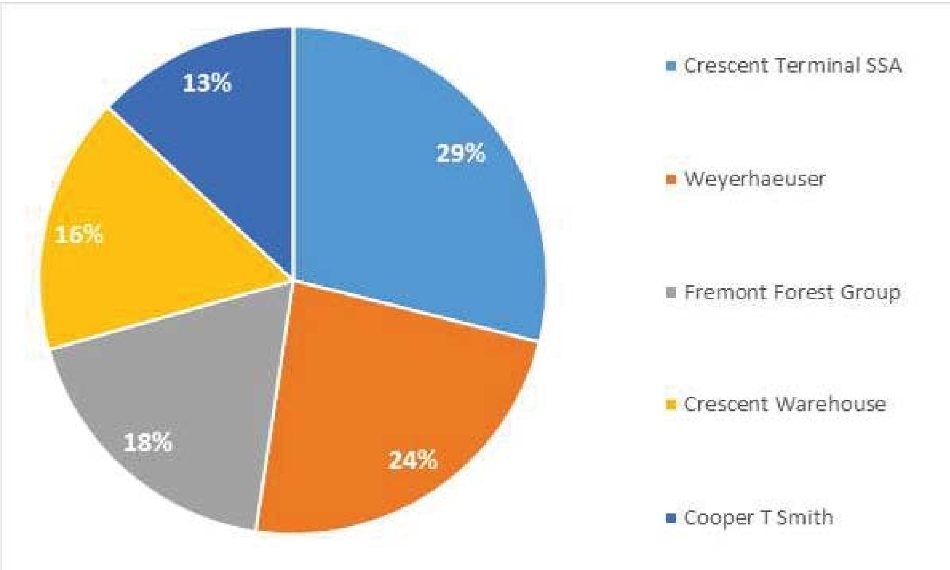
| Terminal Feature | Cooper T Smith | Crescent Terminal SSA | Crescent Warehouse | Fremont Forest Group | Weyerhaeuser |
|---|---|---|---|---|---|
| **Berths** | F204 - F205 | F206 - F207 | D50 - D54 | T122 | T122 |
| **Land area (acres)** | 21 | 22 | 13.3 | 17 | 18 |
| **Tot. berth length (ft)** | 1,265 | 1,200 | 2,370 | 600 | 600 |
| **Water depth (ft)** | 36 | 32 | 36 | 40 | 35 |
| **Wharf Height (ft)** | 18.5 | 18.5 | 10.2 - 17.1 | 22.6 | 14.5 |
| **Wharf Area (ft$^2$)** | 130,000 | 57,500 | 63,645 | 48,000 | 48,000 |
| **Apron Width (ft)** | 50 | 48 | 30 - 38 | 40 | 40 |
| **Open Storage (acres)** | 5.5 | 12.2 | 6.9 | 7.7 | 9.9 |
| **Loading Platform (ft$^2$)** | 9,000 | 13,800 | 9,750 | n/a | n/a |
| **Transit shed (ft$^2$)** | 180,000 | 190,000 | 494,800 | 15,000 | 15,000 |
| **Commodities** | Steel prod, plywood and | Steel prod, plywood, lumber, and | n/a | Lumber and lumber products | Lumber and lumber products |

| | | | | | |
|---|---|---|---|---|---|
| | lumber | machinery | | | |

**Overview of SPB Ports Combined Liquid Bulk Capacity**

Cumulatively, SPB Ports have about 167 acres of land area and 12,775 ft of total berth length. These terminals serve as primary gateways for Crescent Terminal SSA, Weyerhaeuser, and the Fremont Forest Group, as illustrated in chart below.

**Company Share of SPB Ports' Total Break Bulk Open Storage Capacity**




**Review of SPB Dry Bulk Facilities**

This section provides an overview of SPB Ports' dry bulk cargo. A brief overview of each facility is provided, followed by a summary view on the capabilities of such facilities first for the two ports that comprise the SPB Port area.

**Review of Port of Los Angeles Liquid Dry Bulk Facilities**

Los Angeles' has two dry bulk facilities comprising 33.7 acres and 2,179 ft of total berth length to handle various inbound and outbound dry bulk commodities. Berths 165-166 are used by US Borax Inc, who operates California's largest open pit mine and supplies nearly half the world's demand for industrial borates serving customers in 100 countries. This terminal has capacity to store 350,000 metric tons and to transfer cargo to vessels up to 1,000 tons/hour. Berths 210-211 are used by SA Recycling, a scrap metal recycling company handling steel, aluminum, copper, and brass. This terminal has a metal shear and shredder on site and also access to rail facilities near the dock.

The table documents the terminal features of Los Angeles two dry bulk facilities.

**Summary of the Port of Los Angeles' Dry Bulk Facilities Operating Characteristics**

| Terminal Feature | US Borax Inc. | SA Recycling |
|---|---|---|
| Berths | 165-166 | 210-211 |
| Land area (acres) | 7 | 26.7 |
| Tot. berth length (ft) | 679 | 1,500 |
| No. of berths | 1 | 2 |
| Height (ft) | 14.2 | 13.7 |
| Water depth (ft) | 37 | 35 |
| Total transfer capacity (metric tons/hour) | 1,000 | n/a |
| Total storage capacity (metric tons) | 350,000 | n/a |
| Commodities | Handle industrial borates | Handle all grades of ferrous and non-ferrous scrap metals |

### Review of Port of Long Beach's Liquid Dry Bulk Facilities

This port has six dry bulk facilities comprising 86.2 acres and 6,190 ft of total berth length to handle various inbound and outbound dry bulk commodities. Metro Ports, a terminal operator and stevedoring company, is the largest terminal at PLB measured by land area, storage and transfer capacity. This terminal has capacity to store 540,000 metric tons and to transfer cargo to vessels up to 5,000 tons/hour. Table A6 documents the terminal features of the seven PLB dry bulk facilities.

**Summary of the Port of Long Beach's Dry Bulk Facilities Operating Characteristics**

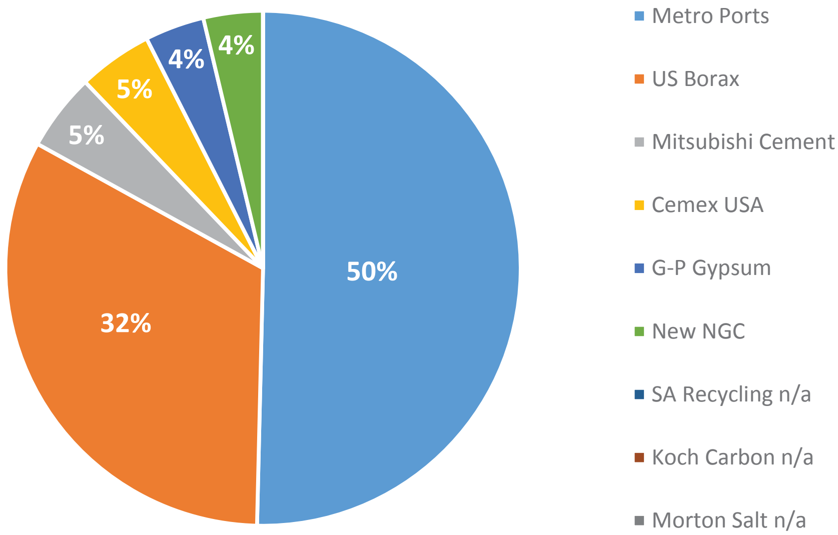
| Terminal Feature | G-P Gypsum | Koch Carbon | Metro Ports | Mitsubishi Cement | Morton Salt | New NGC | Cemex USA |
|---|---|---|---|---|---|---|---|
| Berths | D46 | F211 | G212-G214 | F208 | F210 | B82 | B82 |
| Land area (acres) | 9 | 7 | 23 | 4.2 | 5 | 19 | 19 |
| Tot. berth length (ft) | 640 | 1,100 | 1,900 | 550 | 700 | 650 | 650 |
| No. of berths | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| Height (ft) | 17.2 | 19.3 | 18.5 - 18.8 | n/a | 19 | 14.6 | 14.6 |
| Water depth (ft) | 40 | 40 | 50 – 40 | 40 | 40 | 38 | 36 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Total transfer capacity (metric tons/hour)** | 900 | n/a | 3,500-5,000 | 980 | n/a | 900 | 800 |
| **Total storage capacity (metric tons)** | 40,000 | n/a | 540,000 | 52,000 | n/a | 40,000 | 50,000 |
| **Commodities** | Gypsum | Petroleum coke, and prilled sulfur | Petroleum coke, coal, potash, borax, sodium sulfate, soda ash, and prilled sulfur. | Bulk cement | Bulk salt | Bulk gypsum | Bulk cement |

### Overview of SPB Ports Combined Liquid Bulk Capacity

This port area's has about 120 acres of land area with storage capacity surpassing 1,072,000 of dry bulk and 8,369 ft of berth. These terminals serve as primary gateways for Metro Ports, US Borax, Mitsubishi Cement, and Cemex USA, as illustrated in the table below.

**Capacity Participation per Company as a Percentage of SPB Ports Total Dry Bulk Capacity**



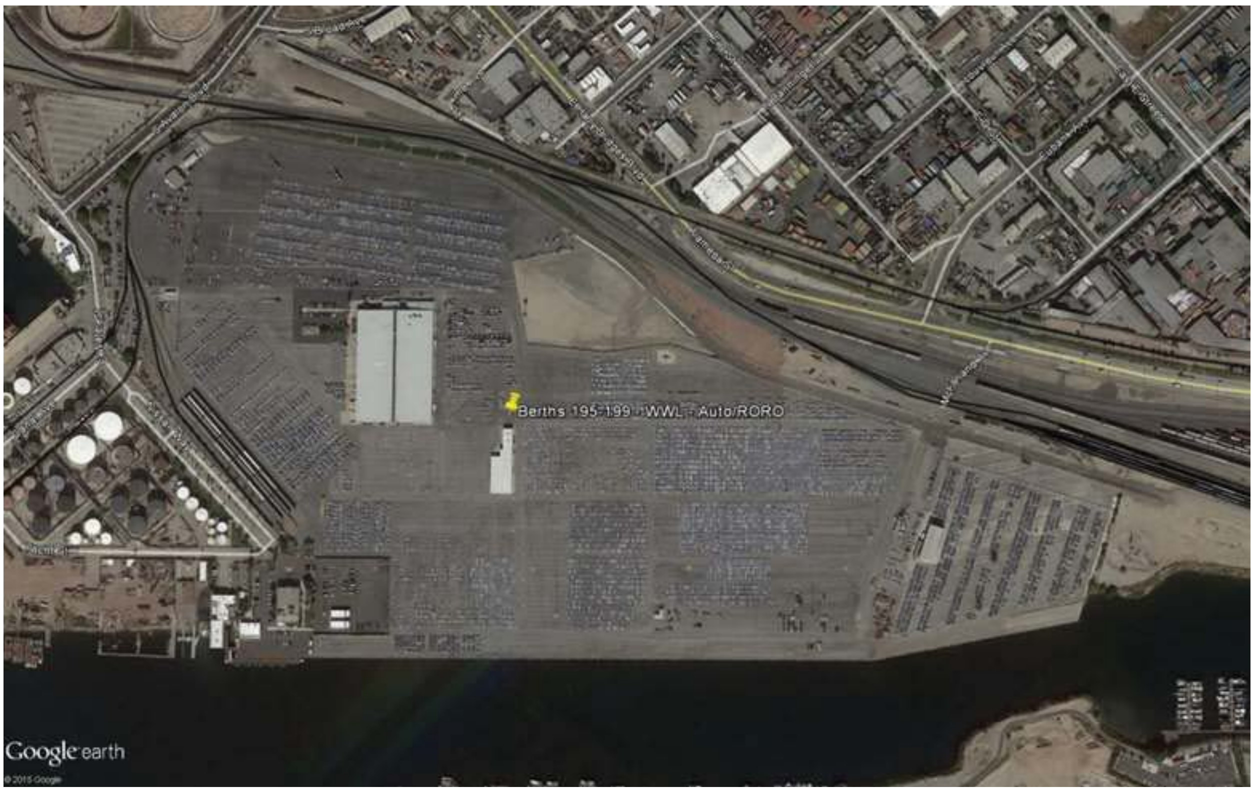

### Review of SPB RoRo Facilities

This section provides an overview of SPB Ports' two primary vehicle import/export facilities, namely Berths 195-199 in the Port of Los Angeles and Port of Long Beach's Pier B. A brief overview of each facility will be provided, along with an aerials photo, followed by a summary level view on the capabilities of the combined facilities.

