



Port Planning and Investment Toolkit

Introduction & User's Guide



U.S. Department of Transportation

Maritime Administration



American Association
of Port Authorities

Alliance of the Ports of Canada, the Caribbean, Latin America and the United States



Preface

The American Association of Port Authorities (AAPA) and the U.S. Department of Transportation (USDOT), Maritime Administration (MARAD) signed a cooperative agreement to develop an easy-to-read, easy-to-understand, and easy-to-execute Port Planning and Investment Toolkit. The goal of the project is to provide U.S. ports with a common framework and examples of best practices when planning, evaluating and funding/financing freight transportation, facility and other port-related improvement projects.

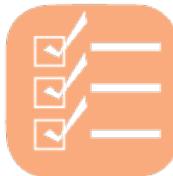
The analytical tools and guidance contained in this comprehensive resource are designed to aid ports in developing “investment-grade” project plans and obtain capital for their projects in a variety of ways, including: (1) improve the chances of getting port infrastructure projects into Metropolitan Planning Organization (MPO) and state transportation programs to qualify for formula funding; (2) better position port projects for federal aid; and (3) assist ports in obtaining private sector investment.

Since each port investment project is unique with its own set of strengths and obstacles, the material in this Toolkit is not intended to address specific requirements of any single project, user or port; it is a resource for a diverse group of users to become familiar with port planning, feasibility and financing and to highlight opportunities for engagement and coordination throughout the project definition process. This document is not a replacement of existing policies or consultation handbooks and does not constitute a standard, specification or regulation. The exhibits, processes, methods and techniques described herein may or may not comply with specific national, state, regional and local regulatory requirements.

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This Toolkit will be updated periodically as new regulations and policies are developed affecting port planning, feasibility and investment requirements related to the applicable laws discussed in the document. Additional information, updates, and resources of the Toolkit are available on the AAPA website at <http://www.aapa-ports.org/empowering/content.aspx?ItemNumber=21263> and the MARAD website at - <https://www.marad.dot.gov/ports/strongports/port-planning-and-investment-toolkit/>

For all other queries regarding the Port Planning and Investment Toolkit, please contact Jean Godwin, Executive Vice President and General Counsel, AAPA at 703-684-5700.



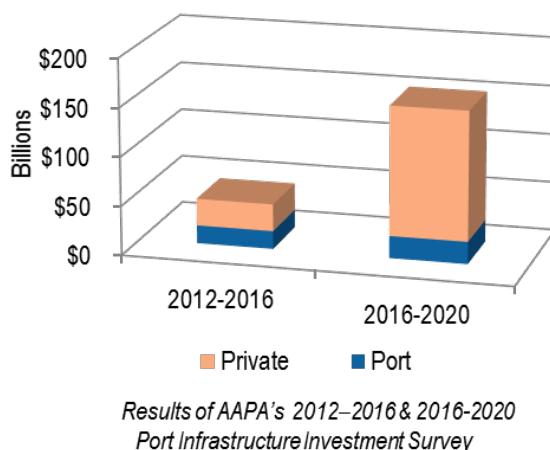
Introduction

The American Association of Port Authorities (AAPA) and the U.S. Department of Transportation (USDOT) through the Maritime Administration (MARAD) organized a team of port industry experts throughout the U.S. to develop this Port Planning and Investment Toolkit. The Toolkit provides port owners with information and practices to assist when planning and evaluating projects that require financing and/or funding from public, private or combined sources. It also outlines the steps and processes used by planning professionals and financiers, which may be new to some port professional staff and commissioners.

Purpose & Need

U.S. ports move billions of tons of goods today and need significantly more capacity to handle the peak cargo volumes projected in the future.

Project Port & Private Capital Expenditures on Port Infrastructure



This requires costly investments in port infrastructure and equipment. Because these rapidly growing capital needs cannot be fully met from traditional revenue sources, port owners have sought innovative methods to finance infrastructure investment by engaging with a new, larger cast of public and private partners. These partners must have access to in-depth planning, environmental assessment, outreach, feasibility and financial analysis outcomes before determining whether to provide funds for a port project under consideration.

Port owners have emphasized the need for a resource to guide them as they prepare plans, evaluate the feasibility and estimate the financial performance of their projects to attract public and private investment. Such a resource would assist them in reaching their goal of obtaining funding and financing for the implementation of critical development, expansion, repair and upgrade projects.

This Toolkit is intended to be useful for owners of ports of all sizes and within all markets by helping to outline the steps for successful project definition and implementation through articulating assumptions, clarifying ambiguities, quantifying details and identifying the important considerations to achieve project funding and/or financing. It is also intended to be useful for port professional staff with technical responsibilities to present their plans for a project and its associated benefits to executives and governing boards.



User's Guide

This User's Guide provides guidance and direction to Toolkit users when accessing the various resources in the Toolkit. The Toolkit is comprised of three modules that are aligned with the three primary stages involved in project definition: Planning, Feasibility and Financing. The Toolkit also contains multiple Appendices, a Resource Catalog, and a Port Concession Evaluation Model.

The **Planning Module** provides guidance to the Toolkit user when beginning to identify factors that must be addressed when planning a potential port project. This module provides clearly defined steps of the planning efforts needed to support a financeable project.

The **Feasibility Module** addresses the process of refining a project plan by considering all aspects of cost, risk, and reward. This module includes approaches for measuring and evaluating the benefits and costs of project alternatives created during the planning stage.

The **Financing Module** describes different approaches for evaluating project financing strategies and identifying ways to obtain grant funding and public/private financing. It includes examples of financing strategy solutions designed to address a variety of needs.

Appendices are included to provide usable resources related to each module:

- The **Glossary of Terms** defines the terminology that is used throughout the Toolkit, providing a common basis of communication.
- **Project Profiles** includes descriptions of how different real-world projects were approached, providing Toolkit users with examples that demonstrate best practices in port planning, feasibility analysis and financing.

- **Throughput Capacity** provides detail related to the variables and modeling approach that should be considered in assessing a port's practical capacity.
- **Forecasting Trade Demand** summarizes the challenges of developing a port-specific trade forecast and provides an example of the economic variables that should be considered.

The **Resource Catalog** is a searchable spreadsheet that contains references and links to applicable studies and reports, academic papers, trade publications and other pertinent material available on the subject of port planning and feasibility.

The **Port Concession Evaluation Model** is a sample financial model provided for illustrative purposes that can be used for considering high level **concession** evaluation elements. The objective of this sample model is to illustrate key elements of a financial feasibility and financing strategy analysis for a port terminal concession.

