
Federal Environmental Compliance for Projects Utilizing Alternative Funding Models

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Prepared by:

Parsons Brinckerhoff
One Penn Plaza
New York, NY 10119

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List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials	DWQ.....	Division of Water Quality
ACHP	Advisory Council on Historic Preservation	EA.....	Environmental Assessment
AWI	Atlantic Wood Industries	EOC	Executive Oversight Committee
BCEPD	Broward County Environmental Protection Department	EPA	U.S. Environmental Protection Agency
BOO	Build-Own-Operate	EIS	Environmental Impact Statement
BOT.....	Build-Operate-Transfer	ERC	Elizabeth River Crossings, LLC
BRT.....	Bus Rapid Transit	FAA.....	Federal Aviation Administration
CAMA.....	Coastal Area Management Act	FDEP	Florida Department of Environmental Protection
CCD	City and County of Denver	FEIS	Final Environmental Impact Statement
CCSF.....	City and County of San Francisco	FHWA	Federal Highway Administration
CDC	Corridor Design Consultant	FDOT	Florida Department of Transportation
CDOT	Colorado Department of Transportation	FONSI.....	Finding of No Significant Impact
CDPHE.....	Colorado Department of Public Health and Environment	FRA	Federal Railroad Administration
CE.....	Categorical Exclusion	FTA.....	Federal Transit Administration
CEI.....	Construction Engineering and Inspection	FTE.....	Florida’s Turnpike Enterprise
CEQ	Council on Environmental Quality	HOV	High Occupancy Vehicles
CFR	Code of Federal Regulations	LOI	Letter of Intent
CMR.....	Construction Manager at Risk	LPA.....	Locally Preferred Alternative
DBF	Design-build Finance	MAP-21	Moving Ahead for Progress in the 21st Century Act
DBFOM	Design-Build-Finance-Operate-Maintain	MARAD	Maritime Administration
DBOM	Design-Build-Operate-Maintain	MAT	Miami Access Tunnel LLC
DCM	Division of Coastal Management	MBTA.....	Massachusetts Bay Transportation Authority
DEIS	Draft Environmental Impact Statement	MCS.....	Miami Central Station
DERM.....	Department of Environmental Resource Management	MDX.....	Miami Dade Expressway Authority
DFW	Dallas-Fort Worth	MIA	Miami International Airport
DMF	Division of Marine Fisheries	MIC.....	Miami Intermodal Center
DOT	Department of Transportation	MIS.....	Major Investment Study
DRI	Development of Regional Impact	MSACs.....	Mobile Source Air Toxics
DRCOG.....	Denver Regional Council of Governments	MTC	Metropolitan Transportation Commission
DUSPA.....	Denver Union Station Project Authority	MTP.....	Metropolitan Transportation Plan
		NCDENR.....	North Carolina Department of Environment and Natural Resources
		NCTA.....	North Carolina Turnpike Authority
		NEC.....	Northeast Corridor

NEPA	National Environmental Policy Act	SFBATTA	San Francisco Bay Area Transportation Terminal Authority
NFPA	National Fire Protection Association	SFMTA.....	San Francisco Municipal Transportation Agency
NMSF.....	National Marine Fisheries Service	SFWMD	South Florida Water Management District
NOI.....	Notice of Intent	SOV.....	Single Occupancy Vehicles
NPDES.....	National Pollutant Discharge Elimination System	TBM.....	Tunnel Boring Machine
NTE	North Tarrant Express	TBJPA	Transbay Joint Powers Authority
NTEMP3	NTE Mobility Partners Segments 3	TCAPP	Transportation for Communities – Advancing Projects through Partnerships
OCII.....	Office of Community Investment and Infrastructure (of San Francisco)	TCEQ	Texas Commission on Environmental Quality
P3.....	Public-Private Partnership	TEA-21	Transportation Equity Act for the 21st Century
PCJPB	Peninsula Corridor Joint Powers Board	TEAC.....	Turnpike Environmental Agency Coordination
PD&E	Preliminary Engineering and Design	THC.....	Texas Historical Commission
POMT	Port of Miami Tunnel	TIF.....	Tax Increment Financing
PDA.....	Predevelopment Agreement	TIFIA.....	Transportation Infrastructure Finance and Innovation Act
PPTA	Public-Private Transportation Act (of Virginia)	TPWD.....	Texas Parks & Wildlife Department
RCC.....	Rental Car Center	TTC.....	Texas Transportation Commission
RFP.....	Request for Proposal	TxDOT.....	Texas Department of Transportation
RFQ.....	Request for Qualifications	USAC.....	Union Station Advisory Council
RIAC.....	Rhode Island Airport Corporation	USACE.....	U.S. Army Corps of Engineers
RIDEM.....	Rhode Island Department of Environmental Management	USCG	U.S. Coast Guard
RIDOT.....	Rhode Island Department of Transportation	USFWS.....	U.S. Fish and Wildlife Service
RIEDC.....	Rhode Island Economic Development Corporation	USNC.....	Union Station Neighborhood Company
RIHPHC.....	Rhode Island Historical Preservation and Heritage Commission	VDOT	Virginia Department of Transportation
RIPDES.....	Rhode Island Pollutant Discharge Elimination System	VE / DR.....	Value Engineering/Design Review
RIPTA	Rhode Island Public Transit Authority	VMRC	Virginia Marine Resources Commission
ROD.....	Record of Decision		
RTC	Regional Transportation District		
SAFETEA-LU....	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users		
SAV.....	Submerged Aquatic Vegetation		

1 Introduction

1.1 Project Summary and Research Objectives

The purpose of NCHRP 25-25, Task 81 is to conduct a review of federal environmental and regulatory processes and outcomes for projects funded through public-private partnerships (e.g., highway, bridge, and tunnel concessions, as well as other types of operating arrangements) and other alternative funding mechanisms (e.g., joint development agreements). This project-level review is summarized in a compendium of project templates that structure the research findings in a consistent and comparable format providing insight into the role of the private sector in the environmental and regulatory processes and how it may affect the state/federal role. The templates are designed to reveal:

- Specific factors that determine the roles the public and private sectors play
- Outcomes from the role the private sector plays in the public process
- Trends or a lack thereof, as projects are generally unique
- Best practices or lessons learned applicable to the environmental and regulatory clearance of future projects

While the primary purpose of the research conducted for NCHRP 25-25, Task 81 is to prepare a series of templates demonstrating different models for gaining environmental clearance for projects utilizing alternative funding approaches, the project oversight panel directed the research team to investigate the following issues:

- What is different with the environmental review and compliance processes when the private sector is involved on a joint development or P3 basis?
- What factors should project sponsors consider during the environmental review or compliance phases of project development in order for these types of projects to succeed?
- How are environmental commitments tracked and enforced with design-build contracts? Who is tracking them and confirming follow through?

1.2 Projects Studied

The intent of the research was to investigate a wide cross section of transportation projects that utilize alternative funding strategies. Interviews and profiles were prepared for ten (10) projects. As the research team began the selection of the projects to be investigated, it was cognizant of the fact that projects utilizing alternative funding models have three key distinguishing characteristics:

- Mode
- Funding Source
- Procurement Method

1. Introduction

In order to identify a wide cross section of P3 projects it would be necessary to identify projects of different modes using a variety of funding models and procurement methods. Two approaches could have been followed in identifying the survey projects:

- Selecting 10 disparate projects that use different funding and procurement strategies across different modes to develop templates that are illustrative of the different approaches and their interface with the National Environmental Policy Act (NEPA) process
- Selecting distinct groups of projects that share common attributes and developing templates that enable the comparison of the interface of these project sets with the NEPA process

The research team and project oversight panel members agreed on completing case studies for a set of multimodal transit and complementary real estate development projects and a group of roadway P3 concession projects. This approach enabled the research team to prepare templates that array the funding and procurement methods these two groups of alternative funding projects have used together with information on the private involvement with the NEPA process. This strategy has enabled the research team to present templates showing the many different ways in which projects using alternative funding models are implemented and achieve NEPA compliance. At the same time it facilitated the comparison of these two groups of projects and enabled the research team to draw conclusions on trends and strategies on gaining environmental compliance for projects utilizing alternative funding models.

The research team relied on its extensive knowledge of current P3 and complementary real estate development projects around the country to select the case study projects. The case study projects are identified in the following section and in Table 1. Together they demonstrate the various ways in which public sector project sponsors and private development partners can collaborate in implementing transportation and complementary real estate development projects.

1.2.1 Highway / Bridge / Tunnel P3 Concession Projects

With highway, bridge and tunnel P3 concession projects, private investors design, build, finance, and operate the improvements for a specified period of time in exchange for the right to collect the revenue the facilities generate. Revenues may be in the form of tolls or availability payments. These projects may include the construction of new facilities or the widening, modernization, or replacement of existing facilities. The case studies prepared through NCHRP 25-25, Task 81 include the following six roadway projects:

- I-595 Express Corridor Improvements Project
- Port of Miami Tunnel
- Mid-Currituck Bridge
- North Tarrant Express Phase II (I-35W)
- South Norfolk Jordan Bridge¹
- Downtown Tunnel/Midtown Tunnel/MLK Extension

¹ Not a P3 concession; private ownership and operation in perpetuity

These projects include two toll bridges, two highway widening projects adding priced managed lane capacity, and two tunnel improvement projects, one of which is tolled and one which is not. The revenue source for two of the highway concession projects is availability payments, while the remaining four are funded by toll revenues. Three of the highway P3 projects have involved pre-development agreements, whereby the public sponsor retained the services of the private partner prior to the finalization of project definition and gaining NEPA clearance. Under this model, the private partner is compensated for its contributions to project definition and has the right of first refusal to implement the project once it clears NEPA. Two of the highway P3 projects were procured on a design-build-finance-operate-maintain (DBFOM) basis following the conclusion of NEPA. The sixth project is being implemented as a privately-owned facility that will be owned and operated in perpetuity by the private developer. It was initiated after the city owning the facility received an unsolicited offer from the private developer. The highway P3 projects studied in this report have include facilities cleared with all levels of NEPA approvals—categorical exclusions (CEs), findings of no significant impact (FONSI), and records of decision (RODs)—and they range in cost from \$142 million to nearly \$2.1 billion. The Federal Highway Administration (FHWA) has served as the lead federal agency for five of the highway P3 projects, and the U.S. Coast Guard served in that capacity on the sixth project. Four of the highway P3 projects are in construction, one is operating, and one is delayed in NEPA.

1.2.2 Multimodal Transit Terminal / Complementary Real Estate Development Projects

The four projects involving complementary real estate development studied in NCHRP 25-25, Task 81 are all multimodal terminal projects serving transit users. Two of these are large city center transit terminals and two are located at airports and provide access to rail transit and consolidated rental car facilities. Each of the multimodal transit terminal projects also involve larger real estate developments adding new office, commercial, and in some cases residential space in close proximity to the stations. The case studies include the following four multimodal transit terminal projects:

- Miami Intermodal Center (MIC)
- Interlink (formerly Warwick Intermodal Station)
- Denver Union Station
- Transbay Transit Center

Three of the multimodal transit projects have cleared NEPA with RODs and the fourth was cleared with a FONSI. The Federal Transit Administration (FTA) and FHWA each acted as the lead federal agency on two of the multimodal transit projects. Because of an injection of new funding on one project, a subsequent EIS and ROD was required with the Federal Railroad Administration serving as the lead federal agency. Two of the multimodal projects are operating, and the other two are under construction. Complementary private sector real estate development has begun on two projects currently in construction but has not yet been initiated on two projects that are already operational. In one case, a project sponsor retained a master developer that was unsuccessful in attracting development. That relationship was terminated, and the project sponsor is developing a new master plan. The multimodal transit projects vary greatly in cost, ranging

from \$267 million to \$4.185 billion. With three of the multimodal projects, private involvement in complementary real estate development was initiated after the completion of NEPA. On the fourth the project sponsor retained a private partner after the DEIS was released and used the NEPA process to assess input from the private sector regarding a preferred local alternative identified in the FEIS.

1.3 Organization of the Final Report

The final report is presented in four chapters. This introductory chapter lays out the objectives of the research and identifies the ten case study projects for which profile templates have been prepared. The second chapter provides contextual information on revenue sources and project delivery options used on P3 projects, together with information on the NEPA process itself. The material contained in Chapter 2 is background information that readers should be aware of in order to understand the research conducted for NCHRP 25-25, Task 81. Chapter 3 of this report contains the project profiles for both the highway, bridge and tunnel P3 concession projects and the multimodal transit terminal projects. Chapter 3 begins with an overview of the research process through which the profiles were prepared, together with a discussion of the structure of the profiles themselves. The 10 profiles follow and range in length from five to eight pages.

Chapter 4 synthesizes the findings of the research and reviews NEPA compliance for both sets of P3 projects, examining for trends and lessons learned for projects with early private involvement and those with post-NEPA private involvement. Much of this analysis centers on a matrix that builds off of the basic descriptive information contained in Table 1-1 and the knowledge gained from the case study investigations. The matrix uses simple symbols to identify when in the NEPA process private involvement occurred and what the influence of that involvement was on the outcome of NEPA. It facilitates the comparison of the ten case study projects and condenses the lengthy information provided in the case studies into an easily understood format. After thoroughly vetting the information provided in the matrix and comparing NEPA outcomes for private involvement with highway P3 concessions to those for multimodal transit terminals, Chapter 4 concludes with lessons learned on incorporating private involvement into the NEPA process. A glossary of key technical terms is available following Chapter 4.

Table 1-1: Essential Case Study Project Information

Project	State – Region	Type	Project Cost (\$m)	NEPA Class of Action	Lead Federal Agency
Highway / Bridge / Tunnel P3 Concession					
I-595 Express Corridor Improvements Project	FL – Fort Lauderdale	Three reversible HOT lanes	\$1,830	CE	June 2006 FHWA
Port of Miami Tunnel	FL – Miami	Subaqueous tunnel	\$1,300	FONSI	Nov. 2000 FHWA
Mid-Currituck Bridge	NC – Northeast	New toll bridge	\$595	ROD	Delayed FHWA
North Tarrant Express Phase II	TX – Fort Worth	New priced managed lanes	\$1,644	FONSI FONSI	Mar. 2012 (Seg. 3B) Aug. 2012 (Seg. 3A) FHWA
South Norfolk Jordan Bridge*	VA – Chesapeake	New high-level bridge	\$142	FONSI	May 2009 USCG
Downtown Tunnel/Midtown Tunnel/MLK Extension	VA – Hampton Roads	New tolled tunnel and related improvements	\$2,089	ROD	Mar. 2011 FHWA
Multimodal Transit Terminal					
Transbay Transit Center	CA – San Francisco	Intermodal terminal	\$4,185	ROD ROD	Feb. 2005 Aug. 2010 FTA FRA
Denver Union Station	CO – Denver	Intermodal terminal	\$488	ROD	Oct. 2008 FTA
Miami Intermodal Center	FL – Miami	Intermodal terminal	\$2,023	ROD	May 1998 FHWA
Interlink	RI – Providence	Intermodal terminal	\$267	FONSI	July 1999 FHWA

* Not a P3 concession; private ownership and operation in perpetuity.

2 Contextual Understanding

The projects assessed in NCHRP 25-25, Task 81 includes traditional P3 highway projects involving standalone financings leveraging project revenues, and large transit projects partially funded by different value capture techniques. Both the highway and transit components of these projects are required to be assessed under NEPA. While the multimodal transit projects included in the research benefit from value capture techniques, they also include separate but complementary private real estate development, which is funded by private investors and approved through local regulatory processes. The multimodal transit center projects are likely to involve separate procurements for the transit center proper and the surrounding private real estate developments. While NEPA may not apply directly to these local processes, the development activities involved may have to be addressed as elements of the project, or as indirect or cumulative impacts.

This chapter of the Final Report provides helpful contextual information that readers should be familiar with in order to understand the different issues explored in the subsequent case study investigations. Given the research effort's focus on NEPA compliance for projects using alternative funding models, it is important to define what those different models are. In addition, with the anticipated target audience for NCHRP 25-25, Task 81 comprised largely of environmental professionals with limited experience with projects utilizing alternative funding models, it is also helpful to identify the different procurement techniques models used to deliver them. In addition, for all readers it is helpful to have a basic understanding of the legal context governing NEPA and its interface with P3 projects. Discussions of these different topics follow. Lastly, the chapter also discusses the local regulatory processes that are normally used to vet and approve private real estate developments that are often proposed in tandem with major transit improvements. Key terms used throughout this chapter are also defined in the glossary that concludes this report.

2.1 Alternative Funding Models

Alternative funding models for transportation improvements can be divided into two large categories: **alternative revenue source** and **value capture techniques**. Broadly speaking, alternative revenue sources are more often used with highway improvements, while value capture techniques tend to be used with transit and multimodal terminal projects. Both of these funding models may also be used with the different procurement models described in section 2.2. There are several individual mechanisms that may be used in each of the two funding categories. They are identified below.

2.1.1 Alternative Revenue Sources

Road pricing and **availability payments** are two alternative revenue sources used to provide funding for transportation improvements:

2. Contextual Understanding

- **Road pricing** is the most common alternative revenue source for highway improvements. Road pricing involves charging fees (tolls) for the use of a roadway facility. The revenue generated may be used to pay for highway operations and maintenance or as the primary source of repayment for long-term debt used to finance a toll facility itself. Road pricing may be used on projects implemented by public sector agencies or on concession projects implemented by private partners on behalf of public sponsors.

There are two forms of road pricing:

- **Tolling** involves the imposition of a per-use fee on motorists to utilize a highway. Historically, these fees have involved fixed, distance-based tolls that vary by vehicle type. The primary purpose of tolling is to generate revenue. Toll revenues are usually leveraged to raise upfront capital funding needed to pay for new highway improvements.
- **Pricing** involves the imposition of variably priced tolls that vary by level of vehicle demand on a highway facility. Pricing is designed to manage demand by charging higher fees during periods of high demand and lower fees during off-peak periods. Pricing may vary according to a fixed schedule based on historic trends or in real time based on actual conditions in the priced corridor. While pricing generates revenue, it is also used to manage congestion.
- **Availability payments** are a means of compensating a private concessionaire for its responsibility to design, construct, operate, and/or maintain a tolled or non-tolled roadway for a set period of time. These payments are made by a public project sponsor based on project milestones or facility performance standards. Project milestones can refer to the completion of the facility itself by a certain deadline, while performance standards can be measured operationally, tracking metrics such as lane closures for maintenance purposes, incident management, or snow removal. Level-of-service performance could also be used as the primary payment metric for availability payment concessions involving the implementation of managed lanes.

Availability payments are often used for toll facilities that are not expected to generate adequate revenues to pay for their own construction and operation. In this case the project sponsor retains the underlying revenue risk associated with the toll facility rather than the private partner. They may also be used on transit projects.

The advantage of availability payments for the public sector is that they spread public investment in the project over the life of the private concession, rather than compressing it in one or a few fiscal cycles, as would be the case for “normally” funded projects. In addition, the public sector uses the availability payments to ensure that the facility is properly built, operated, and maintained.

2.1.2 Value Capture

Value capture strategies harness increases in property values from economic development surrounding transportation improvements to help fund further investments in public transit infrastructure. Each strategy typically involves either a private sector contribution through an

assessment or fee or a public sector contribution drawn from increased property tax revenue. Both private and public sector entities benefit financially from these increases in value; private parties through increased land values and rents, and public-sector agencies through increased revenue from property or other taxes. However, value capture mechanisms work only if demand for proximity to the transportation improvement exists and is reflected in real estate values. Although there are a small number of highway improvements that have used value capture techniques, value capture is most commonly used with transit improvements.

Value capture mechanisms fall into two broad categories: 1) those that produce large lump-sum payments at one point in time; and 2) those that result in an ongoing stream of revenue. In the case of one-time funding sources, developers often make a single lump-sum payment that is meant to capture the total expected value from the transportation improvement as capitalized into the parcel of land they are using. In the case of ongoing funding sources, payments are incremental, and naturally self-correct over time as the capitalized market value of the transit system is revealed.

- **One Time Value Capture Options** – One-time funding sources are value capture mechanisms that require a single lump-sum payment by property owners, developers, and/or commercial interests in the vicinity of a transit system station. The advantage of these value capture mechanisms is that they can generate a lot of revenue quickly, and have the potential to contribute substantially to the capital cost of the transit project. The disadvantage is that once this money is spent; there is no ongoing source of land value-based revenue to subsidize the operation and maintenance of the system. One-time value capture options include:
 - **Joint development:** the spatially coincidental development of a transit facility and adjacent private real estate development, where a private sector partner either provides the facility or makes a financial contribution to offset its costs.
 - **Air rights:** a form of joint development in which development rights above (or, in some cases, below) transit facilities are used to generate an increment in land value.
 - **Development impact fees:** one-time charges collected by local governments from developers for the purpose of financing new infrastructure and services associated with new development.
 - **Negotiated exactions:** one-time charges similar to development impact fees, but not determined through a formal, formulaic process. Exactions can take the form of in-kind contributions to local road networks, parks, or other public goods as a condition of development approval, or can be requested in the form of in-lieu fees.
- **Ongoing Value Capture Options** – Ongoing funding sources are those value capture mechanisms that involve recurring payments by those entities benefitting from the public transport system. The advantage of these mechanisms is that they can be a sustainable source of revenue to subsidize the ongoing operating costs of the system. In some cases, they can also be used as a form of collateral to secure a loan for system capital costs. Ongoing value capture options include:
 - **Land value tax:** a tax on the value of land in the vicinity of a public transport amenity.

2. Contextual Understanding

- **Tax increment financing (TIF):** a mechanism allocating any increase in total property tax revenues toward public investment within a designated TIF district.
- **Special assessment district:** a self-imposed additional tax assessed on properties that are expected to see a projected benefit due to the geographic proximity of a new transit facility. Note: Taxes from new special assessment districts are increasingly applied to finance a portion of the local infrastructure investment (e.g., transit system) rather than to subsidize the system operating costs.
- **Transportation utility fees:** utility fees assessed on characteristics thought to be more closely related to transportation demand than property taxes.
- **Air rights leases:** Lease payments from private developers for the right to develop and operate facilities on top of or near transit system stations or highway or transit rights-of-way.

2.2 Alternative Procurement Models

This section provides detailed information on different types of procurement arrangements used in the U.S. today for projects with alternative funding sources. Many of the definitions and concepts presented here are adapted from the FHWA [Office of Innovative Program Delivery P3 website](#) and the [AASHTO Center for Excellence in Project Finance](#). The text itself is adapted from the Draft Final Report for SHRP2 C12, [The Effect of Public-Private Partnerships and Non-traditional Procurement Processes on Highway Planning, Environmental Review, and Collaborative Decision Making](#), which was prepared by Parsons Brinckerhoff and Nossaman LLP—the same technical team tasked with completing the research for NCHRP 25-25, Task 81. The description below of construction manager at risk delivery is based on NCHRP Synthesis 402, [Construction Manager at Risk for Highway Programs](#).

2.2.1 Construction Manager at Risk

Construction Manager at Risk (CMR) is a procurement model where the project sponsor retains a contractor/construction manager to perform preconstruction reviews and construction services. The CMR is usually retained early in the design process and collaborates with the owner and designer during all phases of the project, including but not limited to planning, design, third-party coordination, constructability reviews, cost engineering reviews, value engineering, material selection, and contract package development.

CMR is effective on complex projects using new construction technologies and materials. With CMR procurements, a guaranteed maximum price is established when the design of a specific feature of work is nearly complete or when the entire design is at a point where the CMR can reduce the magnitude of necessary contingencies. The CMR warrants to the owner that the cost of constructing the project will not exceed the guaranteed maximum price. The CMR acts as a technical advisor during project design and as the acts as the general contractor during the project construction.

2.2.2 Design-Build

Design-build is a project-delivery method combining design and construction functions into a single contract rather than as two independent services performed by separate contractors. Design-build procurements feature a single, fixed-fee contract for engineering services as well as construction. The design-build firm—also known as a constructor—may be a single entity or a joint venture of multiple firms. With design-build delivery, the design-builder assumes responsibility for completing a final design for projects and undertaking construction activities, as well as the risk associated with completing this work for a fixed fee. With design-build delivery, project sponsors finance and later operate and maintain the project; however, the private-sector design-builder assumes a significant portion of the risk of construction cost overruns and often schedule delays. Design-build delivery is often used on large and complex projects and is also used as part of the other delivery models described in this section.

Design-build delivery offers a number of benefits to public agencies developing transportation improvements. It allows completion to be accelerated because design and construction work can proceed concurrently. Opportunities for creative design solutions and the ability to align the project design with construction techniques and equipment also provide the potential to accelerate implementation timeframes and may result in overall cost savings. Shifting the risk of design defects to the private sector eliminates one of the most common causes of construction claims, creating greater upfront cost certainty for the public sponsor.

Although the project sponsor may choose to complete the NEPA process prior to initiating a design-build procurement, FHWA law and regulation expressly allows the NEPA process to be completed after award of a design-build contract, so long as no commitment is made to an alternative, including the “no action” alternative prior to completion of the NEPA process.¹ This provision also applies to the other contracting methods described below which make use of the design build process.

2.2.3 Design Build Finance

Design-build-finance (DBF) is a P3 arrangement that uses private capital to accelerate the implementation of a project in advance of the availability of public funds dedicated to the project. Essentially a variant of a design-build procurement, in this case, the project constructor agrees to provide all or some of the construction financing and to be repaid through either milestone or completion payments made by the project sponsor. These arrangements are typically short term and extend no longer than the duration of the construction period. While design-build-finance procurements transfer design and construction risk to the private partner, they do not transfer ongoing operating or maintenance risks and do not generate greater efficiencies than design-build procurements. The primary benefit of design-build-finance arrangements is that they provide project sponsors with short-term gap financing.

¹ See 23 U.S.C. §112(b)(4)(C) and 23 C.F.R. §636.109.

2.2.4 Design Build Operate Maintain

The design-build-operate-maintain (DBOM) delivery model combines design and construction responsibilities with the ongoing operation and maintenance of highway facilities. These services are provided by a private-sector contractor through a single contract, with financing provided by the public sector. The advantage of DBOM procurements is that by combining these services, the private partner has an incentive to use cost-saving, life-cycle costing principles to align the design of the project with long-term maintenance activities. DBOM procurement is common in the transit sector and may also be used with highway improvements. It is also known by a number of other terms including “turnkey” procurement and build-operate-transfer (BOT).

2.2.5 Design Build Finance Operate Maintain

With DBFOM P3 arrangements, the private partner assumes responsibilities for designing, building, financing, operating and maintaining highway improvements for a designated time period. In exchange, the private-sector partner may have the right to collect all revenues generated by the project during a concession period, or the public sector may agree to make availability payments to the private-sector partner during a concession period, while retaining the right to collect toll revenues itself. There is a great variety in DBFOM structures and the degree to which financial responsibilities are actually transferred to the private sector; however, DBFOM projects are either partly or wholly financed by revenue-backed project debt. With DBFOM projects, future toll or availability payment revenues are used to secure bonds or other debt to raise capital for project development costs. With real toll concessions, project revenues are often supplemented by grants from project sponsors and other contributions such as right-of-way or complementary construction projects.

Often referred to as the concession model, DBFOM contracts have concession periods that often extend for 30 to 50 years, with some as long as 99 years. With DBFOM delivery, the project sponsor retains ownership of all project assets and establishes maintenance standards and other improvements to be made over the concession period, such as the addition of new capacity. This ensures that the project is properly maintained and returned in good condition at the end of the concession period. DBFOM concessions are often attractive to public transportation agencies, as they can provide access to new sources of equity and financing, and deliver similar schedule and cost-efficiency benefits as design-build and DBOM procurements. While success is never guaranteed, some public agencies have been reluctant to use P3 procurement strategies due to the perception that they may result in a diminished ability for the agency to control the ultimate outcome.

DBFOM projects may be sponsored by a variety of public agencies, including state departments of transportation (DOTs) and other state, regional and local agencies. DBFOM projects may also be sponsored by public-benefit entities that are able to issue tax-exempt debt on behalf of private project developers pursuant to IRS Revenue Ruling 63-20.

2.2.5.1 Real Toll DBFOM Concessions

User fees in the form of tolls are the most common revenue source supporting P3 highway projects. Toll rates can be based on several variables, including distance traveled, vehicle class, number of trips, time of day, vehicle occupancy, and congestion levels. P3 transactions using tolls as their primary revenue source are often referred to as “real toll projects.”

The user-fee approach involves the risks that revenue levels will not meet expectations or forecasts, particularly with greenfield projects. With publicly sponsored toll projects, the government assumes the revenue risks associated with tolling; however, with real toll P3 concessions, this risk is transferred to the private partner. If forecasts indicate that toll revenues will not be sufficient to cover the complete cost of financing, building, and operating a candidate P3 facility, the public sponsor may opt to provide a subsidy to the concessionaire to make the project financeable, particularly if the P3 procurement with private financing would result in additional cost and schedule efficiencies.

Most recent P3 projects in the U.S.—particularly those with a high implementation costs—have been financed using a combination of toll revenues, government grants, private debt, and private-investor equity. These transactions are often further enhanced by financial mechanisms such as the Transportation Infrastructure and Finance Innovation Act (TIFIA) and private activity bonds (PABs). These Federal tools encourage the use of toll financing and P3s by providing more favorable interest rates when compared to the private capital market and, in the case of TIFIA flexible repayment terms. Together, these mechanisms help public agencies sponsoring real toll projects and their private investment partners mitigate the risk associated with these transactions.

2.2.5.2 Availability Payment DBFOM Concessions

Providing an alternative to real toll concessions, a small number of DBFOM P3 concessions in the U.S. have been or are being implemented using availability payments pledged by the project sponsor as their primary revenue source. Availability payments are often used for projects that are not tolled or for which project revenues are not expected to cover debt service costs. With availability payment models, the project sponsor retains the underlying revenue risk associated with developing the project, and the private partner receives a predictable, fixed set of payments throughout the concession period. Payments owing to the concessionaire may be secured by a revenue pledge or subject to appropriations. Availability payment P3 concessions are also likely to involve private equity, federal credit assistance, and commercial debt.

With some availability payment contracts, the private partner receives no payments until construction is completed, while with others it may receive milestone payments during the construction period. The frequency of the payments once projects are operational may vary and is subject to deductions if the private partner does not maintain the specified performance standards.

2.2.5.3 Asset Monetization Concessions

Asset monetization P3s involve the long term-lease of existing, publicly financed toll facilities to private sector concessionaires for a prescribed concession period in exchange for an upfront payment and possibly an ongoing revenue sharing agreement. Under these arrangements, the private concessionaire has the right to collect tolls on the facility and is required to operate and maintain it to prescribed standards, and in some cases, make improvements to it. Similar to DBFOM transactions, private investors raise financing for these sizeable fees by leveraging future toll proceeds generated by the leased facilities.

Long-term leases are procured on a competitive basis, with awards based primarily on the value of the upfront concession fee. Additional criteria may also include the length of the concession period and the credit worthiness and professional qualifications of the bidders.

2.2.6 Build Own Operate

With this P3 model all aspects of infrastructure development including the outright ownership of facilities lie with the private sector. Build-own-operate (BOO) projects are often implemented by real estate owners to provide access to new tracts of land they are developing. BOO projects tend to be smaller in scale than other P3 projects.

2.3 The NEPA Process

Any transportation improvement project receiving federal funding and/or requiring federal permits or other regulatory decisions must comply with NEPA. The National Environmental Policy Act of 1970 requires the completion of environmental impact statements for all major federal actions significantly affecting the quality of the human environment. This includes transportation projects receiving federal funds, including loans and most other types of credit assistance. NEPA does not apply to state, local or private projects that do not use federal funds or require a federal permit or approval. However, many state and local agencies opt to follow the NEPA process or a similar state-level review under various state environmental laws to preserve the possibility of obtaining federal funding in the future.

NEPA documents the project decision-making process involved in implementing transportation improvement projects. There are two primary actors in the NEPA process: the Lead Agency—such as a state department of transportation—is primarily responsible for preparing the environmental review documents; and the Lead Federal Agency is primarily responsible for reviewing and approving the NEPA documents. When an environmental impact statement (EIS) is required, NEPA also involves the review on the part of Cooperating Agencies, which includes any federal agency, other than a lead agency, with jurisdiction over environmental issues and permits. In some cases, a cooperating agency may have to take an action also subject to NEPA. A typical example would be a dredge and fill permit from the U.S. Army Corps of Engineers (USACE)

under section 404 of the Clean Water Act.² By being a cooperating agency, the Corps may use the transportation NEPA document for its own, and only be required to issue its own Record of Decision (ROD). In many cases, Participating Agencies are also involved in the review of NEPA documents. These are federal, state, or local entities with an interest in the project in question. Resource agencies can still review and issue permits without being a cooperating or participating agency.

NEPA approvals for projects utilizing alternative funding strategies are similar to those for traditional transportation improvement projects, with the exception that the specific impacts of tolling and complementary real estate development must be taken into account. There are three different levels of NEPA assessment and approvals. The Lead Federal Agency is responsible for determining which level of approval is used on a given project. This determination is made based on review of the proposed project design the extent of the anticipated effects of the project on the environment.

- Categorical Exclusion (CE) determination is used if the project has no significant impact on the environment. CEs are often issued for categories of projects, such as replacing a facility in kind or expanding a facility entirely within an existing right-of-way.
- Environmental Assessment (EA) is required if there is uncertainty regarding the level of impacts the project would have on the environment. The EA either leads to a finding of no significant impact (FONSI) or results in the preparation of an environmental impact statement
- Environmental Impact Statement (EIS) is the most rigorous level of NEPA assessment and it is used on projects that are anticipated to result in significant impacts on the environment. The completion of an EIS includes several sub-steps:
 - Notice of Intent (NOI)
 - Draft Environmental Impact Statement (DEIS) comprising sections on 1) purpose and need; 2) definition of alternatives; 3) impacts assessment; 4) mitigation measures; 5) interagency coordination; and 6) public involvement
 - Final Environmental Impact Statement (FEIS)
 - Record of Decision (ROD), which represents the federal agency's decision on general location and concepts described in the FEIS. In most cases, this means the project can proceed with final design and construction, or the next steps in project development. Approval of the ROD is not an approval of federal funding, which generally results from a separate process that cannot proceed in the absence of a NEPA approval. In the case of design-build projects, FHWA regulations permit further project steps in accordance with the design-build contract.

Preliminary design work is necessary with EAs and EISs. The level of detail of those designs needs to be adequate to determine what if any impacts the project would have on the environment.

² 33 U.S.C. §1344

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With an EA, the level of design needs to be adequate to determine whether or not an EIS is needed. With an EIS, the level of design must be adequate to determine what the extent of the projects impacts would be.

Once a project has cleared NEPA, it moves into design and then construction. As the detailed design work is completed, the design must be consistent with the project “definition” (e.g., preliminary design) approved during NEPA. If changes or enhancements to the design are introduced after the completion of NEPA, the Lead Federal Agency must review those changes and determine whether or not they would result in substantive changes to the anticipated project impacts. If they do, then a NEPA reevaluation of the ROD, FONSI, or CE is needed to determine what the effects of the changes would be. In certain cases, a Supplemental Environmental Impact Statement and an amendment to the ROD may be required. This additional analysis can extend from several months to more than a year, exposing projects to the threat of cost escalation and new environmental permitting and approval risks.

2.4 NEPA and the Timing of P3 Procurements

The decision to procure a project on a P3 basis may be made any time during or after the completion of NEPA. One of the main benefits of P3 procurements is the innovation that private developers bring to P3 projects. Because they are financial transactions at heart, private investors are incentivized to find innovative design and construction solutions that will reduce project costs and accelerate construction. When P3 procurements are initiated while a project is in NEPA, the challenge for project sponsors is to allow private sector innovations influencing the definition of the project to be considered during the NEPA process while still maintaining the independence and integrity of the NEPA process.

This is accomplished in several different ways. First, it is entirely appropriate for the private partner to prepare substantive reports, respond to requests for comments, and otherwise make such recommendations as it deems appropriate. The input from the private partner is likely to be public, unless proprietary information is involved. It is essential that public agency independently review that record, including comments from the private developer.

If a P3 procurement is implemented after a project has gained NEPA clearance, private partners have to balance the risks associated with NEPA reevaluations with the benefits of pursuing refinements to the project design that can lower costs and possibly improve the revenue-generating potential of the project. The challenge in this case is for the project sponsor and the Lead Federal Agency to provide the flexibility to accommodate private innovation. Public project sponsors have a much higher tolerance for accepting the risk of a reevaluation compared to private developers because they do not operate within the same financial confines. Private partners have little tolerance for long project gestation periods and delays due to reevaluation and may opt to forego design refinements and move directly into construction.

2.5 NEPA Provisions in Federal Transportation Law

This section discusses recent federal transportation legislation that has addressed NEPA, including:

- The Transportation Equity Act for the 21st Century (TEA-21) of 1998³
- The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005⁴ and
- The Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012⁵

Most P3 projects that involve greenfield facilities or a major amount of new construction outside of current highway rights-of-way have sufficient environmental impacts to require fairly extensive review, that is a DEIS and FEIS followed by a ROD, or at least an EA followed by a FONSI. These processes can take a long time to complete. FHWA reports that before the measures discussed below were enacted, the typical EIS/ROD for a project without an unusual amount of controversy, took about 65 months to complete, while the typical EA/FONSI took about 18 months.⁶ Transportation officials have long been frustrated about the length of time it takes to complete these processes. As a result, with P3 projects many states have found that they must complete NEPA compliance prior to seeking a private partner simply because of the risk of completing the NEPA process in a timely fashion.

Congress has made several attempts to reduce the amount of time it takes to complete NEPA primarily by encouraging mechanisms designed to make key decisions early in the process, enhancing interagency cooperation, creating dispute resolving processes, and a number of other more focused measures. The first two sets of legislative acts discussed in this section have had a beneficial effect in reducing the average time to complete an EIS/ROD or an EA/FONSI over the years. At the same time as these legislative changes were being made, FHWA Administrators have also focused strong policy initiatives designed to expedite the NEPA process. The current FHWA initiative is called “Every Day Counts,” and seeks a more efficient federal aid highway process, as well as NEPA improvements. It has the strong personal backing of the current Administrator, and has involved the participation of several states.

The substantial improvements in making the NEPA process more efficient are due to a combination of legislative measures and policy initiatives. A more predictable and expeditious process will facilitate the construction of new toll roads and P3 projects in general. This can occur because the NEPA process can now be more closely tied to the identification of potential financing sources and/or private participants. At the same time, contracting mechanisms designed to involve private partners in the NEPA process, such as predevelopment agreements, have become more attractive.

³ Pub. L. 105-178, June 9, 1998, as amended by title IX of Pub. L. 105-206, July 22, 1998.

⁴ Pub. L. 109-59, August 10, 2005.