### Overview of the Port of Los Angeles' – Berths 195-199

Berths 195-199 make up the primary auto facility in the Port of Los Angeles. It has 85 acres of ground storage capacity for vehicles along with 2,250 feet of berth. The facility is leased to and operated by Wallenius Wilhelmsen Logistics (WWL), although it was previously a proprietary facility for Nissan Motors. The terminal is served by both the UP and BNSF railroads, and has 6 loading/unloading rail tracks on-dock with a combined capacity of about 36 multi-level railcars. It is understood that Nissan still serves as the primary customer for the facility, which is estimated to handle approximately 200,000 vehicles per annum.

**Berths 195-199 WWL Facility Aerial**




**Overview of the Port of Long Beach's – Pier B**

Pier B is the primary auto facility in the Port of Long Beach. It has about 100 acres of ground storage capacity for vehicles along with 3,000 feet of berth. The facility is leased to and operated by Toyota Distributions Services (TDS). The terminal has 3 loading/unloading rail tracks on-dock with a combined capacity of about 36 multi-level railcars. It is understood that Toyota utilizes Pier B as its primary import gateway for Toyota Motors on the West Coast, and is estimated to handle approximately 200,000 vehicles per annum.

It should be noted that SSA Marine also receives imports of Mercedes vehicles at its breakbulk terminal and trucks them off to an off-dock storage area.

### Pier B Toyota Facility Aerial


**Overview of SPB Ports Combined Liquid RoRo Capacity**

The Berth 195-199 and Pier B facilities constitute the auto terminal capacity of SPB. Together they include about 185 acres of storage capacity, 5,250 feet of berth, and on-dock rail capacity of about 72 multi-level rail cars. Together, these facilities are estimated to handle about 400,000 vehicles per annum.

Volume is primarily leveraged to the businesses of Nissan and Toyota, and to a lesser extent Mercedes. These terminals serve as primary gateways for Nissan and Toyota. As long as these brands do not fall out of favor with US west coast consumers, and production continues to be facilitated in Asia, it should be expected that volume will continue to flow through these facilities.

Assuming a conservative 150 vehicle storage slots per acre, and a 15 day dwell time per vehicle, these two terminals combined should be able to handle close to 700,000 vehicles per annum. This should adequate to handle the growth of Nissan and Toyota's respective auto imports for the foreseeable future.

Appendix 8: Forecast Tracking Metrics

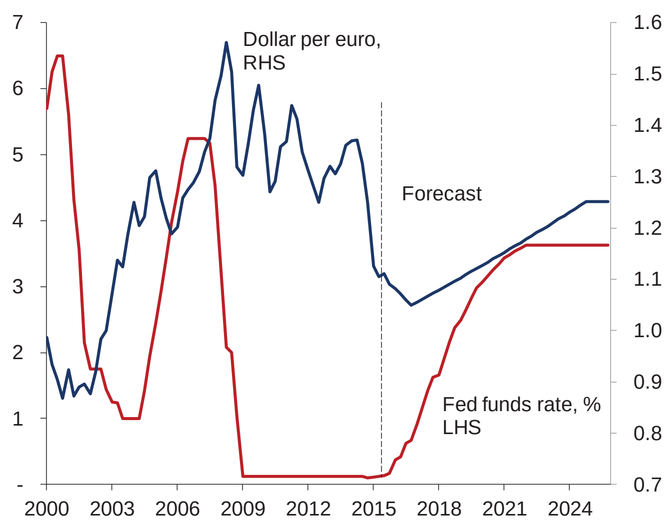
This section briefly sets out how the economic model's key macro-economic drivers will unfold over the coming decade or two, and what key "metrics" need to be followed to assess if this forecast is on track. As the experience of the past few years shows, economic forecasting is difficult and prone to substantial shocks and uncertainties, but having the Expected view, underpinned by the best possible analysis, data and qualitative insights, is nevertheless necessary for any forecasting exercise. With this in mind, presented in this appendix are the key metrics for tracking the forecast's primary assumptions on the world's major economies, and economic variables.

***The U.S. Economic Recovery***

The key underlying driver for both containerized and non-containerized imports into the U.S. is the pace and durability of the US economic recovery. The US recovery is now broadly self-sustaining, with a tight labor market, tentative signs of wage growth, and a solid rate of non-oil business investment. A first rate hike is expected in December's Federal Reserve meeting, and a further two during the course of 2016.

The "new normal" interest rate is likely to be somewhat lower than in the past though, given the slower pace of global economic growth (particularly in emerging markets) and the greater degree of regulation around household credit growth. Alongside this, modest strengthening of the dollar against both the euro and yen in 2016 is expected, but depreciation in later years of this decade as both the ECB and Bank of Japan start their monetary tightening cycles.

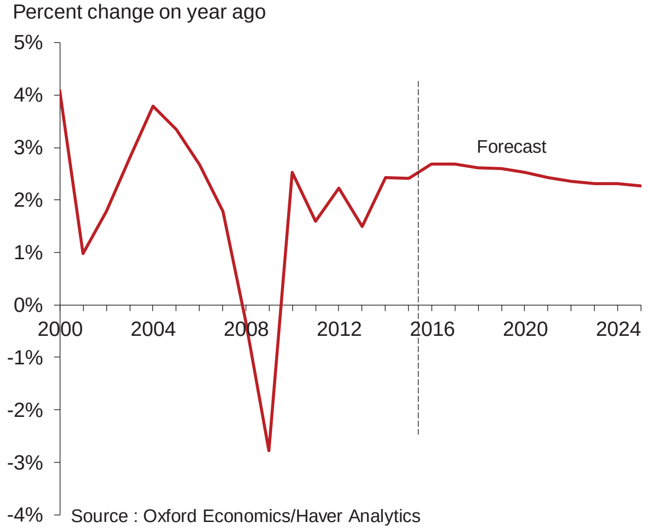
US Monetary Policy and Exchange Rates



Source : Oxford Economics/Haver Analytics

The forecast for U.S. GDP growth is set out in the chart below. U.S. GDP growth is forecasted to pick up from 2.4% in 2015, to 2.7% in both 2016 and 2017, before easing back to a longer run rate of 2.5% or so in the final years of this decade, and around 2.3% in the longer run. This compares to an average growth rate of around 3% in the decade running up to 2007. Slower population growth has a part to play in this, as well as an assumption that productivity growth is likely to be a little slower than during the pre-crisis decade.

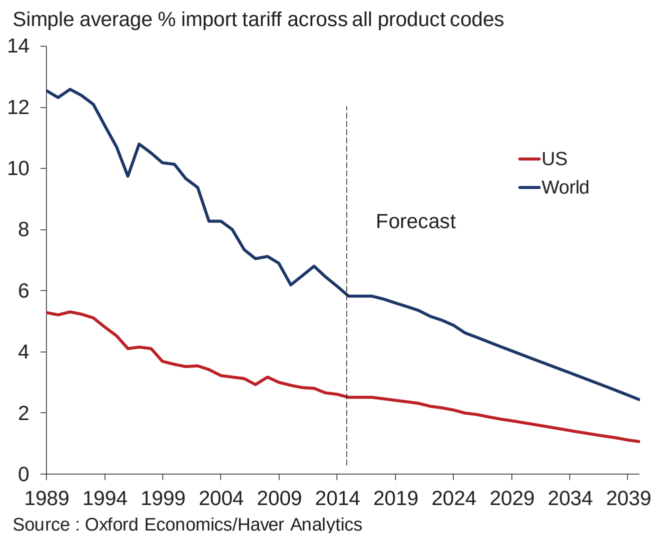
## Review of U.S. GDP Growths




***<u>The Trade-GDP Ratio</u>***

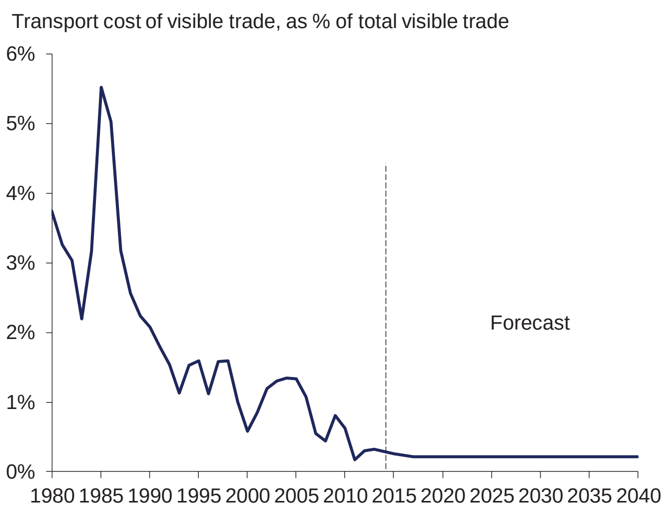
The Expected path for trade-GDP ratio is discussed in depth in the main body of the report, so presented here is some additional detail on the specific drivers of this in the expected scenario. One of the key drivers is the average tariff rate on goods imports, which has trended steeply downwards across the world in recent decades, and in the U.S. less steeply (in light of an already more liberal import regime than for the world overall). This trend is expected to continue, in light of ongoing trade integration between different parts of the world economy. The average tariff rate (as measured by the WTO) on imports into the U.S. is expected to fall steadily to 2% by 2025 (from 2.6% in 2014), and just below 5% at the global level (from 6% in 2014).

## Average Tariff Rates on Goods



A second key driver of the trade-GDP ratio is the "wedge" between the cost of goods faced by the consumer and the price received by the producer – this reflects transport and logistics costs, insurance and other financial issues around trading. Again, this has trended steeply down in recent years, to the point at which it actually accounts for a very small share (around 0.3%) of total visible trade in the US. There seems little further scope for substantive reductions in this (indeed, this is a reason why the projection for the trade/GDP ratio going forward is less steep than the path seen in recent years). However, shocks to the cost of trade, for example as a result of higher transportation costs or new security, financial or regulatory (non-tariff) measures, could raise the cost of trade, and slow the growth of our trade/GDP ratio relative to the assumptions used in the Expected economic scenario.

### Cost of Trade for US Importers and Exporters

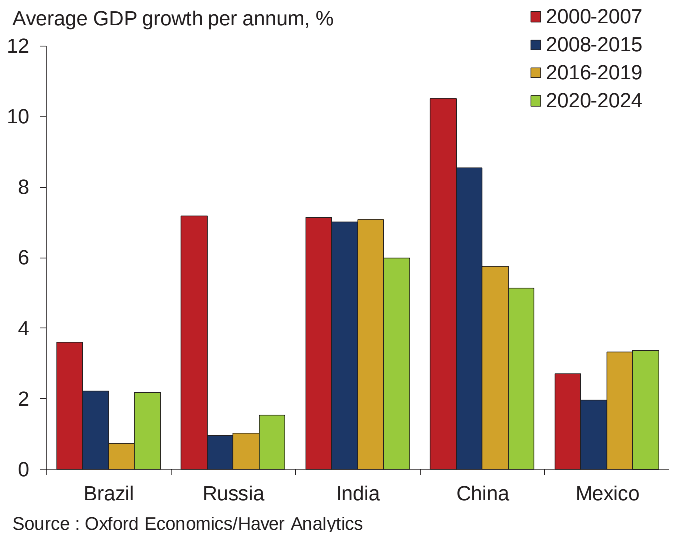



Source : Oxford Economics/Haver Analytics

***<u>Economic Prospects in the Rest of the World</u>***

Finally, economic prospects in other parts of the world, including major trading partners for the U.S is seen as a key metric for export volume performance. Looking forward, a slower pace of growth in some emerging economies than in recent decades is forecasted. Specifically in China, where the "level shift" of entry into the world trading system has largely been achieved, and the authorities now need to manage a transition to a more sustainable (and less investment-intensive) model of growth. Services activity will play a key role in this respect.

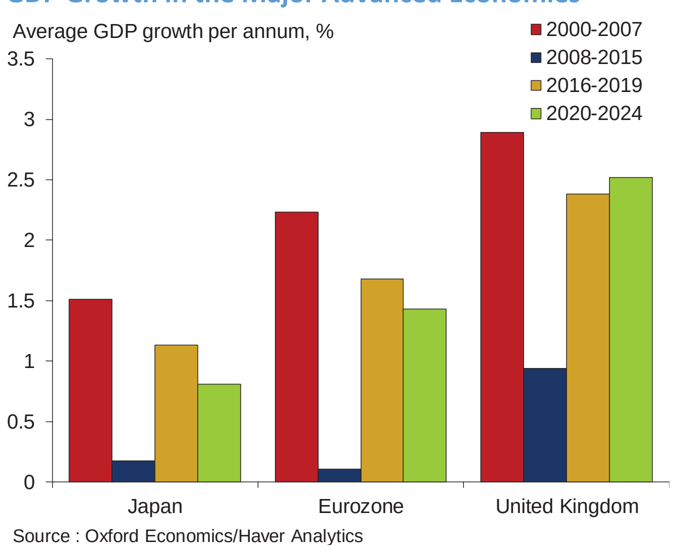
### GDP Growth in the Major Emerging Markets




Additionally, due to the decline in oil prices during the 2014-15, and poor macro-economic policy in recent years, Brazil and Russia both face a year or two more of recession looking forward. Further out, poor competitiveness and a lack of economic diversification imply much slower growth in both of these economies than in the past also. However, outright crisis in either of these economies given measures recently taken to shore up public finances, and contain inflation was found to be unlikely.