This User's Guide has been organized to help the Toolkit user quickly understand and gain access to the appropriate content of interest:

- I. **Context:** Key terms are defined to provide a context for understanding the Toolkit's intended audience and purpose.
- II. **Outline:** A general description of the structure and content is provided to assist the user with understanding the top level organization of the Toolkit modules.
- III. **Checklist:** Rapid guidance to accessing specific content in each Toolkit module is provided by using the checklist at the end of the user's guide. A series of statements related to port planning, feasibility and financing are provided along with the corresponding hyperlink and page number where each topic is addressed.



INTRODUCTION/USER'S GUIDE

I. Context

This Toolkit has been created to guide the definition of a project for which a port owner is seeking financing and/or funding. The term ***project financing*** as used in this Toolkit refers to the means by which debt and/or ***equity*** is acquired to pay for a project or portion thereof, requiring the project's cash flow or ***assets*** for repayment. ***Project funding***, in this Toolkit, refers to the means by which internal reserves, direct user charges/fees, or government investment are raised or obtained and used to pay for a ***project*** or portion thereof.

Because the range of potential users of this Toolkit is diverse, the term ***port owner*** throughout this Toolkit encompasses ***port authorities, terminal operators, private companies, and project sponsors*** that own and/or operate a port. A ***port*** is considered to be a single- or multiple-facility entity that facilitates the transfer of cargo and/or passengers between logically-linked ***transport modes*** (e.g., truck to barge to ocean-going vessel). A port may provide services at inland multimodal facilities as well as along navigable waterways.

Port developments may have multiple components that are linked together by a common objective; however, port owners seeking financing and/or funding should separate each independent component into individual projects to minimize the compounding of financial and permitting risks. Each project should have ***independent utility***, i.e., it is functional without the development or improvement of other separate assets. While the project may include sub-projects related to the phasing of project construction, these phases of the project would typically not have independent utility.

A project with independent utility will have an independent development timeline such that its unique benefits, costs and impacts can be clearly ascertained. Although additional benefits or costs of a project may result in the future due to synergies with other planned improvements at a port, the project should stand on its own merits in the event that the other projects never come to fruition. The cumulative impacts of other projects that have occurred or may occur in a project area should still be considered, particularly for environmental review.

Accordingly, the use of the term ***project*** throughout this Toolkit comprises the acquisition, development, expansion or renovation of a single site, facility, infrastructure element, or operational resource to meet an identified or emergent need. For example, the project could be a new distribution center as an outcome of a planning effort or procurement of gantry cranes as a result of an abrupt increase in vessel sizes calling at the port. A project endorsed by a port owner should enable the movement of freight through a port's coastal and/or inland assets.





In a given year, a port owner may undertake any one or several planning efforts (Exhibit I-1) that lead to potential port projects. **Comprehensive planning** outcomes typically include the identification of future port developments and potential projects. **Project-specific planning** efforts involve the definition of a project and culminate in a project plan in support of pursuing project financing and/or funding.

Although port planning efforts occur at different stages and at varying degrees of specificity ranging from strategic to tactical, they are often interconnected such that the decision cycles resulting from one planning effort can influence the outcomes of other efforts. In addition, any of the comprehensive planning efforts can provide input into the development of project plans, and project plans in turn can influence the identification of other potential projects.

For example, a strategy to increase refrigerated cargo business as an outcome of a port's Strategic Plan may cause higher local truck traffic and create a need for additional warehouse space and reefer plugs, impacting the Regional Goods Movement Plan and the port's Operations & Maintenance Plan and Capital Improvement Plan, among others. Similarly a Transportation Access Plan that identifies a need for an overpass at the Port impacts the port's Land Use Plan, Stormwater Plan, and Inter-Terminal Plan.

Comprehensive Planning: Identification of Potential Projects

Comprehensive planning efforts have been organized into three groups with associated ranges of focus:

- Direction (long to short term);
- Operation (external to internal focus); and
- Resource (regional to port focus) planning.

Exhibit I-1 Examples of Port Planning Efforts

COMPREHENSIVE				PROJECT-SPECIFIC	
Direction		Operation		Resource	Project
Long Term	Strategic Master Land Use Economic Development Business Marketing	External Focus	Sustainability Clean Air Action Risk Management Business Continuity Climate Change Stormwater Hazardous Material Inter-Terminal Operations & Maintenance	Regional Focus	Regional Integration Goods Movement Transportation Access Navigation/Dredging Capital Investment Capital Improvement Redevelopment Security Energy Asset Management
Short Term		Internal Focus		Port Focus	
	<u>Vision</u> Goals Objectives Strategies Actions Operational Needs Resource Needs Potential Projects		<u>Process Improvement</u> Program Priorities Efficiencies Operational Needs Resource Needs Potential Projects		<u>Project Plan</u> <u>Plan of Finance</u> Reasonable Project Alternatives Recommended Project Investment Strategy Financeable Project
Identification of Potential Projects				Project Definition	
Strategic/Conceptual			Tactical/Defined		



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Direction planning documents such as **master plans and land use plans** typically clarify and communicate a port's vision, goals and objectives. This type of comprehensive planning is critical for guiding a port owner's development and management of land, infrastructure and facilities over a period of 10 to 20+ years.

Similarly **strategic plans** typically outline a port's market position and direction, ensuring that resources are allocated to achieve the port owner's defined goals and objectives. Business and marketing plans present shorter-term actions to support a port's long-term plans. Port owners should undertake a *Direction* planning effort before beginning to define specific projects, with the exception of projects that emerge suddenly.

Port owners may also complete more detailed *Operation* planning efforts to sustain or improve the port's service and address impacts resulting from the port's operation.

Resource planning efforts focusing on enhancing regional and port-specific assets are most likely to generate potential projects, requiring capital investment and a project plan.

Fulfilling Federal Environmental Requirements

If there is a possibility that the potential project will be subject to Federal **action**, due to partial or full federal funding, impacts on federal lands or waterways, or a need for federal permits, then compliance with federal environmental regulations will be necessary. Federal regulations with particular relevance to ports include the Clean Air Act (CAA), Clean Water Act (CWA) and the National Environmental Policy Act (NEPA). For more information, refer to the Environmental Protection Agency's "**A Ports Primer for Communities - Office of Transportation and Air Quality**".

Environmental review requirements can be applicable to both comprehensive planning efforts and specific project planning efforts. For example, **NEPA** requires the identification and analysis of potential environmental effects of major proposed Federal actions and alternatives before those actions take place.