⁵ Pub. L. 112-141, July 22, 2012

⁶ See <http://environment.fhwa.dot.gov/strmlng/baseline/section2.asp>.

See also <http://environment.fhwa.dot.gov/strmlng/nepatime.asp>

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Section 1309 of TEA-21 sought to encourage greater interagency cooperation by directing the Secretary of Transportation to negotiate coordinated environmental reviews, including the setting of specific schedules for completing the process for projects requiring an EIS. Other projects requiring an approval also qualified, but applying a comprehensive schedule for completing the NEPA process seemed suitable only for large projects. If the process were not completed in the specified timeframe, the Secretary was charged, after notice and consultation, to “close the record.” The statute did not set forth the legal consequences of closing the record. Should a specific environmental disagreement cause of delay, the Secretary was charged with consulting with the head of the disagreeing agency in order to resolve the dispute.

In addition, TEA-21 explicitly allowed states to use their federal aid highway funds to provide additional payments to resource agencies to retain additional personnel in order to meet a schedule. Since it was virtually impossible to arrange for this additional assistance solely on a project specific-basis, state DOTs taking advantage of this provision arranged for a more permanent solution by spreading the needed assistance over several projects. This provision was quite popular with both state DOTs and resource agencies. The provision remains in the law today, with the only changes making it more flexible and easier to apply.

Congress revisited the issue of environmental streamlining again SAFETEA-LU, which provided for a much more robust streamlining program. Section 6002 of SAFETEA-LU, involved a complete revision of Section 1309 of Title 23, resulting in several important changes designed to improve the NEPA process:

- For projects requiring an EIS, the lead agency (typically FHWA) could designate “participating agencies,” which were required to cooperate in the NEPA process.
- The lead agency was required to develop the purpose and need statement and the range of alternatives and seek input from the participating agencies and the public, *before* the preparation of the DEIS.
- The scheduling process was made more specific, and the statute created a more formal issue resolution process. Ultimately, if an issue could not be resolved after a meeting of all the parties and referral to the Secretary, a notice was required to be provided to head of each agency and the relevant Congressional committees, and also published in the Federal Register. Similar provisions were included for environmental decisions required under laws in addition to NEPA.
- A limitation of claims was also established so that upon the publication of a notice in the Federal Register announcing the issuance of a permit, license or other approval for a project, claims could be filed challenging the approval only within 180 days of the date on which the Federal Register notice was published.

In addition to section 6002, SAFETEA-LU also established two pilot projects, one allowing a limited number states to assume all responsibilities of the Secretary with respect to recreational trails and scenic enhancement projects and the other allowing the assumption of all responsibilities of the Secretary. A third provision allowed all states to assume responsibility for processing

categorical exclusions.⁷ In all three cases, the states had to agree to waive sovereign immunity and to agree to being sued in federal court to the same extent as the Secretary on those matters. Because of this last provision, relatively few states agreed to assume these responsibilities.

In addition to NEPA reforms, section 6001 of SAFETEA-LU also made significant modifications to the transportation planning process. As result, FTA and FHWA issued new regulations for both the metropolitan and statewide transportation planning process. As part of the new regulations, FTA and FHWA prepared an extensive appendix providing detailed guidance on “linking” planning and NEPA. This illustrates ways in which products and decisions made during the planning process should inform and set bounds on the project-specific NEPA documents for projects included in a region’s transportation improvement program (TIP/STIP).⁸ This guidance was prepared in response to long standing concerns that much of the work done during a sound transportation planning process was needlessly lost or repeated during NEPA.

FHWA now tracks the time it takes to complete the EIS process on any annual basis. This and other program performance information can be found on FHWA Environmental Streamlining web page.⁹ While the information available there seems to suggest that limited progress has been made, it is important to note that the number of EISs overall has been declining, making it more likely that EISs that are prepared are for larger, more complex projects. This could account for higher average completion times.

MAP-21, the most recent transportation bill, contains even further provisions to enhance the transportation NEPA process. Although FHWA is still in the process of fully implementing these provisions as some of them require new or amended regulations, it is clear that they will afford considerable benefit to transportation projects. The new provisions include:

- **Environmental Process Deadlines.** Intended to encourage timely decisions by environmental agencies, the bill authorizes a process for USDOT and the environmental agencies to establish deadlines for issuing project approvals and elevates disputes among agencies. The bill imposes automatic monetary penalties on agencies that fail to render a project decision by the agreed upon deadlines.¹⁰
- **NEPA Delegation.** The bill expands the existing NEPA delegation pilot program to authorize delegation of NEPA responsibilities to other states that satisfy NEPA delegation requirements.¹¹
- **Programmatic Regulatory Authority.** The bill directs USDOT to adopt rules regarding programmatic approaches to environmental reviews. USDOT could exercise this authority to

⁷ Sections 6003, 6004, and 6005 of SAFETEA-LU, codified at 23 U.S.C. §§ 325.326 and 327.

⁸ See 23 C.F.R. part 450, Appendix A.

⁹ <http://environment.fhwa.dot.gov/strmlng/es10measures.asp>

¹⁰ Sections 1305 and 1306, amending 23 U.S.C. §139

¹¹ Section 1313

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adopt rules that require project-level NEPA reviews to avoid duplicating re-evaluation of corridor-level issues such as mode choice, cumulative impacts, and growth inducement.¹²

The creation of a number of useful categorical exclusions and provisions for additional exclusions,¹³ including among others:

- **Operational Right-of-Way Categorical Exclusion.** The bill requires USDOT to adopt a categorical exclusion from NEPA for projects implemented within existing “operational rights-of-way.” The provision has the potential to accelerate a number of HOV and HOT lane projects, and other highway improvements that can be built within existing rights-of-way.¹⁴
- **Limited Federal Funding Categorical Exclusion.** MAP-21 mandates adoption of a categorical exclusion from NEPA for projects receiving less than \$5 million in federal funds. This provision may provide meaningful regulatory relief for P3 projects that do not use federal funding.¹⁵
- **Planning/NEPA Integration.** MAP-21 codifies much of the guidance in the appendix to the planning regulations encouraging the greater use of and reliance on planning products and decisions in the preparation of NEPA documents.¹⁶
- **Truncating the ROD with the FEIS.** MAP-21 provides, where appropriate, that an FEIS can effectively be avoided when there is little new information or controversy from the DEIS. Under the truncated process, the project record would respond to all comments received and this record would be folded into the ROD.¹⁷ FHWA has already issued guidance for this section.¹⁸
- **Establishing a Four-year Deadline for Completing the NEPA Process for Complex Projects.** The statute includes a process for identifying and selecting projects that qualify for this provision.¹⁹

2.6 Other Federal Environmental Laws

NEPA is not the only federal environmental law with which federal aid highway projects must comply. In fact, there are more than 40 such laws.²⁰ These laws have various procedural and substantive requirements and are administered by a variety of agencies. While some laws have all or their primary impacts before the NEPA process starts (thus, affecting the planning process) or during construction or operation of the roadway (such as laws governing rain run-off during construction), a substantial portion of these laws focus on the potential impacts of the project on a

¹² Sections 1311 and 1318

¹³ See Sections 1314, 1315, and 1318, in addition to those listed in the following two footnotes.

¹⁴ Section 1316

¹⁵ Section 1317

¹⁶ Section 1310

¹⁷ Section 1319

¹⁸ See <http://www.fhwa.dot.gov/map21/guidance/guideaccdecer.cfm>.

¹⁹ Section 1309

²⁰ FHWA maintains a comprehensive list of such requirements. They may be found at: http://www.fhwa.dot.gov/environment/env_sum.cfm

particular resource or environmental concern. These kinds of laws vary from mere consideration of potential impacts on the resource to specific permits or approvals without which the project cannot proceed. An example of the former might be consideration of impacts of mobile source air toxics (MSATs),²¹ while an example of the latter would be impacts on waters of the United States requiring a permit under section 404 of the Clean Water Act.²² Almost all of these laws have documentation requirements to demonstrate compliance with their procedural and/or substantive requirements.

Rather than preparing documentation for each of these laws separately, NEPA EISs and EAs normally include the material required to support compliance with these laws. While this makes the NEPA process more complex, it avoids duplication of documentation and processes. FHWA actually requires that in most cases that these procedures must be completed before it approves the ROD, or, in some cases, the FEIS. Much of the interagency coordination and scheduling discussed in the foregoing section is to ensure that the concerns and approvals of these other agencies and other legal requirements are well documented in EIS or EA. Examples of a few such laws and requirements follow.

Projects which require some construction in or across waters of the United States, which include most rivers and streams, lakes, wetlands and coastal waters, must obtain a permit from the Corps of Engineers under the Clean Water Act. These permits not only are subject to extensive regulations issued by the Corps, but “guidelines” issued by the Environmental Protection Agency (EPA), which the Corps must adhere to in considering permit applications. Under the guidelines, if waters of the United States are adversely impacted, the Corps may only approve the “least environmentally damaging practicable alternative.” This requirement may cause difficult confrontations between conflicting environmental requirements and the determinations regarding the preferred alternative from transportation perspective. In addition, these Corps permits are also subject to NEPA, meaning that if the NEPA document prepared by FHWA and the project sponsor is not adequate to support the Section 404 permit, the Corps may have to prepare its own NEPA document, causing considerable additional delay both as the “inadequacy” is debated and then as the additional NEPA document is prepared. Thus, FHWA and the Corps have developed procedures and interagency agreements designed to resolve disagreements where possible. To some extent, these agreements have been overtaken by the coordination requirement of 23 U.S.C. §139, which creates its own interagency processes. The resolution of impacts on waters and wetlands can involve changes in project design and location, but more typically involves the development of mitigation measures to offset project impacts. Title 23 contains specific provisions regarding wetland and mitigation measures, wetland banking, etc.²³

²¹ While MSATs are listed by the Environmental Protection Agency pursuant to the Clean Air Act, there no specific requirements as to what to do when they are identified. Thus, they are reported upon in the NEPA document for consideration by the lead agency.

²² 33 U.S.C. §1344

²³ See 23 U.S.C. §§119(g) and 133(b)(14)

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A very different statute that frequently interacts with transportation projects is the National Historic Preservation Act.²⁴ This Act establishes mechanisms for identifying and protecting historic sites of “national, state, or local significance.” Such sites meeting criteria set under the Act are eligible for listing on the National Register of Historic Places. Section 106 of the Act requires federal agencies to consult with the Advisory Council on Historic Preservation (ACHP) regarding the impacts and potential mitigation actions for federal and federal aid projects on sites that are eligible for inclusion on the National Register.²⁵ The actual listing of historic sites and the resolution of issues regarding the eligibility of a site for listing rests with the Keeper of the National Register, an official in the U.S. Park Service.²⁶ While Section 106 itself requires nothing but the consideration of impacts and possible mitigation, this statute gains its power from strong procedural regulations issued by the ACHP²⁷ and the network of state historic preservation officers who actually carry out much of the implementation of Section 106.²⁸

For transportation projects, there is another provision which protects historic sites to which Section 106 applies, as well as publicly owned parks, recreation areas, and wildlife and waterfowl refuges of national, state, or local significance. The provision is “Section 4(f),” which prohibits the use of land from these sites unless the Secretary of Transportation determines there is “no feasible alternative” to the use of such land. Moreover, if such land is used, then the project must include “all possible planning to minimize harm.”²⁹ This provision was reviewed by the Supreme Court in *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402 (1971). In that case, the court interpreted the statute to mean that land from a 4(f) site could not be used unless there were “truly unusual” problems or impacts of an “extraordinary magnitude” associated with avoiding the site.³⁰ Subsequent appellate court decisions have added substantial substance to this decision. As a result, Section 4(f) is one of the toughest federal environmental laws, albeit only for transportation projects. In SAFETEA-LU, Congress created a simplified process for identifying “*de minimis*” impacts, which are not subject to the avoidance requirements of the statute. Congress also charged the Secretary with developing regulations that resolve the differing legal standards applicable to decision-making under the statute as a result of the many judicial decisions made over the years. Those new regulations were issued in 2008 and are codified at 23 C.F.R. part 774. Since the first NEPA regulations developed by FHWA in the 1970s, compliance with

²⁴ 16 U.S.C. § 470, *et. seq.*

²⁵ 16 U.S.C. § 470f.

²⁶ 16 U.S.C. § 470a

²⁷ 36 C.F.R. part 800

²⁸ The ACHP is a very small agency, and relies on SHPOs to coordinate with federal agencies and grant recipients regarding the identification of historic sites, the affect determinations, and mitigation measures. While the ACHP is frequently consulted during these processes, it becomes actively involved only where there significant differences of opinion regarding the affect of the project or there are serious adverse impacts on a site of particular importance.

²⁹ Section 4(f) was Section 4(f) of the Department of Transportation Act of 1966. It has been somewhat modified over the years without much substantive change (until the above referenced changes made in SAFETEA-LU). The provision is now codified at 49 U.S.C. § 303, with a parallel provision at 23 U.S.C. § 138.

³⁰ The Supreme Court specifically noted that, “Congress clearly did not intend that cost and disruption of the community were to be ignored by the Secretary. But the very existence of the statutes indicates that protection of parkland was to be given paramount importance. The few green havens that are public parks were not to be lost unless there were truly unusual factors present in a particular case or the cost or community disruption resulting from alternative routes reached extraordinary magnitudes. If the statutes are to have any meaning, the Secretary cannot approve the destruction of parkland unless he finds that alternative routes present unique problems.”

Section 4(f) has been documented in the NEPA document. Section 4(f) approvals may be made in an FEIS or in the ROD, or as part of the FONSI. Only if making them in the same document is impossible (such as when Section 4(f) sites are identified after completion of the NEPA document) may the 4(f) determination be presented separately.

These three examples illustrate why the NEPA process can become so complex. All three have different, and sometimes conflicting, requirements. They also have very specific legal requirements which must be presented properly. Disagreements can result in considerable delay, which is often blamed on NEPA rather than the specific environmental laws that are causing the problem.

As noted, these laws have quite specific mitigation requirements. However, the agencies responsible for their administration often have more mitigation measures in mind than the lead agency is willing to provide, be it for legal, programmatic, or policy reasons. These barriers do not exist in quite the same way for a private partner who is likely to see such a dispute more as a financial rather policy problem. Thus, the private partner may limit mitigation if it makes a project infeasible. On the other hand, the private partner may be willing to provide more mitigation than a government agency could if the cost of delay outweighs the cost of the extra mitigation.

2.7 Local Regulatory Processes and Complementary Real Estate Development

While any highway or transit improvement using federal funding will need to go through the NEPA process and comply with other federal laws, complementary private development that may be built in conjunction with a transit improvement does not because it does not require a federal action. This development is controlled through local regulatory and zoning processes. If a particular real estate project can be built as-of-right under the existing zoning regulations it does not require any additional approvals. However, large-scale redevelopment plans associated with the real estate development components implemented in tandem with major transit projects can be expected to require local regulatory approvals. These usually come in the form of approved master plans or local zoning modifications. These plans are usually reviewed by a local zoning board that would then make a technical recommendation and ultimately are put up for a vote by a City or County Council.

If a redevelopment plan has been finalized, it may be considered during NEPA by being incorporated as part of the future no-build scenario. If alternative redevelopment concepts are still being considered while NEPA is underway, they can be assessed as part of the NEPA alternatives. However, the ultimate decision on the details of the complementary private real estate development would still need to be approved through local regulatory processes.

3 Project Profiles

3.1 Introduction and Approach

This chapter contains profiles of the six highway, bridge and tunnel P3 concession projects and the four multimodal transit terminal and real estate development projects identified in Chapter 1. The profiles are presented in a parallel tabular format, with some minor differences between the highway and transit groups. In certain cases, the sequencing of the certain sections may vary for a given project to be consistent with the overall timeframe within which that particular issue was addressed. The items included in the profiles align with the goals of the research effort and together provide comprehensive information on the overlap between private sector involvement and the NEPA process for the case study projects.

The research team interviewed key project participants to explore the issues noted above for the 10 selected transit terminal and complementary real estate development and P3 concession projects. Prior to the interviews, the research team reviewed the NEPA approval documents for each project, together with information on project websites and in the press. The research team distilled the information gained from these preliminary reviews and entered it into the profile template. This exercise enabled the research team to identify any gaps in the information available in advance of the interviews. The research team then utilized those subsequent discussions to fill the gaps and augment the information in the profiles and provide additional detail whenever possible.

A list of sample questions was provided to the interviewees in advance of the actual discussions. The interviews ranged in duration from one to two hours, and in several cases the research team contacted the interviewees with follow-up questions or requests for helpful project documentation.

The profile template contains the following data fields:

- Project Name
- Project Type
- State – Region
- Cost
- Private Sector Role
- Physical Description
- Brief Timeline
- Early Planning Activities
- Decision to Pursue P3¹
- Environmental Review/NEPA

¹ On Highway / Bridge / Tunnel P3 Concession profiles only

3. Project Profiles

- Class of NEPA Action
- Lead Federal Agency
- Cooperating Agencies
- Class of Action Determination
- Private Sector Role During NEPA
- Design / Preliminary Engineering
- Major Environmental Issues / Commitments
- Extent Permitting Addressed During NEPA
- Public Input / Review
- Private Sector Role in Gaining NEPA Approvals
- Other Notable Actions / Events
- Complementary Real Estate Development²
- Final Design / Construction
 - Public vs. Private Sector Roles
 - Significant Design Changes / Reevaluations
 - Permitting
- Lessons Learned / Best Practice Highlights

The template format is helpful in that it provides parallel information for all projects, enabling easy benchmark comparisons. It also compartmentalizes different pieces of information, making it easy for users to find and compare information of interest. By combining prose entries with the tabular format, the template also provides the flexibility to make entries as brief or extensive as the data and particular projects warrant. The ultimate intent of the template format is to provide profiles of the different ways in which transit terminals and complementary real estate development projects and P3 concession projects gain environmental clearance and advance into implementation.

The profiles are preceded by brief project overviews providing readers with succinct project descriptions together with a review of the NEPA approvals process and the roles and responsibilities of private sector development partners. Key information from the profiles is also presented in a matrix format populated with symbols that facilitates comparisons of the case study projects and assists in the identification of trends.

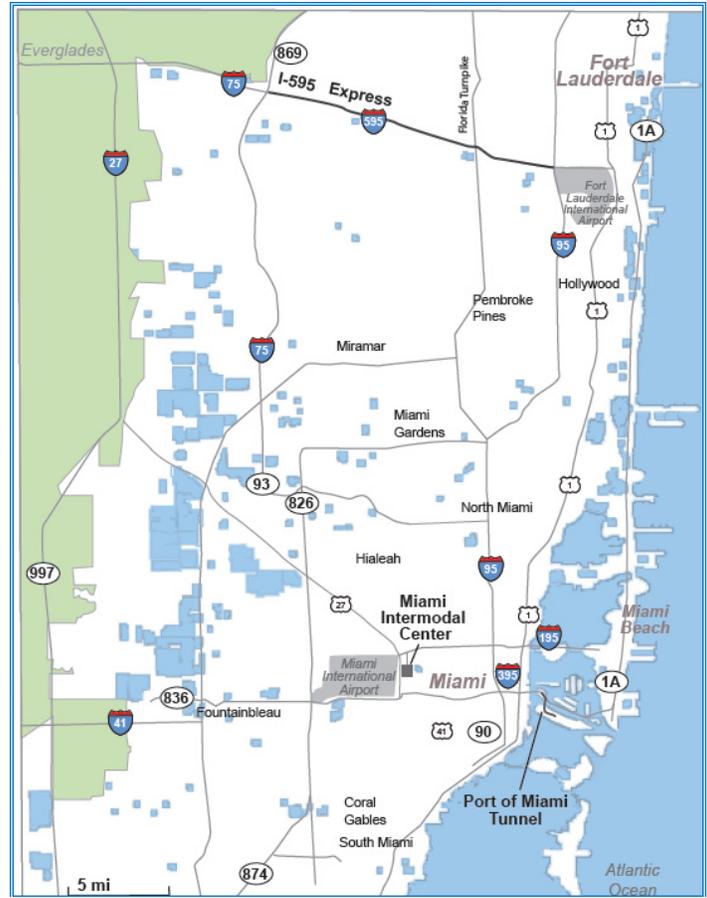
² On Multimodal Transit terminal profiles only

I-595 Corridor Roadway Improvements Project Profile

The I-595 Corridor Improvements project is the reconstruction and widening of a portion of the I-595 Corridor in Fort Lauderdale, Florida. The I-595 Corridor spans 13.5 miles, providing an east-west connection between Fort Lauderdale/Hollywood International Airport and Port Everglades. The project area covers 9.3 miles of I-595; in addition to the widening of the I-595 mainline the project includes improvements to frontage roads and construction of three at-grade, reversible, priced managed lanes along the median. Called the 595Express, the priced managed lanes accommodate high occupancy vehicles (HOVs), newly added bus rapid transit (BRT), and paying single occupancy vehicles (SOVs).

The project was procured as a DBFOM P3 concession, with availability payments to be made to the concessionaire based on satisfactory performance and availability of the roadway during the operating period. The private sector expressed interest in pursuing the project after the Florida Department of Transportation (FDOT) released the results of the project development and environment (PD&E) study. During a subsequent industry forum, in which FDOT solicited feedback on possible technical and financial approaches to completing the project, it was realized that the project could be completed as a single corridor via P3 concession instead of as 16 sections on a pay-as-you-go basis. The decision to pursue the project as a P3 allowed new construction and improvements to be completed sooner and more efficiently.

The project gained environmental clearance by Categorical Exclusion. The project qualified for a CE because it contained four qualities: did not cause significant impacts on the surrounding environment, require relocation of significant numbers of people, affect natural or cultural resources, or have significant impacts on travel patterns. NEPA approval was issued prior to P3 solicitation, and thus the initial NEPA approval process was unaffected by private participation.



Source: Federal Highway Administration

Mode	Three reversible HOT lanes	Is this project tolled?	●
State-Region	FL – Fort Lauderdale	Did private involvement occur prior to NEPA?	○
Value (\$ m)	\$1,830	Did private partner influence project definition during NEPA?	○
P3 Model	Availability payment DBFOM	Was P3 procurement unsolicited?	○
Type and Date of Environmental Action	CE June 2006	Did private partner alter project definition post-NEPA?	●
Lead Federal Agency	FHWA	Did private partner post-NEPA changes require a NEPA reevaluation?	●
Private Partner	595 Express LLP	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	○
Concession Term	35 years	Was real estate development assessed during NEPA?	NA
Project Status	In construction Opens Summer 2014	Was real estate development approved through a non-NEPA process?	NA
Date Private Involvement Initiated	October 2008	Was all or a majority of permitting completed by the private partner?	○

○ No ● Yes ◐ Somewhat NA Not Applicable

PROJECT NAME	
I-595 Corridor Roadway Improvements	
PROJECT TYPE	
Highway / Priced Managed Lanes – P3 Concession	
STATE – REGION	
Florida – Fort Lauderdale	
COST (MILLIONS)	
\$1,830 (present value in 2009 dollars, given a 5% discount rate) - total final acceptance and availability payments over the 35-year contract to design, build, finance, operate and maintain the roadway	
PRIVATE-SECTOR ROLE	
I-595 Express LLC holds a 35-year, availability payment P3 concession with FDOT to design, build, finance, operate, and maintain the corridor.	
PHYSICAL DESCRIPTION	
<p>The 13.5-mile I-595 corridor provides east-west connections between Fort Lauderdale-Hollywood International Airport and Port Everglades and the I-75 / Sawgrass Expressway, traversing several jurisdictions in Broward County, Florida. It has interchanges with several major north-south corridors: the I-75/Sawgrass Expressway at its western terminus, Florida's Turnpike, SR 7, I-95, and US 1 at its eastern terminus.</p> <p>The I-595 Corridor Roadway Improvements project involves the reconstruction and widening of the I-595 mainline and associated improvements to frontage roads (SR 84) and ramps from the I-75/Sawgrass Expressway interchange to SR 7, for a total project length of approximately 9.3 miles, together with the construction of three at-grade, reversible, priced managed lanes (595Express) in the median of the highway. The 595Express will accommodate HOVs), BRT services and paying SOVs. Direct connections from the 595Express will be available to I-75, SR 7 and Florida's Turnpike.</p> <p>I-595 Express LLC will receive a final acceptance upon completion of construction and annual availability payments based on satisfactory completion of construction milestones and performance and availability of the roadway during the operating period.</p> <p>Project goals include enhancing mobility along the corridor by expanding roadway capacity, increasing trip reliability, and providing additional modal options—all in response to current and projected population growth. Maximizing corridor throughput, rather than toll revenue from the express lanes is a stated goal. In addition, by using a DBFOM project delivery approach, FDOT will be able to provide the improvements sooner than under a traditional pay-as-you-go approach, minimize its own outlay while transferring cost, performance, and delay risk to the concessionaire, and enhance long-term, lifecycle cost efficiency and service quality.</p>	
BRIEF TIMELINE	
1989	I-595 opens to traffic
1994	Operational analysis report identified short-term improvements
2003	Completion of I-95/I-595 Master Plan Study, selection of Locally Preferred Alternative, start of PD&E Study
March 2006	Completion of PD&E
June 2006	FHWA issues Categorical Exclusion and grants Location and Design Concept Acceptance
July 2007	Industry P3 forum
Oct. 2007	RFQ issuance
April 2008	Final RFP issuance
Sept. 2008	Proposals submission
Oct. 2008	Concessionaire selection
March 2009	Financial close
June 2009	Construction begins
Summer 2014	Expected opening to traffic

EARLY PLANNING ACTIVITIES

Not long after I-595 opened in 1989, it became clear that projected long-term traffic volumes would be realized much sooner than anticipated—primarily due to regional population redistribution following Hurricane Andrew in 1992. Recognizing that capacity expansion would ultimately be required, FDOT developed short-term operational solutions in a 1994 operational analysis report. Subsequently FDOT prepared a corridor master plan in conjunction with the north-south I-95 corridor that intersects I-595 at its eastern end. The I-95/I-595 Master Plan Study was completed in 2003 and analyzed 15 alternative concepts for improvements to the I-595 corridor, ultimately reducing it to a single Locally Preferred Alternative (LPA). Minimizing needed right-of-way was a study priority. The LPA called for the addition of two reversible express lanes in the median of I-595 as well as access and interchange improvements. The LPA also incorporated the preferred alternative emerging from the Central Broward East-West Transit Alternatives Analysis, which called for adding LRT within the I-595 right-of-way. An agreement with FHWA was reached on carrying the LPA forward into a PD&E Study (Florida’s version of NEPA that combines some preliminary engineering and design) as the base build alternative. It was also agreed that interchange studies would be prepared (operational analysis and modification in two separate instances), that design exceptions would be permitted in certain circumstances, and that Florida’s Turnpike Enterprise (FTE) would prepare a detailed Toll and Revenue Analysis for the reversible express lanes.

ENVIRONMENTAL REVIEW/NEPA

NEPA Class of Action	Categorical Exclusion – Type 2 (A Type 2 CE in Florida is one that requires consultation with and approval from FHWA, additional documentation to support the determination, and a higher level of public involvement, possibly a public hearing.)
Lead Federal Agency	FHWA
Cooperating Agencies	None

Class of Action Determination

A Type 2 Categorical Exclusion was determined to be the appropriate level of environmental review because no significant environmental impacts were identified based upon the criteria set forth in the FDOT PD&E Manual (see http://www.dot.state.fl.us/emo/pubs/pdeman/Pt1ch2_030612-current.pdf). The project does not:

- Induce significant impacts to planned growth or land use for an area.
- Require the relocation of significant numbers of people.
- Have a significant impact on any natural, cultural, recreational, historic, or other resources.
- Involve significant air, noise, or water quality impacts.
- Have significant impacts on travel patterns.
- Either individually or cumulatively, have any significant environmental impacts.

Major Environmental Issues/ Commitments (Responsible Resource Agency)

The following environmental issues and commitments were identified in the CE:

- Preserving flow capacity and maintainability of the North New River Canal running parallel and just north of the I-595 corridor (South Florida Water Management District [SFWMD])
- Providing adequate vertical and horizontal clearances over the North New River Canal for construction of direct connection ramp/bridges with Florida’s Turnpike (U.S. Coast Guard [USCG])
- Avoiding permanent impacts to Sewell Lock Park, a Section 4(f) resource adjacent to the north side of the I-595 corridor (Broward County Parks and Recreation Department)
- Abiding by a Consent Decree drafted by the U.S. Department of Justice in coordination with the U.S. Environmental Protection Agency (EPA), which permits construction activities on land above a deep groundwater contamination plume. The contamination is deep enough not to be disturbed but any changes in construction design will be coordinated with the EPA.
- Minimizing and mitigating impacts to access to adjacent Pond Apple Slough Natural Area (wetlands) (SFWMD, Broward County Parks and Recreation Department)
- Relocating a planned greenway along a portion of the corridor (SFWMD, Broward County Parks and Recreation Department)
- Incorporating noise mitigation treatments along the corridor consisting of specific placement of noise walls depending on conditions and location

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Design/Preliminary Engineering

A series of value engineering studies were conducted during the PD&E study by a Value Engineering/Design Review (VE/DR) Team. Their work made revisions to the LPA at critical stages of the PD&E Study that were ultimately incorporated into a single PD&E design concept. A primary outcome of this exercise was a design change from two to three reversible express lanes in the median of I-595, which permits the provision of direct connectors to Florida's Turnpike. This change did, at the time, require placing the three lanes on structure because of limited space within the median. FDOT later amended the design to place the three reversible lanes at grade.

The PD&E Study preferred alternative was advanced to the 20–25 percent design level. The VE/DR process identified 16 separate design projects for implementation through traditional design-bid-build procurement. These discrete projects were considered manageable within the resources available to the FDOT District 4 Work Program. The interchange between I-595 and Florida's Turnpike was identified as the first project for implementation because of safety and operational (level of service) issues.

Public Input/Review

Public workshops were held in April 2005 presenting the build alternatives, followed by several public involvement coordination meetings to solicit input from local, state, and federal agencies, local politicians, and citizens. A public hearing was held in November 2005 at which public support was voiced.

Some concerns were raised by residents on the north side of the roadway near University Drive (one interchange west of Florida's Turnpike) who had experienced noise and dust impacts from the original construction of I-595. They felt that a noise wall should have been constructed at that time and did not want a repeat experience. FDOT responded to their concerns by adding commitments in the PD&E study that noise abatement, if warranted, would be installed prior to the roadway construction. Ultimately, these residents have been provided a shoulder-mounted noise barrier on the south bank of the North New River Canal that runs between the corridor and the residences.

Business owners in the town of Davie, west of Florida's Turnpike also objected to initial plans to preserve right-of-way on the south side of the corridor for future LRT because they felt their businesses would suffer damages. The transit envelope was relocated to the median to avoid ROW acquisitions in this area.

Private Sector Role in Gaining NEPA Approvals

None; PD&E was completed prior to P3 procurement.

Extent Permitting Addressed

FDOT identified a number of permits likely to be required from federal, state, and local jurisdictional regulatory agencies during the PD&E Study:

- Broward County Environmental Protection Department (BCEPD) Environmental General Resource License
- BCEPD Surface Water Management License
- BCEPD Tree Removal License
- Florida Department of Environmental Protection National Pollutant Discharge Elimination System (Stormwater Pollution Prevention Plan)
- SFWMD Environmental Resource Permit
- SFWMD Right of Way Occupancy Permit
- SFWMD Water Use Permit
- U.S. Army Corps of Engineers Dredge/Fill Permit
- USCG Bridge Permit
- Coordination and/or permits with four special drainage districts

Other Notable Actions/Events

The need to provide drainage from the facility, complicated by the increase in roadway surface area and the elimination of swales from the median, required the use of offsite drainage ponds. In one instance, a neighboring, bankrupt golf course was purchased and a mutually beneficial drainage solution was developed.

Ultimately, no formal analysis on pricing the reversible express lanes had been conducted despite the intent to do so as agreed to upon conclusion of the 2003 master plan.

DECISION TO PURSUE P3

Initial interest in implementing the project on a P3 basis was expressed by the private sector following the conclusion of the PD&E Study. A recent (2004) legislative change had also lifted a substantial roadblock to the state procuring projects on a P3 basis and a DBFOM concession was already being pursued on the Port of Miami Tunnel, another major project in the region.¹ An industry forum for the I-595 corridor project was held in July 2007 drawing interest and feedback from potential private partners on technical and financial approaches to project implementation. Interested private partners had realized that by delivering the proposed improvements on a P3 basis, the entire corridor could be completed at once, rather than in 16 sections on a pay-as-you-go basis, generating expected benefits sooner and more efficiently. A swift timeline followed between the issuance of a request for qualifications (RFQ) in October 2007 and financial close with the selected partner in March 2009.

FINAL DESIGN/CONSTRUCTION

Public vs. Private Sector Roles

The infrastructure consulting firm RS&H was selected as Corridor Design Consultant (CDC) in April 2006 to serve as a project-specific extension of FDOT staff and advance the PD&E Study outcome to an Indicative Preliminary Design. After the selection of the concessionaire, a final design and construction team was assembled comprising the CDC, FDOT engineering staff, a Construction Engineering and Inspection (CEI) consultant, and the concessionaire's design-builder. The CDC was charged with oversight of all engineering and permitting activities, as well as the work of the CEI.

The Indicative Preliminary Design defined the scope of the corridor improvements to be designed and constructed by the concessionaire. Because of physical constraints in the I-595 corridor, there was little room for the concessionaire to alter the basic design and scope of the project, and consequently, the resulting environmental impacts and mitigations as well. One innovation proposed by the concessionaire involved jacking up an existing flyover ramp at an interchange with a major arterial, rather than demolishing and rebuilding it as FDOT had proposed. The footprint of this design proposal was unchanged from the Indicative Preliminary Design, which meant that it only raised an issue of constructability and did not trigger a need to reevaluate it from an environmental standpoint. (From an operational perspective, however, it was challenging to navigate federal requirements for producing an Interchange Modification Report due to the concessionaire's proposed design changes.)

The environmental compliance process was streamlined by a number of institutional and project team arrangements:

- The FDOT design project manager who oversees the CDC was also the project manager for the PD&E Study. This person has been able to parlay knowledge and expertise gained from the environmental review and preliminary design into the final design and construction oversight process.
- An environmental compliance officer is included as part of the CEI consultant team to oversee permitting activities.
- The permitting and oversight process is also facilitated by a joint FHWA and FDOT-supported liaison with resource agencies that coordinates permitting issues during PD&E and final design and construction.

In addition to the expected complement of civil engineers, the CDC also maintains a fulltime noise engineer and drainage specialist to continuously address these issues that garnered the greatest environmental concern on the project.

1. FDOT had been authorized to enter into P3s since 1991 but individual project approval via additional legislation was required. No agreements were entered into under this version of the law. In 2004, the legislation was amended to allow FDOT to receive or solicit proposals and enter into agreements with legislative approval as evidenced simply through approval of the project in the department's Work Program as a part of the Legislature's appropriations process.

FINAL DESIGN/CONSTRUCTION (CONT'D)

Significant Design Changes/Reevaluations

Three reevaluations were completed for this project. The first was conducted after the decision to deliver the project as a P3 and consolidate the 16 individual projects into one, which is standard FDOT practice when advancing any project from one major phase to another.

A second reevaluation was performed during the RFP phase when the decision was made to place the elevated reversible express lanes at-grade, due to growing public opposition to the design concept on structure. The reevaluation was performed by the CDC and capitalized on the prior inclusion of an at-grade alternative in the PD&E Study.

The third reevaluation occurred following the concessionaire's selection, during final design, to address a compilation of design changes. FDOT has adopted a successful policy of taking the lead on any environmental reevaluations needed for design-build projects arising from design refinements. This policy was followed with the third reevaluation for the I-595 project. The private partner and its design-builder were amenable as they understood the risks of delay from a reevaluation. Although the reevaluation package was submitted to FHWA by the FDOT District 4 Planning and Environmental Management Office, it was performed by the CDC, with input from the design-builder, the CEI consultant, and the FDOT engineering team.

Permitting

FDOT submitted a majority of the required permit applications to appropriate regulatory agencies during the Indicative Preliminary Design and RFP stage. The applications themselves were prepared by the CDC. The I-595 P3 procurement documents identified these permits, together with others likely to be required. Major federal permits included an Environmental Resource Permit from the U.S. Army Corps of Engineers (including a Dredge/Fill Permit and filed jointly with the Florida Department of Environmental Protection and the SFWMD) and a USCG Bridge Permit. The RFP noted that these submissions were subject to change based on final design and that the concessionaire would be responsible for any modifications to permits obtained as well as for securing any permits for which applications had not yet been submitted.

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

FDOT has concluded from the I-595 project's bid process that an RFQ/RFP should include specific environmental performance criteria rather than ask for an open-ended explanation of how the concessionaire plans to meet environmental compliance requirements. Even though FDOT staff would have been able to provide input on any compliance plans developed by the concessionaire, they felt it was preferable to specify exactly what they required.

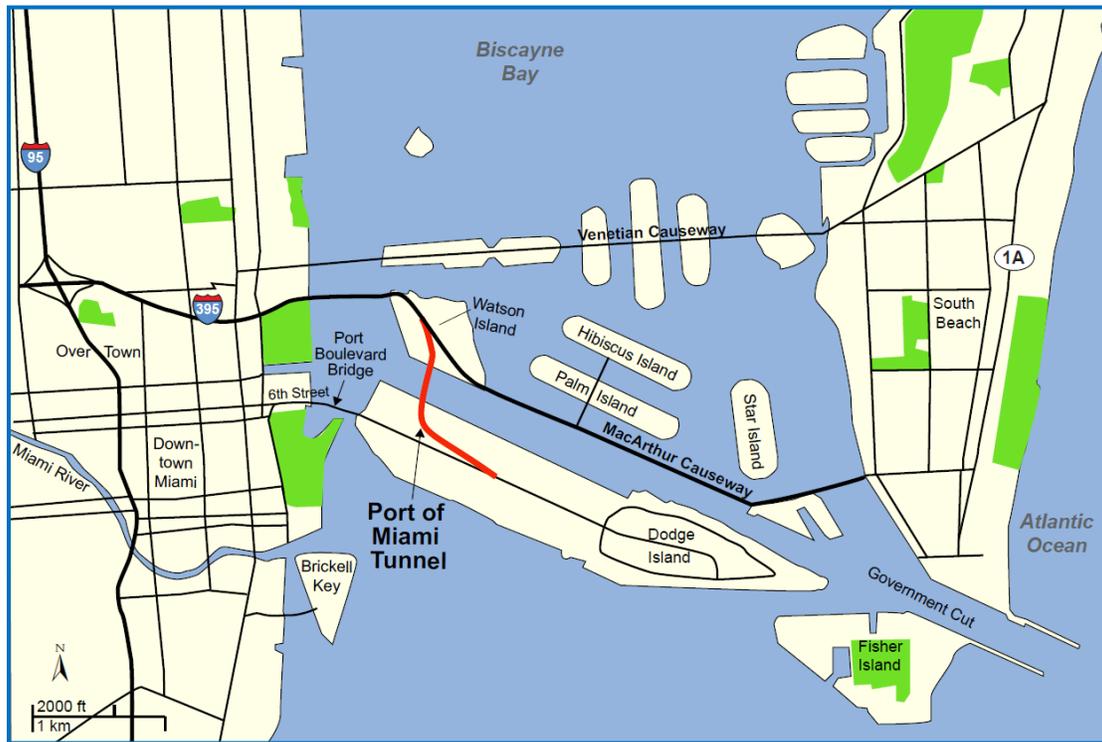
FDOT staff credit efficient and successful environmental compliance and permitting outcomes to the expertise and well-defined roles of the project design and construction team (described above). Overall, the CDC, CEI consultant, design-builder, and FDOT engineering staff have worked together as a project-based team that engage other District staff when necessary, but otherwise have been able to manage and advance the project smoothly as a standalone entity.