On the positive side, a solid rate of growth is expected to continue in both India and Mexico. As a commodity importer, India is benefitting from the decline in oil prices, and tentative moves are being made to improve economic competitiveness, the business environment, and infrastructure investment. In Mexico, deepening trade ties with the US and an ongoing commitment to further improvements in economic policy will support robust growth of around 3% into the medium term.

### GDP Growth in the Major Advanced Economies

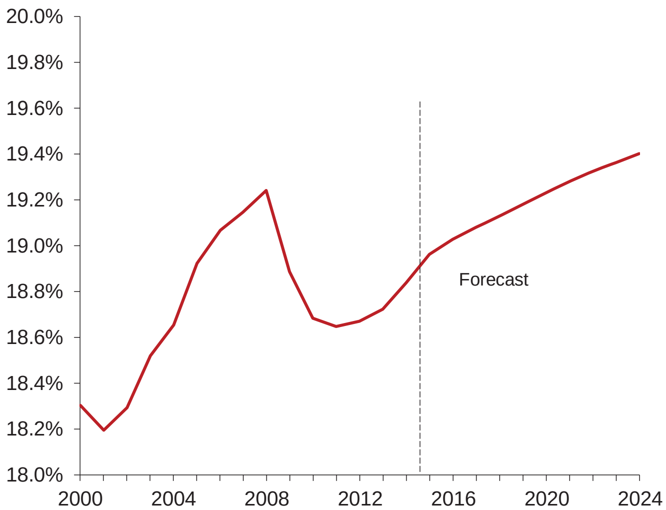


In the advanced economies, GDP growth is also likely to lag recent historical averages, although by a rather more modest margin than in the emergers. As in the U.S., the recovery in the U.K. now looks largely self-sustaining, and the same is true in parts of the Eurozone. Nevertheless, slower debt accumulation amongst both households and governments will undermine the pace of spending growth.

***San Pedro Bay Catchment Area Economy***

In main body of this report the outlook for particular sectors of the SPB area economy is discussed and this analysis has not been replicated here. However, at the aggregate economic level, the six states total Gross Regional Production will account for a gradually climbing share of total US GDP – from 18.8% in 2014, to 18.9% in 2015, and on towards 19.2% by 2020.

### San Pedro Bay Catchment States Share of GDP



Source : Oxford Economics/Haver Analytics

### GDP Growth in Scenarios

| | GDP growth in scenarios | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **United States** | | | **China** | | | **Eurozone** | | |
| | Expected | Low | High | Expected | Low | High | Expected | Low | High |
| 2014 | 2.4 | 2.4 | 2.4 | 7.3 | 7.3 | 7.3 | 0.9 | 0.9 | 0.9 |
| 2015 | 2.5 | 2.4 | 2.6 | 6.6 | 6.3 | 6.6 | 1.5 | 1.5 | 1.5 |
| 2016 | 2.6 | 1.1 | 4.5 | 5.9 | 3.5 | 7.3 | 1.8 | 0.5 | 2.7 |
| 2017 | 2.6 | 1.9 | 4.1 | 5.7 | 5.0 | 7.3 | 1.8 | 1.2 | 3.0 |
| 2018 | 2.7 | 3.7 | 3.0 | 5.5 | 7.6 | 6.0 | 1.6 | 2.0 | 1.7 |
| 2019 | 2.6 | 3.2 | 2.5 | 5.3 | 6.8 | 5.5 | 1.5 | 1.9 | 1.5 |
| 2020 | 2.5 | 2.6 | 2.4 | 5.3 | 5.1 | 6.0 | 1.5 | 1.8 | 1.7 |

## Long-term Borrowing Costs in Scenarios

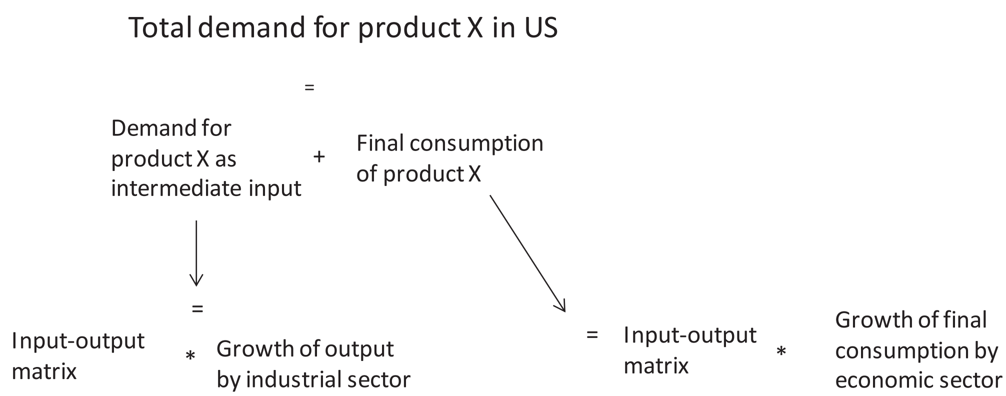
| | 10-year government bond yield | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | United States | | | China | | | Eurozone | | |
| | Expected | Low | High | Expected | Low | High | Expected | Low | High |
| 2014 | 2.5 | 2.5 | 2.5 | 4.2 | 4.2 | 4.2 | 2.0 | 2.0 | 2.0 |
| 2015 | 2.1 | 2.3 | 2.1 | 3.4 | 3.6 | 3.4 | 1.3 | 1.5 | 1.3 |
| 2016 | 2.4 | 3.1 | 2.6 | 2.9 | 3.9 | 2.8 | 1.8 | 2.9 | 1.7 |
| 2017 | 2.8 | 1.8 | 3.4 | 2.8 | 2.2 | 2.7 | 2.5 | 1.9 | 2.6 |
| 2018 | 3.1 | 1.5 | 3.8 | 3.3 | 2.0 | 2.9 | 3.0 | 2.3 | 3.4 |
| 2019 | 3.5 | 2.5 | 4.1 | 4.0 | 2.7 | 3.2 | 3.2 | 2.8 | 4.2 |
| 2020 | 3.9 | 3.1 | 4.0 | 4.6 | 3.5 | 3.3 | 3.5 | 2.9 | 4.6 |

### Appendix 9: Description of the Input-output Forecast Methodology

The starting point for the container and bulk forecasts was a projection of total demand by commodity in the U.S. economy. This forecast incorporated intermediate demand, i.e. demand for electronics products as an input into the manufacturing of cars, and final demand, e.g. demand for electronics products amongst households.

Intermediate demand by commodity was forecasted using an “input-output” (IO) table, which shows the use of intermediate inputs in the output of each sector. We combined this with Oxford’s standard forecasts for output growth across U.S. industries, to generate total intermediate demand by commodity. Final demand by commodity was also forecasted using the IO table approach, using standard Oxford Economics forecasts for each component of final demand to drive growth in final demand by commodity.

### Calculating Total Demand by Commodity




***Forecasting Import Share of Total Demand***

Once forecasts of total demand by commodity in the U.S. were completed, and then projections of the share of total demand for each commodity that will be imported were done. This essentially reflects the extent to which production for meeting U.S. demand has been “offshored” overseas, or in more recent years perhaps “reshored”. In practice, reshoring has been very limited, and focused on specific sectors. As such the more relevant way to think about this is that the *net pace* of offshoring has slowed compared to the 1990s and first decade of this century.

In order to forecast the share of total demand for each commodity satisfied by imports, Oxford first calculated the historic data series for the shares, by using the total demand calculations identified above and “backcasted” through the history, plus data on constant price imports by commodity. Oxford then estimate an equation to fit this share to variables such as relative wages in the U.S. versus the “rest of the world” (ROTW, a GDP-weighted composite measure), relative energy prices versus the ROTW, and the broad-based U.S. exchange rate. Additionally Oxford allow for a time trend as relevant. Oxford then used its forecast for each relevant macroeconomic driver, and forecast forward the import share for each commodity.

Combining the forecasts derived for total demand with the forecasts for import shares of goods, we then arrive at our forecast for total imports by commodity.

***Forecasting Regions' Shares of U.S. Imports***

The next stage in the forecast methodology was to assess the sourcing patterns of each commodity across regions of the world. Using the U.S. Census data by region/commodity, Oxford estimated the relationship between each region's share of U.S. imports of each commodity and macroeconomic drivers, such as that region's effective exchange rate versus ROTW, relative wages versus ROTW, energy costs versus ROTW, and a time trend. The regional variables are calculated as a GDP-weighted average of the composite countries, and the world variables calculated as a GDP-weighted composite of the regions.

Once the relationships driving each region's share of imports across each commodity was calculated, Oxford then forecasted forward these shares again using its own macroeconomic forecasts. Combining these projections with the total imports by commodity forecast, discussed above yields a forecast for each region-commodity combination for U.S. container imports.

***Forecasting U.S. Exports by Commodity and Destination Region***

Oxford forecasting methodology for container exports is somewhat different form imports and is described in this section.

First, Oxford forecasted forward total U.S. exports by commodity using its baseline industry forecast for output in the respective industrial sectors. This was then scaled to grow in line with its overall forecast for goods exports from the U.S. Then Oxford forecasted total import demand for each commodity in importing regions using each region's path for constant price goods imports. The weight of each of these region-commodity combinations in total imports into the rest of the world were then applied to the forecasts for exports from the U.S. by commodity.

Oxford then needed to forecast the shares of each region-commodity combination for U.S. exports originating from U.S. ports. We do this by calculating historical shares, and estimating the relationship between these shares and relevant economic drivers. Key in this respect is the SBP catchment area's share of relevant producing industries. Using its forecasts for state-level output by sector, these shares were forecasted forward, yielding container forecasts by region-commodity from SPB Ports.

***Forecasting SPB Shares of U.S. Imports and Exports by Commodity and Source/Destination***

Once Oxford derived forecasts of total demand for U.S. imports and exports by commodity and partner region, it forecasted the shares of each commodity-region-direction combination that enters or departs SPB Ports, based on historic shares for U.S. Census data. Oxford methodology mainly used the weight of SPB Ports' catchment area (the states of California, Nevada, Utah, Arizona, New Mexico and Colorado) in relevant US economic variables.

For estimating the drivers of SPB Ports' share of imports, Oxford used variables related to the *consuming* industries and consumer spending. For example, in estimating the proportion of U.S. imports of vehicle parts coming into SPB ports, it uses the six states' share of total US car manufacturing as a key driver, plus overall consumer spending. For estimating SPB Ports' shares of exports, Oxford used variables related to the *production* of relevant goods – e.g. for the vehicle parts exports, again car manufacturing is a key determinate of SPB Ports' share.

Combining these shares with the overall projections for each commodity-region-direction combination yields a forecast for container arrivals/departures for the relevant commodity-region combination to/from SPB Ports.

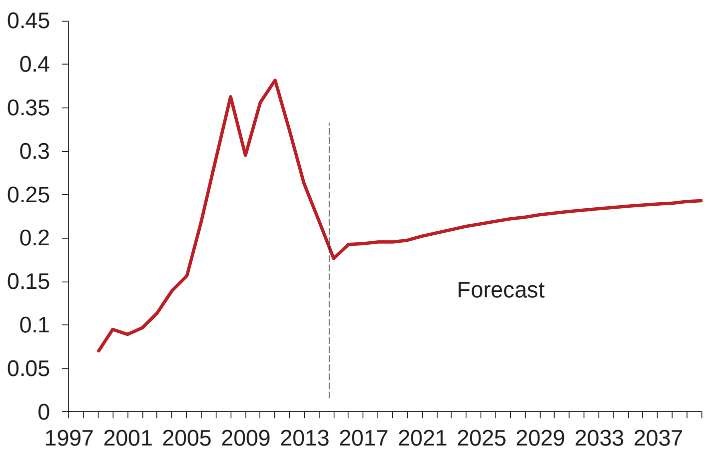
***Forecasting Waste Exports***

Oxford's methodology for forecasting waste exports was somewhat different to its methodology for other goods exports. For "normal" goods, the importing economy demands the product, however for waste exports the balance of demand is less clear. It is possible that the importing economy demands the waste products because they can be recycled and used as industrial inputs. But it is also true that firms in the exporting economy demand waste processing services, which can be more cost effective in emerging economies than at home.