The principles or essential elements of NEPA decision making include:

- Assessment of environmental and socioeconomic impacts of a proposed action or project
- Analysis of a range of reasonable alternatives to the proposed project, based on the defined purpose and need for the project
- Interagency participation, coordination and consultation
- Public involvement including opportunities to participate and comment
- Consideration of appropriate impact reduction methods including avoidance, minimization and mitigation/compensation
- Documentation and disclosure

In advance of project-specific planning, port owners should determine what environmental studies or other information may be required, and what mitigation requirements are likely, in connection with federal environmental regulations. While the environmental review process can have implications for permitting and other Federal engagement, it is also an opportunity for a port owner to identify and communicate the ways in which a potential project will benefit the local and regional community. Project-level NEPA review and other environmental compliance requirements are discussed in more detail in the **Environmental Impacts** section 2.1.3.4 of the Feasibility Module.



These three groups of comprehensive planning efforts usually involve:

- Developing or refining a port's vision, goals and objectives
- Quantifying a port's needs, capabilities and the gap between
- Conducting outreach with the stakeholders, including the public and nearby community, as well as resource agencies (local, regional, state and federal)
- Identifying actions, developments or improvements that can fill the gap between needs and capabilities
- Considering possible social, economic and environmental impacts and requirements

All planning efforts should proactively consider compatibility with laws and regulations that may be applicable to a potential project. Early consultation with community organizations, the public, and local, regional, state and federal agencies will help inform the planning process going forward, expedite project developments when they come to fruition and help to secure stakeholder support.

Project-Specific Planning: Project Definition
Once a potential project is identified as a result of a comprehensive planning effort or to address an unexpected or emergent need, the planning focus shifts to defining the project. Project-specific planning should be completed to define the exact scope and impacts of a potential project before a port owner can convince local, state, federal and/or private partners to make monetary investments.

This Toolkit focuses on the efforts involved in defining a project and the development of a project plan in support of pursuing project financing and/or funding.



Efforts for defining a project include:

- Establishing project needs, capabilities, opportunities and constraints
- Conducting outreach with the stakeholders and resource agencies (community, local, regional, state and federal)
- Demonstrating project fitness, feasibility and cost
- Justifying project value, benefits and impacts
- Establishing the project's timeline
- Identifying needed funding and financing sources

Activities within the structure of the project-specific planning process are often similar to comprehensive planning efforts, such as quantifying needs and capabilities, stakeholder outreach and assessing impacts, differing primarily in scale and level of detail. Thus, port owners embarking upon comprehensive planning efforts will find value in the guidance provided in the Planning and Feasibility Modules of this Toolkit.



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II. Outline

The project definition process and formulation of a project plan are simultaneous processes that consist of a series of stages to establish that a “*potential project*” is feasible and to advance it to a “*financeable project*”. The Toolkit is structured to follow this natural progression of a project through the Planning, Feasibility and Financing Modules, as shown in Exhibit I-2.

Project definition takes place at the culmination of the “Identification” process whereby a port owner has already established the overall port vision and needs, quantified port gaps, and identified *potential projects* that fill those gaps.

During project-specific **planning** efforts, details of a *potential project* are quantified and project alternatives are formed. While certain project alternatives will be briefly considered and eliminated, the *reasonable project alternatives* will address the project goals and objectives, while giving consideration to social, economic, environmental and other impacts. Port owners should engage with external stakeholders, such as port users, nearby communities and regulatory agencies, to determine possible impacts of the project alternatives.

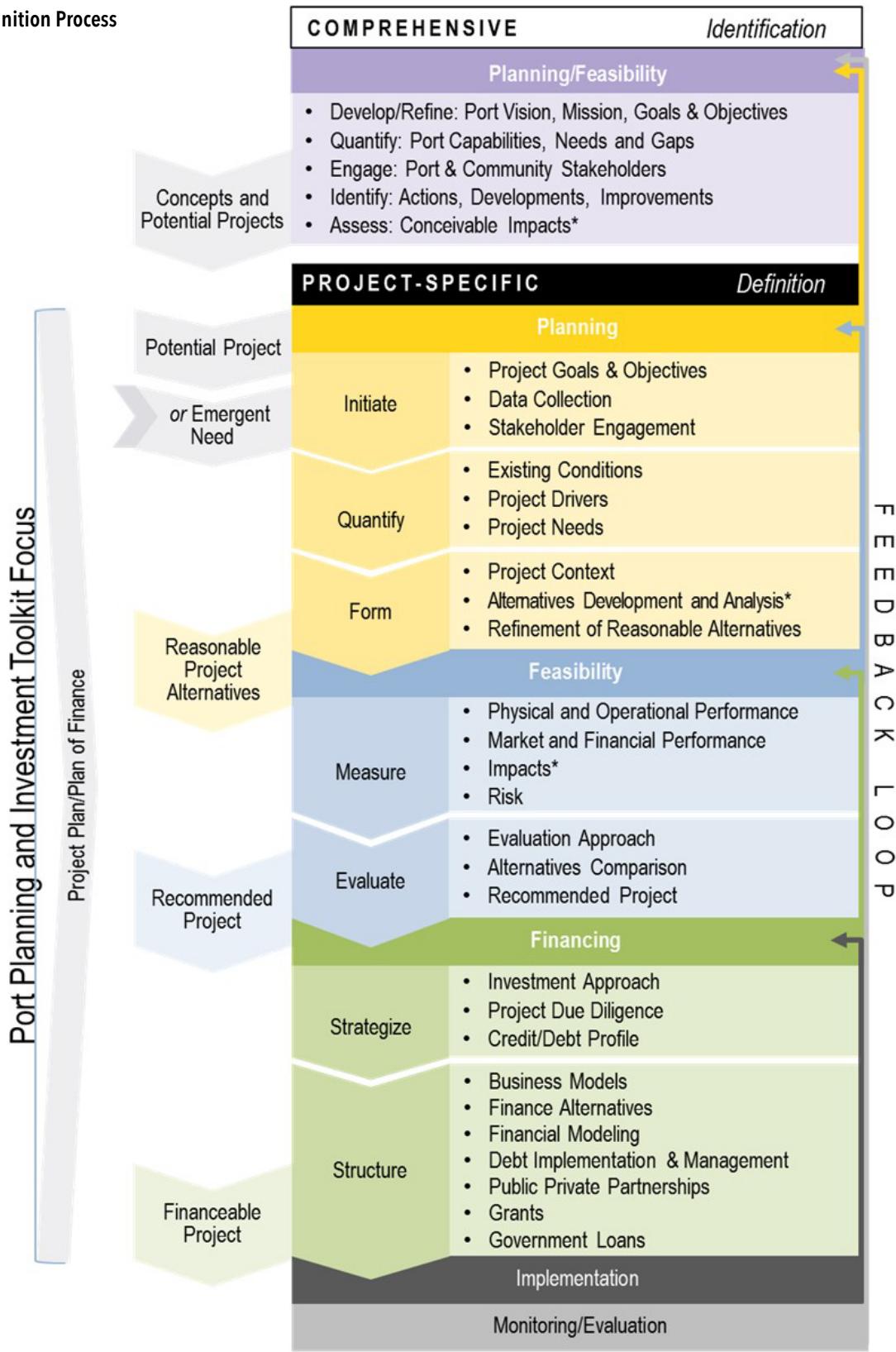
When conducting project **feasibility** activities, the reasonable project alternatives are subjected to systematic and comprehensive evaluation and the highest performing project alternative is selected and refined. From the resulting *recommended project*, project costs and a strategy for **financing** those costs can be identified. The *financeable project* can then be submitted for approval and financing to the appropriate entities. Once the necessary approvals and financing are in place, the *project plan* can be **implemented**. Plans are rarely implemented to perfection so regular **monitoring** and periodic **evaluation** should be carried out to identify shortcomings and to make enhancements.