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Port of Miami Tunnel Project Profile

The Port of Miami Tunnel project is a P3 concession involving the construction of two, two-lane bored tunnels beneath Biscayne Bay to create direct access from Florida mainland via the MacArthur Causeway to the Port of Miami. In addition to the tunnel, the project includes the expansion of the MacArthur Causeway to handle additional traffic, and reconfiguration of the roadway system on Dodge and Watson Islands (see map below) to align with tunnel portals.

The project is being developed through a 35-year design-build-finance-operate-maintain concession with Miami Access Tunnel, LLC (MAT). The use of a P3 concession was critical in moving the project forward as the public sponsor, FDOT, was able to take advantage of the expertise of the private sector in constructing the tunnel with a tunnel boring machine. The use of the bored tunnel method greatly mitigated the project's environmental impacts and allowed its environmental clearance to be downgraded from an EIS to an EA. The initial environmental clearance was completed five years before P3 procurement, and a reevaluation was completed shortly before the P3 RFQ was issued.



Source: Federal Highway Administration

Mode	Subaqueous highway tunnel	Is this project tolled?	<input type="radio"/>
State-Region	FL-Miami	Did private involvement occur prior to NEPA?	<input type="radio"/>
Value (\$ m)	\$1,300	Did private partner influence project definition during NEPA?	<input type="radio"/>
P3 Model	Availability payment DBFOM	Was P3 procurement unsolicited?	<input type="radio"/>
Type and Date of Environmental Action	EA FONSI November 2000	Did private partner alter project definition post-NEPA?	<input type="radio"/>
Lead Federal Agency	FHWA	Did private partner post-NEPA changes require a NEPA reevaluation?	<input type="radio"/>
Private Partner	Miami Access Tunnel (MAT) LLP	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	<input type="radio"/>
Concession Term	35 Years	Was real estate development assessed during NEPA?	NA
Project Status	In construction. Opens Spring 2014	Was real estate development approved through a non-NEPA process?	NA
Date Private Involvement Initiated	May 2007	Was all or a majority of permitting completed by the private partner?	<input checked="" type="radio"/>

No

Yes

Somewhat

NA Not Applicable

PROJECT NAME	
Port of Miami Tunnel	
PROJECT TYPE	
Tunnel/Highway – P3 Concession	
STATE – REGION	
Miami, Florida	
COST (MILLIONS)	
Capital cost: \$1.3 billion (year of expenditure dollars)	
Project lifecycle costs: \$2.649 billion (year of expenditure dollars)	
PRIVATE SECTOR ROLE	
Miami Access Tunnel (MAT) LLC holds a 35-year, availability payment P3 concession with FDOT to design, build, finance, operate, and maintain the tunnel.	
PHYSICAL DESCRIPTION	
<p>The 518-acre Port of Miami is the 11th largest container port in the U.S. and largest cruise ship port in the world. The Port is located on Dodge Island in Biscayne Bay and is situated between the mainland City of Miami and Miami Beach. There is currently only one fixed roadway connection between the Port and the mainland via the Port Boulevard Bridge (Port Bridge). The Port Bridge is a four-lane bridge over the Intracoastal Waterway connecting the western end of Dodge Island and NW 6th Street in Downtown Miami.</p> <p>The Port of Miami Tunnel (POMT) will improve access to and from the Port of Miami, serving as a dedicated roadway connector for truck and bus traffic, linking the Port with MacArthur Causeway on Watson Island and I-395 on the mainland. The tunnel will consist of two bored tunnels, each 3,900 feet long and 41 feet in diameter, reaching a depth of 120 feet under the main shipping channel (Main Channel). Each bore will accommodate two 12-foot traffic lanes.</p> <p>As part of the project, the MacArthur Causeway Bridge will also be widened from three to four lanes in each direction to accommodate additional capacity and operational requirements associated with the tunnel. The project also includes modifications to the roadway system on Dodge Island.</p> <p>Project goals include:</p> <ul style="list-style-type: none"> • Improving access to the Port helping to keep it competitive and efficient • Improving traffic safety in downtown Miami by removing cargo trucks and cruise line buses from congested city streets • Facilitating ongoing and future development plans in and around downtown Miami 	
BRIEF TIMELINE	
1960	Construction begins on the Port of Miami
1979	Port of Miami Master Development Plan recommends replacement of existing two-lane bascule bridge access to the Port with four-lane fixed span bridge
1981	Draft Vehicular Access Study identifies four corridors for improved access to the Port in; Miami-Dade MPO-led Port of Miami Access Task Force established to review alternatives
March 1982	Three-phase plan adopted that includes direct freeway access from Port to mainland
August 1984	Three-phase Port of Miami Transportation Improvement Plan approved by county; includes tunnel with direct access to I-395
October 1989	POMT Project Development and Environment Study begins
July–August 1990	Preferred alternative selected, consisting of tunnel running diagonally under Main Channel and connected to MacArthur Causeway
February 1995	Draft Preliminary Engineering Report and DEIS submitted to FHWA
April 1996	DEIS approved by FHWA
May 1997	FHWA downgrades environmental study to EA/FONSI

BRIEF TIMELINE (CONT'D)	
November 2000	EA/FONSI approved by FHWA
December 2000	Location and Design Concept Acceptance (similar to ROD) issued by FHWA
December 2005	FHWA signs a re-evaluation of 2000 FONSI; FDOT hosts industry forum to examine P3 delivery options
February 2006	RFQ issued for DBFOM P3 concession
November 2006	RFP issued to short-listed proposers
February 2008	Miami Access Tunnel (MAT) is named Best Value Proposer
December 2008	FDOT announces project will not move forward, blaming financial crisis
April 2009	FDOT announces continuation of project procurement
June 2009	Commercial close
October 2009	Financial close
May 2010	Construction begins
May 2014	Expected construction completion
October 2044	Conclusion of concession
EARLY PLANNING ACTIVITIES	
<p>Planning for improved access to the Port of Miami began in 1979 with the Port of Miami Master Development Plan, which identified the need to replace the existing two-lane bascule Port Bridge with a four-lane fixed-span bridge. (It's six-lane replacement—the Port Boulevard Bridge—was completed in the early 1990s.)</p> <p>In 1981 the City of Miami commissioned a Vehicular Access Study to examine improvements to port access. From this study, a bridge or tunnel alternative to Watson Island was rejected due to design constraints and conflicts with redevelopment prospects on Watson Island.</p> <p>In the same year, however, the Miami-Dade MPO's Transportation Planning Council took the lead on reviewing alternatives, establishing a Port of Miami Access Task Force. The task force reexamined alternatives involving a new Port Bridge and improvements to surface streets in downtown Miami. A tunnel option that would connect the Port directly to I-395 was also explored. In March 1982, the task force proposed a three-phase plan, subsequently adopted by the MPO, which included a new bridge and surface street improvements as Phases I and II. Phase III would include long-term improvements in access between the port and freeway, with exact plans to be determined.</p> <p>In 1983, the task force examined bridge and tunnel alternatives for Phase III, including a tunnel under the Main Channel that would connect the Port with the MacArthur Causeway. In August 1984, the Miami Board of County Commissioners approved the three-phase Port of Miami Transportation Improvement Plan that became the foundation for the City and County to carry out downtown roadway improvements, replace the Port Bridge, and construct a tunnel providing direct access from the Port to I-395.</p> <p>The tunnel's planning and environmental approval process began in 1989 and concluded in 2000. A Project Development and Environment (PD&E) study (Florida's version of NEPA that combines some preliminary engineering and design) was initiated by FDOT in 1989. One year later, FDOT and FHWA identified a preferred alternative consisting of a tunnel crossing diagonally under the Main Channel between the Port and Watson Island, connecting to MacArthur Causeway. At the time, it was thought that the tunnel would be built as an immersed tube. As FDOT began the EIS for the project however, it became apparent that an immersed tube would have serious water quality impacts on Biscayne Bay and disrupt port operations due to blasting and dredging activities. A DEIS was approved in 1996 with strict control measures to mitigate environmental impacts.</p> <p>Shortly after the submittal of the DEIS, FDOT became aware of the option to construct the tunnel with a tunnel boring machine (TBM) rather than an immersed tube. This concept was highlighted at an industry forum event exploring tunnel construction options for a segment of the proposed East-West Corridor, a multimodal improvement project that at the time included a 12-mile heavy rail component from the Port of Miami west through downtown and on past the airport. It was realized that the bored option could be applied to the Port of Miami Tunnel project.</p> <p>The bored tunnel approach significantly reduced the environmental impacts to Biscayne Bay and port operations. As a result, FDOT only need to complete an EA, which resulted in a FONSI in November 2000.</p>	

ENVIRONMENTAL REVIEW/NEPA	
NEPA Class of Action	Environmental Assessment/FONSI (2000) Reevaluation of FONSI (2005)
Lead Federal Agency	FHWA
Cooperating Agencies	<ul style="list-style-type: none"> • U.S. Army Corps of Engineers (USACE) • U.S. Coast Guard (USCG)
Class of Action Determination	
<p>An EA was conducted because the change of tunnel construction method (from immersed tube to bored tunnel) minimized the potential impacts to Biscayne Bay. Constructing the tunnel using the immersed tube method would necessitate dredging and blasting in the Bay; those actions were not needed with a bored tunnel method. After the approval of the DEIS and acceptance of a new tunnel construction method, FHWA lowered the class of action from EIS to EA.</p>	
Major Environmental Issues/Commitments (Responsible Resource Agency)	
<p>The following environmental issues and commitments were identified in the EA:</p> <ul style="list-style-type: none"> • Coordination with the Port of Miami, USCG, and City of Miami to minimize impacts to navigational activities in Miami Harbor. • No dredging due to the tunnel boring method chosen; any disruption caused by construction would be contained to the main shipping channel area (south of Watson Island and north of Dodge Island). Construction in shallow water habitats would be avoided. Cut-and-cover construction techniques at the portals would occur near the shoreline where there is very little wildlife habitat. No turbidity or sedimentation impacts would be expected. (Florida Department of Environmental Protection [FDEP], U.S. Environmental Protection Agency, USACE, Miami-Dade County Department of Environmental Resources Management) • Coordination during the final design phase on project aesthetics; design would conform to adjacent structures on MacArthur Causeway and Watson Island and the project would be incorporated into the Watson Island redevelopment plan. • No residential or business relocations or displacements. • Coordination with Port of Miami staff to minimize the impacts of construction to Dodge Island and port operations. • MacArthur Causeway Bridge vertical and horizontal clearances consistent with others along the Intracoastal Waterway channel (USCG). • Provisions put in place to protect the endangered West Indian manatee in Biscayne Bay, as well as marine turtles (FDEP/U.S. Environmental Protection Agency). • Establishment of guidelines to implement precautions to assure that vehicles transporting explosive or flammable materials use the existing Port Boulevard Bridge rather than the new tunnel. • Development of a spoil plan to assure that any spoil material will be tested and disposed of in a matter which meets local and State standards. • Development of a comprehensive construction staging and maintenance of traffic plan for both Watson and Dodge Islands. 	
Design/Preliminary Engineering	
<p>At the time of the 2000 EA, preliminary design and engineering had been completed by FDOT. The preferred tunnel alignment and tunneling method was chosen through several iterations of the PD&E study in the 1990s, and through reevaluation of the tunneling method from immersed tube to tunnel boring method following the completion of a draft EIS in 1996.</p>	

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Public Input/Review

Public input was formally solicited through the creation of the Community Advisory Committee in the 1990s to help analyze and select corridor alternatives. Additionally public hearings were held throughout the environmental process to solicit comments from the public regarding the project.

Throughout the environmental assessment process, many Port stakeholders were concerned with potential disruption to Port operations and diversion of traffic from their businesses. Perhaps the biggest issue of concern was the potential for tolling the tunnel, which was considered in the early 2000s as way of financing the construction, operations, and maintenance of the project. However, cruise operators and businesses objected to tolls, believing that their imposition would make the Port less attractive for customers and would drive business from the Port of Miami to the nearby Port Everglades in Fort Lauderdale.

Nonetheless, once the prospect of tolling was eliminated, no significant opposition to the project existed. Ultimately, when the procurement and financing of the project was being finalized during the 2007–2009 period, other large development projects in the City of Miami were far more contentious. These projects—including a new baseball stadium for the Miami Marlins, a performing arts center, zoo, and park—were linked to the Port of Miami Tunnel because local County and City support for all projects was reached in an overarching “global agreement.”

Private Sector Role During NEPA

No direct private sector role: the project’s P3 procurement was initiated five years after its FONSI.

Extent Permitting Addressed

In a project information memo published in conjunction with the P3 procurement, FDOT outlined the potential permits required of the project:

- FDEP Environmental Resource Permit for the use of tunnel crossing
- FDEP Class V Deep Well Permit for stormwater injection wells associated with proposed drainage system
- Miami-Dade County Department of Environmental Resource Management (DERM) Class I Coastal Construction Permit for construction activities on or over tidal waters
- DERM Class II Drainage Discharge Permit for discharges to surface waters of Miami-Dade County
- USACE Permit for surface water encroachments and offshore disposal of excavated material
- National Pollutant Discharge Elimination System Permit for construction activity and stormwater discharge
- USCG Bridge Permit/Modification for activities associate with the MacArthur Causeway Bridge
- Dewatering permits as required by government authorities
- FDEP permits for the relocation of all water, sewer, and reclaimed water pipes associated with the project
- Miami-Dade County building permits for some structures

DECISION TO PURSUE P3

Due to the complexity and risk associated with the project, FDOT decided to pursue the project as a P3 to capitalize on the expertise of the private sector in bored tunnel construction. A consultant study of potential private development of the tunnel indicated that larger European contractors with large bored tunnel experience would only bid on such a project if it were procured as a concession that included long-term operations. An industry forum was held in December 2005 followed by workshops to discuss feasibility and the allocation of risks between the state and a potential private partner.

FDOT also realized that tolling the tunnel was not a viable option; as the cruise line operators and other port businesses opposed a toll, and having the Port Boulevard Bridge remain a free option would limit the viability of a tolled tunnel. The decision was made to develop the project as on a P3 basis where a private developer would leverage availability payments provided by FDOT rather than toll proceeds. This approach transferred construction, operation, and financial risk from FDOT to private sector partners better equipped to handle those risks.

The decision to pursue a P3 was also facilitated by the strengthening of the state’s P3 statute in 2004. FDOT has been authorized to enter into P3s since 1991 but individual project approval via additional legislation was required. No agreements were entered into under this version of the law. In 2004, the legislation was amended to allow FDOT to receive or solicit proposals and enter into agreements with legislative approval as evidenced through approval of the project in the department’s Work Program in the Legislature’s appropriations process.

POST-NEPA/PRE-FINAL DESIGN

Significant Design Changes/Reevaluations

Due to the significant amount of time that passed between FHWA's issuance of the FONSI (in 2000) and when the project's procurement was being sought, a reevaluation was initiated in 2003 to update project documents and further examine construction methods for the tunnel. FHWA approved the reevaluation in December 2005.

By the time of the P3 procurement (2006–2007), the project's indicative design had been completed by FDOT. No modifications or evolution of the project in the indicative design required an environmental reevaluation.

Technical proposals from prospective concessionaires were permitted to propose designs that differed from FDOT's indicative design within the bounds of flexible technical criteria specified by the department. For example, the FDOT indicative design proposed two portals at Watson Island; MAT's winning bid used one portal.

FINAL DESIGN/ CONSTRUCTION

Public vs. Private Sector Roles

The concessionaire, MAT, is responsible for the final design, construction, financing, operation and management of the tunnel over its 35-year concession period. Bouygues, the design-builder and minority equity partner in MAT, is responsible for completing the final design and constructing the facility. These responsibilities include securing right-of-way for areas outside of the preliminary right-of-way plan, disposal and management of tunnel muck, and construction risks. The concessionaire is also responsible for the abatement of construction noise especially related to businesses and operations on Watson Island.

FDOT plays a managerial and oversight role with regard to the final design and construction phase of the project. A construction project management team reviews the design-builder's progress to ensure compliance with contract provisions and technical criteria.

Other Notable Actions/Events

The concessionaire made two claims to a geotechnical contingency fund, a reserve account that can be drawn upon in the event that the concessionaire encounters unforeseen construction challenges. The fund was set up to mitigate construction risk due to the complexity of the bored tunnel method. The first claim was to modify the TBM to accommodate the removal of excavate as a fine grain combination of water and gravel. The second claim was to conduct additional formation grouting from the bottom of the shipping channel and ahead of the TBM face to ensure ground stability or water control as the TBM advanced. Neither of these modifications required supplemental environmental evaluations. A Dispute Resolution Board ruled in FDOT's favor on the first claim and in MAT's favor on the second.

Significant Design Changes/Reevaluations

During final design, a single portal on Dodge Island was also incorporated into the design, resulting in a longer bored tunnel.

The approach roadways to the Dodge Island portal were reconfigured and a bridge structure simplified (this also reduced maintenance and protection of traffic issues).

Other minor revisions have been incorporated including small changes to the MacArthur Causeway Bridge design and the addition of a deceleration/U-turn lane for trucks that miss the entrance to the tunnel portal on Watson Island.

None of the design changes to date have required an environmental reevaluation.

Permitting

The concessionaire is responsible for identifying and securing all the necessary regulatory and building permits. The public sector may aid the concessionaire with the permitting process to expedite the acquisition of permits.

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

FDOT was able to avoid significant environmental impact by changing the tunneling method from immersed tube to bored tunnel, and thus a lengthy EIS process to an EA and FONSI. The bored tunnel method averts the disruption of the sensitive soil conditions and animal population in Biscayne Bay as well as contamination of the Biscayne Bay aquatic environment. FDOT also avoided significant impacts on Watson Island by working with the City of Miami to incorporate the design of the tunnel corridor into future redevelopment plans for the Island.

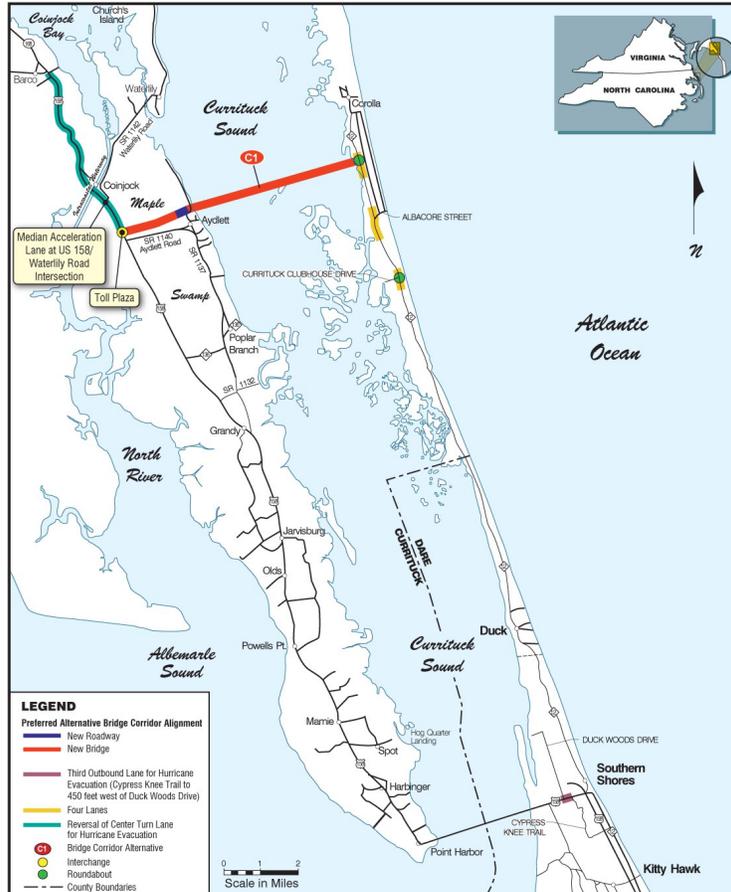
While it was clear early on in project development that the bored tunnel method was necessary to mitigate environmental risks to the project, the expertise in tunnel boring technology was lacking both within FDOT and the private domestic construction sector. Based on direct outreach to domestic and international contractors and advice from its advisors, FDOT made the decision to implement the project on a P3 basis and created a geotechnical contingency fund to cover the financial risk posed by unforeseen issues associated with the construction of a wide bore, subaqueous tunnel in soft soil conditions.

Mid-Currituck Bridge Project Profile

The Mid-Currituck Bridge project involves the construction of a new seven-mile bridge connecting US 158 near Aydlett on the Currituck County mainland with NC 12 on the Outer Banks in North Carolina. The project consists of a new, two-lane tolled bridge and approach roads. The addition of the bridge to the region will reduce travel time and congestion, especially during the peak summer season. The bridge will also serve as an alternate hurricane evacuation route for the northern Outer Banks.

The project is being developed as a DBFOM concession and is the first major P3 in North Carolina. The project sponsor, North Carolina Turnpike Authority (NCTA), entered into a pre-development agreement with the concessionaire, the Currituck Development Group, allowing them the right of first of refusal to negotiate the subsequent P3 contract. The pre-development agreement allows the two partners to work together on the environmental and permitting processes, financial planning, and feasibility and engineering studies.

The project is currently awaiting environmental clearance from FHWA and is on hold pending its approval through a newly adopted state project approval scoring formula. The final EIS was released in early 2012, and the ROD is pending. As outlined in the pre-development agreement, the concessionaire has played a significant role in environmental phase by aiding in such activities such as value engineering, constructability studies, traffic and revenue studies, right-of-way negotiation support, participating in public workshops, and NEPA and permitting. The constructability studies, in particular, have helped the project sponsor structure the project to minimize and avoid environmental impacts.



Source: North Carolina Department of Transportation

Mode	New toll bridge	Is this project tolled?	●
State-Region	NC - Northeast	Did private involvement occur prior to NEPA?	○
Value (\$ m)	\$595	Did private partner influence project definition during NEPA?	●
P3 Model	PDA and potential real toll DBFOM	Was P3 procurement unsolicited?	●
Type and Date of Environmental Action	EIS ROD Pending	Did private partner alter project definition post-NEPA?	NA
Lead Federal Agency	FHWA	Did private partner post-NEPA changes require a NEPA reevaluation?	NA
Private Partner	Currituck Development Group	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	NA
Concession Term	To Be Determined	Was real estate development assessed during NEPA?	NA
Project Status	In NEPA /Stalled	Was real estate development approved through a non-NEPA process?	NA
Date Private Involvement Initiated	December 2008	Was all or a majority of permitting completed by the private partner?	NA

○ No

● Yes

◐ Somewhat

NA Not Applicable

PROJECT NAME	
Mid-Currituck Bridge	
PROJECT TYPE	
Candidate Toll Bridge – P3 Concession	
STATE – REGION	
North Carolina – Currituck Sound Region (Northeast)	
COST (MILLIONS)	
<ul style="list-style-type: none"> \$595 million FEIS Preferred Alternative range: \$502–594 million 	
PHYSICAL DESCRIPTION	
<p>The Mid-Currituck Bridge is the main component of a series of proposed highway improvements in the Currituck Sound area of Northeast North Carolina. The 7-mile long project would connect US 158 near Aydlett on the Currituck County mainland and NC 12 on the Outer Banks near Corolla with a two-lane toll bridge and approach roads.</p> <p>The primary goals of the project are to reduce travel time and congestion, especially during the summer vacation season, and provide an alternative hurricane evacuation route for the northern Outer Banks. Hurricane evacuation clearance times using the existing Wright Memorial Bridge in Dare County to the south exceed the state-designated standard of 18 hours.</p> <p>The project is North Carolina’s first P3 pursuit for major transportation infrastructure. NCDOT signed a pre-development agreement with the Currituck Development Group in April 2009. This private partner has the right of first refusal to negotiate a design-build-finance-operate-maintain concession agreement with the North Carolina Turnpike Authority (NCTA) upon completion of the NEPA process. The pre-development agreement states that NCTA and the “Developer” will work during the “Pre-Development Phase” to advance the “environmental and permitting processes, feasibility studies, financial planning and engineering.”</p>	
BRIEF TIMELINE	
Mid-1994	Mid-Currituck Bridge scoping process started
July 1995	DEIS initiated
January 1998	DEIS released
2000	Project reactivated with expanded study area and scope (improvements to connecting roadways considered in addition to bridge)
2002	NCTA created by state legislature
August 2003	Agreement reached on revised Purpose and Need
2005	Project-specific legislation passed for NCTA to take lead on toll bridge and to contract with a private partner
2006	NCTA officially adopts project as candidate toll project
January 2007	Preliminary Traffic and Revenue Study completed
May 2008	Industry forum prior to release of the PDA procurement
June 2008	1998 DEIS rescinded; new DEIS begins
December 2008	Selection of PDA partner
April 2009	Predevelopment Agreement executed with the Currituck Development Group
March 2010	New DEIS released
July 2011	Final Traffic and Revenue Forecast Report released
January 2012	FEIS released
October 2012	ROD submitted for FHWA approval

EARLY PLANNING ACTIVITIES

In July 1995, legislation was enacted creating the North Carolina Bridge Authority and identifying what would become the Mid-Currituck Bridge as a Bridge Authority project. That same month, FHWA published a Notice of Intent to prepare an EIS for the Mid-Currituck Bridge. A DEIS was released in January 1998. The NEPA process was paused after the public hearings and comment period to provide time to consider certain impacts, the ability of the alternatives under study to meet the purpose and need, and the belief that alternatives other than a bridge needed to be studied in greater depth, including roadway widening and increased ferry service.

The project was reactivated by NCDOT in 2000 with an expanded study area and scope to address the concerns arising from the initial DEIS and to provide a more comprehensive evaluation of transportation improvement options. These options included roadway improvements to US 158 and NC 12 with and without the addition of a bridge. In 2003 NCDOT revised Purpose and Need statement to include hurricane evacuation as a project purpose, contingent upon completion of a statewide evacuation study. That study later determined that existing conditions could not meet an 18-hour statewide evacuation clearance time standard which was required by in statute in 2005

Meanwhile in 2002, the North Carolina General Assembly passed legislation creating the North Carolina Turnpike Authority (NCTA) and authorizing it to construct and operate toll roads and bridges. The legislation was amended in 2005 identifying the Mid-Currituck Bridge in statute as an NCTA project, using specific characteristic and geographic language (similar in nature to the Bridge Authority legislation 10 years earlier). In addition, NCTA was granted specific authority to enter into a development agreement with a private partner to “design, obtain all necessary permits for, and construct” the bridge. The project was officially adopted by NCTA in 2006, and it continued to advance the environmental studies started by FHWA and NCDOT.

ENVIRONMENTAL REVIEW/NEPA

NEPA Class of Action	Environmental Impact Statement / Record of Decision
Lead Federal Agency	FHWA
Cooperating Agencies	<ul style="list-style-type: none"> • U.S. Coast Guard (USCG) • U.S. Army Corps of Engineers (USACE)

Class of Action Determination

An EIS/ROD is necessary because of the level of expected impacts among the alternatives considered. Construction of a bridge of this magnitude with its anticipated impacts routinely requires an EIS.

Major Environmental Issues/ Commitments (Responsible Resource)

The following are the significant environmental impacts identified in the EIS:

- Avoidance/minimization/mitigation of impacts to Currituck Sound Submerged Aquatic Vegetation (SAV) habitat¹ – the preferred alternative identifies 8.7 acres of shading to SAV habitat and potential SAV habitat (NCDENR², Division of Marine Fisheries [DMF]; National Marine Fisheries Service [NMFS])
- Avoidance/minimization/mitigation of water quality impacts from stormwater due to bridge run-off – the preferred alternative would add 71.5 acres of impervious surface (NCDENR, Division of Water Quality [DWQ])
- Avoidance/minimization/mitigation of impacts to wetlands – the preferred alternative would fill 7.9 acres and clear 25.5 acres of wetlands (USACE, NCDENR-DWQ, NCDENR, Division of Coastal Management [DCM])
- Loss of 0.1 acre of Essential Fish Habitat due to bridge pilings (NCDENR-DMF; NMFS)
- Potential to affect but not likely to adversely affect seven of 17 identified threatened and endangered species under federal jurisdiction for which a biological conclusion is required (NMFS, U.S. Fish and Wildlife Service)

In addition to these impacts, the project would require six residential and three business relocations. The project would also reorder expected future development to take place first in Currituck County rather than Dare County. This future development, which would contribute to cumulative impacts, is forecast to take place irrespective of whether the project is built, although the project would accommodate 86 percent of maximum build out, rather than 70 percent without the bridge, because of the ability to accommodate more vehicular traffic. The presence of the bridge could result in indirect impacts from the development of business in proximity to the bridge’s interchange with US 158, although this development is desired.

1. SAV is an underwater garden for juvenile fish and small invertebrates and a barometer of water quality (NCDENR). See:

<http://portal.ncdenr.org/web/mf/66>

2. NCDENR: North Carolina Department of Environment and Natural Resources

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Private Sector Role During NEPA

A private sector partner (“developer”) became engaged under a Predevelopment Agreement (PDA) during the preparation of the new DEIS in 2009. The PDA:

- Defines role of developer until financial close
- Defines NCTA and developer project contributions
- Assigns both parties rights
- Affords developer first right of refusal to negotiate concession
- Contains contractual off-ramps
- Assumes developer contributes some sweat equity

Activities performed by the developer during the environmental review phase have included:

- Value engineering
- Constructability studies
- NEPA and permitting support
- Public workshop participation
- Technical studies
- Costing plans
- ROW negotiation support
- Draft utility agreements
- Refined traffic and revenue studies
- Financing option review
- Commercial structuring

The state has paid the developer on a deliverable basis (e.g., T&R Study) as outlined in the agreement. These products have value to the state even if the project is not advanced on a concession basis with the developer. They would have been needed to advance the implementation of the project and would likely have been completed and funded through separately procured/negotiated consultant agreements.

The developer added value to the environmental review phase particularly through its constructability reviews. It focused on construction methods, scheduling, and a thorough examination of ways to avoid/minimize/mitigate certain environmental impacts (see additional detail in the “Preliminary Engineering/Design” and “Lessons Learned” sections). Importantly, NCTA established a “firewall” between the developer and the NEPA process, filtering input provided by the developer and ensuring the process was not compromised. NCTA made it very clear among resource and regulatory agencies, and among stakeholders and the public at large, that the developer’s role did not include preparation of the environmental document or decision-making. It acted solely in a supportive capacity. For example, when the developer accompanied NCTA at meetings with resource and regulatory agencies, its role was only to provide information and answer questions.

The following language was used in the FEIS to make the firewall and role of the developer clear:

As per the requirements of Title 23 Code of Federal Regulations (CFR) Section 636.109, the partner did not prepare the DEIS or this FEIS or have any decision-making responsibility with respect to the NEPA process. The private firm that assisted NCTA and FHWA in the preparation of the DEIS and this FEIS was selected by and subject to the exclusive direction and control of NCTA. The partner could and did provide information to NCTA about the potential project design and possible mitigation actions.¹

1. Final Environmental Impact Statement, Mid-Currituck Bridge Study. North Carolina Turnpike Authority, January 2012.
http://www.ncdot.gov/projects/midcurrituckbridge/download/midcurrituck_FEIS_201201.pdf

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Preliminary Engineering/Design

NCTA completed a preliminary design on which to base the identification and consideration of environmental impacts in the EIS. The developer advanced this design to the 25 percent level, on which it is basing its bid for the concession phase.

Four potential issues of concern relating to permitting were raised by resource and regulatory agencies through regular Turnpike Environmental Agency Coordination meetings held under a Project Coordination Plan (see the “Other Notable Actions/Events” section). These issues involved 1) construction methods and how they relate to scheduling and environmental impacts and 2) stormwater management:

- Dredging – the developer’s preferred bridge construction method was to maximize construction from barges, which would have required the removal of material from the floor of Currituck Sound, but resource agencies were firmly opposed to dredging. Ultimately, barging would be feasible where water depths are great enough (the bridge’s middle section), while construction from trestles would be necessary closer to its approaches where water depths are shallower.
- Work Moratorium – a moratorium is in place between February 15 and September 30 prohibiting work in Currituck Sound where SAV habitat is present. This moratorium had the potential to significantly impact the construction schedule, but the developer helped to identify a feasible construction schedule that more precisely defined “in water work” and where geographically the moratorium applied.
- SAV Habitat Impacts – impacts to SAV habitat were a major concern. The developer worked to identify what portions of Currituck Sound would be subject to impact and what protections and mitigation could be applied (e.g., open trestle bridge construction technique to minimize shading, turbidity curtains, and mitigation where impacts would be unavoidable).
- Stormwater Management – resource agencies initially wanted all bridge stormwater runoff to be captured and treated, which would have presented a costly design and operational issue. The developer proposed a state-of-the-art sweeping and vacuuming vehicle solution that would minimize pollutants from the bridge deck from entering stormwater runoff in the first place, while a much smaller piping and filtering system would be employed in areas of the bridge that pass over regions with SAV habitat.

Other significant design considerations included:

- Bridge clearance – navigation span with 35-foot vertical clearance
- Bicycle accommodation along shoulder
- Maintenance of traffic during summer peak period

Extent Permitting Addressed

The following permits are required for the project:

- Clean Water Act Section 404 Individual Permit¹ (requires “least environmentally damaging” practicable alternative [LEDPA]) – necessitated close coordination with USACE
- Clean Water Act Section 401 water quality certification² (requires high level of design to receive) from NCDENR-DWQ
- Bridge Permit (USCG)
- Coastal Area Management Act (CAMA) Permit (required for impacts to Areas of Environmental Concern under jurisdiction of NCDENR-DCM)
- Stormwater Management Plan (NCDENR-DWQ)
- Permit from NCDENR, Division of Land Resources – enforces the Sedimentation Pollution Control Act of 1973, which regulates land-disturbing activities

The developer has assisted in the preparation of draft permit applications. However, the developer’s responsibilities have been no greater than in the case of other design-build projects. North Carolina’s environmental process requires a project to be permittable to gain environmental clearance. In addition, the project needs to be permitted so that project financing can be arranged. In some cases, some aspects of design have been specified for the purposes of satisfying permitting requirements, with the knowledge that they will change during final design.

1. Section 404 Permit is for the discharge of fill into U.S. waters

2. Section 401 certification requires that the state provide certification that any activity authorized under Section 404 is in compliance with effluent limits, the state’s water quality standards, and any other appropriate requirements of state law.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Public Input/Review

On the whole, public support for the Mid-Currituck Bridge has been favorable, although, as with many transportation projects, there are groups of vocal detractors. There have been some objections from residents near the western terminus (Aydlett community). In addition, criticism arose from the developer's foreign origin and the assumption that it would employ non-Americans. This was especially noted at the public workshops, which the developer attended. One observer remarked that generally the state has done a good job managing the public outreach process. The more challenging issue has been securing legislative support, for which the developer has engaged a lobbyist to advocate for continued funding.

Other Notable Actions/Events

Between 2001 and 2006, while the environmental review process was still under the purview of NCDOT and the 1998 DEIS was being revisited, a NEPA/Section 404 merger process was used ("Merger 01 Process"), developed under an agreement between NCDOT, FHWA, USACE, NCDENR, and other state and federal resource and regulatory agencies. NEPA/Section 404 Merger Team meetings were held periodically to allow for formal early involvement by these agencies in the project development process. The goal was to avoid duplication of effort between NEPA and Section 404 processes and to avoid/minimize permit delays, since the USACE must meet the requirements of NEPA in order to issue a dredge/fill permit under the Clean Water Act.

This process requires "concurrence" from project team members at key decision points before being able to advance (e.g., agreement on purpose and need must be reached before agreeing on alternatives selected for detailed study). Revisiting prior concurrence points is only permitted under specific circumstances when substantive new information warrants reevaluation (e.g., a change in assumptions on which the purpose and need is based, discovery of a new impact or resource, discovery of engineering limitations).¹

When the Mid-Currituck Bridge became an NCTA project in 2006, rather than continue to utilize the NEPA/Section 404 Merger Team, it chose instead to prepare a Section 6002 Project Coordination Plan, newly established under SAFETEA-LU, to coordinate with and gain approvals from resource and regulatory agencies. Agencies were invited to participate in regular Turnpike Environmental Agency Coordination (TEAC) meetings. Concurrence would not be sought at key milestones; however, agencies were expected to identify issues of concern as early as possible to avoid substantial delay or denial of permit approval. Four potential issues were raised, as discussed under the "Preliminary Engineering/Design" section.

NCTA was a new entity at the time it assumed sponsorship of the project and direction of the NEPA process. It benefited from fewer projects to manage and placed a higher premium on expedited completion. It had the advantage of being able to conduct business without setting precedents for NCDOT.

DECISION TO PURSUE P3

The Mid-Currituck Bridge project was named in statute in 2005 as a project potentially to be implemented as a P3 by the NCTA, which had been formed three years prior to advance projects in the state using toll revenue to supplement state and potentially federal funds. The thinking was that the use of a single developer would accelerate the project's development. The bridge's existence in statute dates back to its inclusion as a North Carolina Bridge Authority project upon creation of that entity in 1995.

It was known that toll revenue alone would be insufficient to finance the project and that a state supplement would be needed. This could take the form of an annual appropriation, from which bonds could be issued, or an upfront lump sum.

From the industry forum held in May 2008, NCTA concluded that it would pursue a predevelopment agreement rather than a competitive hard bid approach because of the benefits expected from the private partner's support upfront during the environmental and early project development phase.

FINAL DESIGN/CONSTRUCTION

Not applicable – Project has not yet been issued a ROD (submitted for approval to FHWA in October 2012). Although, the project was approved through specific statutes, the current state legislature has initiated a new process for prioritizing and funding transportation projects in the state through a Strategic Mobility Formula. This formula is expected to be applied to the Mid-Currituck Bridge, and as of fall 2013, it is not yet clear how it will rank against other competing needs. See: <https://apps.ncdot.gov/newsreleases/details.aspx?r=8613>.