As such, Oxford forecast total U.S. waste exports using the historical relationship between waste exports and GVA in the U.S. waste intermediation industry. Oxford calculated the "export-intensity" of GVA in the waste sector, i.e. the constant price dollar value of waste exports per constant price dollar of GVA. The export intensity of the sector has risen substantially over the past couple of decades overall, but has fallen back since the start of the current decade. This is shown in the below chart.

**Export intensity of waste intermediation**

Real $ exports of waste material per real $ output of waste intermediation sector




Source : Oxford Economics/Haver Analytics

Oxford analyzed the drivers of this ratio, and found that relative oil prices were the key driver of export-intensity in the waste sector. Specifically, when the cost of oil in the U.S. rises relative to ROTW, it makes more sense to ship waste overseas for processing (and conversely, when the cost of oil falls in the US relative to ROTW, it makes sense to process waste at home). This reflects the energy-intensive nature of metals and paper recycling. In addition, there is a "dummy" variable in the regression analysis, reflecting the introduction of tighter environmental regulations in China (the key waste export destination) in 2013. Oxford forecasted that the export intensity of the waste sector will rise gradually over the forecast horizon.

Oxford then forecasted forward GVA in the U.S. waste intermediation industry using the input-output method earlier in this appendix (projecting the demand for waste services given the makeup of waste services demand and our sectoral forecasts). By combining the forecast for GVA in the U.S. waste intermediation sector and the projection for export-intensity gives provided a forecast for constant price (i.e. volume) growth in U.S. waste exports.

***<u>Accounting for Economic Scenarios – High and Low</u>***

Oxford set out its methodology for forecasting constant-price U.S. goods imports and exports in the high and low scenario in section 2. Growth in these series provides a "constraint" for the overall growth of container imports and exports for the high and low macro-economic scenarios.

Oxford then split out imports and exports in line with its view on how each global region's economy is likely to fare under the upside and downside scenario. Oxford then calculated the share of each region's imports and exports of the "rest of the world" total (i.e. global imports minus U.S. imports) from 2015-2040, and use this to project forward U.S. imports/exports from/to each region. Then it used the baseline path for the composition of imports/exports to/from each region by commodity to provide the commodity breakdown for the high and low scenario.

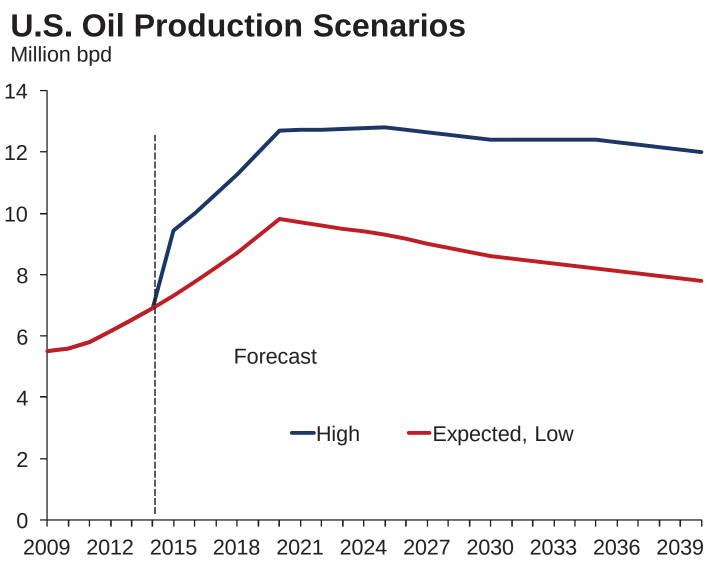
***<u>Forecasting Non-container Import and Export Growth</u>***

Where appropriate (i.e. where the commodity classifications match) Oxford used growth rates from the container forecast as drivers for non-containerized growth. However, in some cases, this is not possible.

The most obvious example is in the case of oil, which is only carried in liquid bulk, not in containers. In addition, Oxford high macro-economic scenario assumes that the current "ban" on exports of crude oil from the U.S. is relaxed, allowing shipments of crude overseas free of the current stipulation that the exporter has to demonstrate that an offsetting import of crude oil is being arranged elsewhere.

In order to calculate the overall impacts on imports and exports under the two scenarios, Oxford first calculated the overall demand for oil (crude and refined) in the high and low macro-economic scenarios. Assuming an unchanged "oil-intensity" of GDP (i.e. the volume of oil required to generate a constant-price dollar of U.S. economic output) between the three scenarios, Oxford's projections for GDP in the high and low scenarios provided a forecast for total demand for crude and refined oil.

Oxford then forecasted forward oil production under each scenario. For crude, it used the Brookings numbers for the high scenario, its own baseline forecast for the expected scenario, and an assumption that U.S. oil production would not be impacted by the low macro-economic scenario. For refined oil, Oxford assumed that domestic production moved in line with demand in the high/low scenarios, and again used our existing Oxford Economics macro-economic model forecast for the central projection.



Source : Oxford Economics/Haver Analytics

Oxford's forecasts for crude exports for the high scenario were again taken from Brookings "high output" scenario, and its own baseline for the expected/low scenarios (adjusted for lower domestic oil demand). On refined oil, Oxford approach is to assume the same proportion of refined oil production is exported in all three scenarios.

Oxford's forecasts for imports are then simply given by the identity:

- Imports = Total demand – Domestic Production + Exports

### Appendix 10: Country to Regions Mapping

The tables below map individual countries to the regional groupings presented in the forecast discussion in the main body of the report.

| | | | | | |
|---|---|---|---|---|---|
| Africa | Algeria | Australia and Oceania | Australia | Europe | Albania |
| | Angola | | Christmas Island | | Andorra |
| | Benin | | Cocos (Keeling) Islands | | Armenia |
| | Botswana | | Cook Islands | | Austria |
| | British Indian Ocean Territories | | Fiji | | Azerbaijan |
| | Burkina Faso | | French Polynesia | | Belarus |
| | Burundi | | Heard and McDonald Islands | | Belgium |
| | Cameroon | | Kiribati | | Bosnia and Herzegovina |
| | Cape Verde | | Marshall Islands | | Bulgaria |
| | Central African Republic | | Micronesia | | Croatia |
| | Chad | | Nauru | | Cyprus |
| | Comoros | | New Caledonia | | Czech Republic |
| | Congo (Brazzaville) | | New Zealand | | Denmark |
| | Congo (Kinshasa) | | Niue | | Estonia |
| | Cote d'Ivoire | | Norfolk Island | | Faroe Islands |
| | Djibouti | | Palau | | Finland |
| | Egypt | | Papua New Guinea | | France |
| | Equatorial Guinea | | Pitcairn Islands | | Georgia |
| | Eritrea | | Samoa | | Germany |
| | Ethiopia | | Solomon Islands | | Gibraltar |
| | French Southern and Antarctic Lands | | Tokelau | | Greece |
| | Gabon | | Tonga | | Hungary |
| | Gambia | | Tuvalu | | Iceland |
| | Ghana | | Vanuatu | | Ireland |
| | Guinea | | Wallis and Futuna | | Italy |
| | Guinea-Bissau | | | | Kazakhstan |
| | Kenya | | | | Kosovo |
| | Lesotho | | | | Kyrgyzstan |
| | Liberia | | | | Latvia |
| | Libya | | | | Liechtenstein |
| | Madagascar | | | | Lithuania |
| | Malawi | | | | Luxembourg |
| | Mali | | | | Macedonia |
| | Mauritania | | | | Malta |
| | Mauritius | | | | Moldova |
| | Mayotte | | | | Monaco |
| | Morocco | | | | Montenegro |
| | Mozambique | | | | Netherlands |
| | Namibia | | | | Norway |
| | Niger | | | | Poland |
| | Nigeria | | | | Portugal |
| | Reunion | | | | Romania |
| | Rwanda | | | | Russia |
| | Sao Tome and Principe | | | | San Marino |
| | Senegal | | | | Serbia |
| | Seychelles | | | | Serbia (Jan 2007 - Dec 2008) |
| | Sierra Leone | | | | Serbia and Montenegro (Aug 2003 - Dec 2006) |
| | Somalia | | | | Slovakia |
| | South Africa | | | | Slovenia |
| | South Sudan | | | | Spain |
| | St Helena | | | | Svalbard, Jan Mayen Island |
| | Sudan | | | | Sweden |
| | Sudan (through Jul 2011) | | | | Switzerland |
| | Swaziland | | | | Tajikistan |
| | Tanzania | | | | Turkey |
| | Togo | | | | Turkmenistan |
| | Tunisia | | | | Ukraine |
| | Uganda | | | | United Kingdom |
| | Western Sahara | | | | Uzbekistan |
| | Zambia | | | | Vatican City |
| | Zimbabwe | | | | (blank) |

| | | | | | |
|---|---|---|---|---|---|
| ISC/ME | Bhutan | NE Asia | China | LATAM | Anguilla |
| | Burma | | Hong Kong | | Antigua and Barbuda |
| | Maldives | | Japan | | Argentina |
| | Syria | | Korea, North | | Aruba |
| | Afghanistan | | Korea, South | | Bahamas |
| | Bahrain | | Macau | | Barbados |
| | Bangladesh | | Mongolia | | Belize |
| | Gaza Strip Administered by Israel | | Taiwan | | Bermuda |
| | India | NAFTA | Canada | | Bolivia |
| | Iran | | Greenland | | Brazil |
| | Iraq | | Mexico | | British Virgin Islands |
| | Israel | | St Pierre and Miquelon | | Cayman Islands |
| | Jordan | SE ASIA | Brunei | | Chile |
| | Kuwait | | Cambodia | | Colombia |
| | Lebanon | | Indonesia | | Costa Rica |
| | Nepal | | Laos | | Cuba |
| | Oman | | Malaysia | | Curacao |
| | Pakistan | | Philippines | | Dominica |
| | Qatar | | Singapore | | Dominican Republic |
| | Saudi Arabia | | Thailand | | Ecuador |
| | Sri Lanka | | Timor-Leste | | El Salvador |
| | Syria | | Vietnam | | Falkland Islands (Islas Malvinas) |
| | United Arab Emirates | | | | French Guiana |
| | West Bank Administered by Israel | | | | Grenada |
| | Yemen | | | | Guadeloupe |
| | | | | | Guatemala |
| | | | | | Guyana |
| | | | | | Haiti |
| | | | | | Honduras |
| | | | | | Jamaica |
| | | | | | Martinique |
| | | | | | Montserrat |
| | | | | | Netherlands Antilles (through Apr 2011) |
| | | | | | Nicaragua |
| | | | | | Panama |
| | | | | | Paraguay |
| | | | | | Peru |
| | | | | | Sint Maarten |
| | | | | | St Kitts and Nevis |
| | | | | | St Lucia |
| | | | | | St Vincent and the Grenadines |
| | | | | | Suriname |
| | | | | | Trinidad and Tobago |
| | | | | | Turks and Caicos Islands |
| | | | | | Uruguay |
| | | | | | Venezuela |

# Exhibit E

OMM Draft 3/1/16

# ESCROW AGREEMENT

by and between

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**

and

**U.S. BANK NATIONAL ASSOCIATION,**

as Escrow Agent and as Trustee of the Defeased Bonds

Dated as of May 1, 2016

Relating to

**Alameda Corridor Transportation Authority**

**Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2004A**

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[*To be updated]*

**Page**

# ESCROW AGREEMENT

**THIS ESCROW AGREEMENT**, dated as of May 1, 2016 (this "Escrow Agreement"), between the **ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY** (the "Authority") and **U.S. BANK NATIONAL ASSOCIATION**, as escrow agent (the "Escrow Agent") and as trustee (the "Defeased Bonds Trustee") with respect to the Defeased Bonds (as defined below). Capitalized terms not otherwise defined herein shall have the respective meanings set forth in the Master Indenture (as defined below).