Within and between each module or stage, project definition activities may loop back to previous efforts to continually improve the project planning, feasibility and financing strategy. The activities occurring at each stage can also be iterative and overlapping and might require reconsideration of previous conclusions if conditions change. For example, during the evaluation of a project’s feasibility, the cost of one component of the project may not return a high enough benefit and the project alternatives may need to be revisited and amended. Likewise, during the analysis of financing and funding strategies, the sequencing and timing of improvements may prohibit the highest financial performance. At that point the project alternatives should be revised, the feasibility reevaluated and ultimately the financing strategy reexamined.





Exhibit I-2 PPIT Focus: Project Definition Process



* Consideration of NEPA compliance for projects requiring Federal Action is of particular importance during these efforts.



INTRODUCTION/USER'S GUIDE

III. Check List

This checklist provides Toolkit users with a rapid resource for navigating to specific topics in each module and appendix that relate to specific planning efforts relevant to the development of a project plan. The structure of the check list is aligned with the titles of key sections in each Toolkit module including section descriptions to help the Toolkit user determine the topics that relate to their project and financing needs.

While the content in each module is intended to guide users in the development of a project plan, certain projects may not require in-depth analyses or an extensive effort at all project stages. Some port owners may find value in limited sections of a particular module, depending on port owner and project requirements. This checklist can be used as guidance by reviewing it in its entirety and selecting specific topics by checking the blank space on the left side. After all appropriate topics are selected, the user will have a handy guide to direct them to specific module sections by hyperlinks and starting page number.

Check Box	Project Definition Process Topic	Page #
Planning		
	Initiate - Defining project goals and objectives	1-2
	Initiate – Data collection relevant to the potential project	1-3
	Initiate – Stakeholder engagement to identify community and environmental needs or issues relevant to the potential project	1-3
	Quantify - Existing conditions of the port relevant to the potential project including: <ul style="list-style-type: none">• Assets• Operations• External Influences• Volumes/Trade Flows• Capacity	1-6 1-7 1-7 1-7 1-7
	Quantify - Project drivers including: <ul style="list-style-type: none">• Regulatory Environment• Market Dynamics• Competitive Position• Demand Forecast	1-9 1-10 1-12 1-13
	Quantify - Project needs by performing a gap analysis	1-15
	Form - Project context, opportunities and constraints	1-16
	Form - Initial project alternatives	1-17
	Form - Refined project alternatives by defining phasing, timing, details and costs	1-19
Feasibility		
	Measure – Physical and operational performance of each project alternative's: <ul style="list-style-type: none">• Capital Resources• Operating Resources• Capacity and Productivity	2-2 2-3 2-3
	Measure – Market and financial performance of each project alternative's: <ul style="list-style-type: none">• Revenue Forecast• Cash Flow Modeling• Capital Expenditures (CapEx)• Operating Expenses (OpEx)	2-4 2-5 2-5 2-7
	Measure - Impacts of each project alternative including: <ul style="list-style-type: none">• Institutional and Stakeholder• Social• Economic• Environmental	2-8 2-9 2-9 2-10
	Measure - Project alternatives' risks and mitigation/sharing strategies	2-11
	Evaluate - Project evaluation approach: <ul style="list-style-type: none">• Cash Flow Evaluation• Benefit Cost Analysis• Multi-Criteria Evaluation	2-12 2-14 2-15
	Evaluate - Reasonable alternatives comparison	2-18
	Evaluate - Recommended project identification and refinement	2-18



Check Box	Project Definition Process Topic	Page #
	Financing	
	Strategize - Approach for project investment	3-1
	Strategize - Performing project due diligence through: <ul style="list-style-type: none"> ● Financial Feasibility Screening ● Financial Risk Analysis ● Debt Considerations 	3-3 3-4 3-5
	Strategize - Identifying the port owner's credit/debt profile of: <ul style="list-style-type: none"> ● Project Credit Elements ● Port Credit Attributes ● Rating Agency Considerations ● Debt Profile 	3-6 3-7 3-9 3-11
	Structure - Business model influences on finance	3-13
	Structure - Considering finance alternatives through: <ul style="list-style-type: none"> ● Private Activity Bonds ● Commercial Bank Financing ● Project Finance Bonds ● Revenue Bonds 	3-15 3-15 3-16 3-19
	Structure - Financial modeling approach and process	3-19
	Structure - Managing and implementing debt including: <ul style="list-style-type: none"> ● Debt Capacity and Issuance for Projects ● Debt Refunding for Saving ● Debt Transactions ● Post-Issuance Compliance 	3-24 3-26 3-27 3-29
	Structure - Public-Private Partnership (P3)/Concession elements: <ul style="list-style-type: none"> ● Background and Rationale ● Analysis and Valuation ● Development of Transactions ● Business/Financial Terms ● Solicitation 	3-30 3-33 3-34 3-36 3-38
	Structure - Grant Funding	3-41
	Structure - Government Loans	3-46
	Appendices	
	A: Glossary of Terms	A-1
	B: Project Profiles	B-1
	C: Estimating Throughput Capacity Example	C-1
	D: Forecasting Trade Demand Example	D-1
	Resource Catalog	URL
	Port Concession Evaluation Model	URL