1. Section 404/NEPA Merger Process Information, Memorandum of Understanding, North Carolina DOT, November 2, 2012.

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

During the environmental review and preliminary engineering phase, the developer was able to introduce improvements and innovations in preliminary design and constructability, helping to forestall a need to revisit issues during permitting or final design. In addition, it is likely that in the developer's absence, NCTA would have made environmental commitments that increase the difficulty for or preclude changes later in the process. For example, initially resource agencies pressed for the bridge to be fully constructed using a top-down method. The developer was able to show that the use of some in-water construction (from barges) actually netted an overall improvement to schedule, cost, and environmental impacts to SAV habitat, since a design fully constructed top-down would necessitate shorter spans, additional piles, and preclude constructing the bridge from multiple locations at once, all increasing cost and duration.

One observer stated that the project is “a great example of integrating planning, NEPA, finance, operations, tolling, and permitting—if it comes to fruition—since it started from nothing.” The project's uncertainty is not due to the procurement approach and process, but rather “political challenges,” specifically the inclusion of the bridge in statute rather than being subjected to NCDOT's standard project evaluation and ranking procedures, which are undergoing revision as noted above. This 2005 decision has recently drawn greater scrutiny in an era of constrained budgets and government spending.

North Tarrant Express I-35W Segments 3A and 3B Project Profile

The North Tarrant Express (NTE) is a series of highway improvements to I-820, SH 121/SH 183 and I-35W in the Fort Worth, Texas region. Four construction segments are being delivered in two phases as separate P3 concessions. Phase I (I-820 and SH 121/SH 183) has been in construction since 2010. Phase II along I-35W consists of Segments 3A and 3B. Segment 3A includes improvements to 6.5 miles of I-35W between I-30 and I-820: widening the highway to 12 lanes (8 general purpose and 4 barrier-separated priced managed lanes), reconstructing existing frontage roads, and improvements to bridges/overpasses, interchanges and ramps. Segment 3B includes improvements to I-35W north of 3A to US 287, including widening to 12 and 14 lanes (8 general purpose lanes and 4 to 6 barrier-separated priced managed lanes), as well the reconstruction of frontage roads, auxiliary lanes, and direct connections to the managed lanes.

In 2009 TxDOT initially entered into two comprehensive development agreements (CDA) with the concessionaire, NTE Mobility Partners, to deliver Phase I and develop a Master Development Plan for the remaining segments of the NTE. As a result of the Master Development Plan, in 2013 TxDOT signed a third CDA with NTE Mobility Partners to deliver Segment 3A on a DBFOM basis and operate and maintain 3B as part of the overall NTE managed lane network, once completed through traditional project delivery by TxDOT. Because of the Master Development Plan CDA, the private partner was able to put forth its own design concepts for Segments 3A and 3B during preliminary engineering, while TxDOT cleared the projects environmentally. It offered insight into operational improvements and financial feasibility.

FHWA approved the project with an EA and FONSI because it did not fall into one of four categories that would necessitate an EIS. Although the project has a number of environmental challenges, there has been close communication and coordination with regulatory and resource agencies to work through environmental issues and commitments.

North Tarrant Express I-35W Segments 3A and 3B Project Profile



Source: Federal Highway Administration

Mode	New priced managed lanes	Is this project tolled?	●
State-Region	TX – Fort Worth	Did private involvement occur prior to NEPA?	○
Value (\$ m)	\$1,644	Did private partner influence project definition during NEPA?	●
P3 Model	PDA and real toll DBFOM	Was P3 procurement unsolicited?	●
Type and Date of Environmental Action	EA/FONSI Mar. 2012 – Segment 3B Aug. 2012 – Segment 3A	Did private partner alter project definition post-NEPA?	○
Lead Federal Agency	FHWA	Did private partner post-NEPA changes require a NEPA reevaluation?	○
Private Partner	NTE Mobility Partners Segments 3 (NTEMP3)	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	○
Concession Term	52 years	Was real estate development assessed during NEPA?	NA
Project Status	In construction	Was joint development approved through a non-NEPA process?	NA
Date Private Involvement Initiated	June 2009	Was all or a majority of permitting completed by the private partner?	●

○ No

● Yes

◐ Somewhat

NA Not Applicable

PROJECT NAME
North Tarrant Express I-35W Segments 3A and 3B
PROJECT TYPE
Highway / Priced Managed Lanes – P3 Concession
STATE – REGION
Texas – Fort Worth
COST (MILLIONS)
<ul style="list-style-type: none"> • Segment 3A: \$1.4 billion • Segment 3B: \$244 million
PHYSICAL DESCRIPTION
<p>The North Tarrant Express (NTE) is a series of major highway improvements to I-820, SH 121/SH 183, and I-35W in the Fort Worth, Texas region. Four segments of the project are currently being delivered in two phases as a partnership between the Texas Department of Transportation (TxDOT) and a private concessionaire, legally referred to as NTE Mobility Partners (NTEMP) for Phase I and NTE Mobility Partners Segments 3 (NTEMP3) for Phase II.</p> <p>Phase I has been under construction since late 2010. It consists of the reconstruction, widening, and addition of priced managed lanes to 13.3 miles of I-820 (Segment 1) and SH 121/SH 183 (Airport Freeway) (Segment 2W) from I-35W north of Fort Worth to the SH 121/SH 183 split southwest of Dallas-Fort Worth International Airport. Phase I is being delivered as design-build-finance-operate-maintain (DBFOM) concession (Comprehensive Development Agreement [CDA]) with NTEMP.¹</p> <p>Phase I was awarded as part of a dual solicitation that included a second CDA: a 10-year Master Development Plan agreement with the same concession partners, known legally in this case as NTE Mobility Partners Segments 2–4 (NTEMP24) for the remaining segments of the NTE. As a result of the plan, the concession partners—NTEMP3—have signed a facility agreement to develop Segment 3A on a DBFOM basis. TxDOT will deliver Segment 3B on a design-bid-build basis, and once complete, turn over operations and maintenance to NTEMP3.²</p> <p>Segment 3A includes improvements to 6.5 miles of I-35W from north of I-30 near downtown Fort Worth to north of I-820, including the I-35W/I-820 interchange. I-35W will be reconstructed and widened to an ultimate configuration as a 12-lane facility, with eight general purpose lanes and four barrier-separated priced managed lanes along the median. Existing frontage roads will be reconstructed. (The frontage roads would be discontinuous along the corridor.) Bridges and overpasses, interchanges, and ramps will also be reconstructed. The interchange with I-820 at the western extent of Segment 1 will be reconstructed and include direct connectors between the two segments' managed lane components. The environmental review for this interchange was included as part of Segment 1.</p> <p>Segment 3B includes improvements to 3.6 miles of I-35W from north of I-820 (joining Segment 3A) to north of US 81/287. This section of I-35W will also be reconstructed and widened to an ultimate configuration as a 12- and 14-lane facility with eight general purpose lanes and four or six barrier-separated priced managed lanes along the median. Frontage road reconstruction, auxiliary lanes, and managed lane direct connectors with US 81/287 are included.</p> <p>The goals of the NTE I-35W Segments 3A and 3B projects include:</p> <ul style="list-style-type: none"> • Addressing capacity deficiencies along I-35W due to sustained and projected population growth in the Fort Worth region • Addressing operational deficiencies and updating the freeways to current design standards to improve safety • Improving mobility and facilitating access to existing and future land uses along the corridor <p>Three other highway segments contiguous with those under development comprise the remainder of the full 36-mile NTE and are contemplated in the Master Development Plan. The timing of their implementation is primarily a function of funding availability. In late 2012, however, TxDOT chose to terminate its CDA with NTEMP for these remaining NTE segments and will pursue alternative means for their delivery.</p>

1. A Comprehensive Development Agreement is the equivalent of a P3.

2. Throughout the remainder of the document, NTEMP will refer to all contractual variances of the private partners (NTEMP, NTEMP24, and NTEMP3).

BRIEF TIMELINE	
1960s	Construction of I-820, Airport Freeway, I-35W
1992	TxDOT begins to study improvements to I-35W corridor between I-30 and I-820
June 2003	TxDOT granted authority to enter into CDAs
May 2004	RFQ for initial DBFOM procurement for priced managed lane expansion of I-820 and Airport Freeway
January 2006	Initial procurement canceled prior to request for detailed proposals
March 2006	Authorization for two new CDAs to develop the NTE
December 2006	NTE RFQ issued
July 2007	Four teams shortlisted
March 2008	Request for Detailed Proposals
December 2008	FONSI issued for Segment 1 (includes I-35W/I-820 interchange)
January 2009	Conditional award of NTE CDAs to NTEMP
June 2009	NTE CDAs executed
May 2010	Ready for Development Letter submitted for Segments 3A and 3B
November 2010	Construction begins on NTE Phase I (Segments 1 and 2W)
December 2010	Master Development Plan approved
July 2011	Facility Implementation Plan details agreement on Segments 3A and 3B delivery methods and responsibilities of TxDOT and NTEMP3
March 2012	FONSI issued for Segment 3B
August 2012	FONSI issued for Segment 3A
September 2012	Segment 3B construction contract awarded
March 2013	Facility agreement signed and commercial close for Segment 3A
May 2013	Segment 3B construction starts
Summer 2013	Segment 3A expected construction start
Mid-2015	Anticipated Phase I substantial construction completion
Late 2017	Anticipated Segment 3B substantial construction completion
2018	Anticipated Segment 3A substantial construction completion
2061	Concession concludes

EARLY PLANNING ACTIVITIES

TxDOT’s plans for roadway improvements to Segment 3A date back to an initial study in 1992 examining the I-35W corridor from I-30 to I-820. TxDOT held a public meeting in June 1993. The department continued to develop schematics of the corridor’s improvements, including the addition of a reversible HOV lane in the median by the late 1990s. Further evolution of the schematics affected the corridor’s limits and interchange configurations. In parallel with the schematic development, environmental analysis and documentation was prepared but never formally submitted to TxDOT’s Environmental Affairs Division or FHWA. (TxDOT typically does not take this step until a design schematic is finalized and a timeline and funding for implementation are in place.) Priorities within the Fort Worth District of TxDOT, however, lay elsewhere during this time, with a greater need placed on improving I-820—what would become Segment 1 of the NTE.

A separate study conducted in the late 1980s to early 1990s looked at improvements to I-35W north of I-820 to SH 114—the corridor that now includes Segment 3B.¹ As a result, a series of small improvements to the corridor’s frontage roads and the addition of interchanges near the Fort Worth Alliance Airport were constructed. This section of I-35W, including Segment 3B, was not revisited again by TxDOT until 2006 during the development of the CDA procurement.

DECISION TO PURSUE P3

Beginning in the early 2000s, Texas enacted several laws designed to address an apparent lack of transportation revenue, which had been reliant primarily on pay-as-you-go tax receipts, to implement a number of its major highway improvement projects it had been studying, including corridors in the Fort Worth region that would ultimately comprise the NTE. Authorizing legislation to enter into CDAs was enacted in 2003. That same year, the Texas Transportation Commission (TTC) formalized a policy statewide that had already been followed in the Dallas-Fort Worth region since the mid-1990s—to examine all new controlled access mobility projects for tolling, in large part to identify alternative sources of funding for construction and operations. In 2004, TxDOT began to examine the inclusion of priced managed lanes in capacity expansion projects in the Dallas-Fort Worth region rather than HOV lanes.

An unsolicited proposal received in early 2004 to reconstruct and add priced managed lanes to I-820 and the Airport Freeway between I-35W and I-35E prompted TxDOT to issue an RFQ for a DBFOM concession for that corridor. The solicitation was ultimately canceled in early 2006, but by the end of that year, TxDOT reissued a dual procurement for the NTE: one for a DBFOM concession on the I-820 and a reconfigured section of the Airport Freeway, and a second for a 10-year Master Development Agreement for the remaining segments of the NTE, including 3A and 3B. This approach to solicit a CDA partner to study and recommend a plan for implementing priced managed lanes on additional highway corridor segments was selected by the TTC in favor of the TxDOT Fort Worth District’s recommendation to prescreen segments for suitability of adding priced managed lanes. In early 2009, the two CDAs were conditionally awarded to NTEMP.

By the time the two CDAs were executed in June 2009, TxDOT had advanced the schematic designs of Segments 3A and 3B to about the same level and both included priced managed lanes, in line with the overall concept of the NTE.

ENVIRONMENTAL REVIEW/NEPA

NEPA Class of Action	<ul style="list-style-type: none"> • Segment 3A: Environmental Assessment / FONSI • Segment 3B: Environmental Assessment / FONSI • I-35W/I-820 Interchange (included in Segment 1 NEPA evaluation): Environmental Assessment / FONSI
Lead Federal Agency	<ul style="list-style-type: none"> • Segment 3A: FHWA • Segment 3B: FHWA • Segment 1: FHWA
Cooperating Agencies	<ul style="list-style-type: none"> • Segment 3A: U.S. Army Corps of Engineers (USACE) • Segment 3B: None • Segment 1: None

1. The corridor also includes the future NTE Segment 3C from the northern limit of Segment 3B near US 81/287 to SH 170. As of May 2013, TxDOT is examining ways to fund this segment, which will not be procured through the NTEMP CDA.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Class of Action Determination

As stated in the introductions to both EAs, an EIS was not prepared in both cases because the proposed improvements do not involve one of the four projects or actions given as examples that “normally require an EIS” per the Code of Federal Regulations Section 771.115:¹

- A new controlled access freeway
- A highway project of four or more lanes on a new location
- New construction or extension of fixed guideway systems
- New construction or extension of a separate roadway for buses or high occupancy vehicles not located within an existing highway facility

Despite a level of environmental impacts within Segment 3A that might suggest the need for greater review than an EA (see the Major Environmental Issues/Commitments section), there was never any suggestion to elevate the review to an EIS. One observer suggested that the high level of coordination and consultation with regulatory and resource agencies, as well as the level of analysis performed on key issues (for example, an appendix to the EA was devoted to the USACE Section 408 Permit) was seen as sufficient by all stakeholders involved.

Private Sector Role During NEPA

With the two CDAs executed in June 2009, TxDOT next established a local CDA office for the Dallas-Fort Worth region (DFW CDA Program Office) to manage the relationship between the department and NTEMP and oversee their work. The DFW CDA office managed the work being done under the Phase I DBFOM CDA for Segments 1 and 2W as well as the Master Development Plan for the remaining segments, including 3A and 3B.

During this time, the TxDOT Fort Worth District continued to develop its schematics for Segments 3A and 3B and conduct the environmental analysis to complete their respective EAs. Under the terms of the Master Development Plan CDA, NTEMP refined the TxDOT schematics to produce its own schematic designs for the two segments in addition to a plan of finance. NTEMP examined TxDOT’s schematic design and looked for opportunities to optimize the configuration and make the segments more feasible from a financial and operational perspective under the terms of an expected Facility Agreement granting NTEMP a concession. In May 2010, NTEMP indicated to TxDOT in a “Ready for Development Letter” that it would be prepared to execute a Facility Agreement pending concurrence from TxDOT. The modifications to TxDOT’s schematic design introduced by NTEMP are discussed in the Preliminary Engineering/Design section below.

Preliminary Engineering/Design

NTEMP’s development of the Segments 3A and 3B schematic design resulted in several changes to TxDOT’s design, detailed below. The additional or modified environmental impacts, in turn, had to be addressed by the TxDOT Fort Worth District in its environmental documents.

Segment 3A – NTEMP made significant design changes to TxDOT’s schematic for Segment 3A. At the time NTEMP began to examine the design for the segment, TxDOT’s design of the managed lanes terminated north of the Trinity River because it did not believe that there was sufficient right of way to continue two managed lanes in each direction further south through the I-30 interchange. Nonetheless, TxDOT left room in the median for future managed lanes to extend south in case their feasibility was revisited. In addition, TxDOT’s traffic modeling showed very little volumes along potential managed lane connections to US 287, which forms a triangle between I-35W and I-30, connecting to I-30 just east of I-35W. Accordingly, TxDOT’s schematic design did not account for managed lane connections to US 287.

NTEMP’s design, however, extended the managed lanes south as two lanes in each direction to south of SH 121, and from there as one lane in each direction along I-35W and along US 287 to near I-30. TxDOT worked with NTEMP on the resultant changes to right of way limits, resulting in one additional significant environmental impact. By incorporating managed lanes along US 287, impacts to the adjacent Harmon Field Park and environmental justice Butler Place community had to be addressed. NTEMP believed that extending the managed lanes southward would be vital to the project’s financial feasibility.

Segment 3B – The design of Segment 3B was far more straightforward than 3A, with significantly less environmental impacts. NTEMP offered only minor changes to TxDOT’s schematic design regarding drainage easements, ramp configurations, and site distances for interchanges.

1. See: <http://www.gpo.gov/fdsys/pkg/CFR-2011-title23-vol1/xml/CFR-2011-title23-vol1-sec771-115.xml>

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Major Environmental Issues/ Commitments (Primary Agency)

The following are the environmental impacts identified in the Segments 3A and 3B EAs requiring mitigation and monitoring commitments:

Segment 3A:

- 85.4 acres of ROW acquisition requiring 50 commercial displacements and 13 residential displacements (all of which are environmental justice populations), subject to relocation assistance in accordance with the Uniform Act)
- 1.75 acres of lost riparian vegetation, mitigated through the use of an offsite mitigation bank (Texas Parks & Wildlife Department [TPWD])
- 11.21 acres of waters of the U.S. delineated within the ROW due to five separate crossings:
 - One crossing would have no impact
 - Two crossings would fall under USACE Nationwide Permit 14, one of which would require preconstruction notification and mitigation bank credits due to 0.29 acre of wetland impacts¹
 - Two crossings (at the West Fork Trinity River and levee system) would fall under the USACE Regional General Permit 12 and also require Section 408 approval
- Access impacts to a historic property adjacent to the southwest quadrant of the I-35W/SH 121 interchange, avoided through appropriate design considerations
- Potential impacts to two state threatened species and two state species of concern, mitigated through appropriate construction precautions and post-construction habitat restoration (TPWD)
- Light and visual impacts to the historic Oakhurst neighborhood, mitigated with appropriate lighting design and landscaping (Texas Historical Commission)
- Noise impacts to several EJ populations, mitigated with noise barriers
- Uncovering of hazardous materials, mitigated through appropriate investigation and measures to prevent, minimize, or control their spill
- Particulate matter emissions and fugitive dust, mitigated through appropriate control measures
- Removal and replacement of a pedestrian bridge over US 287 connecting the Butler Place community to Harmon Field Park requiring a *de minimis* impact finding under Section 4(f) (Tarrant Regional Water District)

Segment 3B:

- 97.4 acres of ROW acquisition requiring 3 commercial displacements, subject to relocation assistance in accordance with the Uniform Act
- Potential impacts to two state threatened species and one state species of concern, mitigated through appropriate construction precautions and post-construction habitat restoration (TPWD)
- Multiple waters of the U.S. crossings authorized under NWP 14, with several requiring a PCN and mitigation bank credits for impacts to wetlands (USACE)

1. USACE issues General Permits nationwide or regionally “for a category or categories of activities that are either similar in nature and cause only minimal individual and cumulative adverse impacts.” These permits include terms and conditions for compliance and may require a preconstruction notification. They are intended to expedite the authorization of minor, recurring work (see <http://www.swf.usace.army.mil/Missions/Regulatory/Permitting/GeneralPermits.aspx>).

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Extent Permitting Addressed

The following are notable permits required of Segment 3A:

- Texas Commission on Environmental Quality (TCEQ) – Texas Pollutant Discharge Elimination System General Permit for Construction Activity due to disturbance of more than one acre of land
- Section 401 Water Quality Certification satisfied as part of the periodic renewal of NWP and RGP, performed by TCEQ
- Stormwater Pollution Prevention Plan
- Trinity River Corridor Development Regulatory Zone Corridor Development Certificate
- Section 404 (dredge/fill discharge) permitting satisfied by using RGP 12 in conjunction with the 408 approval process or by the use of NWP 14 or NWP 25

The most challenging permit required of Segment 3A is a Section 408 approval from USACE for alteration/modification to the USACE Fort Worth Floodway Public Works project (levee system) where Segment 3A is proposed to cross the West Fork Trinity River. An appendix to the EA was prepared addressing compliance considerations for Section 408, and close coordination has been conducted with USACE. NTEMP has been closely involved in this process, helping to refine a TxDOT design that was relatively conservative but more costly with respect to maintaining existing access to the levee system. One observer remarked how NTEMP was a “good resource” in conducting coordination with USACE and preparing the analysis presented in the 408 appendix to the EA. Detailed design will have to meet design requirements of Section 408 Application before USACE can fully adopt the EA.

Public Input/Review

No significant opposition to the project was encountered, but several groups of public stakeholders required close coordination in an attempt to resolve issues of concern with Segment 3A, detailed below. TxDOT took the lead on this coordination as preparers of the environmental documents.

- Oakhurst Historic District – Residents of this neighborhood east of I-35W just north of the West Fork Trinity River raised concerns about impacts related to light, noise, and air pollution. Coordination with the Texas Historical Commission (THC) and consultation with the Oakhurst Neighborhood Association took place. High mast lighting will be prohibited from the final design in the vicinity of the Oakhurst neighborhood. THC concluded that the noise impacts would be an adverse effect to the Oakhurst neighborhood, but the EA states that noise barrier are not necessary “since the noise impacts beyond what would reasonably be expected from the no build alternative in 2035 would be to less than 2.5% of the contributing resources.”¹
- Butler Place Community – Residents of this EJ community situated within the triangle formed by I-35W, US 287, and I-30 raised concerns over the removal and potential replacement of two pedestrian bridges, one over I-35W connecting to Harding St. and one over US 287 connecting to Harmon Field Park. Residents indicated their desire to have the US 287 pedestrian bridge replaced, but not the one over I-35W. However, the new pedestrian bridge to Harmon Field Park needs to be higher and longer to comply with ADA requirements. Coordination with TRWD and a Section 4(f) *de minimis* determination was made, although the final siting of the bridge is still to be determined. Law enforcement also raised safety concerns over a bridge of increased length.
- Ralston-Purina Complex Historic District – This historic property adjacent to the southwest quadrant of the I-35W/SH 121 interchange will be impacted by the increased right of way for the project. Full acquisition of the property was cost prohibitive. The design was revised to maintain property access, minimize needed ROW, and reduce visual impact.

Other Notable Actions/Events

A non-NEPA issue of importance in which NTEMP and TxDOT participated through coordination meetings was obtaining concurrence between the project and its corresponding definition and phasing in the North Central Texas Council of Governments’ long-range plan (Metropolitan Transportation Plan [MTP]). Achieving the correct project definitions and sequencing in the MTP was critical to receiving federal approvals.

1. IH 35W Environmental Assessment CSJ Nos. 0014-16-179 and 0014-16-268, p. 101, https://ftp.dot.state.tx.us/pub/txdot-info/ftw/ih35w/final_ea.pdf

FINAL DESIGN/CONSTRUCTION

Public vs. Private Sector Roles

Financial close for Segment 3A is expected in summer 2013. It is not clear if final design has commenced, but NTEMP is the responsible party. The level of design completed during the environmental review period was extensive.

Segment 3B is being delivered as a design-bid-build project with TxDOT completing the design that benefited from NTEMP's input during the Master Development Plan and environmental review periods.

Significant Design Changes/Reevaluations

No significant design changes or reevaluations are anticipated given the high level of detail and coordination completed and incorporated into the environmental review phases. The ultimate configuration and location of the pedestrian bridge over US 287 connecting the Butler Place community to Harmon Field Park needs to be finalized with Tarrant Regional Water District and may require an addendum to the EA.

Permitting

The Section 408 approval from USACE is outstanding as of May 2013, and detailed design elements will need to meet design requirements of the Section 408 Application before USACE can fully adopt the EA for Segment 3A.

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

One observer noted that design changes suggested by NTEMP to Segment 3A did render some environmental issues more challenging, but alternatively, it would have been "much, much harder" to incorporate them later if the project had already been cleared environmentally.

Conducting preliminary design and environmental review at the local TxDOT district office while managing the concessionaire and their design work through a separate (and local) CDA office produced a successful arrangement of checks and balances to protect the integrity of the environmental review.

As preliminary design drew to a close, NTEMP focused carefully on developing an interim plan that was feasible from a constructability standpoint and that would be financially viable, all while fitting within the ultimate design. The DFW CDA office was similarly focused on near-term implementation, while the Fort Worth District placed greater emphasis on the ultimate design, including documenting the environmental impacts and making sure the interim plan could be constructed within the ultimate. This interaction required a significant amount of coordination and review of various preliminary design alternatives, but at the same time resulted in a very good system of checks and balances for both the design and future operations.

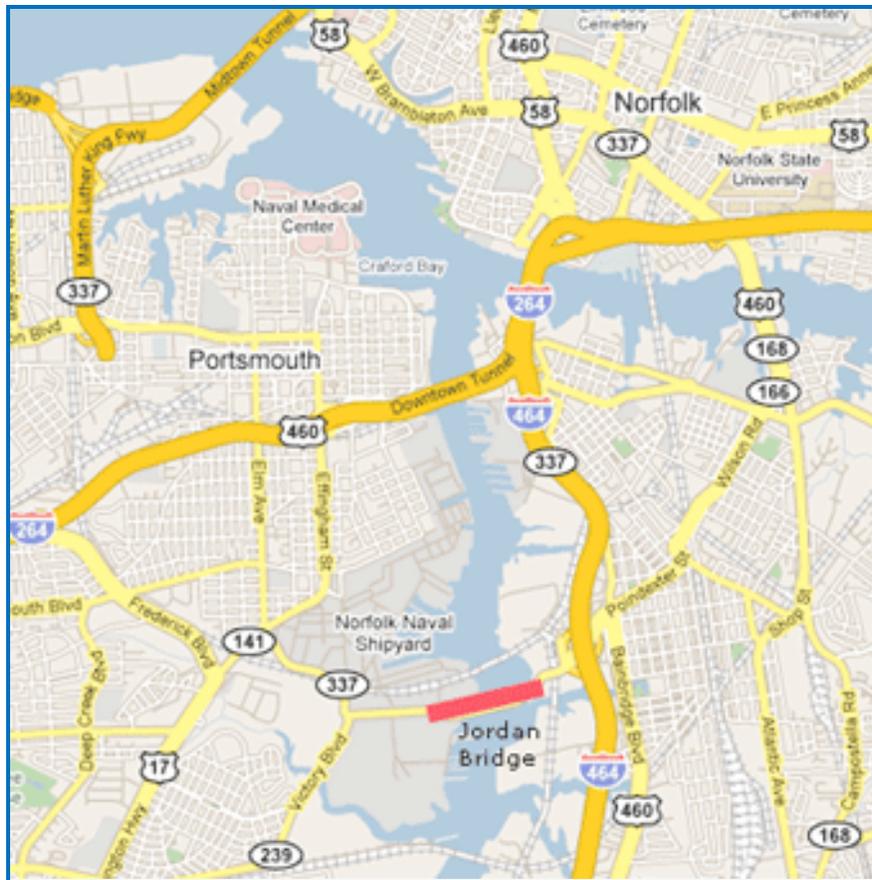
Public and local entity stakeholders were aware that NTEMP was involved with the development of the I-35W projects, but that their work was being conducted "behind the scenes." Publically, the concepts were presented as TxDOT projects.

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South Norfolk Jordan Bridge Project Profile

The South Norfolk Jordan Bridge is a two-lane, fixed span, high-rise bridge connecting the cities of Chesapeake and Portsmouth, Virginia. The bridge was constructed to replace the 80-year-old Jordan Bridge, which was closed in 2008 for safety reasons. The project was proposed through an unsolicited proposal to the City of Chesapeake, and subsequently designed, constructed, and is owned and operated by a private firm—Figg Bridge Developers. The bridge is tolled using all-electronic tolling.

Although the bridge is privately owned and operated, a formal environmental approval process was required, led by the U.S. Coast Guard. The project went through an EA process because although it would not have significant impact on the surrounding environment, it did not meet the condition of categorical exclusion under the Bridge Administration Program. Shortly after the project gained its FONSI, the U.S. Coast Guard issued its Bridge Permit, allowing the bridge to be constructed. Both the EA and Bridge Permit were submitted shortly after Figg Bridge Developers purchased the bridge property from the City of Chesapeake. Without the solicitation of the project by the private partners, the bridge would have remained closed with no short-term plans to rebuild due to lack of funding and preference for higher priority projects around the state.



Source: Google Maps / Parsons Brinckerhoff

Mode	New high-level bridge	Is this project tolled?	●
State-Region	VA – Chesapeake	Did private involvement occur prior to NEPA?	●
Value (\$ m)	\$142	Did private partner influence project definition during NEPA?	●
P3 Model	Private ownership and operation in perpetuity	Was P3 procurement unsolicited?	●
Type and Date of Environmental Action	EA/FONSI – May 2009	Did private partner alter project definition post-NEPA?	○
Lead Federal Agency	USCG	Did private partner post-NEPA changes require a NEPA reevaluation?	○
Private Partner	Figg Bridge Developers	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	NA
Concession Term	In perpetuity	Was real estate development assessed during NEPA?	NA
Project Status	Open	Was real estate development approved through a non-NEPA process?	NA
Date Private Involvement Initiated	May 2009	Was all or a majority of permitting completed by the private partner?	●

○ No

● Yes

◐ Somewhat

NA Not Applicable

PROJECT NAME	
South Norfolk Jordan Bridge	
PROJECT TYPE	
Toll Bridge – P3 (Private Ownership)	
STATE – REGION	
Virginia – Hampton Roads	
COST (MILLIONS)	
\$142 million	
PHYSICAL DESCRIPTION	
<p>The South Norfolk Jordan Bridge is a two-lane, fixed span, high-rise bridge, 5,372 feet long over the Southern Branch of the Elizabeth River connecting the Cities of Chesapeake and Portsmouth in Southeast Virginia. The bridge’s vertical clearance is 145 feet above Mean High Water and its horizontal (navigational) clearance is 270 feet. It has two 12-foot lanes and 8-foot shoulders and an ADA-compliant barrier-separated sidewalk. The bridge is tolled using All Electronic Tolling.</p> <p>The bridge was proposed, constructed, and now owned and operated by Figg Bridge Developers, a private firm. The bridge replaces the original 80-year-old Jordan Bridge, which had been owned and operated by the City of Chesapeake but closed in 2008 for safety reasons. The new bridge was a wholly financed by the private developer, using no public funds.</p> <p>The goal of the project from the public perspective was to restore a critical link between Portsmouth and Chesapeake, relieving congestion and delay at the alternative Elizabeth River crossings in the region.</p>	
BRIEF TIMELINE	
August 1928	Original Jordan Bridge opens
1977	Jordan Bridge transferred from South Norfolk Bridge Commission, Inc. to the City of Chesapeake
1994–1995	Jordan Bridge closed for repairs and reopened in December 1995 with a 50-cent toll
November 2008	Jordan Bridge closed permanently
December 2008	New bridge proposal presented to Chesapeake Mayor and City Council
January 2009	Chesapeake City Council approves Figg Bridge Developers plans for a new Jordan Bridge
May 2009	Figg Bridge Developers purchase original Jordan Bridge from City of Chesapeake, submits permit application and draft EA to USCG
August 2009	Virginia Marine Resources Commission approval
October 2009	Final EA submitted
November 2009	USCG issues FONSI
December 2009	USCG approves permit for construction
June 2010	Final geotechnical borings complete
Summer 2010	Design complete
December 2010	Construction begins
October 2012	New bridge opens

EARLY PLANNING ACTIVITIES

The Hampton Roads Metropolitan Planning Organization completed the Elizabeth River Crossings Study in 2003 examining current and future (up to 2030) demand for river crossings. The study considered the capacities of (in order from north to south) the Midtown Tunnel, Downtown Tunnel, Jordan Bridge, Gilmerton Bridge (Route 460), and High Rise Bridge (I-64). One of two alternatives for capacity expansion included the replacement of the Jordan Bridge with a new four-lane bridge, in conjunction with an expansion of the Midtown Tunnel.¹

The City of Chesapeake permanently closed the original Jordan Bridge in November 2008 due to structural instability and safety concerns. Despite the recommendation of the Elizabeth River Crossings Study, repairing or replacing the bridge was cost prohibitive based on available funding and the average number of daily users. The region had higher priorities on which to spend the \$200 million-plus estimated replacement cost, since (as the study recommended) the bridge would likely have been designed with four lanes to accommodate current and future, 20-year traffic volumes.

Figg Bridge Developers saw the need for the Jordan Bridge’s replacement and the inability of the public to afford it as an opportunity to propose its own privately led solution. In December 2008, Figg submitted a letter to the Chesapeake City Council indicating its proposal to replace the Jordan Bridge with a modern one that it would finance with no public funding, and own and operate privately.

Over the next month, meetings were held between Figg, City Council members, and their lawyers about the specifics of the proposal and the potential sale of the old bridge property. In January 2009, the City Council approved a development agreement with Figg and its financing agent and put the property up for sale. The only offer came from Figg, and the real estate transaction closed in May 2009. That same month, Figg submitted its application to the U.S. Coast Guard (USCG) for a Bridge Permit and a draft environmental assessment it had already prepared through its consultant, Bay Environmental.

At the state level, legislation was enacted in early 2009 authorizing the replacement of the Jordan Bridge on an emergency basis and exempting it from any state statute that pertains to requirements for state highways. Although, this approach was not identified as necessary, it added a measure of state support for the project and reduced the risk of potential challenges to the process.

The center span of the original Jordan Bridge was removed by the City of Chesapeake in May 2009 as a condition of its USCG Permit.

ENVIRONMENTAL REVIEW/NEPA

NEPA Class of Action	Environmental Assessment / FONSI
Lead Federal Agency	U.S. Coast Guard (USCG)
Cooperating Agencies	None

Class of Action Determination

An EA was performed because it was “determined that the project does not meet the conditions of the categorical exclusions approved for certain Bridge Administration Program actions.”² The findings of the EA did not warrant preparation of an EIS.

Private Sector Role During NEPA

The South Norfolk Jordan Bridge is a privately financed, constructed, owned, and operated bridge on private property. Its sponsor, Figg Bridge Developers, retained an environmental consultant and an oversight/coordination consultant to conduct the environmental review while it negotiated its proposal and property purchase with the City of Chesapeake. Once the real estate transaction was complete, it submitted the draft EA in conjunction with its Bridge Permit application to the USCG, who was the lead federal agency for the project.

Preliminary Engineering/Design

Figg has designed and constructed a large number of bridges in the U.S. and abroad, including those utilizing precast concrete segmental bridge designs, as applied to the South Norfolk Jordan Bridge.

1. Midtown Tunnel expansion is part of the Downtown Tunnel / Midtown Tunnel / MLK Freeway Extension project currently under construction and analyzed elsewhere in this study.
2. South Norfolk Jordan Bridge Environmental Assessment, Revised October 12, 2009

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Major Environmental Issues/ Commitments (Responsible Resource Agency)

The following environmental impacts and mitigation measures were identified in the EA:

- Bridge construction would impact waters of the U.S., subaqueous land in the Elizabeth River, and less than 0.1 acre of wetlands – mitigated through a commission royalty payment and purchase of credits from a wetlands bank (U.S. Army Corps of Engineers [USACE], Virginia Department of Environmental Quality, Virginia Marine Resources Commission [VMRC])
- Pile driving for bridge pier foundations would disturb sediment (likely contaminated) on the river bottom – mitigated through the use of turbidity curtains surrounded by an oil boom (National Marine Fisheries Service, U.S. Fish and Wildlife Service [USFWS], VMRC, Virginia Department of Game and Inland Fisheries)
- Pile driving for bridge pier foundations would disturb spawning fish species – mitigated with the use of air bubble curtains to surround piles when driven between February 15th and June 30th (National Marine Fisheries Service, USFWS, VMRC)
- Adherence to Virginia Erosion and Sediment Control Law for land-based activities
- Barriers on the bridge constructed out of photocatalytic concrete, which is self-cleaning and removes NO_x and SO_x from the air through chemical reaction

Extent Permitting Addressed

A majority of the project's permitting activities were completed during the finalization of the EA and review period of the USCG Bridge Permit. All permits have been issued in Figg's name.

- In June 2009, the Virginia Department of Environmental Quality issued a Notification of No Permit Required, stating that water quality impacts would be minimal and temporary.
- In June 2009, the City of Chesapeake administratively approved a Chesapeake Bay Preservation Area Permit; the City of Portsmouth considered the project exempt from its regulations.
- A permit from VMRC was issued in August 2009, prior to the FONSI, for encroachment over state-owned river bottom and approval of the mitigation measures for pile driving.
- Permits were also received from the Portsmouth and Chesapeake Wetlands Boards in July and August 2009, respectively, for the less than 0.1 acre of tidal wetlands impacts.
- In September 2009, USACE certified that a temporary access pad required for construction met the conditions required for a Nationwide 33 Permit.
- At the time of the FONSI, the USCG Bridge Permit application had been submitted and was under review. It was issued one month later in December 2009.
- A National Pollution Discharge Elimination System Permit was not required because the project did not produce any point source discharges.
- The EA stated that a Virginia Stormwater Management Permit would be applied for prior to construction and a stormwater pollution prevention plan will be prepared to address construction related runoff.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Public Input/Review

Figg was responsible for the project's public involvement and information. The EA states: "There have been seven advertised public hearings for the project in Chesapeake and Portsmouth as well as the August 25, 2009 public hearing held by the Virginia Marine Resource Commission. In addition to the public hearings over 30 meetings with interest groups, business organizations and civic leagues have been held."¹

The only significant opposition to the project came from marine community constituents who were concerned that the proposed navigational clearances were insufficient to accommodate classes of commercial ships expected to be prominent in the future. The Virginia Maritime Association led this opposition to the originally proposed 145-foot vertical and 225-foot horizontal clearance, desiring instead 185 feet and 300 feet, respectively.² Ultimately, the bridge was approved with an increased horizontal clearance of 270 feet. Increasing the vertical clearance was deemed impractical given the competing requirements of maintaining a maximum five percent grade to comply with the American with Disabilities Act and tying the bridge's approaches in to the existing roadways on both ends. In addition, the four other bridges that span the Southern Branch of the Elizabeth River have clearances of less than 145 feet and a consultant report of the proposed bridge design concluded that 145 feet of vertical clearance would be sufficient for future ship sizes.³

Other Notable Actions/Events

- The development agreement between the City of Chesapeake and Figg stipulates that if the private developer fails to properly operate and maintain the bridge, the City can take action to reacquire it.
- Figg has participated in the clean-up of the neighboring Atlantic Wood Industries (AWI) Superfund site on the Portsmouth (western) side of the project in exchange for the construction of the bridge's western approach through it and in conjunction with use of the AWI pre-stressed concrete manufacturing facility for sourcing the bridge's precast segments.