W I T N E S S E T H :

WHEREAS, the Authority has previously issued $475,292,386.40 aggregate principal amount of its Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2004A (the "Series 2004A Bonds"), pursuant to that certain Master Trust Indenture dated as of January 1, 1999, as amended and supplemented (the "Master Indenture"), including as amended and supplemented by the Sixth Supplemental Trust Indenture dated as of February 1, 2004 (the "Sixth Supplemental Indenture"), both by and between the Authority and the Defeased Bonds Trustee; and

WHEREAS, the Master Indenture provides that the Authority may issue refunding bonds from time to time for the purpose of providing funds to pay all or a portion of its outstanding Bonds;

WHEREAS, the Authority intends to issue its $[________] Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A and its $[________] Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (collectively, the "Series 2016 Bonds") for the purpose of defeasing a portion of the Series 2004A Bonds; and

WHEREAS, simultaneously with the execution and delivery of this Escrow Agreement, the Authority desires to (i) defease $[________] in aggregate Initial Amount of the Series 2004A Convertible Capital Appreciation Bonds maturing on [October 1, 2021, October 1, 2022, October 1, 2023, October 1, 2024 and October 1, 2025] as further described on Exhibit B attached hereto and arrange for the redemption thereof on October 1, 2017 (the "Defeased Convertible Capital Appreciation Bonds"), and (ii) defease $[________] in aggregate Initial Amount of the Series 2004A Capital Appreciation Bonds maturing on [October 1, 2016, October 1, 2017, October 1, 2018, October 1, 2019 and October 1, 2020] as further described on Exhibit B attached hereto and arrange for the payment thereof on respective maturity dates (the "Defeased Capital Appreciation Bonds" and, together with the Defeased Convertible Capital Appreciation Bonds", the "Defeased Bonds"); and

WHEREAS, in order to provide the moneys needed for the defeasance of such Defeased Bonds on the date hereof, the Authority shall deposit a portion of the proceeds from the sale of the Series 2016 Bonds in the Escrow Fund created hereunder.

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants hereinafter set forth, the parties hereto agree as follows:

**Section 1. Creation of Escrow Fund**. There is hereby created and established with the Escrow Agent a special and irrevocable escrow fund designated "Alameda Corridor Transportation Authority Series 2004A Bonds Defeasance Escrow Fund" (herein referred to as the "Escrow Fund") to be held in the custody of the Escrow Agent in trust under this Escrow Agreement for the exclusive benefit of the owners of the Defeased Bonds and, except to the extent of any excess which is to be applied as provided in Sections 5 and 8 hereof, the Authority shall have no interest in or rights to the funds or investments held in the Escrow Fund.

**Section 2. Deposit to the Escrow Fund**. Concurrently with the execution and delivery of this Escrow Agreement, the Authority has irrevocably deposited with the Escrow Agent the sum of $[__________] in immediately available funds derived from the sale of the Series 2016 Bonds. Upon receipt thereof, the Escrow Agent shall credit such amount to the Escrow Fund and such amount shall be held, invested and applied by the Escrow Agent as provided in this Escrow Agreement. The Authority hereby directs the Escrow Agent to, and the Escrow Agent shall use the money on deposit in the Escrow Fund to, purchase such noncallable Government Obligations as and when described in the Written Request of the Authority to the Escrow Agent Regarding Investment Instructions (the "Government Obligations") delivered to the Escrow Agent on [___________], 2016, to the extent such Government Obligations are available for purchase, and if such Government Obligations are not available then Escrow Agent shall invest such money as instructed by the Authority on advice of tax counsel. The Escrow Agent shall arrange for the purchase of such Government Obligations as required for and in the name of the Authority. The Trustee shall retain the remaining moneys, if any, in the Escrow Fund in cash.

**Section 3. Investment of Escrow Funds**.

(a) The Escrow Agent hereby acknowledges receipt of the moneys described in Section 2 hereof. The Escrow Agent shall purchase the Government Obligations as provided in Section 2 above and will hold such Government Obligations and the cash, if any, and any earnings received thereon in the Escrow Fund created under this Escrow Agreement and disburse and apply such amounts as provided herein. Subject to the provisions of Section 3(c) below, the Escrow Agent shall collect amounts due and shall sell or otherwise liquidate investments in the Escrow Fund as needed to make the payments and transfers required by this Escrow Agreement, but otherwise shall have no power or duty to sell, transfer, request the redemption of or otherwise dispose of the Government Obligations.

(b) The Authority acknowledges that to the extent regulations of the Comptroller of the Currency or other applicable regulatory entity grant the Authority the right to receive brokerage confirmations of security transactions as they occur, the Authority will not receive such confirmations to the extent permitted by law. The Escrow Agent will furnish the Authority periodic cash transaction statements which include details of all investment transactions made by the Escrow Agent hereunder.

(c) Notwithstanding the foregoing, upon the written direction of the Authority, and upon delivery to the Escrow Agent of an opinion of Bond Counsel to the effect that such action is permitted under the Master Indenture and the Sixth

Supplemental Indenture, an approving opinion of tax counsel stating that such action will not adversely affect the tax exempt status of the interest on the bonds, and a verification report stating that any substituted Government Obligations, together with any earnings thereon and uninvested cash, will be sufficient to pay, when due, the principal, redemption price, and interest due and payable on the Defeased Bonds through and including the Redemption Date, the Escrow Agent shall sell, transfer, request the redemption or otherwise dispose of some or all of the Government Obligations in the Escrow Fund and substitute therefor other Government Obligations; provided, however, that any such substitution must be structured in such a manner that the Government Obligations held to the credit of the Escrow Fund, together with the interest earnings thereon and uninvested cash in the Escrow Fund, shall provide sufficient moneys to pay when due the principal of and accrued but unpaid interest due and payable on the Defeased Bonds.

**Section 4. Creation of Lien on Escrow Fund**. The deposit of the moneys and Government Obligations in the Escrow Fund shall constitute an irrevocable deposit in trust for the benefit of the holders of the Defeased Bonds. The holders of the Defeased Bonds are hereby granted an express lien on the Escrow Fund and all moneys and investments from time to time held therein for the payment of amounts described in Section 5 below.

**Section 5. Payment of Defeased Bonds and Satisfaction of Certain Other Debt Service Related Obligations; Notices; Replacement Bonds**. [*TO BE UPDATED AS NUMBERS ARE FINALIZED*]

(a) From time to time, the Escrow Agent shall withdraw sufficient moneys from the Escrow Fund to timely pay, and the Defeased Bonds Trustee shall timely pay, the accrued interest on the Defeased Convertible Capital Appreciation Bonds as the same shall become due and payable in accordance with the provisions of the Master Indenture, as supplemented by the Sixth Supplemental Indenture, prior to, and not including October 1, 2017.

(b) On October 1, 2017, the Escrow Agent shall withdraw $[____________] from the Escrow Fund and use such amount in its capacity as Defeased Bonds Trustee to pay the redemption price (i.e. 100% of the Accreted Value thereof) of the Defeased Convertible Capital Bonds called for redemption on such date, plus accrued but unpaid interest thereon, as set forth on <u>Exhibit B</u> attached hereto.

(c) On each of October 1, 2016, October 1, 2017, October 1, 2018, October 1, 2019 and October 1, 2020, the Escrow Agent shall withdraw funds in sufficient amounts from the Escrow Fund and use such amounts in its capacity as Defeased Bonds Trustee to pay the Final Compounded Amount of the Defeased Capital Appreciation Bonds maturing on each such date, as set forth on <u>Exhibit B</u> attached hereto.

(d) The Escrow Agent and Defeased Bonds Trustee shall promptly, but in no event later than [October 15, 2020], provide the Authority with a certificate, in the form attached hereto as <u>Exhibit C</u>, confirming completion of the transactions described in this

Section 5 and transfer all funds remaining in the Escrow Fund, except any unclaimed moneys being held to pay Defeased Bonds ("Unclaimed Moneys"), to the Authority.

(e) The Escrow Agent shall retain all Unclaimed Moneys, together with interest thereon, in the Escrow Fund and shall invest such Unclaimed Moneys as permitted in the Master Indenture and directed by an Authorized Authority Representative (as defined in the Indenture). The Escrow Agent shall transfer any Unclaimed Moneys held by it in the Escrow Fund, together with all investment earnings thereon, to the Authority on October 1, 20[21], and thereafter the holders of the Defeased Bonds shall look only to the Authority for payment, and neither the Defeased Bonds Trustee nor the Escrow Agent shall have any responsibility with respect to any of such moneys. The Escrow Agent shall provide a monthly statement to the Authority, to the attention of the Chief Financial Officer, on the 10th day of each month, commencing in October 20[20], setting forth the amounts of any Unclaimed Moneys on deposit in such Escrow Fund, including the interest earnings thereon.

(f) The Authority hereby irrevocably instructs the Escrow Agent to mail as soon as practicable that certain Notice of Defeasance to the owners of the Defeased Bonds, substantially in the form of <u>Exhibit A</u>.

(g) The Authority hereby instructs the Trustee to authenticate and deliver, upon presentation and surrender by the registered owner of the Series 2004A Bonds numbered [_________] (the "Original Series 2004A Bonds"), the Series 2004A Bonds numbered [_________] provided by the Authority to such registered owner in exchange for the Original Series 2004A Bonds. The Authority further instructs the Trustee to cancel such Original Series 2004A Bonds.

**Section 6. Liability of Escrow Agent.**

(a) The Escrow Agent shall not be liable for any loss resulting from any investment made pursuant to this Escrow Agreement in compliance with the provisions hereof. The Escrow Agent shall have no lien whatsoever on the Escrow Fund or moneys on deposit in the Escrow Fund for the payment of fees and expenses for services rendered by the Escrow Agent under this Escrow Agreement or otherwise.

(b) The Escrow Agent shall not be liable for the accuracy of the calculations as to the sufficiency of any moneys deposited into the Escrow Fund or Government Obligations purchased at the direction of the Authority to pay the principal or Final Compounded Amount or redemption price of, as applicable, and interest on the Defeased Bonds.

(c) No provision of this Escrow Agreement shall require the Escrow Agent to expend or risk its own funds.

(d) The Escrow Agent may consult with Bond Counsel or special tax counsel to the Authority or with such other counsel of its own choice subject to reasonable approval by the Authority and the opinion of such counsel shall be full and complete authorization to take or suffer in good faith any action in accordance with such opinion of counsel.

(e) Whenever in the administration of this Escrow Agreement the Escrow Agent shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence or misconduct on the part of the Escrow Agent, be deemed to be conclusively proved and established by a certificate of an Authorized Authority Representative, and such certificate shall, in the absence of negligence or misconduct on the part of the Escrow Agent, be full warrant to the Escrow Agent for any action taken or suffered by it under the provisions of this Escrow Agreement upon the faith thereof. Except with respect to any future reinvestment as may be directed by the Authority as set forth in Section 5 herein, the Escrow Agent hereby represents that, as of the date hereof, it does not need any further certificate or direction from any other party in order to carry out the terms of this Escrow Agreement.

(f) The Escrow Agent may conclusively rely, as to the truth and accuracy of the statements and correctness of the opinions and the calculations provided, or caused to be provided by the Authority, and shall be protected and indemnified as set forth in Section 11 herein, in acting, or refraining from acting, upon any written notice, instruction, request, certificate, document or opinion furnished to the Escrow Agent signed or presented by an Authorized Authority Representative, and it need not investigate any fact or matter stated in such notice, instruction, request, certificate or opinion.

**Section 7. Successor Escrow Agent**. Any corporation into which the Escrow Agent may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion, consolidation or tax-free reorganization to which the Escrow Agent shall be a party, shall be the successor Escrow Agent under this Escrow Agreement without the execution or filing of any paper or any other act on the part of the parties hereto, anything herein to the contrary notwithstanding.

**Section 8. Excess Moneys and Termination**. This Escrow Agreement shall terminate when all transfers and payments required to be made by the Escrow Agent under the provisions hereof shall have been made. The Authority hereby directs the Escrow Agent to, and the Escrow Agent shall, promptly transfer to the Authority, no later than [__________], 2025, any moneys (except Unclaimed Moneys being held to pay Defeased Bonds) remaining in the Escrow Fund, after making the payments required by Section 5 hereof. The Authority hereby further directs the Escrow Agent to, and the Escrow Agent shall, transfer to the Authority any other moneys remaining in the Escrow Fund at the time of termination of this Escrow Agreement.

**Section 9. Severability**. If any one or more of the covenants or agreements provided in this Escrow Agreement on the part of the Authority, the Escrow Agent or the Defeased Bonds Trustee to be performed should be determined by a court of competent jurisdiction to be contrary to law, such covenant or agreement shall be deemed and construed to be severable from the remaining covenants and agreements herein contained and shall in no way affect the validity of the remaining provisions of this Escrow Agreement.

**Section 10. Successors and Assigns**. All of the covenants and agreements in this Escrow Agreement contained by or on behalf of the Authority, the Escrow Agent or the Defeased Bonds Trustee shall bind and inure to the benefit of their respective successors and assigns, whether so expressed or not.