APPENDICES



APPENDIX A Glossary of Terms

Additional Bonds Test - The financial test, sometimes referred to as a "parity test," that must be satisfied under the bond contract securing outstanding revenue bonds or other types of bonds as a condition to issuing additional bonds. Typically, the test would require that historical revenues (plus, in some cases, future estimated revenues) exceed projected debt service requirements for both the outstanding issue and the proposed issue by a certain ratio.¹

Advance Refunding - For purposes of certain tax and securities laws and regulations, a refunding in which the refunded issue remains outstanding for a period of more than 90 days after the issuance of the refunding issue.¹

Alternative Minimum Tax (AMT) - Taxation based on an alternative method of calculating federal income tax under the Internal Revenue Code. Interest on certain private activity bonds is subject to the AMT.¹

Amortization - The process of paying the principal amount of an issue of securities by periodic payments either directly to bondholders or to a sinking fund for the benefit of bondholders.¹

Arbitrage Rebate - A payment made by an issuer to the federal government in connection with an issue of tax-exempt or other federally tax-advantaged bonds. The payment represents the amount, if any, of arbitrage earnings on bond proceeds and certain other related funds, except for earnings that are not required to be rebated under limited exemptions provided under the Internal Revenue Code. An issuer generally is required to calculate, once every five years during the life of its bonds, whether or not an arbitrage rebate payment must be made.¹

Asset - Any item of economic value, either physical in nature (such as land) or a right to ownership, expressed in cost or some other value, which an individual or entity owns.²

Asset-Backed Debt - Debt having hard asset security such as a crane lease or property mortgage, in addition to the security of pledged revenues.

Availability Payment - A means of compensating a private concessionaire for its responsibility to design, construct, operate, and/or maintain an infrastructure facility for a set period of time. These payments are made by a public project sponsor (a port authority, for example) based on particular project milestones or facility performance standards.²

Best and Final Offers (BAFO) - In government contracting, a vendor's response to a contracting officer's request that vendors submit their last and most attractive bids to secure a contract for a particular project. Best and final offers are submitted during the final round of negotiations.³

Bond Indenture - A contract between the issuer of municipal securities and a trustee for the benefit of the bondholders. The trustee administers the funds or property specified in the indenture in a fiduciary capacity on behalf of the bondholders. The indenture, which is generally part of the bond contract, establishes the rights, duties, responsibilities and remedies of the issuer and trustee and determines the exact nature of the security for the bonds. The trustee is generally empowered to enforce the terms of the indenture on behalf of the bondholders.¹

Call Date - The date on which bonds may be called for redemption as specified by the bond contract.¹



Capacity (Maximum Practical) - Throughput volume which, if exceeded, would cause a disproportionate increase in unit operating cost or business delay, within the context of a facility's land use, layout, and uncontrollable commercial drivers.

Capital Expenditure (CapEx) - Expenditure on capital items either at the commencement of the project or the cost of their renewal and replacement ("R&R") over the life of the project.

Capital Appreciation Bonds (CABs) - A municipal security on which the investment return on an initial principal amount is reinvested at a stated compounded rate until maturity. At maturity the investor receives a single payment (the "maturity value") representing both the initial principal amount and the total investment return. CABs typically are sold at a deeply discounted price with maturity values in multiples of \$5,000.¹

Capital Improvement Program (CIP) - A schedule, typically covering a period of less than ten years, which outlines expenditures for capital projects on an annual basis and corresponding funding sources.

Capital Structure - The mix of an issuer's or a project's short and long-term debt and equity, including the terms of such financing and repayment requirements.

Capitalized Interest - A portion of the proceeds of an issue that is set aside to pay interest on the securities for a specified period of time. Interest is commonly capitalized for the construction period of a revenue-producing project, and sometimes for a period thereafter, so that debt service expense does not begin until the project is expected to be operational and producing revenues.¹

Concession - An alternative method for a public sector entity to deliver a public-purpose project through long-term contracting with a private sector entity. A concession agreement typically covers the objectives of the asset concession, compensation, and duration of concession. A port

concession is a contractual agreement in which a port owner conveys specific operating rights of its facility to a private entity for a specified period of time.

Convertible Capital Appreciation Bonds (CCABs)

- CABs with a convertibility feature at a future date to CIBs. CCABs can be used to defer interest and principal payments, with conversion to Current Interest Bonds so that debt service requirements begin, thus reducing the cost of funds relative to traditional, non-convertible CABs.

Coupon - The periodic rate of interest, usually calculated as an annual rate payable on a security expressed as a percentage of the principal amount. The coupon rate, sometimes referred to as the "nominal interest rate," does not take into account any discount or premium in the purchase price of the security.¹

Covenants - Contractual obligations set forth in a bond contract. Covenants commonly made in connection with a bond issue may include covenants to charge fees sufficient to provide required pledged revenues (called a "rate covenant"); to maintain casualty insurance on the project; to complete, maintain and operate the project; not to sell or encumber the project; not to issue parity bonds or other indebtedness unless certain tests are met ("additional bonds" or "additional indebtedness" covenant); and not to take actions that would cause tax-exempt interest on the bonds to become taxable or otherwise become arbitrage bonds ("tax covenants").¹





APPENDICES



used in the context of an issue of bonds that includes both CABs and CIBs.¹

Current Refunding - A refunding transaction where the municipal securities being refunded will all mature or be redeemed within 90 days or less from the date of issuance of the refunding issue.¹

Debt Profile - A detailed description of an issuer's overall debt portfolio and credit profile that is updated as changes in capital structure occur. A debt profile typically includes all of the relevant information about an issuer's debt including but not limited to current ratings, debt service requirements, debt service coverage ratios and eligibility for refunding.

Debt Service Coverage Ratio - The ratio of available revenues available annually to pay debt service over the annual debt service requirement. This ratio is one indication of the availability of revenues for payment of debt service.¹

Debt Service Reserve - A fund in which funds are placed to be applied to pay debt service if pledged revenues are insufficient to satisfy the debt service requirements. The debt service reserve fund may be entirely funded with bond proceeds at the time of issuance, may be funded over time through the accumulation of pledged revenues, may be funded with a surety or other type of guaranty policy (described below), or may be funded only upon the occurrence of a specified event (e.g. upon failure

Credit Rating - An opinion by a rating agency of the creditworthiness of a bond.¹

Current Interest Bonds (CIBs) - A bond on which interest payments are made to the bondholders on a periodic basis. This term is most often

to comply with a covenant in the bond contract) (a "springing reserve"). Issuers may sometimes authorize the provision of a surety bond or letter of credit to satisfy the debt service reserve fund requirement in lieu of cash. If the debt service reserve fund is used in whole or part to pay debt service, the issuer usually is required to replenish the fund from the first available revenues, or in periodic repayments over a specified period of time.