DECISION TO PURSUE P3

This project is not a P3 in the traditional sense of the definition since other than the necessary review and approvals and sale of land, the public sector was not sponsor or financial participant in the project. The South Norfolk Jordan Bridge is a project proposed and implemented using the build-own-operate model by private entity's own accord.

FINAL DESIGN/CONSTRUCTION

Public vs. Private Sector Roles

Final design and construction were performed privately by Figg. The public sector had no involvement except to oversee Figg's compliance with mitigation and permitting requirements.

Significant Design Changes/Reevaluations

None

Permitting

Additional permitting activities were completed by Figg after environmental clearance:

- City of Chesapeake Demolition Permit (remainder of original Jordan Bridge)
- USCG Fifth District Demolition Plan Phase II (remainder of original Jordan Bridge)
- Commonwealth Transportation Board Approval of Limited Access Plan (June 2010)
- City of Chesapeake Site Plan Approval (October 2010)
- City of Portsmouth Construction Plan Approval (September 2010)

1. South Norfolk Jordan Bridge Environmental Assessment, Revised October 12, 2009

2. Harper, S. (2009, August 26). "Marine Commission OKs Permit for Jordan Bridge." *The Virginian Pilot*, <http://hamptonroads.com/2009/08/marine-commission-oks-permit-jordan-bridge>.

3. Newswanger, P. (2010, February 10). "Abrupt Exit: Chesapeake Port Authority Drops Maritime Membership After Jordan Bridge Dispute." *Inside Business: The Hampton Roads Business Journal*, <http://insidebiz.com/news/abrupt-exit-chesapeake-port-authority-drops-maritime-membership-after-jordan-bridge-dispute>

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

USCG reports that there was no difference from its perspective in reviewing and approving the EA prepared by Figg and its environmental consultant, as well as the Bridge Permit application, than in the case of a project with a public sector sponsor. The Bridge Permit was approved faster than average (7 months versus 12) largely because Figg's application was thorough and complete, and Figg responded faster to information requests than is typical of a public sector applicant that must act through a set of more bureaucratic processes. USCG also facilitated meetings with other federal and state resource and regulatory agencies (noted in the Major Environmental Issues / Commitments section). USCG observed no negative pushback or deviation from standard review and comment procedure because the project was privately sponsored. The City of Chesapeake participated in these meetings as well and confirmed this assessment.

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Downtown Tunnel/Midtown Tunnel/MLK Extension Project Profile

The Downtown Tunnel/Midtown Tunnel/MLK Extension project is the construction and rehabilitation of three facilities in the Norfolk-Portsmouth, Virginia area. The Downtown Tunnel project includes improving safety, lighting, ventilation, signage, and traffic management elements in the existing Downtown Tunnel. The Midtown Tunnel project includes the construction of a new, two-lane tunnel parallel to the existing tunnel, as well as improvements to interchanges at both portals to improve traffic flow. The MLK Freeway project is the extension of Route 58—0.8 miles south to I-264—with an interchange at High Street. The three projects were combined into a single scope when the project was procured as a P3.

The project is being developed as a 58-year design-build-finance-operate-maintain concession by Elizabeth River Crossings, LLC (ERC). Since the signing of an Interim Agreement, VDOT and ERC have been close collaborators in environmental review, final design, and engineering. VDOT and ERC formed working groups to tackle environmental issues, utilities and right of way, communications, and others. This relationship has allowed them to share coordination efforts in terms of permitting, and assign risks to the party best capable of handling them, which has helped to mitigate unforeseen circumstances and allowed cost sharing between the two parties.

The environmental clearances for the project were conducted on a per-project basis, starting with the Midtown Tunnel in 1996–1997. Subsequent to VDOT's decision to pursue the projects as a combined P3 concession, the Downtown Tunnel and MLK Extension environmental clearances were attained. VDOT then decided to conduct an environmental assessment that aggregated information on all three projects, incorporating any design modifications after the previous clearances were obtained.



Source: Virginia Department of Transportation

Mode	New tolled tunnel and related roadway improvements	Is this project tolled?	●
State-Region	VA – Hampton Roads	Did private involvement occur prior to NEPA?	○
Value (\$ m)	\$2,089	Did private partner influence project definition during NEPA?	●
P3 Model	PDA and real toll DBFOM	Was P3 procurement unsolicited?	◐
Type and Date of Environmental Action	Midtown Tunnel – EIS/ROD [July 2007] Downtown Tunnel – CE [May 2009] MLK Extension – EA/FONSI [Feb. 2009] Combined MT/DT/MLK – EIS/ROD [Mar. 2011]	Did private partner alter project definition post-NEPA?	○
Lead Federal Agency	FHWA	Did private partner post-NEPA changes require a NEPA reevaluation?	○
Private Partner	Elizabeth River Crossings (ERC)	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	○
Concession Term	58 Years	Was real estate development assessed during NEPA?	NA
Project Status	In construction	Was real estate development approved through a non-NEPA process?	NA
Date Private Involvement Initiated	July 2009	Was all or a majority of permitting completed by the private partner?	●

○ No ● Yes ◐ Somewhat NA Not Applicable

PROJECT NAME	
Downtown Tunnel / Midtown Tunnel / MLK Extension	
PROJECT TYPE	
Tunnel / Highway – P3 Concession	
STATE – REGION	
Virginia – Cities of Norfolk and Portsmouth (Hampton Roads Region)	
COST (MILLIONS)	
\$2,089 million	
PHYSICAL DESCRIPTION	
<p>This three-facility project consists of transportation improvements to two tunnels and one highway in the Cities of Norfolk and Portsmouth, Virginia. The three facilities were originally evaluated under NEPA separately and bundled in a P3 procurement.</p> <ul style="list-style-type: none"> • The Midtown Tunnel is an existing single-tube tunnel on Route 58 that crosses the Elizabeth River and links the cities of Norfolk and Portsmouth. Improvements include a new two-lane tolled tunnel under the Elizabeth River that will run almost parallel to the existing Midtown Tunnel to relieve bi-directional traffic from the existing tunnel. In addition, planned modifications to the existing Midtown Tunnel include safety, lighting, ventilation, signage and traffic management elements. The Midtown Tunnel project also includes minor modifications to the Brambleton Avenue/Hampton Boulevard interchange in Norfolk. • The Downtown Tunnel is an existing dual-tube tunnel along I-264 that crosses the southern branch of the Elizabeth River and also links Norfolk and Portsmouth. The project includes improvements to safety, lighting, ventilation, signage and traffic management elements. • The MLK Freeway carries U.S. 58 between London Blvd and VA 164 (Western Freeway) and the Midtown Tunnel. The project includes a 0.8 mile extension to the south to a new interchange at I-264. The project would also include an interchange at High Street. <p>The project is a design-build-finance-operate-maintain (DBFOM) P3 concession for a period of 58 years. The project will be tolled to support the financing and long-term operations and maintenance of the facilities. The concessionaire is Elizabeth River Crossings LLC, (ERC) a consortium led by Skanska Infrastructure Development and Macquarie Group.</p> <p>The goals of project are to increase travel options and increase regional accessibility, reduce congestion and travel time, improve safety by eliminating bidirectional traffic in the Midtown Tunnel, extend the useful life of the tunnels, create improved access to port facilities and improve goods movement, and support regional economic development by improving regional competitiveness and creating job growth. The project’s Comprehensive Agreement includes a \$2 million partnership with Hampton Roads Transit to enhance public transportation by increasing connectivity with and frequency of bus, light rail, and ferry services.</p>	
BRIEF TIMELINE	
1952	Downtown Tunnel opens
1962	Midtown Tunnel opens
1989	Engineering study conducted for MLK Freeway Extension; reconstruction and expansion of the Downtown Tunnel
December 1989	Midtown Tunnel Draft EIS approved by FHWA
November 1996	Final EIS for Midtown Tunnel approved by FHWA
March 1997	ROD issued for Rt. 58/Midtown Tunnel Project (excluding tunnel and approaches)
April 2005	VDOT decides to pursue the Midtown Tunnel Corridor Project (Midtown Tunnel/Downtown Tunnel/MLK Extension) as a project under the Public-Private Transportation Act (PPTA) of 1995
July 2007	ROD (for segments C and D) issued on re-evaluation of FHWA’s 1996 ROD for Midtown Tunnel
April 2008	Environmental Assessment started for MLK Freeway Extension

BRIEF TIMELINE (CONT'D)	
May 2008	Solicitation for conceptual proposals to develop and operate the project (Midtown Tunnel, Downtown Tunnel and MLK Extension) as a P3
September 2008	Conceptual proposal submitted by ERC
February 2009	FONSI issued for MLK Freeway Extension based on environmental assessment and Section 4(f) evaluation
March–June 2009	Public hearings and independent review for conceptual proposal
May 2009	Categorical Exclusion issued for Downtown Tunnel
July 2009	Public announcement of intent to award P3 concession to Elizabeth River Crossing (ERC)
January 2010	Interim Agreement signed between VDOT and ERC pending financial feasibility; start of combined project Environmental Assessment
March 2011	Environmental Assessment of combined Downtown Tunnel/Midtown Tunnel/MLK Freeway Extension Project approved for public availability
August 2011	FONSI issued for Downtown Tunnel/Midtown Tunnel/MLK Freeway Extension Project
December 2011	Comprehensive Agreement (P3 agreement) executed between VDOT and ERC
April 2012	Financial close
July 2012	VDOT transfers operation and maintenance of Elizabeth River Tunnels to ERC
October 2012	Construction begins
July 2016	Anticipated completion of new Midtown Tunnel construction
December 2016	Anticipated completion of MLK Extension construction
October 2017	Anticipated construction completion of all components

EARLY PLANNING ACTIVITIES

Midtown Tunnel:

The Midtown Tunnel project was originally known as the Route 58/Midtown Tunnel project. A DEIS was approved by FHWA on December 22, 1989 and distributed for review and comment in January 1990. An FEIS was not completed until November 1996, after a reevaluation completed in February 1996 found that the impacts associated with each build alternative were unchanged from or not significantly greater than those impacts set forth in the DEIS.

The original project plan was to construct a limited access highway facility and tunnel that would provide east-west travel between Route 58 and Route 164 (Western Freeway) in Portsmouth to Brambleton Ave in Norfolk. The project consisted of three parts:

- A limited access highway at Pinners Point Interchange and Connector in Portsmouth
- Improvements to the Hampton Boulevard/Brambleton Avenue interchange in Norfolk
- Dredging and construction of a second Midtown Tunnel tube parallel to the existing tube

At the time of the reevaluation of the DEIS in 1996, it was expected that only the Portsmouth-side interchange and approach would be constructed within the following two years, as no funding was identified for the Midtown Tunnel portion and connection to the Norfolk side (the Hampton/Brambleton interchange). FHWA issued a ROD for the project, with Alternative A4-B4 (modified)-C1-D1 as the selected alternative, in March 1997. Segment A4 represents the bridge north of Bayview Boulevard connecting Route 164 to Segment B4 (modified), the Pinners Point Interchange segment. Segment C1 represents the tunnel portion, and Segment D1 represents the interchange between the tunnel portal and Brambleton Avenue in Norfolk. Due to funding issues, only Segments A and B were constructed.

Although the 1997 ROD was issued, location approval was not granted for the tunnel and its eastern approach because the improvements were not included in the region's fiscally constrained long-range plan. The tunnel improvements were outside of the horizon year of 2015 at the time of the 1996 ROD. The tunnel improvements would later be added to the 2026 long-range plan in 2006.

EARLY PLANNING ACTIVITIES (CONT'D)

In May 2007, FHWA completed a reevaluation of the Route 58/Midtown Tunnel FEIS and concluded that a supplemental EIS was not required. The 2007 revised ROD added location approval of segments C and D (the tunnel and eastern approach) to the alternative identified in the 1997 ROD.

Subsequent to the 2007 revised ROD, a categorical exclusion was issued in 2009 for design improvements made to the tunnel to adhere to National Fire Protection Association (NFPA) 502 fire safety standards, and for ITS improvements to the Brambleton Ave Interchange to better accommodate new traffic patterns and volumes from the addition of the new Midtown Tunnel tube.

MLK Extension

Alternatives to provide a highway connection between Route 58 and I-264 had been the subject of studies for years. Between 1989 and 1990, engineering studies identified five alternatives for the project and an EA was conducted. On October 24, 1990, the Commonwealth Transportation Board approved one alternative. Between 1992 and 1999 additional studies (Transportation Technical Report, Major Investment Study, Congestion Management Study, and Final EA) were conducted. Ultimately, the preferred alternative is a four-lane limited access freeway connecting I-264 at London Blvd. It will replace Harbor Drive and include a new full interchange at I-264 and a new directional interchange at High Street. The MLK Extension was added to the region’s long-range plan in 2006 at the same time as the Midtown Tunnel. In 2007, an Interchange Justification Report was conducted to study potential interchange configurations for the MLK Extension and I-264.

In 2009, FHWA issued a FONSI for the MLK Extension.

Downtown Tunnel

In 2009 a programmatic CE was approved for improvements to the Downtown Tunnel. The improvements consist of modifications to the existing tunnel to conform to National Fire Protection Association Standard 502 (for road tunnels, bridge and other limited access highways), including upgrades to existing water supply, ventilation, electrical, and emergency responses systems. All work will take place in the existing facility.

The environmental reviews for these projects were conducted by the VDOT Hampton Roads District Environmental Office.

DECISION TO PURSUE P3

Virginia enacted P3 enabling legislation with Public-Private Transportation Act of 1995. VDOT considered pursuing the Midtown Tunnel as a standalone P3 and issued a Request for Information from the private sector in November 2004. They received three Statements of Interest. In April 2005, VDOT expressed renewed interest in pursuing a P3, this time bundling improvements to the Downtown Tunnel and MLK Freeway Extension with the Midtown Tunnel. Combining the projects as a P3 allows VDOT to leverage the private sector’s technical and financial resources. For example, construction of the immersed tube requires considerable financial, technical, risk management, and environmental consideration skills found in the private sector. In May 2008, VDOT issued a Solicitation for Proposal and received one response from ERC in September 2008. Between March and June 2009, a public comment period was held and an Independent Review Board created to review the P3 proposal. VDOT decided to conduct an EA of the combined project, which was performed at VDOT headquarters. A FONSI was issued by FHWA in April 2011. On December 5, 2011, a Comprehensive Agreement was signed between ERC and VDOT.

ENVIRONMENTAL REVIEW/NEPA

NEPA Class of Action	Prior to P3 Interim Agreement: <ul style="list-style-type: none"> • Midtown Tunnel – Environmental Impact Statement/Record of Decision (Revised 2007) • Downtown Tunnel – Categorical Exclusion (2009) • MLK Extension – Environmental Assessment/FONSI (2009) After P3 Interim Agreement: <ul style="list-style-type: none"> • Downtown Tunnel/Midtown Tunnel/MLK Extension – Environmental Assessment/FONSI (2011)
Lead Federal Agency	Federal Highway Administration (FHWA) – for all environmental approval documents
Cooperating Agencies	None

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Class of Action Determination

See discussion below.

Major Environmental Issues/ Commitments (Primary Agency)

Midtown Tunnel EIS/ROD – The following are major issues identified in the 2007 Revised ROD:

- Two Section 4(f) resources were identified in the vicinity of segments C and D; Plum Point Park and Elizabeth River Trail. Plum Point Park has an extensive wetland area located to the east of the Midtown Tunnel portal entrance, but falls outside of the construction limits of the project. The Elizabeth River Trail is located on the Norfolk side of the Tunnel and crosses over the existing portal entrance. Construction related to the Tunnel will occur underneath the trail; there will be temporary disruption during construction but should not last the duration of the project. This has been minimized by adoption of the furthest offshore alternative. (Virginia Department of Conservation and Recreation)
- Mobile air toxics in the construction area were a concern, but a substantial reduction is expected over the life of the project due to the U.S. Environmental Protection Agency's (EPA) vehicle and fuel regulations coupled with fleet turnover. They were determined not to be a significant issue. (EPA)
- Dredging of the main stem of the Elizabeth River for tunnel construction will cause temporary degradation of the water quality and temporarily disturb marine communities. A stormwater management plan, and erosion and sediment control plan will be implemented according to state regulations. A post-construction plan will address volume and water quality issues in accordance with state regulations. (Virginia Department of Conservation and Recreation, U.S. Army Corps of Engineers [USACE])
- Wetlands in the project area will be impacted temporarily due to construction. Impacts on wetlands will be mitigated by grading areas to original contours and re-seeding area that do not re-vegetate on their own. (Virginia Department of Conservation and Recreation, National Marine Fisheries Service)

MLK EA/FONSI – An EA was conducted to determine what environmental impacts, if any, would affect the project area. FHWA found that there would be no significant impact. The following are environmental issues that arose during the EA:

- Tolling on the MLK Extension was approached as a potential environmental justice issue. Tolls were kept as low as possible while still contributing to a financeable project, and free routes are still available.
- The project will affect four historic properties in the project area: Mt. Calvary Cemetery Complex, Calvary Baptist Church, Potters' Field, and Cottage Place Neighborhood Historic District. A Memorandum of Agreement was signed in 2008 among VDOT, the State Historic Preservation Officer and FHWA to outline necessary mitigation measures.
- Potential displacements include two private, nonprofit community facilities, 19 owner families, two tenant families and nine businesses. Relocation will be conducted in accordance with the Uniform Act.

Combined Project EA/FONSI – An EA was completed for the combined P3 project. New impacts or changes to the previously identified impacts are listed below:

- A noise report was prepared to assess noise impacts from the Midtown Tunnel and MLK Extension during construction. FHWA and VDOT recommended noise barriers for 32 sites. The report resulted in the use of three barriers for residences and one possibly for a cemetery to be decided upon by a joint FHWA/VDOT Noise Abatement Committee.
- Environmental justice issues due to tolling of the Downtown and Midtown Tunnels were not addressed in their respective original environmental documents. Based on a review of alternatives and effects of tolls on traffic in the area, it was found that they would not have disproportionately adverse effects on environmental justice populations.
- Reevaluation of the Midtown Tunnel project led VDOT to alter slightly the tunnel's impact on the Elizabeth River Trail. VDOT would acquire 0.116 acre of the Trail through permanent easement. No expected permanent adverse impacts to the Trail are anticipated, as it will be restored after construction.
- Two, rather than nine businesses will be displaced by the construction of the MLK Extension.
- The majority of dredged materials will be disposed of at the approved off-shore Norfolk Ocean Dredged Material Disposal Site rather than the Craney Island facility managed by USACE.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Preliminary Engineering/Design [Separate Projects]

VDOT completed roughly a 30 percent design for the Midtown Tunnel and a majority of the design for the MLK Extension (approximately 80–90 percent plans) prior to soliciting the project as a public-private partnership. These design details were included in the 2008 Solicitation for Proposals for the bundled P3 procurement. The following are the primary design details of the Midtown Tunnel and MLK Extension—as reflected in the 2007 Revised ROD and 2009 FONSI—prior to the Interim Agreement with ERC and the start of the combined EA

- **Midtown Tunnel** – Project would begin at east end of the West Norfolk Bridge and proceed eastward with a six-lane road to an interchange with Route 58 (Pinners Point Interchange and Connector). The interchange would be located west of the Portsmouth Marine Terminal and would be a three-directional facility providing local access to the Marine Terminal and Port Norfolk section of Portsmouth. From that interchange the project would proceed eastward under the Elizabeth River via a tunnel aligned parallel to the existing Midtown Tunnel. The tunnel would connect in Norfolk with the existing interchange at Hampton Blvd and Brambleton Ave. The new tunnel would be a submerged tunnel tube in the Elizabeth River matching the grade of the existing tunnel to ensure appropriate channel depths are maintained.
- **MLK Extension** – A conceptual design report was completed in 1993 by David Volkert & Associates in January 1993. This design was the basis for future environmental review. In 2007, an Interchange Justification Report was approved to eliminate weaving movements between US-17, MLK Freeway, and Des Moines Ave. This Report change was incorporated in the design approved in the 2009 FONSI.

Design/Preliminary Engineering [Combined Project]

After the completion of the three separate projects' original environmental reviews (Midtown Tunnel Revised ROD in July 2007, MLK Extension FONSI in February 2009, and Downtown Tunnel CE in May 2009), several design changes initiated by VDOT were incorporated into the combined project EA. The EA assessed:

“potential changes in environmental impacts resulting from changes to the project components, changes in the affected environment, and changes in regulatory requirement and guidance since completion of the previous documentation, and to determine if new information or new circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not previously evaluated.”¹

Below are significant changes evaluated in the combined EA:

Midtown Tunnel:

- The new tunnel tube's parallel alignment to the old analyzed in the 1996 and 2007 RODs was altered to curve away and provide greater horizontal separation and reduce the depth of dredging required. The curved tunnel does not change the approaches or tunnel portals, but increases the project's "footprint." Although the tube's footprint has changed, the estimated dredging quantity is similar to the previous design.
- Electronic tolling equipment, video cameras and information signage were included.
- Changes to Brambleton Ave/Hampton Blvd interchange resulted in new right-of-way impacts and relocation of tunnel facilities building access road.
- The 2007 ROD indicates that the site for disposal of dredging materials would be Craney Island. After discussion with USACE, it was determined that it is no longer a viable option and a newly approved site is the off-shore Norfolk Ocean Dredged Material Disposal Site.
- A rectangular box culvert prototype for the tunnel sections was selected to reduce the depth of river bottom disturbance.

MLK Freeway Extension:

- Electronic tolling equipment, video cameras and information signage were included.
- Traffic management or ITS elements were integrated into the project.
- A pedestrian bridge across I-264 west of US17 interchange will be removed.

Downtown Tunnel:

- Electronic tolling equipment, video cameras and information signage were included.

1. Downtown Tunnel / Midtown Tunnel / MLK Freeway Extension Project Environmental Assessment, March 2011. <http://driveert.com/wp-content/uploads/2013/01/EnvironmentalAssessment-DowntownTunnel-MidtownTunnel-MLKExtensionProjectMarch2011.pdf>

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Private Sector Role During NEPA

Private sector involvement began with the execution of an Interim Agreement between VDOT and ERC in January 2010, coincident with the start of the combined EA. VDOT chose to utilize this arrangement prior to advancing to a full Comprehensive Agreement DBFOM concession to explore the risks associated with the project, especially those related to environmental issues, and explore how to make the project financially viable.

The projects' designs had been wholly developed by VDOT to this point and the department continued to lead their evolution during the combined EA. Of the significant design changes made after the individual projects' environmental evaluations, ERC's Conceptual Proposal had already included the revised Midtown Tunnel alignment and facilities' tolling.

Under the terms of the Interim Agreement, ERC acted as an environmental consultant to VDOT for the combined project EA, providing valuable input to issues that would affect the construction of the project. Significant areas examined included the handling and disposal of hazardous materials. VDOT directed ERC to conduct hazmat testing on sediments in the Elizabeth River to better quantify the risk associated with dredging. It was discovered that the river was cleaner than historically assumed.

Similarly, VDOT and ERC explored a cost-sharing arrangement related to the 401/404 permitting process. ERC took the lead on exploring other options for spoils disposal since USACE had disallowed further dumping at the Craney Island site. Trucking the spoils offsite would have been prohibitively expensive, so ERC pursued the alternative of disposing of nearly all the spoils in the open ocean, an option regulated by the U.S. Environmental Protection Agency. A third example of the Interim Agreement's application to explore areas of risk or concern was examination of a church located near the MLK Freeway whose owners voiced concern that vibration from the roadway was causing deterioration of its masonry. Consultants were hired to analyze the claim and found that the church's own air conditioning units were greater contributors to the problematic vibration.

Extent Permitting Addressed

Expected permits and other environmental compliance requirements were compiled in the combined project EA, as previously identified in the pre-P3 environmental clearances for the individual projects. As per the Comprehensive Agreement, ERC is responsible for acquiring all necessary permits. Permits needed are as follows:

- Compliance with E.O. 11990 (Wetlands)
- Section 404 Permit (Clean Water Act)
- Section 10 Permit (River & Harbors Act)
- Virginia Water Protection Permit
- Subaqueous Bed Permit
- Coast Guard Permit
- Compliance with the Endangered Species Act
- Compliance with Section 106 of National Historic Preservation Act
- Compliance with Section 4(f) of 1966 DOT Act
- Compliance with E.O. 12898 (Environmental Justice)
- Consistency with Coastal Zone Management Act
- Compliance with E.O. 11988 (Floodplains)
- Compliance with Farmland Protection Policy Act
- Compliance with Erosion & Sediment Control Laws
- Compliance with Clean Water Act

Public Input/Review

All draft environmental documents were released for public review and comment, and public hearings held for Midtown Tunnel EIS, MLK EA, and P3 conceptual agreement. Public hearings were also held during the P3 process to provide information about the impending partnership, tolling, and value pricing program.

While the facilities have been priorities for the local areas for the past two decades, there was significant opposition to the tolling of the facilities. Tolls used to repay revenue bonds were in place on the Midtown Tunnel from its opening through 1989. The most formidable opposition came from the City of Portsmouth, with the City Council formally coming out against the project. Opposition caused the state to defer early tolling of the project, costing approximately \$112 million. In April 2013, the Virginia Circuit Court ruled that tolling on the project was unconstitutional. VDOT plans to appeal to the Virginia Supreme Court.

FINAL DESIGN/CONSTRUCTION

Public vs. Private Sector Roles

A Comprehensive Agreement between VDOT and ERC was executed in December 2011 and financial close on the combined project was reached in April 2012. At this point responsibility for the design of the project became ERC's, and oversight and management was returned to the local VDOT district. VDOT established a local P3 office for this purpose and has engaged a consultant to review ERC's design in relation to what has been approved in the environmental document for consistency and compliance.

ERC has agreed to bear the risk and cost associated with any necessary supplemental environmental studies should its design differ from the schematic upon which the NEPA documentation was based. The Comprehensive Agreement requires ERC to follow an ISO-14001-compliant environmental management system, which sets forth a formal process for tracking environmental commitments with regulatory agencies in a database format. Monthly progress and weekly environmental compliance meetings take place. ERC must keep VDOT notified of major milestones and changes to project design as well as communication with resource and regulatory agencies, FHWA, and other public agencies. For example, since the project has been transferred to ERC, minor design changes have lowered the impact to piers in the Elizabeth River. This change gets reported to USACE, FHWA, and VDOT.

Significant Design Changes/Reevaluations

As of May 2013, no significant design changes have been implemented, and no reevaluations have been necessary. As in the example above, design changes that have taken place have been to minimize further, and not increase, project impacts.

Permitting

ERC is responsible for acquiring all necessary permits, which will be issued in its name. A positive working relationship between resource and regulatory agencies and ERC was established during the Interim Agreement period when VDOT and ERC collaborated on analyzing and agreeing upon cost-sharing of the project's environmental risks. One observer of the process stated that this arrangement had given ERC "a leg up" on the permitting process and postulated that it would likely have taken an additional year if the process had been started only after the execution of the Comprehensive Agreement.

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

VDOT chose to enter into an Interim Agreement with its private partner prior to agreeing to a full DBFOM concession. This arrangement coincided with an environmental reevaluation of the three combined projects comprising the potential P3. The Interim Agreement, as well as combined project Environmental Assessment, allowed VDOT and ERC to analyze the environmental, technical, and financial risks associated with the project such that each was identified and understood for the purposes of negotiating and executing the long-term Comprehensive Agreement.

A collaborative working relationship was fostered between the two partners and formalized through the use of work groups assigned to analyze particular issues (e.g., environmental/right of way/utilities, communications, and others). Both VDOT and ERC contributed co-chairs to each work group, with one partner or the other taking the lead depending on which had the best experience with the issue. It was made clear to regulatory agencies were responsibilities lay.

The benefits of this arrangement under the Interim Agreement included:

- Early coordination with regulatory agencies for permitting, which allowed ERC to develop a rapport with agencies as well as accelerate the permitting process, since both parties did not have to wait until the execution of the Comprehensive Agreement to begin the permitting process.
- Identification and successful assignment of risks to the party best positioned to bare them, which in turn helped secure a favorable bid price for the public sector and minimized "surprises" during execution of the Comprehensive Agreement and, it is anticipated, during design and construction.

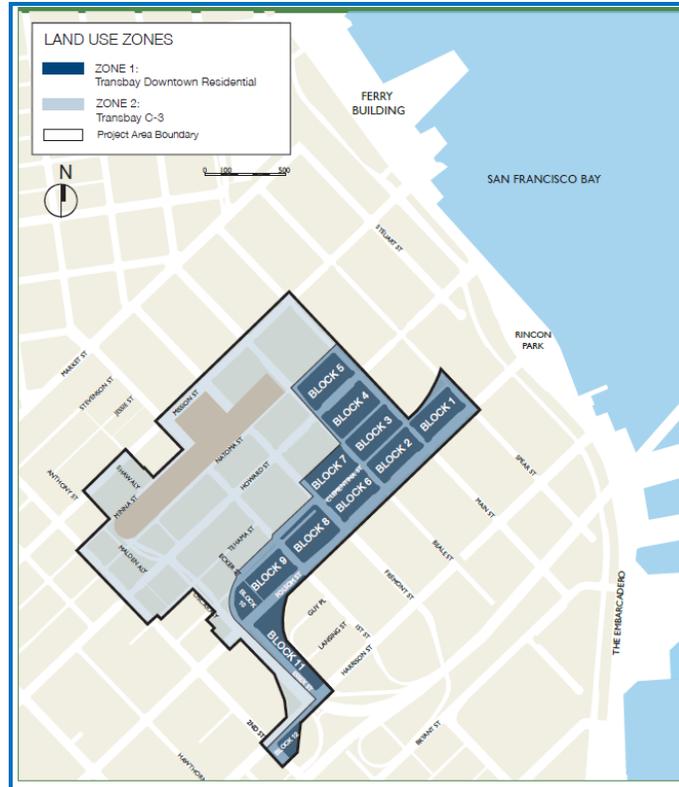
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Transbay Transit Center Project Profile

The Transbay Transit Center project consists of two phases of construction in and around the site of the former Transbay Terminal in downtown San Francisco: the construction of a new Transit Center for 11 transit operations and the extension of the Caltrain commuter service 1.3 miles north of its current terminus to the new facility. The redevelopment of 10 acres of publicly owned parcels surrounding the Transit Center is also included in the scope of the project.

The Transbay Joint Powers Authority, in collaboration with the San Francisco Redevelopment Agency, will develop the redevelopment area around the Transit Center through the sale of public parcels to private developers. The Redevelopment Agency and Transbay Joint Powers Authority created a Master Plan for the redevelopment area, defining the parameters for private development. The Transit Center is being designed and constructed by the project sponsor. The design of the Center was procured through a competitive bid process.

The federal environmental clearance focused on the Transit Center and environmental impact of the redevelopment area at a programmatic level. An architect was chosen for the Transit Center three years after the issuance of the environmental clearance, and project-level engineering subsequent to choosing the architect led to a number of addendums to the environmental clearance as the Transit Center's design has been refined.



Source: Successor Agency to the San Francisco Redevelopment Agency

Mode	Intermodal transit center and private real estate development	Is this project tolled?	NA
State-Region	CA – San Francisco	Did private involvement occur prior to NEPA?	<input type="radio"/>
Value (\$ m)	\$4,185	Did private partner influence project definition during NEPA?	<input type="radio"/>
P3 Model	Private real estate development/TIF	Was P3 procurement unsolicited?	NA
Type and Date of Environmental Action	EIS/ROD Feb. 2005 (FTA) Aug. 2010 (FRA)	Did private partner alter project definition post-NEPA?	NA
		Did private partner post-NEPA changes require a NEPA reevaluation?	NA
		Did modifications by the public sponsor trigger subsequent NEPA evaluation?	<input checked="" type="radio"/>
		Was real estate development assessed during NEPA?	<input checked="" type="radio"/>
Lead Federal Agency	FTA and FRA, respectively, with dates above	Was real estate development approved through a non-NEPA process?	<input checked="" type="radio"/>
Private Partner	Private Real Estate Developers	Was all or a majority of permitting completed by the private partner?	<input type="radio"/>
Concession Term	NA	Is this project tolled?	NA
Project Status	In construction	Did private involvement occur prior to NEPA?	<input type="radio"/>
Date Private Involvement Initiated	Various beginning in 2011	Did private partner influence project definition during NEPA?	<input type="radio"/>

No Yes Somewhat NA Not Applicable

PROJECT NAME
Transbay Transit Center
PROJECT TYPE
Multimodal Transit Terminal – Complementary Real Estate Development
STATE – REGION
San Francisco, California
COST (MILLIONS)
<ul style="list-style-type: none"> • Total Program: \$4.185 billion • Total Phase 1 only: \$1.589 billion
PHYSICAL DESCRIPTION
<p>The Transbay Transit Center is an intermodal transportation terminal station designed to improve public transportation services in downtown San Francisco. The project includes the redevelopment of the public parcels surrounding the Transbay Transit Center with an estimated 3,300 housing units, 2.6 million ft² of office and commercial space, and 200,000 ft² of retail space. The Transbay Transit Center is being constructed in two phases:</p> <p>Phase I is the construction of the new Transbay Transit Center and Redevelopment Area. Phase I also includes an underground trainbox to accommodate the Phase II extension of Caltrain (see below). The Transit Center replaces the 71-year-old Transbay Terminal bus station and will reintroduce commuter and regional rail to downtown San Francisco, absent since 1958. It will serve 11 transportation operations, including local transit served by San Francisco Municipal Transportation Agency (SFMTA), Caltrain commuter rail service, regional Amtrak service, and future high speed rail. The completed Center will be a five-story terminal building including bus deck and below-grade train platform, as well as a green roof with a 5.4-acre public park. A permanent bus storage facility underneath the adjacent San Francisco-Oakland Bay Bridge approach is included.</p> <p>Phase II is the extension of Caltrain commuter rail service 1.3 miles from its current terminus at King Street Station north to the new Transit Center. This includes tunneling for the extension, throat structure connecting to the trainbox, enhancement to the underground Train Mezzanine level of the new Transit Center, and accommodation for future tail tracks. The locally preferred alternative includes a combination of tunneling, cut and cover, and open cut options along the length of the extension.</p> <p>The Transit Center is needed to meet future increases in demand for regional transportation. Studies have projected that bus ridership may triple by 2025 and Caltrain ridership increase at least 150 percent. The goals of the project are to improve access to bus and rail lines, modernize the Terminal and improve service, reduce non-transit vehicle usage, and revitalize the surrounding neighborhood.</p> <p>The project is being led by the Transbay Joint Powers Authority (TJPA), the San Francisco Office of Community Investment and Infrastructure (OCII), and the City of San Francisco Planning Department. TJPA is a public agency created by the City and County of San Francisco (CCSF),¹ AC Transit, and the Peninsula Corridor Joint Powers Board (PCJPB)² to oversee the development and construction of the Transbay Transit Center project.</p> <p>Notably, in 2012 all redevelopment agencies in the state were dissolved by a California Supreme Court order. The Successor to the San Francisco Redevelopment Agency was created to complete projects that were ongoing at the time of the order. To do so, the CCSF created OCII as the “Successor Agency” to the San Francisco Redevelopment Agency.</p>

1. CCSF comprises the San Francisco Municipal Transportation Agency (Muni)—which operates the City’s streetcars, light rail transit, and bus systems, manages parking and traffic, and regulates taxis—the Office of Mayor, and Board of Supervisors.
 2. The Peninsula Corridor Joint Powers Board comprises representatives from CCSF, the San Mateo County Transit District, and the Santa Clara Valley Transit Authority.

BRIEF TIMELINE	
January 1939	Original Transbay Terminal constructed in downtown San Francisco, providing bus and regional train service
April 1958	Train service to the Transbay Terminal ends
1972	Caltrain issues study favoring demolition of Terminal. New proposal is made to construct a regional transportation center for local and regional commuters including 3 million ft ² of private development in the area
1975	San Francisco Bay Area Transportation Terminal Authority (SFBATTA) is created to lead the planning of a new terminal
1978	SFBATTA study leads to the development of the lowest cost option, minimal upgrade to existing terminal
1983	Caltrans develops plan to extend Caltrain to Transbay Terminal
1990	Draft of Caltrain extension plan released; does not progress further due to lack of funding
1992	Peninsula Corridor Joint Powers Board takes over operation of Caltrain from Caltrans
1993	City of San Francisco Planning Department releases Transit Terminal Study with new location for the new terminal
December 1994	City and County of San Francisco adopts formal redevelopment survey area and forms a Citizens Advisory Committee
1995	A Transit Terminal Decision Report is prepared, proposing three options for location of new terminal
1997	Draft EIR/EIS for Caltrain Downtown Extension is released but not certified ¹
1999	Voters approve Proposition H, making it law that the City extend Caltrain to a new or rebuilt station on the site of Transbay Terminal
2000	Environmental review begins; CCSF and PCJPB enter into memorandum of understanding to co-lead Caltrain extension project
January 2001	New Transbay Terminal design concept is published
March 2001	Metropolitan Transportation Commission (MTC) ² begins Bay Crossings Study, examining options for increasing capacity across the San Francisco Bay while utilizing the new Terminal Center
April 2001	Transbay Joint Powers Authority created
2002	Draft EIR/EIS released
March 2003	TJPA selects a Locally Preferred Alternative
July 2003	State legislation passes requiring 35% affordable housing in redevelopment area and that Transit Center house bus, Caltrain and high-speed rail service
February 2004	Contract is awarded for engineering design services of Caltrain extension
April-July 2004	TJPA and PCJPB and San Francisco Board of Supervisors certify the final EIR/EIS
February 2005	ROD issued; preliminary engineering begins
June 2005	Transbay Redevelopment Plan is adopted
September 2007	Design contract awarded for Transit Center

1. An environmental impact review (EIR) is required under California’s Environmental Quality Act for any project whose preliminary review of initial study suggests that the project will cause significant environment impact.

2. MTC is the metropolitan planning organization for the nine-county San Francisco Bay Area. It operates as three agencies in one, including its original mission, the Bay Area Toll Authority, and the Service Authority for Freeways and Expressways.