**Section 11. Compensation and Indemnity of Escrow Agent**. For acting under this Escrow Agreement, the Escrow Agent shall be entitled to payment of its usual and customary fees for its services, including, without limitation, reasonable compensation for all services rendered in the execution, exercise and performance of any of the duties of the Escrow Agent to be exercised or performed pursuant to the provisions of this Escrow Agreement, and all reasonable expenses, disbursements and advances incurred in accordance with any provisions of this Escrow Agreement (including the reasonable compensation and expenses and disbursements of independent counsel, agents and attorneys-at-law or other experts employed by it in the exercise and performance of its powers and duties hereunder and out-of-pocket expenses including, but not limited to, postage, insurance, wires, stationary, costs of printing forms and letters and publication of notices of redemption); however, such amount shall never be payable from or become a lien upon the Escrow Fund, which funds shall be subject to liens and held solely for the purposes set forth in Sections 4 and 5, respectively, of this Escrow Agreement. To the extent permitted by law, the Authority agrees to indemnify and hold the Escrow Agent harmless from and against all claims, suits and actions brought against it, or to which it is made a party, and from all costs, expenses (including reasonable attorneys' fees of counsel reasonably acceptable to the Authority), losses and damages suffered by it as a result thereof, including the costs and expenses of defending against any such claims, suits or actions, where and to the extent such claim, suit or action arises out of the performance by the Escrow Agent of its duties under this Escrow Agreement. Indemnification of the costs, expenses, losses or damages of the Escrow Agent resulting and determined pursuant to a settlement shall only be payable by the Authority if such settlement was approved by the Authority. Such indemnification shall not extend to claims, suits and actions brought against the Escrow Agent which result in a judgment being entered, settlement being reached or other disposition made based upon the Escrow Agent's negligence or misconduct. The indemnification provided for in this Escrow Agreement shall never be payable from or become a lien upon the Escrow Fund, which funds shall be subject to the lien created by Section 4 hereof and held solely for the purposes set forth in Section 5 of this Escrow Agreement. The obligations of the Authority under this Section 11 shall remain in effect and continue notwithstanding the termination of this Escrow Agreement.

**Section 12. Third-Party Beneficiaries and Amendments**. The owners of the Defeased Bonds and [Ambac Assurance Corporation] are hereby recognized as third-party beneficiaries of this Escrow Agreement to the extent of their interests in the Escrow Fund as set forth in Sections 4 and 5 hereof.

**Section 13. Replacement and Resignation of Escrow Agent**. The Authority may remove the Escrow Agent by notice in writing delivered to the Escrow Agent ninety (90) days prior to the proposed removal date. The Escrow Agent may resign by notifying the Authority in writing at least ninety (90) days prior to the proposed effective date of the resignation. Additionally, [Ambac Assurance Corporation], as insurer of the Defeased Bonds[, and [_________________], as reinsurer of the Defeased Bonds], shall be furnished with written notice of any resignation or removal of the Escrow Agent and the appointment of any successor thereto. No removal or resignation of the Escrow Agent under this Section 13 shall be effective until a new escrow agent, approved by the Authority, has taken office and delivered a written acceptance of its appointment to the retiring Escrow Agent and to the Authority. Immediately thereafter, the retiring Escrow Agent shall transfer all property held by it as Escrow Agent to the successor Escrow Agent, the removal or resignation of the Escrow Agent shall then (but only then) become effective and the successor Escrow Agent shall have all the rights, powers and duties of the Escrow Agent under this Escrow Agreement. If the Escrow Agent is removed or resigns or for any reason is unable or unwilling to perform its duties under this Escrow Agreement, the Authority shall promptly appoint a successor Escrow Agent. If a successor Escrow Agent has not been appointed and has not accepted such appointment by the end of the ninety (90)-day period, the Escrow Agent may apply to a court of competent jurisdiction for the appointment of a successor Escrow Agent, and the costs, expenses and reasonable attorneys' fees incurred in connection with such a proceeding shall be paid by the Authority.

**Section 14. Counterparts**. This Escrow Agreement may be executed in several counterparts, all or any of which shall be regarded for all purposes as one original and shall constitute and be but one and the same instrument.

**Section 15. Governing Law**. This Escrow Agreement shall be governed by the applicable laws of the State of California.

**Section 16. Headings**. Any headings preceding the text of the several Sections hereof, and any table of content appended to copies hereof, shall be solely for convenience of reference and shall not constitute a part of this Escrow Agreement, nor shall they affect its meaning, construction or effect.

**Section 17. Venue; Consent to Jurisdiction and Service of Process**. ALL JUDICIAL PROCEEDINGS ARISING OUT OF OR RELATING TO THIS ESCROW AGREEMENT OR ANY OTHER RELATED DOCUMENT, OR ANY OBLIGATIONS THEREUNDER, MAY ONLY BE BROUGHT IN ANY STATE OR FEDERAL COURT OF COMPETENT JURISDICTION IN THE STATE OF CALIFORNIA, COUNTY OF LOS ANGELES. BY EXECUTING AND DELIVERING THIS ESCROW AGREEMENT, THE ESCROW AGENT, FOR ITSELF AND IN CONNECTION WITH ITS PROPERTIES, IRREVOCABLY

(a) ACCEPTS GENERALLY AND UNCONDITIONALLY THE NONEXCLUSIVE JURISDICTION AND VENUE OF SUCH COURTS;

(b) WAIVES ANY DEFENSE OF *FORUM NON CONVENIENS*;

(c) AGREES THAT SERVICE OF ALL PROCESS IN ANY SUCH PROCEEDING IN ANY SUCH COURT MAY BE MADE BY REGISTERED OR CERTIFIED MAIL, RETURN RECEIPT REQUESTED, TO U.S. BANK NATIONAL

ASSOCIATION, [________________________], ATTENTION: CORPORATE TRUST SERVICES, OR SUCH OTHER ADDRESS AS PROVIDED IN WRITING TO THE AUTHORITY;

(d) AGREES THAT SERVICE AS PROVIDED IN CLAUSE (c) ABOVE IS SUFFICIENT TO CONFER PERSONAL JURISDICTION OVER THE ESCROW AGENT IN ANY SUCH PROCEEDING IN ANY SUCH COURT, AND OTHERWISE CONSTITUTES EFFECTIVE AND BINDING SERVICE IN EVERY RESPECT;

(e) AGREES THAT THE AUTHORITY RETAINS THE RIGHT TO SERVE PROCESS IN ANY OTHER MANNER PERMITTED BY LAW OR TO BRING PROCEEDINGS AGAINST THE ESCROW AGENT IN THE COURTS OF ANY OTHER JURISDICTION; AND

(f) AGREES THAT THE PROVISIONS OF THIS SECTION 17 RELATING TO JURISDICTION AND VENUE SHALL BE BINDING AND ENFORCEABLE TO THE FULLEST EXTENT PERMISSIBLE UNDER CALIFORNIA CODE OF CIVIL PROCEDURE SECTION 410.40 OR OTHERWISE.

[Signature On Next Page]

IN WITNESS WHEREOF, the parties hereto have each caused this Escrow Agreement to be executed by their duly authorized officers as of the date first above written.

ALAMEDA CORRIDOR
TRANSPORTATION AUTHORITY

By ________________________________
Authorized Authority Representative

Attest:

By: ________________________
Secretary of the
Authority Governing Board

U.S. BANK NATIONAL
ASSOCIATION, as Escrow Agent and
as Defeased Bonds Trustee

By ________________________________
Name ______________________________
Title ______________________________

**EXHIBIT A**

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**
**TAX-EXEMPT SUBORDINATE LIEN REVENUE REFUNDING BONDS**
**SERIES 2004A BONDS**

**NOTICE OF DEFEASANCE**

NOTICE IS HEREBY GIVEN to the owners of the herein referenced bonds (the "Bonds") that the Alameda Corridor Transportation Authority (the "Authority") has irrevocably deposited with U.S. Bank National Association, as escrow agent and as trustee for said Bonds (the "Trustee"), cash, bonds or other obligations which satisfy the criteria of Article V of the Master Trust Indenture dated as of January 1, 1999, as amended and supplemented (the "Master Indenture"), including as amended and supplemented by the Sixth Supplemental Trust Indenture dated as of February 1, 2004, by and between the Authority and the Trustee, pursuant to which such Bonds were issued.

Such deposit, together with earnings thereon, will provide moneys sufficient to pay (a) from time to time, the accrued but unpaid interest on certain Bonds, as identified below (the "Defeased Bonds") as the same shall become due and payable in accordance with the provisions of the Master Indenture, prior to, and not including, October 1, 2017; (b) on October 1, 2017, the redemption price of 100% of the Accreted Value thereof plus accrued but unpaid interest on said Defeased Bonds maturing on [October 1, 2021, October 1, 2022, October 1, 2023, October 1, 2024 and October 1, 2025]; and (c) on October 1, 2016, October 1, 2017, October 1, 2018, October 1, 2019 and October 1, 2020, the Final Compounded Amount of the Defeased Bonds maturing on each such maturity date. In accordance with Article V of the Master Indenture, the Defeased Bonds are now deemed to be paid. Accordingly, the Defeased Bonds are no longer secured by or entitled to the benefits of the Master Indenture (except for the foregoing deposit and earnings thereon which are held and invested by the Trustee) and all other obligations of the Authority pledged under the Master Indenture in respect of such Defeased Bonds shall cease, terminate and become void and be completely discharged and satisfied. All payments of interest on and the principal or Final Compounded Amount of such Defeased Bonds shall be paid only from moneys on deposit with the Trustee and available as aforesaid.

The Defeased Bonds consist of the certain maturities of the Series 2004A Convertible Capital Appreciation Bonds and certain maturities of the Series 2004 Capital Appreciation Bonds, each as described below. The Series 2004A Convertible Capital Appreciation Bonds are dated as of May 6, 2004 and have maturities, interest rates, Accreted Value as of the Conversion Date (October 1, 2012), redemption prices, and CUSIP numbers as set forth below:

**Alameda Corridor Transportation Authority**
**Tax-Exempt Subordinate Lien Revenue Refunding Bonds**
**Series 2004A Convertible Capital Appreciation Bonds**

| **Maturity Date (October 1)** | **Interest Rate** | **Accreted Value as of Conversion (Oct. 1, 2012)** | **Redemption Price** | **CUSIP #** |
|---|---|---|---|---|
| 2021 | 5.25% | $74,660,000 | 100% | EL5 |
| 2022 | 5.30 | 81,685,000 | 100 | EM3 |
| 2023 | 5.30 | 86,015,000 | 100 | EN1 |
| 2024 | 5.40 | 90,570,000 | 100 | EP6 |
| 2025 | 5.45 | 95,460,000 | 100 | EQ4 |

The Series 2004A Capital Appreciation Bonds are dated as of May 6, 2004 and have maturities, Initial Amounts, interest rates, Final Compounded Amounts and CUSIP numbers as set forth below:

**Alameda Corridor Transportation Authority**
**Tax-Exempt Subordinate Lien Revenue Refunding Bonds**
**Series 2004A Capital Appreciation Bonds**

| **Maturity Date October 1** | **Initial Amount** | **Yield to Maturity** | **Final Compounded Amount** | **CUSIP #** |
|---|---|---|---|---|
| 2016 | $18,482,475.10 | 4.88% | $33,610,000 | DP7 |
| 2017 | 20,916,376.80 | 4.98 | 40,440,000 | DQ5 |
| 2018 | 23,428,767.60 | 5.08 | 48,255,000 | DR3 |
| 2019 | 25,823,537.60 | 5.18 | 56,770,000 | DS1 |
| 2020 | 28,024,253.40 | 5.27 | 65,780,000 | DT9 |

Neither the Authority nor the Trustee shall be held responsible for the use of the CUSIP numbers, nor is any representation made as to their correctness indicated in this Notice of Defeasance. It is included solely for convenience of the Holders.