Defeasance - Termination of certain of the rights and interests of the bondholders and of their lien on the pledged revenues or other security in accordance with the terms of the bond contract for an issue of securities. This is sometimes referred to as a "legal defeasance." Defeasance usually occurs in connection with the refunding of an outstanding issue after provision has been made for future payment of all obligations related to the outstanding bonds, sometimes from funds provided by the issuance of a new series of bonds. In some cases, particularly where the bond contract does not provide a procedure for termination of these rights, interests and lien other than through payment of all outstanding debt in full, funds deposited for future payment of the debt may make the pledged revenues available for other purposes without effecting a legal defeasance. This is sometimes referred to as an "economic defeasance" or "financial defeasance." If for some reason the funds deposited in an economic or financial defeasance prove insufficient to make future payment of the outstanding debt, the issuer would continue to be legally obligated to make payment on such debt from the pledged revenues.¹

Demand & Revenue Study - A professionally prepared forecast and report of the market demand for a port's cargo, and the ensuing revenue as a result of charging rates/fees for such cargo moving through a port. Demand & revenue data is used as input in developing plans of finance and evaluating investment opportunities.



Design-Build (DB) - A project delivery method that combines two, usually separate services into a single contract. With design-build procurements, owners execute a single, fixed- fee contract for both architectural/engineering services and construction. The design-build entity may be a single firm, a consortium, joint venture or other organization assembled for a particular project.⁴

Design-Build-Finance-Operate-Maintain (DBFOM) - A method of project delivery in which the responsibilities for designing, building, financing and operating are bundled together and transferred to private sector partners.⁴

Design-Build-Operate-Maintain (DBOM) - An integrated partnership that combines the design and construction responsibilities of design-build procurements with operations and maintenance. These project components are procured from the private sector in a single contract with financing secured by the public sector.⁴

Enabling Act – Legislation by which port authorities and other governmental agencies are created and granted powers to carry out certain actions. While enabling acts for port authorities vary widely; key aspects generally include establishment of the port entity; governance and procedures; powers such as ability to enter into contracts, construct projects, transact business, and enter into financing agreements; and reporting requirements.

Equity - A funding contribution to a project having an order of repayment occurring after debt holders in a flow of funds per the bond indenture securing such funding contribution.

Escrow - A fund established to hold funds pledged and to be used solely for a designated purpose, typically to pay debt service on an outstanding issue in an advance refunding.¹

Flow of Funds - The order and priority of handling, depositing and disbursing pledged revenues, as set forth in the bond contract. Generally, pledged revenues are deposited, as received, into a general

collection account or revenue fund established under the bond contract for disbursement into the other accounts established under the bond contract. Such other accounts generally provide for payment of the costs of debt service, debt service reserve deposits, operation and maintenance costs, renewal and replacement and other required amounts.¹

Forward Refunding - An agreement, usually between an issuer and the underwriter, whereby the issuer agrees to issue bonds on a specified future date and an underwriter agrees to purchase such bonds on such date. The proceeds of such bonds, when issued, will be used to refund the issuer's outstanding bonds. Typically, a forward refunding is used where the bonds to be refunded are not permitted to be advance refunded on a tax-exempt basis under the Internal Revenue Code. In such a case, the issuer agrees to issue, and the underwriter agrees to purchase, the new issue of bonds on a future date that would effect a current refunding.¹

Independent Utility - A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility. (72 FR 47, p. 11196).

Intelligent Transportation Systems (ITS) - An operational system of various technologies that, when combined and managed, improve the operating capabilities of the overall system.





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Interest Rate Swap - A specific derivative contract entered into by an issuer or obligor with a swap provider to exchange periodic interest payments.

Typically, one party agrees to make payments to the other based upon a fixed rate of interest in exchange for payments based upon a variable rate. The swap contract may provide that the issuer will pay to the swap counter-party a fixed rate of interest in exchange for the counter-party making variable payments equal to the amount payable on the variable rate debt.¹

Internal Rate of Return (IRR) - The discount rate often used in capital budgeting that makes the net present value of all cash flows from a particular project equal to zero. Generally speaking, the higher a project's internal rate of return, the more desirable it is to undertake the project.³

Investment-Grade - A security that, in the opinion of the rating agency, has a relatively low risk of default.¹ Alternatively, the level of comprehensiveness and market readiness for investment-grade security issuance in referring to a demand & revenue report or engineering report supporting such security issuance.

Letter of Credit - An irrevocable commitment, usually made by a commercial bank, to honor demands for

payment of a debt upon compliance with conditions and/or the occurrence of certain events specified under the terms of the letter of credit and any associated reimbursement agreement. A letter of credit is frequently used to provide credit and liquidity support for variable rate demand obligations and other types of securities. Bank letters of credit are sometimes used as additional sources of security for issues of municipal notes, commercial paper or bonds, with the bank issuing the

letter of credit committing to pay principal of and interest on the securities in the event that the issuer is unable to do so.¹

Liquidated Damages - Present in certain legal contracts, this provision allows for the payment of a specified sum should one of the parties be in breach of contract.³

Liquidity - In the context project finance, the build-up of cash reserve balances which are viewed favorably given the ability to use such reserves to cover debt service and other obligations under a bond indenture should expected project cash flows not materialize for any given period.

Long Range Transportation Plan (LRTP) - A document resulting from regional or statewide collaboration and consensus on a region or state's transportation system, and serving as the defining vision for the region's or state's transportation systems and services. In metropolitan areas, the plan indicates all of the transportation improvements scheduled for funding over the next 20 years. The plan must conform to regional air quality implementation plans and be financially constrained.^{2,4}

Major Project Financial Plan - Under U.S. Department of Transportation (USDOT) guidance, transportation projects are required to submit a Major Project Financial Plan if any of the following apply: 1) recipient of Federal financial assistance for a Title 23 project with a minimum cost of \$500 million, 2) identified by the USDOT Secretary as a major project and 3) applying for TIFIA assistance.

Master/Land-Use Plan - Port documents that guides a port's planning, development and management of land, infrastructure and facilities, with the goal of accommodating future growth and supporting the regional economy. These plans often include information on port owners' goals and policies; survey of existing conditions/facilities; stakeholder outreach activities; land use data; environmental considerations; analysis of future





demand, capacity, and capacity requirements; CIP; and operating and financial performance of the port.