BRIEF TIMELINE (CONT'D)	
Fall 2008	Construction begins on temporary terminal
August 2010	Temporary terminal opens
Fall 2010	Demolition and construction begins on Phase 1 of Transit Center
2017	Anticipated opening of Transit Center
2018	Anticipated opening of Caltrain rail extension
EARLY PLANNING ACTIVITIES	
<p>The original Transbay Terminal opened in 1939 and served regional train service until 1958, after which it was exclusively a bus terminal. As early as 1972, plans were proposed to replace the facility to increase capacity and facilitate private development in the area. Over the next three decades various local and regional stakeholders published studies and proposed alternatives for the replacement or renovation of the Terminal. Most recommended an extension of rail service operating between San Jose and 4th and King Streets to the existing Terminal site due to its proximity to downtown employment and opportunity to connect to other public transportation operators. In December 1992, the City of San Francisco and PCJPB agreed to consider replacing the facility, rather than upgrading it, due to the significant costs of bringing the Terminal in compliance with safety codes.</p> <p>For the next five years, PCJPB and the City collected information on what facilities a new Terminal would need and their costs. This led to a study of alternatives for a new Transbay facility, including land use and terminal planning options, and incorporated stakeholders such as the San Francisco Redevelopment Agency and City Planning Department. The Transit Terminal Decision Report, published in October 1995, presented three options for a new facility.</p> <p>In 1998, MTC deemed the upgrade of downtown rail service a “top regional priority,” but a lack of funding and coordination delayed the planning process. In 1999, Voters passed Proposition H, requiring the extension of Caltrain commuter rail service to a rehabilitated or rebuilt downtown station. This legislation restarted the planning process in 2000 and marked the beginning of environmental review after a Memorandum of Understanding was signed between CCSF and PCJPB to co-lead the downtown extension project. The planning of the Caltrain extension led to the necessary planning of a new terminal.</p> <p>In 2001, the Transbay Joint Powers Authority, a collaboration of Bay Area government and transportation agencies, was created and the Transbay Terminal design concept published. That year the Transbay Transit Center project was also included in MTC’s Regional Transportation Plan, cementing the new terminal as a regional priority. In 2005, the San Francisco Board of Supervisors adopted the Transbay Redevelopment Plan and implementation strategy outlining two phases of construction for the new Transit Center. Phase I would erect the Transit Center, Transit Tower, and neighborhood improvements. Phase II includes the extension of the Caltrain commuter rail service to the new Transit Center. All components of the project were included in one environmental review.</p>	
ENVIRONMENTAL REVIEW/NEPA	
NEPA Class of Action	Environmental Impact Statement / Record of Decision (2005) The EIS for the Transbay Terminal was conducted as a joint EIS/EIR complying with the California environmental Quality Act (CEQA), as well as NEPA.
Lead Federal Agency	Federal Transit Administration (FTA)
Cooperating Agencies	None
Class of Action Determination	
A project of this magnitude and scope required an EIS because the environmental impacts were expected to be significant.	

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Major Environmental Issues/ Commitments (Primary Agency)

Environmental impacts associated with the Transit Center (Phase I) include:

- Land Use: Parking lot lost due to construction of off-side bus storage facility, replaced with a new location lot. Displacement of two residential and two non-residential buildings, mitigated through application of the Uniform Act.
- Economic Impacts: Real estate, acquisition, demolition and relocation costs estimated between \$34.6 and \$47 million.
- Noise impacts: Noise impacts from off-site bus storage lot would affect residential uses near the facility. Mitigation plan is to construct sound walls and insulate one affected residential unit.
- Geological and Seismicity: Impacts and mitigation discussed in Caltrain extension section below. Mitigation in Transit Center design and construction is to use seismically resistant building structures and creation of rapid repair contingency plans.
- Historic and Cultural Resources: Loss of the existing Transbay Terminal (on the National Register of Historic Places) and the existing loop ramp (contributing element to Bay Bridge). Mitigation steps are included in a Memorandum of Agreement (per Section 106) between FTA, the California State Historic Preservation Officer, and TJPA.
- Vehicular traffic: Temporary loss of various traffic lanes, parking spaces, and access to loading docks in the vicinity of Transit Center construction. Neighborhood and Businesses: Construction will reduce vehicle access, increase traffic congestion, and increase noise and construction related dust. Mitigation includes outreach to affected residents and businesses and a traffic management.

The Redevelopment Area (Phase I) component of the project involves the future development of parcels of land, each potentially requiring their own environmental review. Some broad impacts from the Redevelopment Area include:

- Visual: Folsom Street building heights will be taller than existing buildings. Provisions in the development plan help protect views, preserve open space, and expand the pedestrian environment.
- Pedestrian: Greater capacity for pedestrians needed, to be provided by increasing sidewalk widths by increasing building set-backs; also elimination or reduction of sidewalk street furniture on corners and the immediate area around the Transit Center.
- Wind: Consider the potential effects of individual redevelopment projects on wind and application of design modifications to mitigate or eliminate exceedances of the City wind hazard criterion.
- Parking: Loss of approximately 1,950 off-street parking spaces (14 percent of existing within the project area), including 260 spaces within the current Terminal building. Development near major multimodal transit facility is expected to encourage increased transit usage and cause decreased parking demand.
- Traffic impacts: Adverse traffic impacts (significant level under City and County guidelines) at seven intersections. Mitigation plan involves possible solicitation from developers to contribute to the new Integrated Transportation Management System program.

Environmental impacts associated with the Caltrain Extension (Phase II) include:

- Land Use: Displacement of 23 residential units and 40 businesses, mitigated through application of the Uniform Act.
- Economic Impacts: Real estate, acquisition, demolition and relocation costs estimated between \$44.1 and \$50.6 million.
- Noise impacts: Vibration impacts expected to occur at four buildings, mitigated through use of high-resilience track fasteners or a resiliently supported tie system.
- Geological and Seismicity: Address potential for settlement by applying engineering principles and conventional construction techniques. Address potential liquefaction and ground deformation by designing for maximum credible earthquake, using seismically resistant building structures, and reinforcing soils and creating rapid repair contingency plans.
- Historic and Cultural Resources: Tunneling option would require demolition of three buildings eligible for addition to the National Register of Historic Places. Demolition would also isolate three buildings in a historic district. Mitigation steps are included in the Memorandum of Agreement (per Section 106) between FTA, the California State Historic Preservation Officer, and TJPA.
- Vehicular traffic: Temporary detours and loss of parking spaces.
- Neighborhood and Businesses: Cut and cover construction would reduce vehicle access, increase traffic congestion, and increase construction-related dust. Mitigation includes outreach to affected residents and businesses and a traffic management.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Preliminary Engineering/Design

The Transit Center EIS includes three parts: the multimodal terminal, transit-oriented development of the redevelopment project area, and the extension of the Caltrain commuter rail line. The EIS was conducted at the program level, with project-level engineering and design modifications to be completed after environmental approval of the program was granted. This means that the overall redevelopment area, footprint of the Transit Center and Caltrain extension was analyzed for environmental effects, as was the overall geotechnical design of the tunnel, but details on the location of transportation services and build-out of the extension tunnel are subject to change in the future.

At the completion of the EIS, a high-level design had been developed for the Transit Center, Caltrain Downtown Extension, and Redevelopment Area based on expected number of users. TJPA, OCII, and City Planning Department led this preliminary engineering effort with no private partner or master developer participation. An architect for Transit Center was not chosen until 2008, three years after the ROD was issued. The Significant Design Changes/Reevaluations section tracks the addendums made to the final EIS as a result of fine-tuning the project-level design.

The locally preferred alternative detailed in the ROD includes the new Transit Center with four above-ground levels and two underground levels. Bus ramps would connect directly from the terminal's bus level to the Bay Bridge, and would connect to the terminal's top level. The third level would be occupied by AC Transit, the second level used as a passenger/retail concourse, and the ground level for building access, SFMTA operations, and additional retail. The two underground levels would be used for Caltrain/high-speed rail platforms and a mezzanine level between ground level and train platform for passenger circulation and building services.

The design evaluated in the EIS includes the 40-acre project area, planned for residential, office, retail, and hotel development. The EIS incorporated into the analysis and included as an appendix specifics from the "Draft Transbay Redevelopment Area Design for Development Vision" planning document published by the San Francisco Redevelopment Agency in 2003. This document specified the guidelines for land use and urban form associated with the 40-acre redevelopment area, including:

- Locations of the residential, office, and hotel towers/units, including block, number of stories, number of units, total square feet, and provision for retail
- Other land use improvements, including neighborhood parks, landmark plazas, pedestrian-oriented alleys, and widened sidewalk zones

Public Input/Review

Throughout project planning, public input was sought via regularly scheduled workshops, information meetings and briefings on studies completed for the project. TJPA created a Citizens Advisory Committee to advise the TJPA Board of Directors on public interest matters related to the project. The project also received numerous comments and responses to both the Draft and Final EIS/EIR. Most of the comments were received at two certification meetings in compliance with the California Environmental Quality Act.

In addition to formal review of environmental and planning documents, the public expressed their support for the project by voting to approve local and regional measures supporting the project, starting in 1999, when Proposition H enacted a city law to extend Caltrain to a new downtown station. This catalyzed planning on the rail extension and by necessity the planning of Transit Center. At the regional level, voters passed Regional Measures 1 and 2 (RM-1 and RM-2) in 1988 and 2004 respectively increasing tolls on the seven state-owned tolled facilities in the Bay Area. Revenue from these measures is used for transportation investments in the region, including specified amounts for the Transit Center. At the local level, San Francisco voters passed Proposition K in November 2003, enacting a 0.5 percent sales tax dedicated to transportation projects specified in an expenditure plan that included the Transit Center.

While there was support for the transportation center, there was significant pushback on the Redevelopment Area during conceptual planning in the early 2000s because residents were opposed to the construction of high-rise office and residential buildings. As the public narrative over density and sprawl shifted in favor of denser, urban areas, opposition to the Redevelopment Area waned and the public began to appreciate the relationship between the redevelopment of the surrounding neighborhood and the funding of the new Transit Center. One observer noted that public acceptance was fostered because the project did not originate from a private developer. It was apparent that the focus on a new transit center and the choices for land use were made with benefits to the public sector in mind, not private developers. In addition, the provisions of rezoning included elements of good urban design at street level.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Private Sector Role During NEPA

None

Extent Permitting Addressed

Permits were not specifically identified in the environmental documents. The City Planning Department and OCII handle all necessary permits for the Redevelopment Area. Private developers will also need to gain design and aesthetic approval from the Planning Commission.

Other Notable Actions/Events

During the project, in response to a large budget deficit at the state level, the legislature dissolved all city redevelopment agencies in California, returning their budgets to the state level to be used for other purposes. Because the Transit Center project was set in motion prior to the legislation and revenue from property sales in the Redevelopment Area are dedicated to repaying a TIFIA loan to the project, OCII exists in the Redevelopment Agency's place to manage this project (as well as two others) to completion.

COMPLEMENTARY REAL ESTATE DEVELOPMENT

The project includes the redevelopment of approximately 40 acres of land including the Transit Center. The project area is bound by Mission Street on the north, Main Street in the east, Folsom Street on the south, and Second Street in the west. The redevelopment component is included in the project to relieve blight and encourage revitalization of the neighborhood in part by including residential units and designing the terminal and surrounding area to support transit use.

In June 2005, TJPA and the San Francisco Redevelopment Agency entered into an agreement to implement a redevelopment plan. The project area is separated into two zones. Zone 1, oriented towards the southeast of the project area includes 12 blocks that will be sold to private developers zoned mostly for residential space. Zone 2 includes the remainder of the project area including the new Transit Center and is zoned primarily for office space. In December 2007, TJPA, the City and State entered into a cooperative agreement regarding the redevelopment area in which the State turned over 10 acres of underutilized land to TJPA as part of the project area. Outlined in the agreement are restrictions that require TJPA and the City to use the proceeds from sale of the land to develop the Transit Center. The state parcels resulted in part from tearing down the Embarcadero Freeway along the waterfront, as well from areas around the old Transbay Terminal that would not be incorporated into the new Transit Center design.

OCII is not engaging in long-term ground leases or allowing private development on public land. Instead, it is selling the parcels of public land to private developers. As a result, public agencies are responsible for environmental clearances and permitting. The City Planning Department and OCII have created broad development parameters to which private developers must adhere.

TJPA has identified tax increment financing (TIF) revenues from the project's redevelopment component to pay the construction period loan from TIFIA. The TIF structure works differently from other projects because the redevelopment site consists of publically owned properties that are not subject to property taxes. Once the area is redeveloped commercially, parcels will be assessed and be taxed based on the assessed value. The project is the first to receive a TIFIA loan secured by value capture revenues.

As of mid 2013 OCII has issued requests for proposals (RFPs) to sell and develop the several of the 12 blocks of public land in Zone 1 of the Redevelopment Project Area. Some blocks have already been sold, including a 50,000 ft² parcel for the development of a high-rise Transit Tower. Others are in the procurement process. Construction of the new private development will begin once the developers have gained the required local approvals. It is likely that the private development will occur concurrently with the construction of the transit center, which will extend through 2017. It may also continue following the completion of the transit center.

FINAL DESIGN/CONSTRUCTION

Public vs. Private Sector Roles

TJPA, a state agency, was created for the purpose of planning, building, and operating the Transbay Transit Center. The TJPA Board of Directors is composed of five representatives from the following stakeholders: Office of the San Francisco Mayor, San Francisco Board of Supervisors, SFMTA, AC Transit, and PCJPB (operator of Caltrain).

TJPA sponsored a 10-month International Design and Development competition to select an architect and developer for the Transbay Transit Center and Tower. The TJPA Board selected Pelli Clarke Architects and Hines Development as the lead architect and designer. Hines will develop the Transit Tower, which will be designed along with the Transit Center. A separate engineering team is designing the Caltrain Downtown Extension.

OClI's role is that of master developer of the Redevelopment Area and is responsible for the sale of public land in the Redevelopment Area to private developers. The private sector has no role in final design or construction of the Transit Center or Caltrain extension. Private sector developers may develop purchased parcels within the broad scope outlined in the 2005 Redevelopment Plan and associated design and zoning plans and guidelines.

Significant Design Changes/Reevaluations

Subsequent to the ROD in 2005, project-level engineering commenced introducing a number of design refinements. Six addendums to the EIS were published between 2006 and 2011. However, none of these changes triggered subsequent NEPA or CEQA reevaluations:

- Addendum No. 1 (June 2006) – Addressed modifications to the Transit Center design and construction staging, as well as revisions to the Temporary Terminal site plan.
- Addendum No. 2 (April 2007) – Analyzed modification to the Downtown Extension track configuration as it approaches the Transit Center, permits future construction of a loop, and delays construction of tail tracks pending the outcome of future high-speed rail planning studies
- Addendum No. 3 (January 2008) – Considered the full, rather than partial acquisition of one private property
- Addendum No. 4 (October 2008) – Evaluated the configuration, boarding platforms, waiting areas, bus staging areas, and street design associated with the Temporary Terminal
- Addendum No. 5 (April 2009) – Addressed issues of the Transit Center's exterior design and façade, including air space needed for outer wall structures, bus ramps, and a pedestrian bridge
- Addendum No. 6 (December 2011) – Analyzed design modifications and engineering of the bus ramps connecting to the Bay Bridge/I-80

In addition to these addendums to the EIS submitted to FTA, TJPA prepared and submitted to the Federal Railroad Administration (FRA) a reevaluation of the EIS in May 2010. This reevaluation was triggered by the award of \$400 million in Recovery Act funding to TJPA for the construction of the trainbox to accommodate future high-speed rail service. After Addendum No. 1, the construction of the trainbox had been shifted to Phase II of the project, but with new influx of funding provided by the Recovery Act, the completion of the trainbox was shifted back to Phase I. No significant changes in design were included, although the footprint of the trainbox was widened slightly. The reevaluation used updated high-speed rail ridership projections and construction schedules. It also incorporated the findings from Addendums Nos. 1–5. FRA issued a ROD for the reevaluation in August 2010.

In April 2013, TJPA announced that they will be submitting a Supplemental EIS/EIR to FTA and FRA due to changes to Phase II of the program. Design modifications and refinements to be addressed in the document pertain to the track throat structure entering the trainbox, configuration of the Transit Center's underground levels and rail platforms, demolition and relocation of above and below-grade structures and utilities, emergency ventilation and exit tunnel provision, minor traffic circulation and lane changes, and provision for below-grade bicycle facilities, taxi staging, and off-hour event parking.

Permitting

N/A

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

Coupling the implementation of a major transit center with a significant surrounding redevelopment has created synergies from several perspectives, including financing, economic development, sustainability, and quality of life. Incorporating the design vision and plan for redevelopment into the environmental review of the transit center was critical to streamlining project implementation. It provided a foundation for a planned incremental approach to selling parcels to private developers to support the project, while adhering to an overall vision for neighborhood revitalization. From the private sector's perspective, this approach engendered confidence among developers, knowing that zoning rules are fixed. A parcel by parcel negotiation will not be necessary.

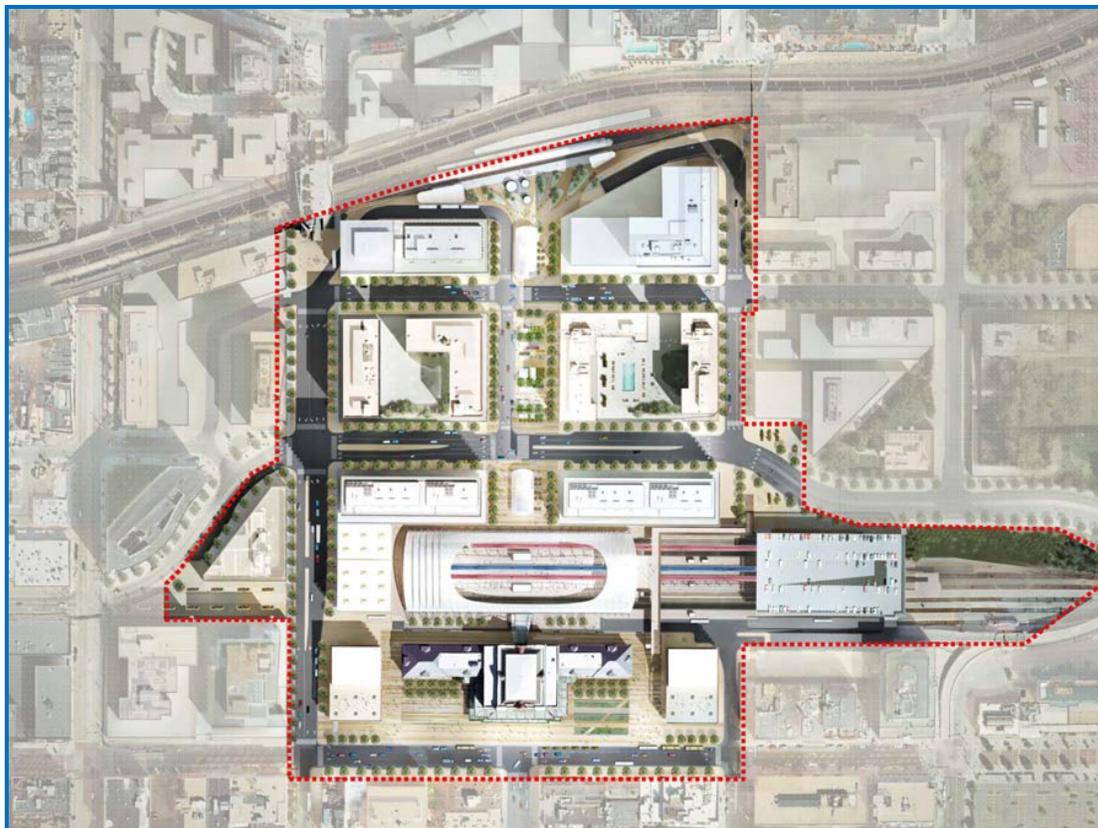
Having the Redevelopment Area process be led by public agencies endeared the project with the community, as zoning decisions were being made by the public sector and not a private developer. This was important earlier in the project, when the community was hesitant to embrace the density and tall buildings proposed in the Redevelopment Plan.

Denver Union Station Project Profile

Denver Union Station consists of the transformation of the historic station and its surrounding area into a transit-oriented, intermodal hub with complementary retail, office, and residential redevelopment. The historic Denver Union Station served Amtrak, three Regional Transportation District (RTD) light rail lines, and facilitated connections to express, regional and local bus routes via shuttle service. The new Denver Union Station will include space for four RTD light rail lines and Amtrak service, a new light rail plaza and train storage, a new 22-bay regional bus facility that will replace the Market Street Station, extension of local shuttle service, bicycle and pedestrian access and supporting infrastructure, and street, parking and utility reconstruction. The adjacent Denver Union Station Transit District development will include 4 million square feet of mixed-used development and 10 acres of public plazas. The project is part of the FasTracks initiative, a package of public transportation projects approved by referendum and supported by a 0.4% sales tax increase.

The Station was procured using design-build, with a separate real estate component for the surrounding mixed-use development. The project sponsor, through a 12-member committee made of local and private stakeholders, solicited a master developer to bring together the transit and surrounding development goals into a single vision. The master developer is the Union Station Neighborhood Company, comprising two local real estate development firms with ownership of some of the properties included in the redevelopment area. The master developer helped deliver specific transportation elements of the project including a portion of the preliminary engineering and design, required elements for the station design-build contract, and management of the design-build contract.

An EIS was prepared for the project, including the mixed-use development surrounding the station, led by the FTA. During early planning it became apparent that an EIS would be appropriate for the project due more to intense interest demonstrated by the public rather than significant environmental impacts. The surrounding development area was included in the NEPA project scope as part of the future no-build alternative.



Source: Denver Union Station Project Authority

Mode	Intermodal transit center and private real estate development	Is this project tolled?	NA
State-Region	CO – Denver	Did private involvement occur prior to NEPA?	<input type="radio"/>
Value (\$ m)	\$488	Did private partner influence project definition during NEPA?	<input checked="" type="radio"/>
P3 Model	Private real estate development/TIF	Was P3 procurement unsolicited?	<input checked="" type="radio"/>
Type and Date of Environmental Action	EIS/ROD – October 2008	Did private partner alter project definition post-NEPA?	<input type="radio"/>
Lead Federal Agency	FTA	Did private partner post-NEPA changes require a NEPA reevaluation?	<input type="radio"/>
Private Partner	Union Station Neighborhood Company (USNC)	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	<input type="radio"/>
Concession Term	NA	Was real estate development assessed during NEPA?	<input type="radio"/>
Project Status	In construction	Was real estate development approved through a non-NEPA process?	<input checked="" type="radio"/>
Date Private Involvement Initiated	November 2006	Was all or a majority of permitting completed by the private partner?	<input checked="" type="radio"/>

No

Yes

Somewhat

NA Not Applicable

PROJECT NAME	
Denver Union Station	
PROJECT TYPE	
Multimodal Transit Terminal – Complementary Real Estate Development	
STATE – REGION	
Colorado – Denver	
COST (MILLIONS)	
\$487.7 million	
PHYSICAL DESCRIPTION	
<p>Denver Union Station is a public-private development venture located on 19.5 acres in Lower Downtown Denver, surrounding and including the historic Denver Union Station building. Prior to the project, the historic Denver Union Station served Amtrak, three Regional Transportation District (RTD) light rail routes, and connections to express, regional, and local bus routes at the Civic Center and Market Street bus stations via FREE MallRide shuttle service. The historic Denver Union Station will be the center of a transit-oriented, intermodal hub with improved rail and bus service along with master-planned retail, office, and residential development. Specific project components include:</p> <ul style="list-style-type: none"> • A new Commuter Rail Train Hall with eight at-grade tracks serving RTD’s Northwest, East, North Metro, and Gold Line commuter rail lines as well as interstate Amtrak rail service • Relocation of the light rail station/platforms, including space for train storage on tail tracks and new Light Rail Plaza • A new 22-bay Regional Bus Facility (replacing the nine-bay Market Street Station) located under the new 17th Street right of way, serving RTD regional and express bus service, the Downtown Circulator (which will connect to mid-downtown employment centers), and commercial carriers • Extension of the 16th Street Mall shuttle service (FREE MallRide) to provide connections between LRT, commuter rail, and Denver Union Station • Bicycle access and supporting infrastructure • Pedestrian access and circulation improvements • Street, parking, and utility infrastructure reconstruction <p>The associated, but separate, Denver Union Station Transit District development will include more than 4 million square feet of mixed-use development, 10 acres of public plazas, and renovation of the Historic Station.¹</p> <p>As stated in the project’s purpose and need, the goal of the project “is to enhance the function of [Denver Union Station] as a multimodal transportation center for the Metro Denver Region and the entire state of Colorado.”² There is a “need to optimize the effectiveness of the region’s transportation system and to improve mobility and access to employment and other major activity centers in the region.” The project will “help relieve traffic congestion, improve air quality, and provide additional mode options for the traveling public.”</p>	
BRIEF TIMELINE	
1881	Denver Union Station opens; rebuilt in 1894 following a fire; modified and expanded in 1914
1980s	Studies of light rail and passenger rail identify the need for central point of connection: Denver Union Station
Early 2001	Intergovernmental agreement establishes Executive Oversight Committee among four partner agencies
August 2001	RTD acquires the 19.5-acre Denver Union Station site
April 2002	Denver Union Station master plan process initiated

1. The Historic Station refers to the rail station building and immediate surroundings. Denver Union Station refers to the full 19.5-acre site and project.
 2. Denver Union Station Record of Decision, October 17, 2008

BRIEF TIMELINE (CONT'D)	
June 2002	Denver Union Station EIS Notice of Intent
October 2004	Denver City Council approves the Denver Union Station Master Plan, approves a Transit Mixed-Use zoning designation, and approves local landmark designation
Nov. 2004	RTD District voters approve FasTracks transit expansion plan supported by a sales and use tax
March 2006	DEIS released
November 2006	Union Station Neighborhood Company selected as master developer
2008	Denver Union Station Master Plan Supplement
August 2008	FEIS published
October 2008	ROD signed
Late 2008	DUSPA created
2009	Design-build contract awarded
2010	Construction begins
February 2011	Amtrak relocated to temporary location
May 2012	Light Rail Plaza opens
February 2014	Expected construction completion

EARLY PLANNING ACTIVITIES

Beginning in the 1980s, RTD conducted corridor planning studies examining light rail and passenger rail lines to serve the City of Denver and the surrounding metropolitan region. They identified the need for a central point of connection, which soon explicitly focused on Denver Union Station. Although RTD opened its first light rail line in October 1994, the RTD light rail system did not connect to Denver Union Station until 2002.

In 1997, a transit plan and tax initiative called Guide the Ride to expand rail transit service in the region was defeated at the ballot. The plan relied on the findings of several Major Investment Studies conducted for the rail corridors. A lack of specificity and defined plan likely contributed to the measure’s defeat.

Subsequently, RTD and the Colorado Metro Mayors Caucus continued efforts to formulate a plan for rail transit expansion in the Denver region. RTD began conducting EISs on proposed corridors, which helped to better define their needs, goals, and requirements. Specific alignments, station locations, and other components were identified. Denver Union Station was identified as the logical nexus of these rail lines, and a focus on pursuing it as a critical transportation hub and associated redevelopment site was championed by RTD’s general manager and the Mayor of Denver. A primary issue, however, was that the Historic Station and surrounding land parcels were privately owned and leased to the railroads that operated there.

In 2001, an intergovernmental agreement was signed between RTD, the City and County of Denver (CCD), the Colorado Department of Transportation (CDOT), and the Denver Regional Council of Governments (DRCOG). Each party agreed to contribute funding to the purchase of the 19.5-acre Denver Union Station site, with RTD as the title holder. An Executive Oversight Committee (EOC) was formed, and it was agreed that a master plan governing the planning and development of the site, along with NEPA evaluation, would be necessary to advance the concept. The master plan would guide the site’s redevelopment and serve as the basis for preparation of an environmental document and rezoning. The master plan was approved by the Denver City Council in October 2004 along with approval for the site’s rezoning to transit-mixed use (T-MU-30).¹ (A 2008 supplement updated the master plan with the results from subsequent events and studies.)

Also in 2004, the culmination of RTD’s corridor studies resulted in the FasTracks initiative, which was approved at the ballot in November 2004. It included 119 miles of light rail and commuter rail transit, 18 miles of bus rapid transit, 31 new park-n-ride facilities, and an enhanced bus network. It also included approval of 0.4 percent sales and use tax, with \$200 million of that revenue earmarked for Denver Union Station.

1. T-MU-30 zoning permits a wide range of residential, commercial and civic uses appropriate to areas adjacent to rail transit stations. The zoning district allows a floor-area-ratio of 5:1 (or five times the amount of development area to land area). (Master Plan Supplement)

ENVIRONMENTAL REVIEW/NEPA	
NEPA Class of Action	Environmental Impact Statement / Record of Decision
Lead Federal Agency	Federal Transit Administration (FTA)
Cooperating Agencies	<ul style="list-style-type: none"> • Federal Highway Administration • Federal Railroad Administration (FRA) • City and County of Denver • Denver Regional Council of Governments • Colorado Department of Transportation

Class of Action Determination

The NEPA process was initiated at about the same time as the master plan process. Initially, the thinking was that an Environmental Assessment would be sufficient, because of the site’s current configuration relative to the potential enhancements to turn it into the envisioned transit hub: freight rail tracks were already in place from legacy operations, a new light rail transit track was under construction and slated to open in 2002 serving three lines, and the relocation of the Market Street bus station was not certain. However, early planning quickly revealed the need to conduct an EIS, not so much because of the potential environmental impacts, but because of the intense interest demonstrated by the public. A Notice of Intent was published in June 2002.

Public Input/Review

At the initiation of the EIS, a public involvement plan was developed and implemented to ensure extensive, ongoing public and stakeholder input throughout the master plan development and EIS preparation. To accommodate the extensive interest in the project, the project team conducted periodic town hall meetings and convened a Union Station Advisory Council (USAC) composed of 60 citizen and local business stakeholders. Through an ongoing series of meetings held roughly every three weeks and consistently attended by about half the members, the USAC “worked with the project team to develop project alternatives and evaluate and screen alternatives. The USAC also concurrently participated in the T-MU-30 zoning application process to rezone the 19.5-acre site.”¹

Overall, the project was highly desired, and, as one observer noted, although stakeholders may have each had specific interests in the project, together they were all focused on the same general outcome; it was a cooperative process. Pushback came from only one contingent of stakeholders that promoted the inclusion of heavy rail through tracks to accommodate what they saw as an imminent resurgence of interstate passenger rail travel. (Denver Union Station was at the time recently rendered a terminal station with the removal of legacy through tracks.) Including this kind of capacity would have significantly increased the cost and complexity of the project. A lawsuit was filed after the ROD was issued, but ultimately dismissed.

Private Sector Role During NEPA

The Denver Union Station DEIS evaluated over 40 alternatives, eventually reduced to two. One was determined to be feasible as an initial Phase 1 Alternative as part of an eventual full build-out of the master plan (referred to as the Vision Plan), which was projected to take up to 20 years to fully implement based on funding availability. A phasing plan was approved for inclusion in the DEIS, which was released in March 2006.

Prior to the completion of the DEIS, the new mayoral administration elected at the same time as the FasTracks approval recognized that to ensure successful private development around the Denver Union Station transit elements and achieve the full vision of the master plan, it would be necessary to include a private developer “at the table,” as evidenced by past successes and less-than-successes in other cities around the country. Input was sought from several private developers through a series of “brownbag” information exchange sessions. However, after a number of months applying this, it became clear that developers would only share critical input if formally hired.

1. FEIS, Section 8.2.2

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Private Sector Role During NEPA (cont'd)

A 12-member committee was assembled comprising local business leaders, private developers without an interest in the project, personnel from the City's Urban Renewal Authority, and other agency representatives with knowledge of development. A three-step solicitation process to bring on board a master developer took place between mid-2005 and mid-2006. A master development team led by two local real estate development firms, later incorporated as Union Station Neighborhood Company (USNC), was selected in November 2006 for two primary reasons. One, USNC made the persuasive case that implementing the project in a single phase using the concept of a transit district would be critical to the success of the overall vision, and second, USNC already owned a substantial amount of neighboring real estate and was able to trade property it owned behind the station for use as the site of the new light rail station. The agreement signed between the EOC and USNC promised USNC the right of first refusal for all development rights to the site with the exception of the Historic Station.

The design and site layout continued to evolve subsequent to the DEIS, as a combined alternative, analyzed as the Build Alternative in the FEIS and approved in the ROD, took shape with input from USNC. Fifteen percent conceptual plans, cost estimates, and revisions to the master plan, published as a 2008 supplement, were conducted in 2007. The idea that additional funding could be raised through tax increment financing was introduced by the EOC and developer.

As the FEIS was being completed, USNC entered into a letter of intent (LOI) with the EOC in January 2008 outlining specific commitments to construct the transportation elements of the master plan. Notable elements of the LOI included:

- Deliverables and timeframe for 30 percent preliminary engineering design package
- Description of required elements for a design-build contract
- Framework for sale of land to the developer
- Determination of fees and payment schedule
- Next steps for completion of the FEIS
- Next steps for developing the necessary legal structures and agreements to finance the project, manage the design-build contract, and creation of a Downtown Development Authority

As reflected in the FEIS, the Build Alternative's major changes from the DEIS' Phase 1 Alternative resulted from:

- RTD eliminating locomotive-hauled commuter rail coaches from consideration on its new rail lines (as analyzed as part of the Phase 1 Alternative), leaving only diesel multiple unit or electrical multiple unit as options and altering the potential requirements for the planned commuter and light rail facilities at DUS.
- FRA formally stating that the commuter rail station would not be approved for construction below grade, necessitating its construction at grade
- The Regional Bus Facility being moved below grade with accommodation for the Downtown Circulator—in large part because of the resiting of the commuter rail station—and configuring it transversely (relative to the Historic Station and the commuter rail station) underneath 17th Street.

Preliminary Engineering/Design

Preliminary engineering to the 30 percent design level was conducted by USNC in 2008 as the FEIS was being completed. Preliminary engineering was completed in December 2008 and negotiation over a design-build contract began.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Major Environmental Issues / Commitments (Primary Agency)

The following are the significant environmental impacts identified in the EIS:

- Construction impacts – temporary impacts from noise, dust, and vibration, and short-term congestion associated with detours or movement of workers/equipment that cannot be mitigated but would not result in long-term adverse conditions
- Traffic – measureable impacts were identified at seven roadway intersections, mitigated variously by the addition of turn lanes, traffic signals, existing traffic signal phasing modifications, restriping, and removal of on-street parking spaces (CDOT)
- Historic/Section 4(f) resources – adverse effects to three historic/Section 4(f) resources (three rail tunnels at DUS, the Delgany Street Sewer, and railroad tracks behind DUS), mitigated through a series of measures designed to preserve these facilities: archiving drawings, plans, and photographs, salvaging and reusing historic artifacts/fixtures, and establishing and on-site interpretive display, among others (Colorado State Historic Preservation Officer)
- Noise – FTA-defined moderate noise impact at two residences from increased rail and bus traffic, not reasonable or feasible to mitigate
- Water quality – increased impervious surfaces that increases the potential for new pollutants to enter water resources, mitigated with best management practices
- Hazardous materials – disturbance of hazardous materials (especially asbestos) and groundwater mitigated through the development of a Health and Safety Plan and Materials Handling Plan
- Cumulative impacts – no significant incremental impact when added to other actions in the area (the anticipated private redevelopment of DUS is independent of the Build Alternative because it received separate zoning approval from the City of Denver, does not depend on the transportation improvements, does not affect the selection of the preferred alternative, will be paid for with private funds, and will not require federal approvals)

Extent Permitting Addressed

The EIS identified the following required permits:

- Colorado Discharge Permit System Permit due to disturbance of more than one acre of land, issued by the Colorado Department of Public Health and Environment (CDPHE)
- National Pollutant Discharge Elimination System (NPDES) Permit for stormwater, issued by CDPHE
- NPDES Permit for dewatering, issued by CDPHE
- Erosion control/grading permits, issued by CCD
- Construction Activities Stormwater Discharge Permit, which requires submittal of Stormwater Management Plan and an erosion control and grading plan, issued by CCD
- Construction Access Permit(s) for detours

Several others were identified as potentially needed:

- Permit for Discharges Associated with Subterranean Dewatering or Well Development, issued by CDPHE
- Groundwater Remediation Permit, issued by CDPHE
- Hazardous Materials Transportation Permit, issued by CDPHE

Other Notable Actions/Events

In late 2008, two local authorities were created to facilitate the project's financing and implementation:

- The Denver City Council created the Denver Union Station Project Authority (DUSPA), a Colorado nonprofit corporation responsible for the financing, acquiring, owning, equipping, designing, constructing, renovating, operating and maintaining the Denver Union Station redevelopment project. DUSPA is the borrower of the federal loans (TIFIA and Railroad Rehabilitation and Improvement Financing) that leverage the FasTracks sales tax and tax increment financing (TIF) revenues.
- The Denver Downtown Development Authority was also created upon voter approval at the November 2008 ballot as a statutory authority with tax-increment powers, covering in total a TIF district about double the size of the Denver Union Station site.

COMPLEMENTARY REAL ESTATE DEVELOPMENT

The rationale and process for incorporating redevelopment and a master developer into the project is presented in the Private Sector Role section of Environmental Review/NEPA.

The Denver Union Station site includes six development parcels for retail, office, residential, and parking garage uses. In addition, the Historic Station will serve a prominent transportation role (waiting area, ticketing, information, Amtrak and RTD offices, etc.) but will also feature approximately 10 independent retail and restaurant outlets, as well as a 110-room independent hotel on the upper levels.

In 2009, Design Standards and Guidelines were adopted by the Denver Landmark Preservation Commission and the Denver Planning Board. All private buildings on the site are subject to design review at the time of permitting to ensure they comply with the adopted Design Standards and Guidelines, as well as the Denver Landmark Preservation Ordinance, which pertains to the Historic Station and its immediately surrounding area, as designated in 2004. The 2008 Master Plan Supplement states: “New buildings, the Historic Station, and other improvements within the landmark area will be reviewed and approved by the Landmark Preservation Commission in a public meeting. Buildings on the remainder of the site will be subject to Community Planning and Development staff review and approval, with Planning Board ratification, again in a public meeting. The City and County of Denver will be responsible for coordinating these reviews.”¹

FINAL DESIGN/CONSTRUCTION

Public vs. Private Sector Roles

Early in 2009, DUSPA issued a limited notice to proceed to the design-build contractor that was already a member of the USNC team. The design-build contractor agreed to a guaranteed maximum price to complete the project and continued to the 60 and 90 percent design stages. Construction began in 2010 and is expected to be complete in February 2014.

Significant Design Changes/Reevaluations

No significant changes to the project’s design took place after the ROD. No reevaluation of the ROD was necessary. Design changes that did take place were relatively minor. These design issues included:

- Determination of the use of the plaza space in front of the Historic Station and the decision to use federal funding for its development, requiring a Categorical Exclusion (previously it was not certain if the plaza would be the developer’s responsibility)
- Determination on the specific redevelopment uses of the Historic Station
- Removal of a moving walkway within the Regional Bus Facility, requiring an environmental memorandum
- Removal of 150 market-rate parking spaces from the project, requiring an environmental memorandum stating there would be no impacts to traffic or air quality

Permitting

The design-build contractor performed the work necessary to obtain all permits for the project.