DATED: [____________], 2016

U.S. BANK NATIONAL ASSOCIATION,
as Trustee

## EXHIBIT B

## DEFEASED BONDS

### Alameda Corridor Transportation Authority
### Tax-Exempt Subordinate Lien Revenue Refunding Bonds
### Series 2004A Convertible Capital Appreciation Bonds

| Maturity Date (October 1) | Interest Rate | Accreted Value as of Conversion (Oct. 1, 2012) | Redemption Price | CUSIP # |
|---|---|---|---|---|
| 2021 | 5.25% | $74,660,000 | 100% | EL5 |
| 2022 | 5.30 | 81,685,000 | 100 | EM3 |
| 2023 | 5.30 | 86,015,000 | 100 | EN1 |
| 2024 | 5.40 | 90,570,000 | 100 | EP6 |
| 2025 | 5.45 | 95,460,000 | 100 | EQ4 |

### Alameda Corridor Transportation Authority
### Tax-Exempt Subordinate Lien Revenue Refunding Bonds
### Series 2004A Capital Appreciation Bonds

| Maturity Date October 1 | Initial Amount | Yield to Maturity | Final Compounded Amount | CUSIP # |
|---|---|---|---|---|
| 2016 | $18,482,475.10 | 4.88% | $33,610,000 | DP7 |
| 2017 | 20,916,376.80 | 4.98 | 40,440,000 | DQ5 |
| 2018 | 23,428,767.60 | 5.08 | 48,255,000 | DR3 |
| 2019 | 25,823,537.60 | 5.18 | 56,770,000 | DS1 |
| 2020 | 28,024,253.40 | 5.27 | 65,780,000 | DT9 |

**EXHIBIT C**

**ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY**
**TAX-EXEMPT SUBORDINATE LIEN REVENUE REFUNDING BONDS**
**SERIES 2004A BONDS**

**CERTIFICATE OF THE ESCROW AGENT**
**AND DEFEASED BONDS TRUSTEE**
**CONFIRMING PAYMENT OF DEFEASED BONDS**

U.S. BANK NATIONAL ASSOCIATION,

- - as escrow agent (the "Escrow Agent") under that certain escrow agreement, dated as of [___________], 2016, by and between the Alameda Corridor Transportation Authority (the "Authority") and the Escrow Agent (the "Escrow Agreement"); and

- - as trustee (the "Defeased Bonds Trustee") with respect to the above captioned bonds (the "Defeased Bonds"),

HEREBY CERTIFIES AS FOLLOWS:

Capitalized terms used herein and not defined shall have the meanings ascribed thereto in the Escrow Agreement.

1. From time to time prior to but not including on October 1, 2017, the Escrow Agent withdrew moneys from the Escrow Fund established under the Escrow Agreement and used such amounts in its capacity as Defeased Bonds Trustee to timely pay the accrued interest on the Defeased Convertible Capital Appreciation Bonds as the same became due and payable in accordance with the provisions of the Master Trust Indenture dated as of January 1, 1999, as amended and supplemented (the "Master Indenture"), including as amended and supplemented by the Sixth Supplemental Trust Indenture dated as of February 1, 2004, by and between the Authority and the Defeased Bonds Trustee.

2. On October 1, 2017, the Escrow Agent withdrew the sum of $[____________] from the Escrow Fund established under the Escrow Agreement and used such amount in its capacity as Defeased Bonds Trustee to pay the redemption price (i.e. 100% of the Accreted Value) of the Defeased Bonds called for redemption on such date, plus accrued but unpaid interest thereon, as described in the Escrow Agreement.

3. On October 1, 2016, October 1, 2017, October 1, 2018, October 1, 2019 and October 1, 2020, the Escrow Agent withdrew funds in sufficient amounts from the Escrow Fund established under the Escrow Agreement and used such amounts in its capacity

as Defeased Bonds Trustee to pay the Final Compounded Amount of the Defeased Capital Appreciation Bonds maturing on each such maturity date, as set forth in the Escrow Agreement.

4. [On the date hereof the Escrow Agent transferred $[___________] to the Authority, in immediately available funds, said amount being all the moneys remaining in the Escrow Fund].

5. [The Escrow Agent further certifies that there are no Unclaimed Moneys in the Escrow Fund and hence this is the final accounting with regard to Unclaimed Moneys.]

IN WITNESS WHEREOF, the undersigned has executed this Certificate of the Escrow Agent and Defeased Bonds Trustee this ____ day of October, 2020.

U.S. BANK NATIONAL ASSOCIATION, as Escrow Agent and as Defeased Bonds Trustee

By:_________________________________
Authorized Officer

# Exhibit F

**CONTINUING DISCLOSURE CERTIFICATE**

This Continuing Disclosure Certificate (this "**Certificate**") is executed and delivered, effective [DATE], by the Alameda Corridor Transportation Authority (the "**Authority**"); the City of Long Beach, acting by and through its Board of Harbor Commissioners ("**POLB**"); and the City of Los Angeles, acting by and through its Board of Harbor Commissioners ("**POLA**"), in connection with the issuance by the Authority of its Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A (the "**Series 2016A Bonds**") and its Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B (the "**Series 2016B Bonds**" and together with the Series 2016A Bonds, the "**Bonds**"). The Series 2016A Bonds were issued pursuant to the terms of a Master Trust Indenture dated as of January 1, 1999, by and between the Authority and U.S. Bank National Association (formerly, U.S. Bank Trust National Association), as trustee (the "**Trustee**"), as previously amended and supplemented (the "**Master Indenture**"), and as further amended and supplemented by that certain Tenth Supplemental Trust Indenture dated as of [May 1, 2016] by and between the Authority and the Trustee (the "**Tenth Supplemental Trust Indenture**"). The Series 2016B Bonds were issued pursuant to the terms of the Master Trust Indenture, as further amended and supplemented by that certain Eleventh Supplemental Trust Indenture dated as of [May 1, 2016] by and between the Authority and the Trustee (the "**Eleventh Supplemental Trust Indenture**", and together with the Tenth Supplemental Trust Indenture and the Master Indenture, the "**Indenture**").

The Authority, POLB and POLA hereby covenant as follows:

SECTION 1. Purpose of the Certificate. This Certificate is being executed and delivered by the Authority, POLB and POLA for the benefit of the Owners and Beneficial Owners (as defined below) of the Bonds and in order to assist the Underwriters (as defined below) in complying with the Rule (as defined below).

SECTION 2. Definitions. In addition to the definitions set forth in the Indenture and the Official Statement (as defined below), which apply to any capitalized terms used in this Certificate unless otherwise defined in this Section, the following capitalized terms shall have the following meanings:

"**1999 Bonds**" means the Authority's: (i) Alameda Corridor Transportation Authority Tax-Exempt Senior Lien Revenue Bonds, Series 1999A, (ii) Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Bonds, Series 1999B, (iii) Alameda Corridor Transportation Authority Taxable Senior Lien Revenue Bonds, Series 1999C, and (iv) Alameda Corridor Transportation Authority Taxable Subordinate Lien Revenue Bonds, Series 1999D.

"**2004 Bonds**" means the Authority's: (i) Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Bonds, Series 2004A, and (ii) Alameda Corridor Transportation Authority Taxable Subordinate Lien Revenue Bonds, Series 2004B.

"**Annual Report**" means the annual report filed by the Authority pursuant to, and as described in, Sections 3 and 4 of this Certificate.

"**Beneficial Owner**" means any person who (a) has the power, directly or indirectly, to vote or consent with respect to, or to dispose of ownership of, any Bonds (including persons holding Bonds through nominees, depositories or other intermediaries), or (b) is treated as the owner of any Bonds for federal income tax purposes.

"**Commission**" means the Securities and Exchange Commission, or any successor body thereto.

"**Dissemination Agent**" means any person appointed in writing by the Authority to act as the Authority's agent in complying with the filing requirements of the Rule. As of the date of this Certificate, the Authority has not appointed a Dissemination Agent.

"**EMMA**" means the Electronic Municipal Market Access system for municipal securities disclosure (http://emma.msrb.org) or any other dissemination agent or conduit required, designated or permitted by the Commission.

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

"**Filing Date**" has the meaning given to it in Section 3(a) of this Certificate.

"**Listed Events**" means any of the events listed in Section 5 of this Certificate.

"**MSRB**" means the Municipal Securities Rulemaking Board established in accordance with the provisions of Section 15B(b)(1) of the Exchange Act, or any other entity designated or authorized by the Commission to receive reports pursuant to the Rule.

"**Official Statement**" means the final official statement dated [TBD], of the Authority relating to the Bonds.

"**Rule**" means Rule 15c2-12(b)(5) adopted by the Commission under the Exchange Act, as the same may be amended from time to time.

"**Underwriters**" means the original underwriters of the Bonds required to comply with the Rule in connection with the offering of the Bonds on the effective date of this Certificate.

SECTION 3. Provision of Annual Reports.

(a) The Authority, on behalf of itself and POLB and POLA, shall, or shall cause the Dissemination Agent to, not later than April 1 (or June 1, with respect to POLB's obligations under this Certificate, on and after the date that the 1999 Bonds and the 2004 Bonds are no longer Outstanding) of each year in which any of the Bonds are outstanding (the "**Filing Date**"), commencing [TBD], with respect to the report for the fiscal year ending in [TBD], provide an Annual Report consistent with the requirements of Section 4 of this Certificate. Each Annual Report may be submitted as a single document or as separate documents comprising a package, and may include by reference other information as provided in Section 4 of this Certificate; provided that the audited financial statements of the Authority, POLB and POLA may be submitted separately from the balance of such Annual Report and later than the date required above for the filing of such Annual Report if they are not available by that date.

(b) Not later than 15 Business Days prior to the Filing Date, the Authority shall provide such Annual Report to the Dissemination Agent (if one has been appointed). If the Authority is unable to file such Annual Report with the MSRB through EMMA by the Filing Date, the Authority shall file a notice with the MSRB through EMMA in substantially the form of Exhibit A to this Certificate.

(c) POLB and POLA shall each provide to the Authority:

(1) Not later than March 1 (or May 1, with respect to POLB's obligations under this Certificate, on and after the date that the 1999 Bonds and the 2004 Bonds are no longer Outstanding) after the end of each of its respective fiscal years, commencing with the fiscal year ending in [TBD], the applicable information described in Section 4(b) and Section 4(c) of this Certificate.

(2) At any other time any information requested by the Authority with respect to other disclosure obligations.

(3) Prompt notice of any change in POLB's or POLA's, as applicable, fiscal year.

(4) Notice of each of the following, as applicable, in sufficient time for the Authority to meet its obligations under Section 5 of this Certificate: (i) any bankruptcy, insolvency, receivership or similar event of POLB or POLA, (ii) the consummation of any merger, consolidation or acquisition involving POLB or POLA, (iii) the sale of all or substantially all of the assets of POLB or POLA other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, and/or (iv) the appointment of a receiver, fiscal agent or similar officer for POLB or POLA in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of POLB or POLA, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision over substantially all of the assets or business of POLB or POLA.

(5) Prompt notice that the obligation of POLB or POLA, as the case may be, under this Certificate has been assumed in full by some other entity and evidence that such entity shall be responsible for compliance with this Certificate in the same manner as if it were POLB or POLA, as the case may be.

(d) If the Authority's fiscal year changes or the Authority receives notice from POLB or POLA that POLB's or POLA's fiscal year changed, the Authority shall give notice of such change in the same manner as for a Listed Event under Section 5 of this Certificate.

(e) The Dissemination Agent (if one has been appointed) shall (i) determine each year prior to the Filing Date and (ii) file a report with the Authority certifying that the Annual Report has been filed with the MSRB through EMMA pursuant to this Certificate, stating the date it was provided.

SECTION 4. <u>Content of Annual Reports</u>. The Annual Reports shall contain or include by reference the following [TBD]:

(a) Information Relating to the Authority.

(1) The audited financial statements of the Authority for the Fiscal Year most recently ended, prepared in accordance with generally accepted

accounting principles as promulgated to apply to governmental entities from time to time by the Governmental Accounting Standards Board. If the Authority's audited financial statements are not available by the Filing Date, the Annual Reports shall contain unaudited financial statements in a format similar to the financial statements contained in the final official statement relating to the Bonds, and the audited financial statements shall be filed in the same manner as the Annual Reports when they become available.

(2) To the extent not included in the audited financial statements of the Authority, the Annual Report shall contain or include by reference (i) for the most recently completed calendar year, as described in the Official Statement under the heading [TBD] "THE RAIL CORRIDOR AND RELATED PROJECTS - Maintenance and Operation of the Rail Corridor - M & O Charges," the Monthly Amount (as defined in the Official Statement) and the amount the Railroads (as defined in the Official Statement) paid for insurance premiums, and (ii) information for the most recently completed fiscal year or calendar year, as applicable, in form and substance substantially similar to the information in the following tables set forth in the Official Statement [TBD]:

(I) Table 1 – "Alameda Corridor Transportation Authority – Outstanding Senior Lien and First Subordinate Lien Bonds;"

(II) Table 4 – "Schedule of Use Fees;"

(III) Table 5 – "Use Fees and Container Charges;"

(IV) Table 6 – "Ports of Long Beach and Los Angeles and Authority Container Throughput" (providing only the Authority information for the most recently completed calendar year);

(V) Table 7 – "Ports of Long Beach and Los Angeles and Authority Container Throughput" (providing only the Authority information for the most recent completed Authority fiscal year);

(VI) Table 8 – "Alameda Corridor Transportation Authority – Container Charges and Use Fees;"

(VII) Table 9 – "Alameda Corridor Transportation Authority – Container Charge and Use Fee Revenue;"

(VIII) Table 10 – "Alameda Corridor Transportation Authority – Statements of Revenues, Expenses and Changes in Net Assets;"

(IX) Table 11 – "Historical Revenue Debt Service Coverage;" and

(X) Table 12 – "Historical Debt Service Coverage."