Maximum Annual Debt Service - Maximum annual debt service refers to the amount of debt service for the year in which the greatest amount of debt service payments are required and is often used in calculating required reserves and in additional debt tests.¹

Negative Arbitrage - Investment of bond proceeds and other related funds at a rate below the bond yield.¹

Net Present Value (NPV) - The difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyze the profitability of an investment or project.³

Net Revenue - The amount of money available after subtracting from gross revenues such costs and expenses as may be provided for in the bond contract. The costs and expenses most often deducted are O&M expenses.¹

Off-Balance Sheet - Assets or liabilities that do not appear on a company's balance sheet but that are nonetheless effectively assets or liabilities of the company. Assets or liabilities designated off balance sheet are typically ones that a company is not the recognized legal owner of, or in the case of a liability, does not have direct legal responsibility for. Off-balance-sheet financing may be used when a business is close to its borrowing limit and wants to purchase something, as a method of lowering borrowing rates, or as a way of managing risk. This type of financing may also be used for funding projects, subsidiaries or other assets in which the business has a minority claim. An operating lease, used in off balance sheet financing, is a good example of a common off balance sheet item.³

Operating & Use Lease Agreement - A contract that allows for the use of an asset, but does not convey rights of ownership of the asset. An

operating lease is not capitalized; it is accounted for as a rental expense in what is known as "off balance sheet financing." For the lessor, the asset being leased is accounted for as an asset and is depreciated as such. Operating leases have tax incentives and do not result in assets or liabilities being recorded on the lessee's balance sheet, which can improve the lessee's financial ratios.³

Operating Expenditure (OpEx) - Expenditure on operating and routine maintenance costs.

Operations & Maintenance (O&M) - Refers to expenses incurred for operating and maintaining a project asset. O&M is a key input in determining project cash flows, often placed after gross revenues in the flow of funds of a bond indenture.

Payment Bond - Deposit or guaranty (usually 20 percent of the bid amount) submitted by a successful bidder as a surety that (upon contract completion) all sums owed by it to its employees, suppliers, subcontractors, and others creditors, will be paid on time and in full.⁵

Performance Bond - A written guaranty from a third party guarantor (usually a bank or an insurance company) submitted to a principal (client or customer) by a contractor on winning the bid. A performance bond ensures payment of a sum (not exceeding a stated maximum) of money in case the contractor fails in the full performance of the contract. Performance bonds usually cover 100 percent of the contract price and replace the bid bonds on award of the contract. Unlike a fidelity bond, a performance bond is not an insurance policy and (if cashed by the principal) the payment amount is recovered by the guarantor from the contractor.⁵





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otherwise provides wharf, dock, and other investments at ports.

Port Owner - Port authorities, terminal operators, private companies, and project sponsors that own and/or operate a port.

Price - The amount to be paid for a bond, usually expressed as a percentage of par value but also sometimes expressed as the yield that the purchaser will realize based on the dollar amount paid for the bond. The price of a municipal security moves inversely to the yield.¹

Private Activity Bonds (PABs) - A municipal security of which the proceeds are used by one or more private entities. A municipal security is considered a PAB if it meets two sets of conditions set out in Section 141 of the Internal Revenue Code. A municipal security is a PAB if, with certain exceptions, more than 10 percent of the proceeds of the issue are used for any private business use (the "private business use test") and the payment of the principal of or interest on more than 10 percent of the proceeds of such issue is secured by or payable from property used for a private business use (the "private security or payment test"). A municipal security also is a PAB if, with certain exceptions, the amount of proceeds of the issue used to make loans to non-governmental borrowers exceeds the lesser of 5 percent of the proceeds or \$5 million (the "private loan financing test"). Interest on private activity bonds is not excluded from gross income for federal income tax purposes unless the bonds fall within certain defined categories ("qualified bonds" or "qualified PABs"). Most categories of qualified PABs are subject to the AMT.¹

Port - A single- or multiple-facility entity that facilitates the transfer of cargo and/or passengers between logically-linked transport modes.

Port Authority - State or local government that owns, operates, or

Private Placement - A primary offering in which a placement agent sells a new issue of municipal securities on behalf of the issuer directly to investors on an agency basis rather than by purchasing the securities from the issuer and reselling them to investors. Investors purchasing privately placed securities often are required to agree to restrictions as to resale and are sometimes requested or required to provide a private placement letter to that effect. The term Private Placement is often used synonymously with the term "direct loan," which more specifically is a loan to a municipal issuer from a banking institution or another lender. Such obligations may constitute municipal securities.¹

Project - A port owner's acquisition, development, expansion or renovation of a single site, facility, infrastructure element, or operational resource to meet an identified or emergent need.

Project Financing - A non-recourse or limited recourse financial structure where project debt and equity used to finance the project are paid back from the cash flow generated by the project. While the loan structure relies primarily on the project's cash flow for repayment; the project's assets, rights and interests are held as secondary security or collateral.³

Project Funding - A financial structure where internal reserves, user charges and/or government investments are used to finance the project without a direct requirement for repayment.

Project Sponsor - The entity that provides financial resources to support the project.

Public-Private Partnership (P3) - A generic term for a wide variety of financial arrangements whereby governmental entities agree to transfer any risk of, or substantial management control over, a governmental asset to the private entity in the port sector this is typically in exchange for upfront or ongoing payments though those may only be sufficient to pay for the capital improvement.¹



Publicly Issued - The sale of bonds or other financial instruments by an organization to the public in order to raise funds for infrastructure expansion and investment (contrast with privately placed financial instruments including directly placed loans with a financial institution/lender).

Put Bond - A bond that allows the holder to force the issuer to repurchase the security at specified dates before maturity. The repurchase price is set at the time of issue, and is usually par value.³

Railroad Rehabilitation & Improvement

Financing (RRIF) - Under this program the Federal Railroad Administration Administrator is authorized to provide direct loans and loan guarantees up to \$35.0 billion to finance development of railroad infrastructure. Up to \$7.0 billion is reserved for projects benefiting freight railroads other than Class I carriers. The funding may be used to (a) acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops; (b) refinance outstanding debt incurred for the purposes listed above; and (c) develop or establish new intermodal or railroad facilities. Direct loans can fund up to 100% of a railroad project with repayment periods of up to 35 years and interest rates equal to the cost of borrowing to the government. Eligible borrowers include railroads, state and local governments, government-sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers who intend to construct a new rail connection.⁶

Rate Covenant - A covenant to charge fees sufficient to provide required pledged revenues.¹

Renewal & Replacement (R&R) - Funds to cover anticipated expenses for major repairs of the issuer's facilities or a project whose revenues are pledged to the bonds or for R&R of related equipment.¹