1. 2008 Master Plan Supplement

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

For the public, a significant driver for the project was the reinvigoration of the Historic Station and the surrounding area, maximizing its potential as a mixed-use neighborhood and its walkability—and not simply realizing the transportation benefits from the FasTracks program. This desire was reflected in the project’s purpose and need statement, which identified the goal of maximizing the opportunity for redevelopment.

Another key element to the Denver Union Station’s success was the partner agencies early realization that to achieve the seamless integration between the project’s transportation elements and successful redevelopment, as articulated in the purpose and need statement, it was necessary to bring the private development sector’s expertise to the table. It can’t readily be concluded, however, that bringing a developer in after the completion of the environmental review and conceptual design/preliminary engineering would not have resulted in the same outcome.

One observer noted how the project development process was “very transparent.” Having the developer guide the design process after the DEIS and provide input on the FEIS was not a significant concern among the public and regulatory and resource agencies. This observer characterized the developer as “one or two people in the room” among the over 60-member USAC. In addition, the principals behind the two real estate developers comprising USNC were local, respected, and committed individuals who resided near the Denver Union Station site.

Finally, from a federal oversight perspective, FTA was a “flexible and collaborative” partner, while nonetheless reminding the local partners of the need to “protect the federal investment” in the project.

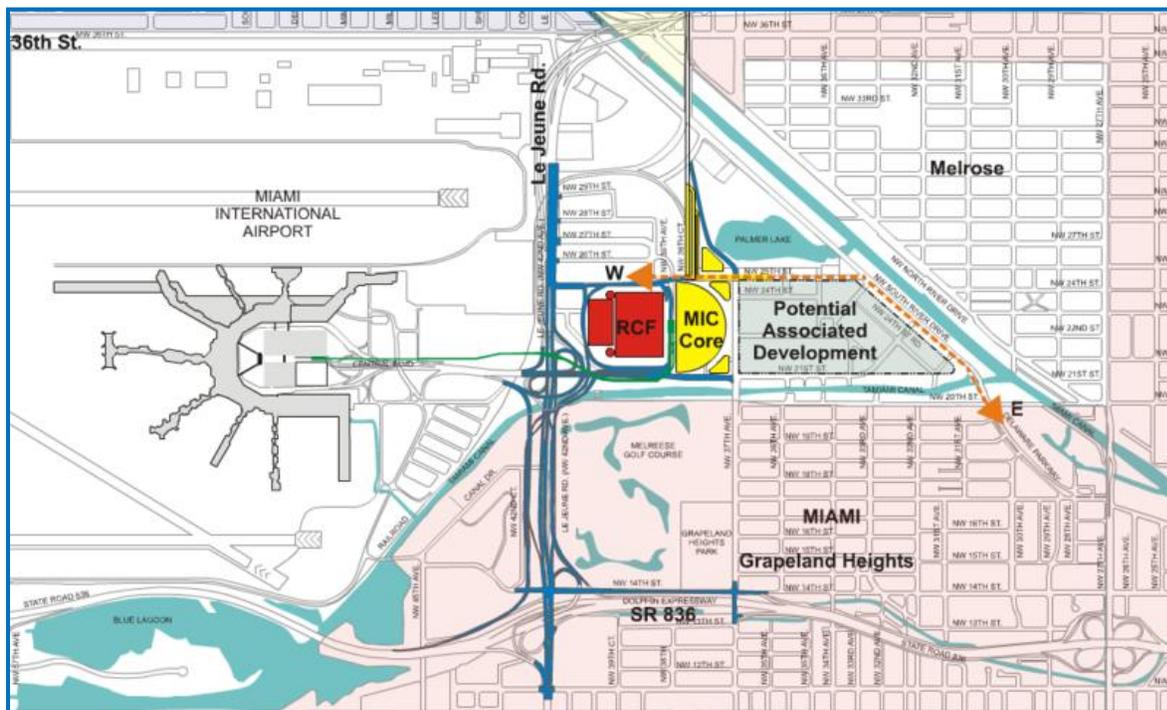
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Miami Intermodal Center Project Profile

The Miami Intermodal Center (MIC) project consists of ground access improvements to and within Miami International Airport (MIA). The improvements include the Miami Central Station, an intermodal center serving Amtrak, transit, commuter rail, and bus services; a Rental Car Center (RCC) facility consolidating rental car operations at the airport; the MIA Mover, an automated people mover to connect the airport terminals to the Central Station and RCC, and various roadway improvements to improve airport access. In addition to the transportation components, the project includes the private development of 1.4 million square feet of mixed-use space that will be complemented by the new transportation options.

The real estate development component of the project is being delivered separately; the land slated for development will be managed and sold by the Miami-Dade Expressway Authority (MDX) after the completion of the project's other elements. While no formal role of the private sector will appear until after the transportation components are complete, the private rental car companies played a role in developing and configuring the rental car facility. The transportation components of the project are being developed by FDOT through a Construction Manager at Risk procurement model.

The project was environmentally approved with an EIS due to the anticipated impact the geographic scope of the project would have on the surrounding environment. The real estate component was included in NEPA, as the land was formerly used by rental car companies who relocated to the new consolidated facility.



Source: <http://www.urbanplanet.org>

Mode	Intermodal transit center, airport car rental facility, and private real estate development	Is this project tolled?	NA
State-Region	FL – Miami	Did private involvement occur prior to NEPA?	<input type="radio"/>
Value (\$ m)	\$2,023	Did private partner influence project definition during NEPA?	<input type="radio"/>
P3 Model	Private real estate development	Was P3 procurement unsolicited?	NA
Type and Date of Environmental Action	EIS/ROD – May 1998	Did private partner alter project definition post-NEPA?	NA
Lead Federal Agency	FHWA	Did private partner post-NEPA changes require a NEPA reevaluation?	NA
Private Partner	Private Real Estate Developers	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	<input type="radio"/>
Concession Term	NA	Was real estate development assessed during NEPA?	<input checked="" type="radio"/>
Project Status	Open / In construction	Was real estate development approved through a non-NEPA process?	<input checked="" type="radio"/>
Date Private Involvement Initiated	Not yet initiated	Was all or a majority of permitting completed by the private partner?	<input type="radio"/>

No

Yes

Somewhat

NA Not Applicable

PROJECT NAME	
Miami Intermodal Center	
PROJECT TYPE	
Multimodal Transit Terminal – Complementary Real Estate Development	
STATE – REGION	
Florida – Miami	
COST (MILLIONS)	
\$2,023	
PHYSICAL DESCRIPTION	
<p>The Miami Intermodal Center (MIC) is a program of ground access improvements to and within Miami International Airport (MIA). The Florida Department of Transportation (FDOT) led program comprises the following components:</p> <ul style="list-style-type: none"> • Miami Central Station (MCS) – An intermodal center to serve transit (Metrorail), commuter rail (Tri-Rail), Amtrak, and intercity bus services • Rental Car Center (RCC) – A rental car facility consolidating rental car operations at the airport and providing space for 10,000 cars • MIA Mover – An automated airport people mover to connect MIA to the MCS and RCC • Various roadway improvements to improve airport access, including a north-south interconnector between SR 112/Airport Expressway and SR 836/Dolphin Expressway along the western boundary of the airport <p>The goal of the program is to reduce congestion on the roadways around the airport and encourage and facilitate multimodal connections among a host of transportation options providing access to destinations throughout the region. In addition, the program includes plans for complementary private sector real estate development on land made available from the relocation of car rental operations. Once all other program components are complete, private development partners will be able to develop 1.4 million square feet of mixed-use space, complemented by new transportation access options. The revenues generated by the real estate development component of the program will be used by Miami-Dade County for other transportation investment needs.</p>	
BRIEF TIMELINE	
1989	MPO's Miami International Airport Area Transportation Study on intermodal airport access complete
Dec. 1991	DEIS initiated
Jan. 1992	FDOT-commissioned Airport Area Multimodal Access Study complete
June 1993	Establishment of MIC Program
Oct. 1995	Approval of MIS/DEIS
March 1996	Adoption of MIS/DEIS findings by Miami-Dade County Commission and incorporation of recommended development alternatives in county's long-range plan
Dec. 1997	Approval of FEIS
May 1998	ROD issued by FHWA; Location and Design Concept Approval granted; award of contract to consultant program manager
Sept. 1999	Project selection for two TIFIA loans
Dec. 1999	FDOT enters into MOU with Miami-Dade County, confirming the county's commitment to the MIC Program; Miami-Dade Aviation Department and Miami-Dade Transit are the county's lead agencies
June 2000	The Florida Department of Community Affairs and FDOT sign an agreement waiving the need for a DRI review of the MIC Program
April 2001	Joint Partnership Agreement between FDOT and the Miami-Dade Expressway Authority regarding construction and right-of-way acquisition

BRIEF TIMELINE (CONT'D)	
Sept. 2001	FDOT enters into MOU with Tri-Rail (now the South Florida Regional Transportation Authority [SFRTA]) for integration of the Tri-Rail Miami Airport Station
March 2003	Construction manager at-risk contractor selected
June 2003	Construction begins on RCC
May 2008	Completion of roadway improvements
July 2010	Completion of the RCC
Sept. 2011	MIA Mover operation begins; construction begins on Miami Central Station
Late 2013	Expected opening of Miami Central Station
EARLY PLANNING ACTIVITIES	
<p>The Miami International Airport Area Transportation Study was completed by the region's MPO in 1989 assessing multimodal access improvements to the airport and recommending a new intermodal terminal that would link both commuter rail service and public and private bus service. Roadway congestion around the airport was becoming a significant problem as the region's population grew and expanded significantly beyond the city center. In early 1992, the MPO's study was followed by similar Airport Area Multimodal Access Study commissioned by FDOT. This effort examined ways to link Miami's two local rail transit systems (Tri-Rail and Metrorail) and make roadway access improvements, laying the groundwork for development of an intermodal center adjacent to the airport. The MIC Program was formally established in 1993 when FDOT entered a partnership with FHWA and five other federal agencies, allowing FDOT to take the lead on coordinating and overseeing the program's planning, design, and construction of the facility.</p> <p>Prior to the start of the DEIS, FDOT developed conceptual definitions of the MIC components' alternatives, engaging in early coordination with affected agencies and community organizations. This process resulted in early identification and consideration of environmental and engineering constraints and community concerns among the proposed alternatives.</p>	
ENVIRONMENTAL REVIEW/NEPA	
NEPA Class of Action	Environmental Impact Statement / Record of Decision
Lead Federal Agency	FHWA
Cooperating Agencies	<ul style="list-style-type: none"> • Federal Transit Administration (FTA) • Federal Railroad Administration (FRA) • Federal Aviation Administration (FAA) • Maritime Administration (MARAD) • U.S. Coast Guard (USCG)
Class of Action Determination	
The MIC Program's geographic extent and scope of improvements, including new facilities for rail transit, required the preparation of an EIS.	

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Major Environmental Issues/ Commitments (Primary Agency)

- Minimizing wetland impacts from the construction of airport access roadway improvements (interconnector between SR 112/Airport Expressway and SR 836/Dolphin Expressway) (South Florida Water Management District)
- Avoiding community impacts, including businesses, a golf course, park, and primary travel route through and established neighborhood (in response to public input)
- Avoiding impacts to manatees and other endangered species (Miami-Dade County Department of Environmental Resources Management [DERM], Florida Department of Environmental Protection, U.S. Fish and Wildlife Service)
- Avoiding impacts to water quality (DERM)
- Minimizing traffic impacts
- Minimizing construction noise impacts
- Relocation of businesses and residences

See Complementary Real Estate Development section on how environmental and other impacts relate to that component of the MIC.

Design/Preliminary Engineering

FDOT completed preliminary engineering in conjunction with the FEIS in which it evaluated the environmental consequences of the locally preferred alternative presented to FHWA for Location and Design Concept acceptance.

At the conclusion of preliminary engineering, several outstanding issues remained to be resolved during final design, including:

- Final design and configuration of the consolidated rental car facility
- Final design and routing of the MIA Mover
- Architectural design and visual appearance of the MIC and associated facilities
- Provision for future high-speed rail

Public Input/Review

FDOT conducted extensive public involvement and interagency coordination and consultation throughout the EIS process. FDOT's public information program was carried out in conjunction with that for the contemporaneous East-West Multimodal Corridor Study.¹ Four Community Advisory Committees were formed, each with distinct geographic boundaries. The process was used to develop and refine project alternatives and respond to community needs and concerns.

Private Sector Role During NEPA

There is currently no formal role for the private sector, as the program is not being delivered on a P3 basis and the complementary real estate development component is slated for implementation only after the completion of the project's other elements. The Miami Dade Expressway Authority (MDX) will lead the real estate development component of the project.

The interests of private rental car companies operating at MIA played heavily in the development of the program, specifically their relocation from separate, offsite surface lot operations east of the airport to a modern, consolidated RCC. At the conclusion of the FEIS, a design decision had not been finalized to implement the new rental car facility as a single consolidated concept (referred to as the "hub" concept in the FEIS). Other options presented in the FEIS included an arrangement of discrete parcels, where each parcel would be dedicated to individual rental car operations and developed according to individual company needs (referred to as the "park" concept), or a combination of "hub" and "park" concepts. Ultimately, the single consolidated (or "hub" concept) was selected.

Rental car companies' input was sought during NEPA in addition to findings by a specially established committee that studied existing consolidated RCCs around the country to determine the ideal parameters and optimal configuration of a Miami RCC. (Post-NEPA, the RCC's design had to be revisited to incorporate necessary changes brought about by 9/11.)

1. The East-West Multimodal Corridor examined various highway and transit alternatives along a 22-mile corridor between the Miami Campus of Florida International University west along the full length of SR 836/Dolphin Expressway, past MIA, through Downtown Miami, to the Port of Miami, and on to the Miami Beach Convention Center in South Beach.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Extent Permitting Addressed

Required agency permits and approvals were identified in the FEIS, including:

- Dredge and fill permits (U.S. Army Corps of Engineers [USACE], South Florida Water Management District [SFWMD], DERM)
- Stormwater management permits and plans (SFWMD, U.S. Environmental Protection Agency [USEPA], DERM)
- Right-of-way occupancy permit (canal crossings) (SFWMD)
- Bridge permit (USCG)
- Railroad improvements (U.S. Interstate Commerce Commission, CSX Transportation)
- Notice of proposed construction or alteration (FAA)
- Contamination (DERM or Florida Department of Environmental Protection)
- Water and sewer plan (Miami-Dade Water & Sewer Department, Miami-Dade County Department of Public Works, Miami-Dade County Fire Department, DERM, Florida Department of Health and Rehabilitative Services, Miami-Dade County Department of Health)
- Demolition permit (Miami-Dade County Planning Development and Regulation Department [PDR], DERM)
- Platting approval (Miami-Dade County PDR)
- Building permit (Miami-Dade County PDR)

Other Notable Actions/Events

FHWA was chosen as the lead federal agency because of the plan to flex federal-aid highway funding for transit/intermodal improvements, which at the time, was newly introduced by ISTEA.

The 1993 MOU establishing the MIC Program contained a provision on the length of time a partner agency could spend on reviewing environmental issues and agreed overall to a 24-month schedule to obtain environmental clearance. However, the need to perform a Major Investment Study (MIS) was introduced in 1994 by FHWA, adding two years to the completion of the DEIS.

A MIC Steering Committee was established to coordinate costs, scheduling, permitting, and other matters that involved critical decision-making that affected the many involved parties. The Steering Committee concept was modeled after the MOU arrangement established at the start of the program and was initially divided into technical and policy components that operated concurrently through the issuance of the ROD, at which point they combined into one. Participating agencies included: FHWA, FDOT, Miami-Dade County, Miami-Dade Transit (Metrorail), Miami-Dade Aviation Department (MIA Mover and RCC), Miami-Dade County Metropolitan Planning Organization, MDX, Miami-Dade Planning & Zoning, Miami-Dade County Office of the Mayor, SFRTA, Greater Miami Chamber of Commerce, and the Greater Miami Convention & Visitors Bureau. In addition, the Steering Committee included participation from the rental car companies.

COMPLEMENTARY REAL ESTATE DEVELOPMENT

The FEIS included provisions for the development of up 1.4 million square feet of mixed-use space on an 8.5-acre parcel immediately east of the Miami Central Station. The land was initially occupied by rental car company operations that would be consolidated at the RCC. The complementary real estate development concept arose due to the need for rental car companies to sell their properties and relocate to the RCC. Some of the land they occupied was needed for right-of-way for the Miami Central Station, leaving the remainder available for later development.

The FEIS acknowledged that with most transit projects, complementary development is only realized after the completion of the associated transportation system. It noted that the MIC project offered the opportunity to consider and implement development opportunities in advance of full build-out, in turn generating economic activity and revenue that would increase the demand for future transportation components.

Although, no real estate development will ultimately be initiated until the completion of all project components (see discussion in the Final Design/Construction section), it was recognized that there was generally a disconnect between the NEPA review and subsequent development by private partners. Appropriate analysis was conducted as part of the EIS. As stated in the FEIS:¹

Complementary real estate development as it relates to the MIC project is considered a supporting element and would have no adverse environmental effects. Traffic, air quality and noise analyses have included studies of expected effects of 130,000 sq m (1.4 million sq ft) of development in the assessment of potential environmental impacts.

1. Miami Intermodal Center, Final Environmental Impact Statement, US DOT FHWA, FDOT. Page 5-2. December 1997.

COMPLEMENTARY REAL ESTATE DEVELOPMENT (CONT'D)

Following the completion of NEPA, the MIC Program—including its complementary private development plans—was presented to the Miami-Dade County Planning Advisory Board for incorporation into the county's Comprehensive Development Master Plan. The Planning Advisory Board found that the analysis completed for the FEIS provided sufficient justification for the MIC Program and it was incorporated into the Comprehensive Development Master Plan in June 2000. This action effectively granted the real estate development a Development of Regional Impact (DRI) approval. Ordinarily an independent DRI process would be initiated for a large-scale, multijurisdictional development project to examine effects on the health, safety, and welfare of citizens. However, the Planning Advisory Board waived this requirement because the idea of pursuing the real estate development had its genesis as part of the NEPA process for the MIC.¹

The MIC Program is fully funded without revenues generated by future development, but because the program is using a significant amount of state funding ordinarily allocated to the region for highway improvement purposes, it has been agreed that revenue from real estate development (e.g., lease revenue) will be returned to Miami-Dade County for transportation purposes and available for use on local roadway improvement projects.

The development parcels are currently owned by the state since FDOT has been the lead agency for the MIC Program. Ownership of the parcels will be transferred to MDX once the MIC is complete. (MDX is traditionally thought of as a toll expressway operator but it was created legislatively as a multimodal authority.)

Associated development has also been identified for 4.5 million square feet of mixed-use development on land currently in private ownership immediately east of the MIC development parcels. The County's Comprehensive Development Master Plan designates prescribed uses for this land. Related public improvements will be paid for using tax increment financing.

FINAL DESIGN/CONSTRUCTION

Public vs. Private Sector Roles

FDOT has been the sponsor of the MIC Program and engaged a Construction Manager at Risk in 2003 to work with the agency and its program manager to deliver the RCC, MIA Mover, and Miami Central Station. At one point, FDOT issued an RFP to procure a master developer for the development component, but responding parties wanted to maintain greater control over the process than the state was willing to permit. Private developers were interested in holding ground leases, and resulting development would have generated relatively small amounts of revenue for the state. The state determined that this approach might not maximize benefits to the public in terms of the newly developed public transportation facilities providing access to worthy development destinations. Accordingly, the procurement was canceled, and to date, no private sector involvement has occurred during the design and construction of the MIC. MDX is currently seeking input from other agencies on the best approach to engage private partners, which may involve build-to-suit rather than ground leases.

Significant Design Changes/Reevaluations

Consistent with FDOT practice, environmental reevaluations were conducted each time the project advanced from one major phase to another—including final design and construction—to revisit expected environmental impacts and compliance with proposed avoidance and mitigation as the design evolved.

A total of seven reevaluations were completed for the various MIC project segments, in response to notable differences in the designs and configuration of project component compared with the FEIS, many of which were due to post-9/11 security-related and passenger demand-related outcomes. Major design changes included:

- Modifications to the configuration of the RCC
- Modifications to the alignment of the MIA Mover and reduction from a 1.75-mile loop with stations at each of the three MIA terminals and the MIC to a "straight configuration" 1.25-mile connection between a single MIA station and the MIC station

1. A 2009 legislative change to the statute that governs the DRI process now exempts the approval for development in a municipality or county that qualifies as a dense urban land area, based on population density or total population thresholds. Miami-Dade County qualifies as a dense urban land area.

FINAL DESIGN/CONSTRUCTION (CONT'D)

The following project reevaluations were completed for the MIC:

- July 2010: Design changes associated with the Central Station East including a reconfiguration of the building structure to reduce construction cost and schedule and the extension of the existing Tri-Rail track system of 1,030 feet
- July 2007: Design changes for six MIC project segments: the MIC Central Station, the RCC and associated roadways, the MIC Terminal Access Roadways; the MIA Mover Station, the bus plaza and roadways, and various traffic ramps and bridges
- April 2006: Refinements to the design of the MIC Central Station, the RCC, the Miami Mover Station, the location of the Tri-Rail Station and access roadways
- November 2004: Design changes to the MIC Central station, access roads, the Tri-Rail Station and the Miami People Mover Station
- March 2003: Design changes to two major limited access roadways along LeJeune Road, the interchange of LeJeune Road with the MIC and Miami International Airport, other project roadways, a new Tri-Rail access roadway, N.W. 14th Street, and the RCC adjacent to the MIC Central Station
- February 2000: Design changes to MIC internal roadways
- August 1999: Design changes to LeJeune Road South

None of these analyses revealed significant impacts.

Permitting

FDOT was responsible for acquiring all permits for the MIC Program. Permitting for real estate development will be contingent upon future decisions made by MDX on how to develop and lease the parcels.

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

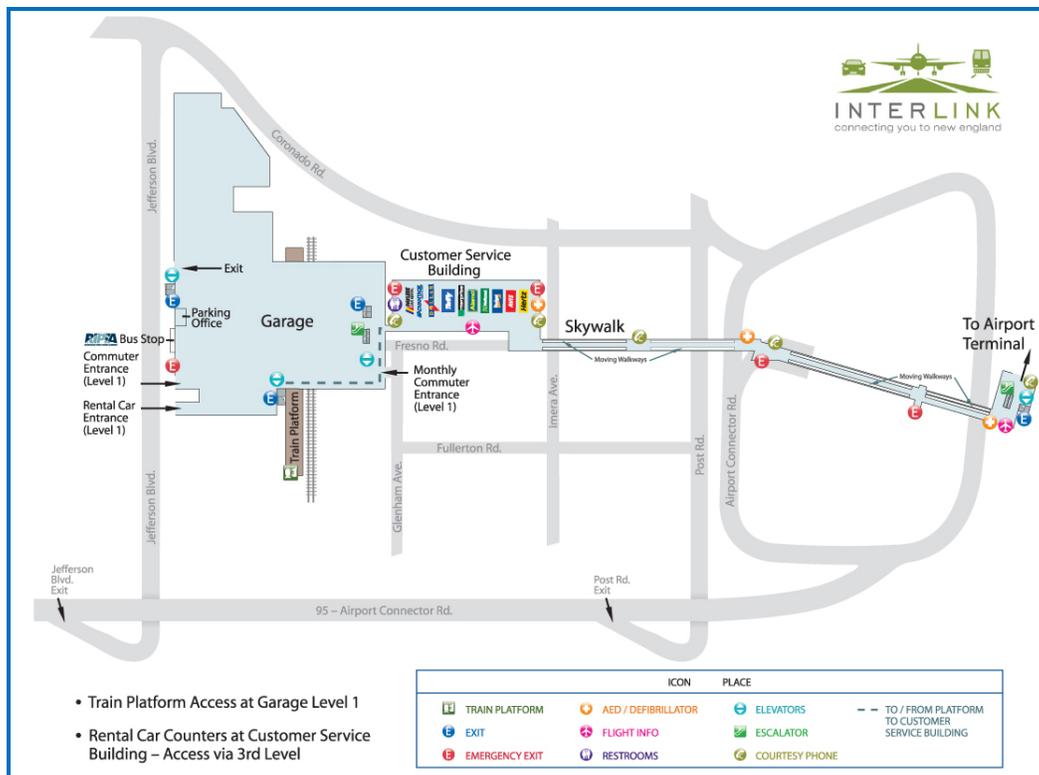
One project participant noted that it may ultimately be beneficial not to have a real estate development partner involved until the completion of a complex project because a developer would have served its own interests, which may not align fully with those of the state or public.

Interlink Project Profile

Interlink is a multimodal transit terminal located adjacent to T.F. Green Airport in Warwick, Rhode Island. The terminal consists of commuter rail connections, a consolidated rental car and public parking facility, direct access to the airport via an enclosed automated walkway, and accommodations for local and intercity bus connections. The project was developed through a Construction Manager at Risk model. The goal of the project is relieve congestion along the I-95 corridor by providing alternative transportation modes for both airport commuters and workers, and support economic development in Warwick.

The project was approved as an EA, as it was found that the environmental impacts were not significant enough to warrant an EIS. The FONSI was issued in 1999, but due to the length of time between award and construction, as well as the introduction of a new consolidated rental car facility and adjustments to land parcel needs, the EA was reevaluated in 2001 and 2002.

In addition to the terminal improvements, the Warwick City Council envisioned the development of approximately 70 acres near the airport. Efforts to attract investors and developers failed because these efforts were initiated 10 years ahead of the project's completion. The redevelopment aspect has been taken up again more recently, with the City Planning Department taking the lead on attracting investors and managing the development of the area. A new master plan for the redevelopment area was approved by the City Council in 2012 and currently the concept is being analyzed through a market analysis and branding plan.



Source: City of Warwick, RI

Mode	Intermodal transit center, airport car rental facility, and private real estate development	Is this project tolled?	NA
State-Region	RI – Providence	Did private involvement occur prior to NEPA?	<input type="radio"/>
Value (\$ m)	\$267	Did private partner influence project definition during NEPA?	<input type="radio"/>
P3 Model	Private real estate development	Was P3 procurement unsolicited?	NA
Type and Date of Environmental Action	EA/FONSI – July 1999	Did private partner alter project definition post-NEPA?	NA
Lead Federal Agency	FHWA	Did private partner post-NEPA changes require a NEPA reevaluation?	NA
Private Partner	Real Estate Investment Firm (contract terminated)	Did modifications by the public sponsor trigger subsequent NEPA evaluation?	<input checked="" type="radio"/>
Concession Term	NA	Was real estate development assessed during NEPA?	<input type="radio"/>
Project Status	Open	Was real estate development approved through a non-NEPA process?	<input checked="" type="radio"/>
Date Private Involvement Initiated	2000 (terminated 2010)	Was all or a majority of permitting completed by the private partner?	<input type="radio"/>

No Yes Somewhat NA Not Applicable

PROJECT NAME	
Interlink	
PROJECT TYPE	
Multimodal Transit Terminal – Complementary Real Estate Development	
STATE – REGION	
Rhode Island – Providence region	
COST (MILLIONS)	
\$267 million	
PHYSICAL DESCRIPTION	
<p>Opened in late 2010, Interlink is a multimodal transit terminal adjacent to T.F. Green Airport in Warwick, RI connecting air, rail, bus, automobile, and rental car users. It includes:</p> <ul style="list-style-type: none"> • T.F. Green Airport Station along the MBTA (Massachusetts Bay Transportation Authority) Commuter Rail Providence/Stoughton Line (using Amtrak rails), extending it from its previous terminus in Providence. (The commuter rail line, which originates in Boston, now extends to the Wickford Junction Station in North Kingstown that opened in April 2012 as a separate project) • Consolidated rental car facility that houses all airport rental car facilities in a six-story, 1,800-space garage that also includes 800 spaces for commuters and incorporates the rail station; rental car service desks are housed in a connected three-story building • Direct connection to T.F. Green Airport via a 1,200-foot elevated and enclosed moving walkway • Accommodation for local and intercity bus connections <p>As outlined in its purpose and need statement (prior to the addition of the consolidated rental car facility and parking garage), project goals were to:</p> <ul style="list-style-type: none"> • Relieve peak hour congestion in the I-95 corridor in the Providence metropolitan region by shifting SOVs to rail • Provide an additional mode of travel for area residents to access jobs in Providence and Boston • Support economic redevelopment in Warwick • Improve air quality from reduced congestion and provide for cleanup of nearby ground contamination 	
BRIEF TIMELINE	
1989–1997	State and local consideration of an airport train station
1998	Train station and “people mover” connection to airport announced as project; Warwick Station Development District designated
May 1999	EA approval
July 1999	FONSI issued by FHWA
2000	Project’s scope and cost increased to include consolidated rental car garage; Warwick Station Redevelopment Agency created; master developer hired for development district
March 2001	Reevaluation of EA to consider consolidated rental car garage
February 2002	Reevaluation of EA to consider acquisition of three additional land parcels
2003	Renewed negotiations with partners and finance considerations after two-year delay; moving sidewalk proposed in lieu of people mover, Rhode Island Department of Transportation (RIDOT) completes land purchases
July 2006	Financing complete
Fall 2007	Construction begins
October 2010	Construction completion
December 2010	MBTA service begins
January 2012	Adoption of Warwick Station Development District Master Plan; abolition of Warwick Station Redevelopment Agency

EARLY PLANNING ACTIVITIES

Consideration of an airport rail station adjacent to T.F. Green Airport dates back to its location identification in 1988 by RIDOT and feasibility study completed in 1994. The study examined extending commuter rail service further south from Providence, which had started operation in 1988, 10 miles south to Warwick. The study identified the site of the station with an adjacent surface lot and presumed shuttle service to the airport.

Rhode Island had a strong champion of the rail station concept in Senator John Chafee, who chaired the Committee on Environment and Public Works at the time of TEA-21’s passage. He was able to secure a \$25 million earmark for the project, which had evolved to include a people mover connection to the airport and Amtrak accommodation. Additional impetus for these project refinements included recent improvements to Amtrak along the nearby Northeast Corridor (NEC) as well as growth in airport passengers due to a new terminal that opened in 1996 and the subsequent addition of Southwest Airlines service (passenger volumes jumped from 2.5 to 4.1 million between 1996 and 1997).

An EA completed in 1999 and issued a FONSI that July evaluated this project, called then the Warwick Intermodal Station. It included a multilevel Amtrak/MBTA Commuter Rail Station with presumed (but separate) electrified shuttle connecting to the Providence MBTA station, a 500-space surface lot, and “horizontal elevator” connection to the airport.

ENVIRONMENTAL REVIEW/NEPA

NEPA Class of Action	Environmental Assessment / FONSI
Lead Federal Agency	FHWA
Cooperating Agencies	<ul style="list-style-type: none"> • Federal Railroad Administration (FRA) • Federal Transit Administration (FTA) • Federal Aviation Administration (FAA) • Environmental Protection Agency (EPA) • Rhode Island Department of Environmental Management (RIDEM) • Rhode Island Airport Corporation (RIAC) • Rhode Island Public Transit Authority (RIPTA) • Rhode Island Historical Preservation and Heritage Commission (RIHPHC)

Class of Action Determination

An EA was conducted, and it was determined that the level of environmental impacts did not warrant a full EIS.

Major Environmental Issues/ Commitments (Primary Agency)

Among the environmental categories studied, the project was found to have no adverse impact/no significant impact/no impact or a beneficial impact in nearly all cases. For example, among the beneficial impacts, several impacts included:

- Land Use – project is consistent with city-enacted land use plan as part of a redevelopment district
- Air Quality – reduced vehicle miles traveled and regional emissions
- Hazardous Waste Sites – remediation of a known hazardous site (former chemical distribution/storage company)

One analysis area required mitigation to achieve no significant impact:

- Traffic impacts – mitigated through intersection signalization or upgrade (RIDOT)

Private Sector Role During NEPA

None

Preliminary Engineering/Design

Preliminary engineering was conducted by RIDOT. It advanced the design of the project to about the 30 percent level for evaluation in the EA.

ENVIRONMENTAL REVIEW/NEPA (CONT'D)

Extent Permitting Addressed

Several permits were identified in the EA, but applications would not be prepared until closer to the start of construction. All identified permits dealt with stormwater runoff and discharge, as managed and issued by RIDEM, including:

- Rhode Island Pollutant Discharge Elimination System (RIPDES) Stormwater Discharge Associated with Construction Activity Permit – due to disturbance of >5 acres of soil
- State Water Quality Certification – for treatment of stormwater runoff before discharge to State waters, including schedule of long-term maintenance of all proposed stormwater structures, identification of party responsible for maintenance, and adequate erosion and sedimentation controls
- Underground Injection Control Permit – potentially required if the project's drainage system includes provisions for onsite infiltration and/or subsurface discharges of runoff for stormwater management

Public Input/Review

As one observer noted, the public was generally supportive of the project and provided favorable input. In addition to the transportation and economic/land use benefits from associated development, the cleanup of hazardous material at a brownfield site (the former chemical distribution/storage company) using federal transportation funding was a positive addition, as it was understood groundwater quality would improve as a result. No significant organized opposition to the project existed.

POST-NEPA/PRE-FINAL DESIGN

Significant Design Changes/Reevaluations

As originally conceived, the project studied in the EA did not include the consolidated rental car facility and real estate development component. This change occurred subsequent to the 1999 FONSI as RIDOT continued to develop the project and began to acquire land. It became clear that the cost of the project would easily exceed the \$25 million in federal funds. In addition, the City of Warwick and state officials saw an opportunity to redevelop the area around the proposed station and airport, which was characterized by several incompatible land uses. By relocating and consolidating the nine rental car agencies operating at the airport into one facility, additional land would be freed for redevelopment and allow the rental car agencies to play a role in financing the overall project by collecting customer facility charges against which debt could be issued.

As operator of the airport, RIAC had been a cooperating agency during the EA, but took on a more prominent role during this shift in project scope. RIAC held concession agreements with the rental car agencies and brought these inherent competitors on board with the concept of and rationale for consolidating into one facility. Initially, the rental car companies were not proponents of the project, and their interest waned with the drop-off in air travel after September 11, by which time the multilevel garage incorporating the rail station had been included in a reevaluation of the EA published in March 2001. The reevaluation found that additional traffic impacts could be mitigated with traffic signalization and signal modifications at affected intersections.

The rental car agencies formed a consortium and hired a project manager to represent their interests. By 2003, however, RIAC and other state officials had secured their support, and the project was once again moving ahead. RIDOT abandoned the expensive and relatively unproven "horizontal elevator" concept in favor of more traditional moving walkways and completed all land acquisitions.

In the interim, a second reevaluation was published in February 2002 examining the expansion and reconfiguration of the project's footprint as a result of a value engineering exercise that began in April 2001. This modification required the acquisition of three additional parcels, but no change in impact resulted from their incorporation into the overall project development.

Following the February 2003 Station nightclub fire in West Warwick, RI, fire codes were changed significantly, requiring a full redesign of the fueling component of the "quick turnaround area" within the garage where rental car companies fuel, wash, and service their vehicles. This modification, however, did not require a reevaluation of the EA.

In 2005, SAFETEA-LU authorized RIDOT to proceed with negotiations with Amtrak to extend the MBTA commuter rail service south of Providence to Warwick and North Kingstown.

One final change to the original project concept was the business decision by Amtrak to withdraw its participation. It felt that there was insufficient demand for Amtrak service at a station only 10 miles from its Providence stop, coupled with operational and scheduling complications. It has, however, left the door open to offering service at Interlink in the future, and the final station design does not preclude its addition. It remains a state priority to bring Amtrak service to Interlink.

COMPLEMENTARY REAL ESTATE DEVELOPMENT

To capitalize on the planned rail station and recent increase in activity at the airport, the approximately 70-acre Warwick Station Development District was designated by the Warwick City Council in 1998; however, the development envisioned alongside the intermodal station did not occur in parallel as anticipated. In 2000, the City Council created the Warwick Station Redevelopment Agency and hired a Boston-based real estate investment firm to lead the redevelopment effort. The timing, ultimately, was too early, as what would become Interlink was 10 years away from completion. The master developer unsuccessfully tried to attract investors and development.

In late 2010, a new master plan for the development district was underway. It was adopted by the City Council in early 2012 in conjunction with abolishing the Warwick Station Redevelopment Agency. The elimination of the redevelopment agency also meant the ending of the contract with the master developer, on board since 2000. Development activities are now under the purview of the city's planning board.

The current focus of the development district will be to capitalize on "existing intermodal infrastructure to develop a mixed-use, transit-oriented development and growth center ideally situated along the high-traffic Northeast corridor that will serve as a center of opportunity and a gateway to Rhode Island."¹ The master plan envisions office, hotel, residential, and retail development opportunities, anchored by Interlink.

As of January 2013, the Rhode Island Economic Development Corporation (RIEDC) has awarded contracts for a market analysis and a branding and marketing plan. Under this new approach to development, there is no one master developer. The master plan sets standards to encourage transit-oriented development and guides associated infrastructure changes to support it.

FINAL DESIGN/CONSTRUCTION

Public vs. Private Sector Roles

Interlink was procured using the Construction Manager at-Risk project delivery method. Under this delivery method, the selection of construction manager (CMR) is made before the completion of design. The CMR works with the designer, typically performing constructability reviews and value engineering, to more efficiently deliver the project. The CMR agrees to deliver the project for a guaranteed maximum price, coordinating all subcontracting as necessary.

A partnership between RIDOT and RIAC, a quasi-public agency and division of RIEDC, was necessary to implement the project, especially once it evolved to include the parking garage and consolidated rental car facility, which in turn, was critical to the project's financing. RIDOT owned (or purchased) the land on which the project was built, while RIAC operates the facility, including holding the concession agreements with the rental car agencies.

Additionally, since the CMR delivery method was used on the project, collaboration between RIDOT—which was planning and designing the facility—and RIAC—which would manage the construction and delivery—was significant. The timing of final design and construction was overlapping because of the CMR arrangement. Another factor was the strong push for the project's completion and involvement in formulating the financing package originating from top state officials, including the Governor.

Early work and enabling construction packages, as directed by RIAC through its CMR, were completed prior to or at nearly the same time as final design was authorized in late 2007. Although RIDOT had been responsible for the project's design—and previously its planning and environmental review—its design consultant also had a contractual relationship with RIAC. At the time of final design authorization, the design consultant received direction from RIAC, rather than RIDOT, to complete the project's final design from roughly the 60 percent level so that it could be more easily procured, constructed, and managed.

With respect to the Warwick Station Development District development, the master developer was under contract during the design changes of the post-NEPA period and during final design and construction of Interlink, but as noted in the Complementary Real Estate Development section, it did not initiate the development of any of the district's parcels during this time. A master plan for the development district was adopted after the completion of Interlink, in parallel with the dissolution of the Warwick Station Redevelopment Agency and the contract with the master developer. Future development in the district will take place in accordance to the master plan and associated design guidelines but will not be led by a single private entity. Development decisions will be directed by the City Council and planning board.