(b) Information Relating to POLB.

(1) The audited financial statements of POLB for the Fiscal Year most recently ended, prepared in accordance with generally accepted accounting principles as promulgated to apply to governmental entities from time to time by the Governmental Accounting Standards Board. If POLB's audited financial

statements are not available by the Filing Date, the Annual Reports shall contain unaudited financial statements in a format similar to the financial statements contained in the final official statement relating to the Bonds, and the audited financial statements shall be filed in the same manner as the Annual Reports when they become available.

(2) To the extent not included in the audited financial statements of POLB, the Annual Report shall contain or include by reference (i) the outstanding principal amount of POLB's Harbor Revenue Bonds [TBD] and (ii) information for the most recently completed fiscal year, calendar year or twelve month period, as applicable, in form and substance substantially similar to the information in the following tables set forth in the Official Statement [TBD]:

(I) Table C-1 – "Port of Long Beach Operating Revenues;"

(II) Table C-2 – "Port of Long Beach Leading Revenue Producers;"

(III) Table C-3 – "Port of Long Beach Revenue Tonnage Summary;"

(IV) Table C-5 – "Port of Long Beach Revenue Tonnage by Cargo Type;"

(V) Table C-8 – "Port of Long Beach Container Traffic" (providing only the information for the most recently completed calendar year);

(VI) Table C-9 – "Port of Long Beach Container Traffic" (providing only the information for the most recently completed twelve month period ended June 30); and

(VII) Table C-10 – "Port of Long Beach Comparative Summary Statements of Revenues and Expenses."

(c) Information Relating to POLA.

(1) The audited financial statements of POLA for the Fiscal Year most recently ended, prepared in accordance with generally accepted accounting principles as promulgated to apply to governmental entities from time to time by the Governmental Accounting Standards Board. If POLA's audited financial statements are not available by the Filing Date, the Annual Reports shall contain unaudited financial statements in a format similar to the financial statements contained in the final official statement relating to the Bonds, and the audited financial statements shall be filed in the same manner as the Annual Reports when they become available.

(2) To the extent not included in the audited financial statements of POLA, the Annual Report shall contain or include by reference (i) the outstanding principal amount of POLA's Parity Obligations (as defined in the Official Statement) [TBD] and (ii) information for the most recently completed fiscal year or calendar year, as applicable, in form and substance substantially similar to the information in the following tables set forth in the Official Statement [TBD]:

(I) Table B-1 – “Port of Los Angeles Major Permittees (Tenants);”

(II) Table B-2 – “Port of Los Angeles Summary of Revenues, Expenses and Net Assets;”

(III) Table B-3 – “Port of Los Angeles Revenue Tonnage by Cargo Type;”

(IV) Table B-4 – “Port of Los Angeles Container Traffic” (providing only the information for the most recently completed calendar year);

(V) Table B-5 – “Port of Los Angeles Container Traffic” (providing only the information for the most recently completed POLA fiscal year); and

(VI) Table B-6 – “Port of Los Angeles Shipping Revenue Breakdown.”

Any or all of the items listed above may be included by specific reference to other documents, including official statements or other disclosure documents of debt issues of the Authority, POLB, POLB or related public entities, which have been filed with the MSRB through EMMA or the Commission. If the document included by reference is a final official statement, it must be available on EMMA. The Authority shall clearly identify each such other document so included by reference. The contents, presentation and format of the Annual Reports may be modified from time to time as determined in the judgment of the Authority to conform to changes in accounting or disclosure principles or practices and legal requirements followed by or applicable to the Authority, POLB or POLA or to reflect changes in the business, structure, operations, legal form of the Authority, POLB or POLA or any mergers, consolidations, acquisitions or dispositions made by or affecting the Authority, POLB or POLA; provided that any such modifications shall comply with the requirements of the Rule.

SECTION 5. Reporting of Listed Events. The Authority shall file, in a timely manner, but not more than ten (10) business days after its occurrence, with the MSRB through EMMA, notice of the occurrence of any of the following events with respect to the Bonds:

(a) Principal and interest payment delinquencies;

(b) Non-payment related defaults, if material;

(c) Unscheduled draws on debt service reserves reflecting financial difficulties;

(d) Unscheduled draws on credit enhancements reflecting financial difficulties;

(e) Substitution of credit or liquidity providers, or their failure to perform;

(f) Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds, or other material events affecting the tax status of the Bonds;

(g) Modifications to rights of Bond Holders, if material;

(h) Bond calls, if material, and tender offers;

(i) Defeasances;

(j) Release, substitution or sale of property securing repayment of the Bonds, if material;

(k) Rating changes;

(l) Bankruptcy, insolvency, receivership or similar event of the Authority, POLB or POLA;

(m) The consummation of a merger, consolidation or acquisition involving the Authority, POLB or POLA or the sale of all or substantially all of the assets of the Authority, POLB or POLA, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; or

(n) Appointment of a successor or additional trustee or change of name of a trustee, if material.

Note to subsection (*l*) of this Section 5: For the purposes of the event described in subsection (*l*) of this Section 5, the event is considered to occur when any of the following occurs: the appointment of a receiver, fiscal agent or similar officer for the Authority, POLB or POLA in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Authority, POLB or POLA, as applicable, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision over substantially all of the assets or business of the Authority, POLB or POLA, as applicable.

SECTION 6. <u>Termination of Reporting Obligation</u>. The Authority's, POLB's and POLA's obligations under this Certificate shall terminate upon the defeasance, prior redemption or payment in full of all of the Bonds or when the Authority, POLB or POLA, as the case may be, is otherwise no longer an obligated person within the meaning of the Rule with respect to the Bonds. If the Authority's, POLB's or POLA's, as the case may be, obligations under this Certificate are assumed in full by some other entity, such person shall be responsible for compliance with this Certificate in the same manner as if it were the Authority, POLB or POLA, as the case may be, and the Authority, POLB or POLA, as the case may be, shall have no further responsibility under this Certificate. The Authority shall provide timely notice to the MSRB of the termination of the Authority's, POLB's or POLA's, as the case may be, obligations under this Certificate pursuant to an assumption of its or their obligations under this Certificate.

SECTION 7. <u>Dissemination Agent</u>. The Authority may**,** from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Certificate, and may discharge any such Dissemination Agent, with or without appointing a successor Dissemination Agent. The Dissemination Agent may resign by providing sixty (60) days written notice to the Authority. The Dissemination Agent shall not be responsible in any manner for the content of any notice or report prepared by the Authority pursuant to this Certificate.

SECTION 8. Amendment; Waiver. Notwithstanding any other provision of this Certificate, the Authority, POLB and POLA may amend this Certificate, and any provision of this Certificate may be waived, provided that the following conditions are satisfied:

(a) If the amendment or waiver relates to the provisions of Section 3(a), Section 4, or Section 5, it may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law or change in the identity, nature or status of an obligated person with respect to the Bonds, or the type of business conducted;

(b) The undertakings, as amended or taking into account such waiver, would, in the opinion of nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(c) The amendment or waiver either (i) is approved by the Owners of the Bonds in the same manner as provided in the Indenture for amendments to the Indenture with the consent of Owners of the Bonds, or (ii) does not, in the opinion of nationally recognized bond counsel, materially impair the interests of the Owners or Beneficial Owners of the Bonds.

In the event of any amendment or waiver of a provision of this Certificate, the Authority shall describe such amendment in its next Annual Report, and shall include, as applicable, a narrative explanation of the reason for the amendment or waiver and its impact on the type (or, in the case of a change of accounting principles, on the presentation) of financial information or operating data being presented by the Authority. In addition, if the amendment relates to the accounting principles to be followed in preparing financial statements, (i) notice of such change shall be given in the same manner as for a Listed Event under Section 5, and (ii) the Annual Report for the year in which the change is made shall present a comparison (in narrative form and also, if feasible, in quantitative form) between the financial statements as prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

SECTION 9. Additional Information. Nothing in this certificate shall be deemed to prevent the Authority, POLB or POLA from disseminating any other information, including the information then contained in the Authority's, POLB's or POLA's official statements or other disclosure documents relating to debt issuance, using the means of dissemination set forth in this Certificate or any other means of communication, or including any other information in any Annual Report notice of occurrence of a Listed Event, in addition to that which is required by this Certificate. If the Authority, POLB or POLA chooses to include any information in any Annual Report or notice of occurrence of Listed Event in addition to that which is specifically required by this Certificate, neither the Authority, POLB nor POLA shall have any obligation under this Certificate to update such information or include it in any future Annual Report or notice of a Listed Event.

SECTION 10. Documents Provided to the MSRB. All documents provided to the MSRB shall be in electronic format and accompanied by identifying information, all as prescribed by the MSRB. Notice of the Listed Events described in Section 5 need not be given under this Section any earlier than the notice of the underlying event is given to Holders of the Bonds pursuant to the Indenture.

SECTION 11. Default. In the event of a failure of the Authority, POLB or POLA to comply with any provision of this Certificate, any Owner or Beneficial Owner of the Bonds may take such actions as may be necessary and appropriate, including seeking mandamus or specific performance by court order, to cause the Authority, POLB or POLA, as the case may be, to comply with its obligations under this Certificate. A default under this Certificate shall not be deemed an Event of Default under the Indenture, and the sole and exclusive remedy under this Certificate in the event of any failure of the Authority, POLB or POLA to comply with this Certificate shall be an action to compel performance, and no person or entity shall be entitled to recover monetary damages under this Certificate.

SECTION 12. Duties, Immunities and Liabilities of the Dissemination Agent. The Dissemination Agent shall have only such duties as are specifically set forth in this Certificate, and the Authority agrees, to the extent permitted by law, to indemnify and save the Dissemination Agent, its officers, directors, employees and agents, harmless against any loss, expense and liabilities which it may incur arising out of or in the exercise or performance of its powers and duties hereunder, including the costs and expenses (including attorneys' fees) of defending against any claim of liability, but excluding liabilities due to the Dissemination Agent's negligence or willful misconduct. The obligations of the Authority under this Section shall survive resignation or removal of the Dissemination Agent and payment of the Bonds.

SECTION 13. Beneficiaries. This Certificate shall inure solely to the benefit of the Authority, POLB, POLA, the Dissemination Agent, the Underwriters, the Owners and Beneficial Owners from time to time of the Bonds, and shall create no rights in any other person or entity.

SECTION 14. Counterparts. This Certificate may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

SECTION 15. Governing Law. This Certificate shall be governed by the laws of the State of California and the federal securities laws.

IN WITNESS WHEREOF, the parties hereto, intending to be legally bound, have caused this Continuing Disclosure Certificate to be executed as of the date first above written.

ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY

By:________________________________________
John Doherty
Chief Executive Officer

ATTEST:
By: ______________________________________
Name: ____________________________________
Its: ______________________________________

The foregoing document is hereby approved as to form:
By: ________________________
Name: ______________________
Title: Co-General Counsel
Date: _______________________

CITY OF LONG BEACH, acting by and through its Board of Harbor Commissioners

By: ______________________________________
Name: ____________________________________
Its: ______________________________________

The foregoing document is hereby approved as to form:
By: ________________________
Name: ______________________
Title: _______________________
Date: _______________________

CITY OF LOS ANGELES, acting by and through its Board of Harbor Commissioners

By: ______________________________________
Name: ____________________________________
Its: ______________________________________

The foregoing document is hereby approved as to form:
By: ________________________
Name: ______________________
Title: _______________________
Date: _______________________

(SIGNATURE PAGE TO ACTA CONTINUING DISCLOSURE CERTIFICATE)

# EXHIBIT A

## FORM OF NOTICE OF FAILURE TO FILE ANNUAL REPORT

| | |
|---|---|
| Obligated Person: | Alameda Corridor Transportation Authority |
| Name of Issue: | Alameda Corridor Transportation Authority Tax-Exempt Subordinate Lien Revenue Refunding Bonds, Series 2016A<br>Alameda Corridor Transportation Authority Tax-Exempt Second Subordinate Lien Revenue Refunding Bonds, Series 2016B |
| Issuance Date: | [TBD] |

NOTICE IS HEREBY GIVEN that the ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY (the "**Authority**") has not provided an Annual Report with respect to the above named Bonds as required by Section 3 of the Continuing Disclosure Certificate dated as of [DATE], executed and delivered by the Authority; the City of Long Beach, acting by and though its Board of Harbor Commissioners; and the City of Los Angeles, acting by and through its Board of Harbor Commissioners. [The Authority anticipates that the Annual Report will be filed by ______________.]

Dated: _____________

ALAMEDA CORRIDOR TRANSPORTATION AUTHORITY

By: ________________________________
Title: ______________________________