Return on Investment (ROI) – A performance measure used to evaluate the efficiency of an

investment or to compare the efficiency of a number of different investments. ROI measures the amount of return on an investment relative to the investment's cost. To calculate ROI, the benefit (or return) of an investment is divided by the cost of the investment, and the result is expressed as a percentage or a ratio.³

Request for Letters of Intent (RLOI) - Document used to solicit Letters of Intent, an interim agreement that summarizes the main points of a proposed deal, or confirms that a certain course of action is going to be taken. Normally, it does not constitute a definitive contract but signifies a genuine interest in reaching the final agreement subject to due diligence, additional information, or fulfillment of certain conditions. The language used in writing a letter of intent is of vital importance, and determines whether it is only an expression of intent or an enforceable undertaking.⁵

Request for Proposals (RFP) - Document used in sealed-bid procurement procedures through which a purchaser advises the potential suppliers of (1) statement and scope of work, (2) specifications, (3) schedules or timelines, (4) contract type, (5) data requirements, (6) terms and conditions, (7) description of goods and/or services to be procured, (8) general criteria used in evaluation procedure, (9) special contractual requirements, (10) technical goals, (11) instructions for preparation of technical, management, and/or cost proposals or in the case of P3s, a full P3 contract.

RFPs are publicly advertised and suppliers respond with a detailed proposal, not with only a price quotation. They provide for negotiations after sealed proposals are opened, and the award of contract may not necessarily go to the lowest bidder.⁵





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Request for Qualifications (RFQ) - Document used in a procurement process to solicit qualifications of professional providers of goods or services for a given project. The objective of the RFQ is to pre-qualify bidding teams based on well-defined criteria.

Security for Debt - The specific revenue sources or assets of an issuer or borrower that are pledged or available for payment of debt service on a series of bonds, as well as the covenants or other legal provisions protecting the bondholders.¹

Senior Lien Debt - Bonds having the priority claim against pledged revenues superior to the claim against such pledged revenues or security of other obligations.¹

Special Purpose Facility Bonds - Bonds issued by a governmental entity to finance facilities supporting private sector activity, and secured by payments of special purpose rent received by the port or the trustee pursuant to an agreement with lessee/concessionaire. Such bonds are issued by the governmental entity as the conduit issuer to achieve tax-exempt (or AMT) status on the bonds.

State Infrastructure Bank (SIB) - A state or multi-state revolving fund that provides loans, credit enhancement, and other forms of financial assistance to transportation infrastructure projects.²

State Transportation Improvement Program (STIP) - A short-term transportation planning document covering at least a three-year period and updated at least every two years. The STIP includes a priority list of projects to be carried out in each of the

three years. Projects included in the STIP must be consistent with the long-term transportation plan, must conform to regional air quality implementation plans, and must be financially constrained (achievable within existing or reasonably anticipated funding sources).²

Strategic Plan - Port document outlining a port's market positioning and strategic direction. Strategic plans may include, among other topics, a competitive assessment relative to other ports; trends in regional, national and global economies; cargo/passenger analysis; growth strategies; and capital investment recommendations.

Subordinate Lien Debt - Bonds that have a claim against pledged revenues or other security subordinate to the claim against such pledged revenues or security of other obligations.¹

Terminal Operator - A port authority or private company that operates a port facility and manages the movement of cargo and/or passengers.

Transport Modes - For each mode, there are several means of transport. They are: a. inland surface transportation (rail, road, and inland waterway); b. sea transport (coastal and ocean); c. air transportation; and d. pipelines.

Transportation Improvement Program (TIP) - A short-term transportation planning document, approved at the local level, covering at least a four-year period for projects within the boundaries of a Metropolitan Planning Organization (MPO). The TIP must be developed in cooperation with state and public transit providers and must be financially constrained. The TIP includes a list of capital and non-capital surface transportation projects, bicycle and pedestrian facilities and other transportation enhancements. The TIP should include all regionally significant projects receiving FHWA or FTA funds, or for which FHWA or FTA approval is required, in addition to non-federally funded projects that are consistent with the MPO's LRTP.



Transportation Infrastructure Finance and Innovation Act (TIFIA) - The Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA) authorized the USDOT to provide three forms of credit assistance - secured (direct) loans, loan guarantees and standby lines of credit - to surface transportation projects of national or regional significance. A specific goal of TIFIA is to leverage private co-investment. Because the program offers credit assistance, rather than grant funding, potential projects must be capable of generating revenue streams via user charges or have access to other dedicated funding sources. In general, a project's eligible costs must be reasonably anticipated to total at least \$50 million. Credit assistance is available to: projects eligible for assistance under title 23 or chapter 53 of title 49; international bridges and tunnels; intercity passenger bus or rail facilities and vehicles, including those owned by Amtrak; public freight rail projects; private freight rail projects that provide public benefit for highway users by way of direct highway-rail freight interchange (a refinement of the SAFETEA-LU eligibility criterion); intermodal freight transfer facilities; projects providing access to, or improving the service of, the freight rail projects and transfer facilities described above; and surface transportation infrastructure modifications necessary to facilitate direct intermodal interchange, transfer and access into and out of a port. The TIFIA credit assistance is limited to 49 percent of eligible project costs.⁴

Transportation Investment Generating Economic Recovery (TIGER) - USDOT TIGER discretionary grants are awarded on a competitive basis for capital investments in surface transportation projects that will have a significant impact on the nation, a metropolitan area or a region.

Value for Money (VfM) - A technique used to evaluate and quantify project risks. VfM "prices" risk by producing a discounted net present value amount that represents the aggregate impact of various sensitivities applied to the variable inputs of a project. An assessment of VfM for P3 procurements is a comparative concept, and as such most delivery agencies seek to use a "public sector comparator" approach to evaluating VfM.

Yield - The annual rate of return on an investment, based on the purchase price of the investment, its coupon rate and the length of time the investment is held. The yield of a municipal security moves inversely to the price.¹

Yield Restriction - A general requirement under the Internal Revenue Code that proceeds of tax-exempt bonds not be used to make investments at a higher yield than the yield on the bonds. The Internal Revenue Code provides certain exceptions, such as for investment of bond proceeds for reasonable temporary periods pending expenditure and investments held in "reasonably required" debt service reserve funds.¹

Note: Sources for the glossary include (1) www.msrb.org, (2) www.transportation-finance.org, (3) www.investopedia.com, (4) www.fhwa.dot.gov, (5) www.businessdictionary.com, and (6) www.fra.dot.gov.



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**American Association
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Alliance of the Ports of Canada, the Caribbean, Latin America and the United States