1. <http://www.riedc.com/warwick-station-development-district>

FINAL DESIGN/CONSTRUCTION (CONT'D)

Significant Design Changes/Reevaluations

The EA underwent two reevaluations prior to final design and construction, as described under the Post-NEPA/Pre-Final Design section. Additional evolution of the design that did not require reevaluation of the EA is also discussed in this section.

Permitting

All permits were acquired by RIDOT.

LESSONS LEARNED / BEST PRACTICE HIGHLIGHTS

A “lessons learned” meeting was held on Interlink in February 2012, a little over a year after the facility opened.

- Establishing a working group among inherently competing private interests who collectively have a major stake in the project’s outcome was critical to establishing appropriate design features and, in the case of Interlink, achieving agreement on a primary mechanism of project financing.
- A project of this nature and magnitude, with input from multiple agencies and stakeholders, would benefit from an overarching programming document to permit a common understanding of all entities’ requirements, even if initiated after the start of the design phase. The programming document would be used as a tool to “bring the needs and concerns of all parties to the table”.¹
- Similarly, formal agreements between the project’s primary parties—RIDOT and RIAC—that assign primary decision-making responsibilities would have helped coordinate competing interests in the project (including those of Amtrak and the rental car agencies), better facilitating successful execution of a project with shared leadership. Communication between RIDOT and RIAC, and in turn between the design consultant and construction manager, would have been enhanced.

1. “Warwick Intermodal Lessons Learned,” prepared by Gilbane Building Company, February 2012.

4 Findings

The 10 case study templates provided in Chapter 3 demonstrate that there is no single approach for gaining environmental compliance for projects utilizing alternative funding methods. Yet, while none of the 10 projects studied replicates the experience of any of the others, there are trends that can be identified among the two project cohorts. Table 4-1 distills salient points regarding environmental compliance and private involvement for each of the case study projects. The upper portion of the table provides basic descriptive information including the P3 model, type and date of NEPA action, lead federal agency, current project status as of late summer 2013, and the date of the initial private involvement.

The lower portion of the table uses symbols to convey information on the timing of private involvement and the extent to which private development partners interfaced with the NEPA process. Empty circles indicate “no,” darkened circles indicate “yes,” and darkened half circles indicate “somewhat.” Certain fields are also indicated as “not applicable” to given projects, as in the case of whether a transit center has tolls. Similarly, fields about post-NEPA activities are indicated as “not applicable” for a project that has not yet gained NEPA clearance. The use of the symbols makes it easier to detect trends and compare one project to another. The most important distinction provided in the table is whether private involvement in the case study projects occurred prior to gaining NEPA approval. These trends become evident by comparing the other symbol fields for highway or multimodal projects with early versus later private involvement.

4.1 NEPA Compliance for Highway Projects with Early Private Involvement

As shown in the third row of Table 4-1, private involvement occurred prior to the conclusion of NEPA with four of the highway P3 projects. Private involvement occurred after the completion of NEPA for the remaining two highway P3 projects. Three of the four early involvement projects were procured as pre-development agreements (PDAs) where the private partner functioned in a consulting role to the project sponsor and received compensation for doing so. These PDA arrangements also gave the private partner the first right of refusal to develop the projects on a DBFOM concession basis if they advanced.

With two of the three PDA early involvement highway projects—the Mid-Currituck Bridge and the North Tarrant Express Phase II—the private partners influenced the definition of the project gaining NEPA clearance. With the third, the Downtown Tunnel / Midtown tunnel / MLK Expressway, early private involvement was limited to input on strategies for disposing of tunnel excavate and other issues of project constructability, and did not extend to project design, which had been substantially completed by the time of private partner solicitation. The North Tarrant Express and the Midtown Tunnel projects are currently in construction and no post-NEPA changes were proposed for these projects. The Mid-Currituck Bridge is currently stalled in NEPA. The way

4. Findings

the project was selected for implementation as a toll facility (specified in statute) has met resistance in the current state legislature and its approval is slated to be re-reviewed under a newly introduced statewide project selection and prioritization process. Until then, the project is on hold. NCDOT completed an FEIS for the project and submitted a ROD to FHWA for approval in October 2012. At the conclusion of this research effort in late summer 2013, FHWA has taken no action on the ROD.

The fourth early private involvement highway project—the South Norfolk Jordan Bridge—has been implemented following a different model. This project began with an unsolicited offer from a private developer to the City of Chesapeake, VA to purchase the original bridge, which was 60 years old and closed due to structural instability. Figg Bridge Developers proposed to replace it with a new high-level bridge that it would own and operate in perpetuity. In this case the private sector partner completed the design of the new bridge itself and also prepared an EA which was submitted to the Coast Guard. The new bridge opened to traffic in October 2012. No changes to the project design were proposed after the project gained NEPA clearance.

The North Tarrant Express and the South Norfolk Jordan Bridge cleared NEPA with FONSI, while EISs have been completed for the Midtown Tunnel and the Mid-Currituck Bridge. All four of these projects are real toll DBFOM concessions. None of the four private partners had a say in the identification of the Lead Federal Agency. Similarly, the three private partners in the PDA early involvement projects had no input in identifying the level of NEPA clearance required for the project. Figg Bridge Developers, the owner of the South Norfolk Jordan Bridge, did make the decision to conduct an EA for that project. In this case the EA was part of a larger Bridge Permit application submitted to the Coast Guard. Given that the outcome of any EA is either a FONSI or identification of the need to conduct an EIS, their decision to begin with an EA was prudent.

The private partners of the three early involvement projects that have advanced to construction or operation were responsible for completing all or a majority of permitting requirements. This will also likely be the case with the Mid-Currituck Bridge should that project advance.

4.2 NEPA Compliance for Highway Projects with Post-NEPA Private Involvement

With the remaining two highway P3 projects studied, private involvement occurred after the completion of NEPA. The Port of Miami Tunnel cleared NEPA with a FONSI in November 2000 and FDOT announced its intent to award a DBFOM availability payment concession to MAT in May 2007. Similarly, the I-595 Express project received a CE in June 2006 and FDOT announced its intent to award a DBFOM availability payment concession to 595 Express LLC in October 2008. In both cases, the private partner altered the project definition post-NEPA.

Table 4-1: Summary of Project Profile Findings

	HIGHWAY/BRIDGE/TUNNEL P3 CONCESSION						MULTIMODAL TRANSIT TERMINAL			
	I-595 Express Corridor Improvements Project	Port of Miami Tunnel	Mid-Currituck Bridge	North Tarrant Express Phase II	South Norfolk Jordan Bridge	Downtown Tunnel/Midtown Tunnel/MLK Freeway	Transbay Transit Center	Denver Union Station	Miami Intermodal Center	Interlink
Mode	Three reversible HOT lanes	Subaqueous highway tunnel	New toll bridge	New priced managed lanes	New high-level bridge	New tolled tunnel and related roadway improvements	Intermodal transit center and private real estate development	Intermodal transit center and private real estate development	Intermodal transit center, airport car rental facility, and private real estate development	Intermodal transit center, airport car rental facility, and private real estate development
State-Region	FL – Fort Lauderdale	FL – Miami	NC – Northeast	TX – Fort Worth	VA – Chesapeake	VA – Hampton Roads	CA – San Francisco	CO – Denver	FL – Miami	RI – Providence
Value (\$ m)	\$1,830	\$1,300	\$595	\$1,644	\$142	\$2,089	\$4,185	\$488	\$2,023	\$267
P3 Model	Availability payment DBFOM	Availability payment DBFOM	PDA and potential real toll DBFOM	PDA and real toll DBFOM	Private ownership and operation in perpetuity	PDA and real toll DBFOM	Private real estate development / TIF	Private real estate development / TIF	Private real estate development	Private real estate development
Type and Date of Environmental Action	CE June 2006	EA FONSI November 2000	EIS ROD Pending	EA/FONSI Mar. 2012–Seg. 3B EA/FONSI Aug. 2012–Seg. 3A	EA/FONSI May 2009	M.T. EIS/ROD July 07 D.T. CE May 09 MLK EA/FONSI Feb 09 Combined - EIS/ROD March 2011	EIS/ROD Feb. 2005 (FTA) Aug. 2010 (FRA)	EIS/ROD Oct. 2008	EIS/ROD May 1998	EA/FONSI July 1999
Lead Federal Agency	FHWA	FHWA	FHWA	FHWA	USCG	FHWA	FTA; FRA	FTA	FHWA	FHWA
Private Partner	595 Express LLP	Miami Access Tunnel (MAT) LLP	Currituck Development Group	NTE Mobility Partners Segments 3 (NTEMP3)	Figg Bridge Developers	Elizabeth River Crossings (ERC)	Private Real Estate Developers	Union Station Neighborhood Company (USNC)	Private Real Estate Developers	Real Estate Investment Firm (contract terminated)
Concession Term	35 Years	35 Years	To Be Determined	52 years	In perpetuity	58 Years	NA	NA	NA	NA
Project Status	In construction. Opens Summer 2014	In construction. Opens Spring 2014	In NEPA/ Stalled	In construction	Open	In construction	In construction	In construction	Open / In construction	Open
Date Private Involvement Initiated	October 2008	May 2007	December 2008	June 2009	May 2009	July 2009	Various beginning in 2011	November 2006	Not yet initiated	2000 (terminated 2010)
Is this project tolled?	●	○	●	●	●	●	NA	NA	NA	NA
Was P3 procurement / real estate development unsolicited?	○	○	○	○	●	○	○	○	○	○
Did private involvement occur prior to NEPA clearance?	○	○	●	●	●	●	○	●	○	○
Did private partner influence project definition during NEPA?	○	○	●	●	●	◐	NA	●	NA	NA
Did private partner alter project definition post-NEPA?	◐	◐	NA	○	○	○	NA	○	NA	NA
Did modifications by the private sponsor trigger subsequent NEPA reevaluation?	●	○	NA	○	○	○	NA	○	NA	NA
Did modifications by the public sponsor trigger subsequent NEPA reevaluation?	◐	○	NA	○	NA	○	●	○	○	●
Was real estate development assessed within NEPA?	NA	NA	NA	NA	NA	NA	●	◐	●	○
Was real estate development approved through a local regulatory process?	NA	NA	NA	NA	NA	NA	●	●	●	●
Was all or a majority of permitting completed by the private partner?	○	●	NA	●	●	●	○	●	○	○

○ No

● Yes

◐ Somewhat

NA Not Applicable

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With the Port of Miami Tunnel, the private partner proposed creating a single portal for both tunnel portals on Dodge Island and using boring construction techniques for a greater portion of the project than had been anticipated originally. It also simplified the structure of the MacArthur Causeway Bridge widening and reconfigured approach roadways. Lastly, during construction MAT conducted additional grouting from the bottom of the harbor to stabilize soil conditions before boring was conducted. However, none of the changes introduced by the private partner has required any environmental reevaluation.

Given that it involves an at-grade widening within the limits of an existing highway right-of-way, there was relatively little room for post-NEPA modifications with the I-595 Express project. The most significant modification that the concessionaire—595 Express LLC—proposed was to jack up an existing interchange flyover ramp rather than reconstructing it, as FDOT had proposed in the indicative design. However, FDOT had assembled a number of small modifications and opted to have its corridor design consultant, which functioned as an extension of staff, prepare a reevaluation to the CE. This decision was consistent with FDOT's policy of taking the lead on post-NEPA reevaluations for design-build projects. It is possible the changes could have been advanced without FDOT's reevaluation.

With the Port of Miami Tunnel, MAT was responsible for completing a majority of the project's permitting requirements. However, with the 595 Express project FDOT delegated responsibility for preparing permitting applications to its corridor design consultant. Once the applications were completed, FDOT submitted them directly to the resource agencies.

Although the NEPA clearance was gained several years before MAT became involved with the Port of Miami Tunnel, it is interesting to note that private sector consultation played an essential role in the indicative design that was assessed in NEPA. FDOT had originally intended to build the tunnel using immersed tube design. It prepared a DEIS investigating the impacts of an immersed tube design, which were found to be substantial to both the Biscayne Bay habitat and operations at the Port of Miami. However, as a result of a technical forum with private industry design and construction experts for a rail transit project in 1996, FDOT became aware of new wide-diameter tunnel boring technology that could be used to construct the Port of Miami Tunnel. Although no wide-diameter bored tunnels had been constructed in the United States at the time, FDOT made the decision to use this approach on the Port of Miami Tunnel. As a result of this change, FHWA agreed that FDOT could clear the project with an EA/FONSI rather than a full EIS/ROD.

4.3 NEPA Compliance for Transit Center and Real Estate Projects with Early Private Involvement

Only one of the four multimodal transit center and real estate development projects studied—Denver Union Station—had early private sector involvement prior to the completion of NEPA. Several partner agencies began a master planning initiative in 2002 following the regional transit system's acquisition of the historic station the previous year. Funding for the purchase was provided by the City and County of Denver, the Colorado Department of Transportation and the Denver Regional Council of Governments. These agencies established an Executive Oversight

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Committee to develop the master plan, together with the Union Station Advisory Council, which was composed of 60 citizen and local business stakeholders. The master plan provided a guide to the 19.5-acre station area site and was approved by the Denver City Council in October 2004, creating a new special transit-mixed-use zoning designation for the site.

Work on an EIS began in 2002, but the DEIS was not released until March 2006. This document included the development identified in the Master Plan as part of the future baseline scenario against which the different build alternatives were compared. While the DEIS was underway, John Hickenlooper was elected as Denver's new mayor. His administration took a keen interest in the redevelopment of Denver Union Station and believed that it would be necessary to include a private developer at the table in order to achieve the full vision of the master plan. A special committee was assembled to oversee a three-step solicitation to engage a private master developer between mid-2005 and mid-2006. This process culminated with the selection of Union Station Neighborhood Company (USNC) as the private partner in November 2006, eight months following the publication of the DEIS.

USNC had an important influence on the definition of the preferred FEIS alternative. USNC owned a large amount of real estate around Union Station and ultimately traded a large tract of land behind the station for the right to develop other property owned by RTD. The traded land tract became the site of the new light rail station. In addition to constructing the new transit station itself, USNC also has the right to develop six nearby parcels with retail, office, residential and parking uses.

The FEIS for Denver Union Station was published in August 2008 and FTA issued a ROD for the project in October 2008. There have been no significant changes to the project design since the ROD was received and reevaluation of the ROD has not been necessary. Construction on the facility began in 2010, the light rail plaza opened in May 2012, and all remaining construction activities are expected to be complete in February 2014. USNC has been responsible for obtaining all the permits required for the project.

One of the interesting aspects of Denver Union Station was the recognition by its sponsoring agencies that the early and active involvement of a private sector development partner would be essential in order to achieve seamless integration between the project's transportation elements and the surrounding neighborhood redevelopment. USNC's input to the FEIS was provided in a transparent fashion and did not raise significant concern among the public or regulatory agencies. The whole process was overseen by the 60-person Union Station Advisory Council. One observer characterized USNC as "one or two people" in a room full of people and that they "shared their input when they were asked." Moreover, the two principals behind the developers comprising USNC were respected individuals who lived near the Denver Union Station site and were committed to the project. While USNC received a stipend for its early design services, the company invested sweat equity well in excess of the amount it received.

Denver Union Station is an excellent example of early and transparent private sector involvement in a multimodal transit center and real estate development project. Observers close to the project

believe that the outcome of the project may not have been as successful if the private partner had not been involved in the definition of the project during NEPA.

4.4 NEPA Compliance for Transit Center and Real Estate Projects with Post-NEPA Private Involvement

Although private involvement has occurred following the completion of NEPA for the three remaining multimodal transit center and real estate development projects, they offer some interesting contrasts. These projects include one center-city multimodal transit terminal—the Transbay Transit Center in San Francisco—and two airport rental car and transit centers—the Miami Intermodal Center and Interlink near Providence, RI.

The Transbay Transit Center EIS differs from that of Denver Union Station in that it is a joint document that assesses three different aspects of the project: the construction of the transit center, the extension of Caltrain service to the new downtown terminal, and the transit-oriented redevelopment proposed around the new station. The DEIS assessed a “full build” scenario adding over 7.6 million square feet of redevelopment and a “reduced scope” scenario adding over 4.7 million square feet. These scenarios were not specific proposals, but a representation of the range of reasonable development that could occur.

Unlike Denver, the proposed redevelopment around the Transbay Transit Center in San Francisco was quite controversial. The project sponsors used the EIS process as a vehicle to vet the proposed redevelopment with the public in a transparent manner and hopefully garner support. As one official involved with the project observed, “the fact that the effort was led by the public sector gave the initiative credibility. Having the private sector involved in the definition of the program during NEPA would have been a liability.” Based on public feedback on the DEIS, the number of new residential towers proposed in the project area was reduced to include fewer, more slender towers spaced far enough apart to protect sunlight, open spaces and views. New public improvements were also added including parks, public plazas, pedestrian-oriented alleyways and widened sidewalks.

The FEIS for the Transbay Transit Center was published in June 2004 and the project received a ROD in February 2005. Four months later in June 2005 the San Francisco Board of Supervisors approved the Transbay Redevelopment Plan, which established design standards and made the necessary changes to the local zoning code that enabled the redevelopment to be built. This milestone completed the publicly led process that made the redevelopment around the Transbay Transit Center possible.

The development parcels in the redevelopment zone assessed in the EIS are owned by the project sponsor. It is now letting two-step procurements for each of the parcels individually, first identifying qualified bidders and then allowing a short list of proposers to submit proposals. The intent in selling the parcels individually after all the necessary zoning and environmental approvals have been obtained is to receive the highest possible price for the valuable land that will help provide funding for the project. Once they purchase the parcels, private developers are

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still required to gain all necessary approvals for their specific plans from the project sponsor. As this research is being completed in the summer of 2013, construction is underway on the transit center and four development parcels have been purchased by private investors.

While they have had no private involvement during NEPA, the two airport rental car and multimodal transit facilities have followed a different model than the Transbay Transit Center. The real estate development proposed with the MIC was not approved through NEPA. However, the EIS did assess how well the different alternatives reviewed would lend themselves to complementary private development. In addition, the analysis also assumed that the future baseline condition would include 1.4 million square feet of new development within the project limits. After the DEIS was released, the private development plans at the site were presented to the Miami-Dade County Planning Advisory Board, which found the analysis provided sufficient justification to incorporate the proposed development into the county's Comprehensive Development Master Plan. By doing so, the Planning Advisory Board effectively granted the improvements proposed at the MIC a Development of Regional Impact approval. Normally a large multijurisdictional development project such as that proposed at the MIC would require an independent planning assessment to gain this approval. With the MIC this requirement was waived because the development was already assessed as part of the NEPA process.

The complementary real estate development component of the MIC is being implemented by the Miami-Dade Expressway Authority (MDX) which initially planned to engage a master developer to complete the proposed real estate development. However, it found that this approach would have generated limited revenues and now intends to lease the development parcels individually on a competitive basis. Alternatively, it may pursue a "build to suite" lease arrangement where MDX would pay for the construction of a building at the MIC development site designed to specifications provided by a future tenant, and then to lease land and building to the tenant.

The land at the MIC is currently owned by the State of Florida and ownership will be transferred to MDX when the final component of the project, Miami Central Station, opens in late 2013. MDX will then initiate the lease of the parcels, and the ensuing plans put forward by private developers will need to comply with the county's Comprehensive Development Master Plan and FAA height requirements, dictated by flight paths at the airport. Proceeds from the lease transactions will be given to Miami Dade County and used to support other transportation needs, partially offsetting the large amounts of money that the county has directed to the MIC. In reflecting upon the project, MDX officials believe that it has been beneficial not to have a development partner on board during the implementation of the MIC because a developer would have influenced the project to serve its own interests.

The Interlink project in Warwick, RI is a multimodal terminal providing direct rail and bus connections to T. F. Green Airport, 10 miles south of Providence, as well as a consolidated rental car facility and 800 parking spaces for commuters. The project gained NEPA approval with a FONSI in 1999 as a train station and people mover. The following year the scope of the project expanded to include the consolidated rental car facility and garage. A reevaluation of the

FONSI was completed in March 2001. A second reevaluation was completed the following year due to acquisition of three additional parcels.

As plans for Interlink began to coalesce in 1998, the Warwick City Council designated a 70-acre Warwick Station Development District, hoping the station would be a catalyst for new development. In 2000 the City Council created the Warwick Station Redevelopment Agency and hired a private real estate firm to formulate plans and lead the redevelopment. The development envisioned around the station was not assessed in the EA and subsequent reevaluations for the station proper. Warwick Station itself did not open until 2010 and the attempts to encourage private development stagnated in the interim. The city terminated its relationship with the original developer and began a new master plan for the district in 2010. This plan was formally adopted by the City Council in early 2012, and development activities surrounding the station are now the purview of the Warwick Planning Board. In January 2013 the Rhode Island Economic Development Corporation awarded contracts for a market analysis and branding and marketing plan for the redevelopment zone. Rather than working with a single master developer, the Planning Board is encouraging individual investors to implement transit-oriented development, following the guidelines it has established for the area.

4.5 Lessons Learned: Highway Project Utilizing Alternative Funding Models

This research has investigated six highway P3 projects utilizing alternative funding models; four of these had private involvement during NEPA and two of which had private involvement following the completion of NEPA. The analysis has shown that with early collaboration it is possible to incorporate input provided by private partners into the project definition, which is subsequently vetted and approved in the NEPA process. Private involvement in the definition of projects must be managed by the public sponsor, which has an obligation to ensure that the project and the NEPA process are not unduly influenced by private sector partners.

With the Mid-Currituck Bridge, the North Carolina Turnpike Authority (NCTA) established what Turnpike officials described as a “firewall” between the developer and the NEPA process, filtering input provided by the developer and ensuring the process was not compromised. NCTA made it clear to resource and regulatory agencies, stakeholders and the public at large that the role of the PDA partner—Currituck Development Group—did not involve the preparation of the environmental document or decision-making. Rather, it acted solely in a supportive capacity on specific tasks identified by NCTA. For example, when the developer accompanied NCTA at meetings with resource and regulatory agencies, its role was only to provide information and answer questions.

Using this transparent process the private partner was able to make important contributions to the project definition that led to several positive outcomes. For example, resource agencies initially pressed NCTA to construct the bridge using a “top-down” method from the piers. However, the developer was able to demonstrate that in addition to accelerating the project schedule and streamlining costs, construction from barges in certain areas would reduce the loss of bottom

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habitat in Currituck Sound because top-down construction would necessitate shorter spans and additional piles.

Similar synergies have been achieved on the North Tarrant Express, Phase II. In this case, the Texas Department of Transportation (TxDOT) established a local CDA office for the Dallas-Fort Worth region to manage the relationship between the department and its private partner and oversee their work. Under the terms of NTE Mobility Partners Segment 3's (NTEMP3) agreement with TxDOT, it was required to refine TxDOT's existing schematics for the project and produce its own schematic designs, together with a finance plan. This gave NTEMP3 the opportunity to optimize project configuration, enhance its financial feasibility and operational benefits, while leaving TxDOT with the right to approve or reject any proposed changes. This collaboration led to important and positive results. For example, TxDOT's design terminated the new managed lanes north of the Trinity River because it did not believe that there was sufficient right-of-way to continue two managed lanes in each direction further south through the I-30 interchange. However, NTEMP3 found a solution that extended the managed lanes south as two lanes in each direction to south of SH 121, and from there as one lane in each direction along I-35W and US 287 to I-30.

As the experience with the Mid-Currituck Bridge and the North Tarrant Express demonstrate, early private involvement in the definition of the project can lead to innovations that would not otherwise occur. With these projects private sector innovation has reduced construction costs, mitigated environmental impacts, and improved overall financial feasibility. In addition, providing the opportunity for private partners to review and enhance project design during NEPA reduces the need for post-NEPA design modifications and reevaluations. It also likely results in a greater amount of innovation in the definition of the project than if private involvement had occurred post-NEPA.

Experience with the Port of Miami Tunnel and the 595 Express demonstrate that highway projects using alternative funding models can also have excellent outcomes when private involvement occurs after the completion of NEPA. However, it is more challenging for private partners to innovate and influence project design when they become involved post-NEPA. There is also a greater likelihood that these projects will require post-NEPA reevaluations compared to projects with early private involvement. Innovation can be facilitated by close coordination between the project sponsor and their private partners, as was the case with the two Florida projects mentioned above. FDOT actually prepared a reevaluation to advance design refinements proposed by 595 Express LLC and accommodated enhancements suggested by MAT without going through a formal reevaluation.

Perhaps the greatest benefit of engaging a private partner after project definition is that it minimizes environmental approval risk and increases competitiveness among bidders. With the project definition already complete, all bidders are estimating the cost of financing, constructing and operating the same facility. In order to be competitive they must offer the project sponsor extremely attractive construction costs. With the Port of Miami Tunnel, for example, the design-

build construction cost proposed by the winning private bidder was \$607 million, compared to FDOT's internal cost estimate of \$1.0 to \$1.5 billion.

While it is an unusual project and not necessarily likely to be replicated, the South Norfolk Jordan Bridge provides an alternative development template where a private investor has taken the lead in gaining NEPA clearance for a highway improvement that it will finance, design, build and then own and operate in perpetuity.

Whether private involvement comes early or late in the NEPA process, private partners have not influenced the identification of the lead federal agency or the level of NEPA clearance to be pursued.

4.6 Lessons Learned: Multimodal Transit Centers and Real Estate Development Projects Utilizing Alternative Funding Models

The research has investigated four multimodal transit terminal and real estate development projects. While comparisons can be made with the highway P3 projects, the multimodal transit and complementary real estate development projects investigated during the research are fundamentally different. Although they are complementary, the transit centers and real estate development aspects of these projects tend to be compartmentalized. The transit centers have been implemented directly by the project sponsor using traditional procurement techniques. The private aspect of these projects is the real estate development, which is spearheaded by private sector real estate developers. The real estate projects associated with a given transit improvement may be developed independently by different developers or they may be bundled together and awarded to a single master developer. This is different from highway P3 projects, which have been implemented by a single private partner responsible for implementing all aspects of the project under the close supervision of the public sector project sponsor.

The highway P3 projects studied required a single NEPA approval in order to advance into implementation. However, the transit center and real estate development projects required two independent approvals in order to advance: a NEPA approval for the transit center proper, and a local zoning approval for the complementary real estate development.

Although the research was limited to four transit center and real estate development projects, it has demonstrated that there is great variety in the phasing and coordination of the NEPA and zoning approvals:

- With Denver Union Station, the local zoning approval preceded NEPA and the complementary real estate development it facilitated was included in the future no-action alternative against which the build alternatives were compared in the EIS.
- With the MIC, the local zoning approval followed NEPA. Here the EIS assumed that the same amount and mix of complementary development would occur with the different alternatives, and it assessed and compared the alternatives for their ability to support the desired level of real estate development. The MIC gained a ROD in May 1998, and two years later the

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Florida Department of Community Affairs used the content of the EIS to waive the need for further development of regional impact (DRI) review for the complementary real estate development proposed at the MIC.

- With the Transbay Transit Center, the local zoning approval also followed NEPA. In this case, the EIS assessed two different development programs and included an amalgam of the two in the preferred alternative identified in the FEIS. The Transbay Transit Center received a ROD in February 2005 and the San Francisco Board of Supervisors approved the Transbay Redevelopment Plan four months later. The plan enacted zoning changes enabling the implementation of the development program identified in the EIS.
- With Interlink, the local development district was designated one year prior to the completion of the EA for the station. In this case, development plans in the district were not finalized and the EA did not assess possible complementary development in the area surrounding the station. When the construction of Interlink was completed in 2010, development around the station had not yet occurred and two years later the City of Warwick adopted a new Warwick Station Development District Master Plan.

The research also reveals a great variety in the timing and nature of private involvement with transit center and complementary real estate development projects. The discussion of Denver Union Station in Section 4.3 has illustrated a successful example of early private involvement in NEPA with a multimodal transit terminal project. In this case, USNC provided fundamental input to the definition of the project that emerged from NEPA, resulting in important enhancements to the project. Much like the experience with the Mid-Currituck Bridge and the North Tarrant Express Phase II, the project sponsor established a transparent and unbiased process to facilitate input from USNC, including oversight by a 60-person advisory council. However, the real estate development component of Denver Union Station was not cleared through NEPA. Instead, it was approved in advance of NEPA with the City Council's establishment of a special zoning district. The development that the special zoning district permitted was then included in the future baseline scenario against which the different project alternatives were assessed in the EIS.

The private real estate development aspect of the remaining multimodal transit projects will occur following the completion of NEPA. With the Transbay Transit Center, private development will take place during and likely after the construction period, which is expected to extend through 2017. The San Francisco Office of Community Investment and Infrastructure (OCII) is selling individual parcels of public land to private developers and has established broad parameters to which the private developers must adhere. As of mid-2013, OCII has issued requests for proposals to sell and develop several of the 12 blocks of public land in Zone 1 of the Redevelopment Project Area. Some blocks have already been sold, including a 50,000-square-foot parcel for the development of a high-rise Transit Tower. Others are in the procurement process. Construction of the new private development will begin once the developers have gained the required local approvals.

At the MIC, private development will not occur until the completion of all construction activities in late 2013. Ownership of the complementary private sector development parcels will be transferred from the State of Florida to the Miami Dade Expressway Authority (MDX) following the completion of the project. MDX plans to lease the parcels individually to the highest bidder. Together, the private investors will construct 1.4 million square feet of new development identified as part of the MIC Program. The private real estate development at the MIC is intended to encourage non-vehicular trips to the area and complement the airport and other surrounding uses.

Although the Warwick Station Development District was put in place one year prior to the completion of NEPA for the Interlink Project, the private development envisioned for this 70-acre area has yet to occur. The development sites surrounding the other multimodal transit centers included in the research have been much smaller than the Warwick site, and they have been owned by the project sponsor. Rather than being in a vibrant city center, the Warwick Development District is composed of underutilized, low-value land with multiple owners. Roughly one quarter of the area was used by rental car companies before they were relocated into the new Interlink facility. The rental car companies continue to own that land. Other portions of the area are contaminated brownfield sites. The City of Warwick has not purchased any of the land in the Development District, but it has remediated some properties and continues to improve groundwater quality at the site. Even though the City of Warwick designated a master developer for the site in 2000, to date economic conditions have been challenging and new private development has occurred. This outcome is due in part to the fact that construction of Interlink itself did not begin until 2007 and was not completed until 2010. In 2012, the City of Warwick adopted a new Warwick Station Development District Master Plan and abolished the Warwick Station Redevelopment Agency. The State of Rhode Island is currently completing a market analysis and branding plan, but it is not clear whether or not plans to encourage transit-oriented development in the area will be successful.

The research has shown that while not essential, assessing master plans during NEPA—either as alternative development scenarios or a single scenario that is considered part of a future no-build condition—may obviate the need for subsequent planning/environmental review in order to gain local planning approvals. It has also demonstrated that complementary real estate development at multimodal transit centers is more likely to be successful in vibrant urban settings, such as Denver, Miami or San Francisco. However, as the experience in Rhode Island demonstrates, similar projects in locations with less robust economies are more challenging. The experience in San Francisco and Miami suggests that sponsors of multimodal transit projects may derive greater value from complementary real estate development projects if they sell or lease development parcels individually rather than awarding the right to develop all land to a master development partner.

Transportation agencies served as the lead federal agencies for the NEPA analyses of all the multimodal transit projects studied in the research. With the case of the Transbay Transit Center, FTA provided federal approval for the transit center as well as the proposed redevelopment.

However, that development still could not take place without a local zoning approval from the San Francisco Board of Supervisors.

4.7 Many Templates for Success

As shown in Table 4-1, no two highway P3 or multimodal transit and complementary real estate development projects studied had exactly the same attributes. Many different templates may be used to achieve environmental compliance for projects utilizing alternative funding models. Private involvement may occur during NEPA or after the completion of NEPA. Regardless, the fundamental requisite for a successful outcome is having a good project. Success is more likely with projects that are badly needed, projects that meet obvious transportation needs, and projects that can garner broad-based support among the decision-makers, elected officials and the public at large. Although legislative obstacles to the use of P3 strategies remain in some states, the experiences captured in this research may lead others to consider the possible use of the different P3 options explored.

As with Denver Union Station, early collaboration by private development partners during NEPA may work well on projects with broad public support. However, early collaboration may be a liability on more controversial projects such as the Transbay Transit Center. In this case, it may be advisable for project sponsors to wait until the completion of NEPA to engage a private partner, and use the NEPA process to vet the project and adapt it based on public feedback.

The experience with the North Tarrant Express, the South Norfolk Jordan Bridge, the Downtown Tunnel/Midtown Tunnel/MLK Extension, and Denver Union Station demonstrates that early private collaboration can encourage innovation and obviate the need for subsequent reevaluations. Private innovation is likely to be more difficult when development partners are engaged following the completion of NEPA. When this is the case, refinements or enhancements to the project design may require environmental reevaluations. Private partners may opt to forgo such innovations in order to expedite project implementation.

In some cases, early private collaboration may be perceived to skew the outcome of NEPA in favor of the private partner. To avoid this, early collaboration requires a transparent NEPA process where a strong sponsor manages inputs provided by the private partner and encourages additional participation from a wide cross section of stakeholders. NEPA encourages feedback from project stakeholders and affords great importance to this type of input. NEPA is a platform for assessing different ideas, and involving a private partner during NEPA may generate good ideas that might not otherwise emerge from the NEPA process. As one public sector official interviewed said, “a good idea is a good idea no matter where it comes from.”

While early private involvement may lead to greater innovation, it can also inhibit competition. Given that the definition of transportation improvements still in NEPA have not been completely finalized, it is difficult for private bidders pursuing these opportunities to prepare detailed cost estimates. At this early juncture, it is not clear whether it will be financial feasible to implement the project on a P3 basis. As a result, the pre-development agreement process usually provides the

selected private partner with the right of first refusal to implement the project on a P3 basis. If the private partner opts to proceed on that basis, then it negotiates its costs with the project sponsor. It is possible that the absence of competition with this type of situation could lead to higher project costs.

Many private investment partners prefer to be involved with projects that have already gained NEPA clearance in order to avoid the risks and uncertainties of gaining NEPA approvals. Most developers prefer the more lucrative role of implementing and operating projects rather than acting as a consultant advising the project sponsor. In addition to lowering the risk of gaining environmental clearance, post-NEPA private involvement also encourages greater cost competitiveness among bidders and facilitates the comparison of the different bids received by project sponsors.

There are many templates for success in implementing projects utilizing alternative funding models. Project sponsors may achieve equally good results when engaging private partners during the NEPA process or after it has been completed. However, excellent and transparent collaboration between public project sponsor and private development partners cannot guarantee successful outcomes.

Appendix A.
Glossary of Terms

Alternative

One of a number of specific transportation improvements proposals, alignments, options, design choices, etc., in a defined study area. (Source: TCAPP)

Availability Payment

A periodic payment made to a concessionaire by a public authority for providing an available facility. Payments are reduced if the facility is not available for a period of time, or not being maintained in satisfactory condition. Using an availability payment structure eliminates the need for the concessionaire to assume any traffic risk and protects the interests of the public by giving the concessionaire a financial incentive to maintain the facility in satisfactory condition and operating at a specified level of performance. (Source: FHWA)

Capital Improvement

Local planning for the addition of infrastructure such as roads, bridges, water and sewer systems, and other structures. (Source: TCAPP)

Categorical Exclusion

A NEPA finding documenting that a proposed transportation improvement does not individually or cumulatively create a significant effect on the human environment and for which neither an environmental assessment nor an environmental impact statement is required. (Source: FHWA)

Concession

A contractual agreement whereby a public agency engages a private development partner to design, build, finance, operate and maintain a highway improvement for a specified period of time in exchange for the right to collect tolls on the facility or receive availability payments.

Concession Period

The duration of a concession.

Congestion Pricing

A variation on tolling, in which user fees for a transportation facility vary based on the level of traffic volume or time of day. It is also known as “variable pricing.” (Source: NCSL)

Construction Manager at Risk

Construction Manager at Risk (CMR) is a procurement model where the project sponsor retains a contractor/construction manager to perform preconstruction reviews and construction services. The CMR is usually retained early in the design process and collaborates with the owner and designer during all phases of the project, including but not limited to planning, design, third-party coordination, constructability reviews, cost engineering reviews, value engineering, material selection, and contract package development.

Cooperating Agency

Any Federal agency other than a lead agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment. A State or local agency of similar qualifications or, when the effects are on a

reservation, an Indian Tribe, may by agreement with the lead agency become a cooperating agency. (Source: CEQ)

Design-Build

A procurement or project delivery arrangement whereby a single entity (a contractor with subconsultants, or team of contractors and engineers, often with subconsultants) is entrusted with both design and construction of a project. This contrasts with traditional procurement where one contract is bid for the design phase and then a second contract is bid for the construction phase of the project. (Source: AASHTO)

Design-Build-Finance-Operate-Maintain – DBFOM

A procurement approach where the responsibilities for designing, building, financing, operating and maintaining highway improvements are bundled together and transferred to private sector partners. DBFOM projects are either partly or wholly financed by debt leveraging revenue streams dedicated to the project. Direct user fees (tolls) are the most common revenue source. However, others ranging from lease payments to shadow tolls and vehicle registration fees. Future revenues are leveraged to issue bonds or other debt that provide funds for capital and project development costs. They are also often supplemented by public sector grants in the form of money or contributions in kind, such as right-of-way. Private partners are normally required to make equity investments as well. (Source: FHWA)

Environmental Assessment – EA

A concise public document for which a Federal agency is responsible, used to determine whether to prepare an environmental impact statement for a proposed transportation improvement or issue a finding of no significant impact. An EA includes a brief discussion of the need for the proposed improvement, a listing of conceptual alternatives, a discussion of anticipated environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted. (Source: FHWA)

Environmental Impact Statement

NEPA requires Federal agencies to prepare environmental impact statements (EISs) for major Federal actions that significantly affect the quality of the human environment. An EIS is a full disclosure document that details the process through which a transportation project was developed, includes consideration of a range of reasonable alternatives, analyzes the potential impacts resulting from the alternatives, and demonstrates compliance with other applicable environmental laws and executive orders. The EIS process is completed in the following ordered steps: Notice of Intent (NOI), draft EIS, final EIS, and Record of Decision (ROD). (Source: FHWA)

Environmental Review

The process during which proposed transportation improvement projects are examined with respect to the impacts to the natural and human communities. (Source: TCAPP)

Federal Highway Administration – FHWA

The division of the U.S. Department of Transportation charged with overseeing the development of highway infrastructure.

Finding of No Significant Impact – FONSI

A FONSI is issued when environmental analysis and interagency review during the EA process find a project to have no significant impacts on the quality of the environment. (Source: FHWA)

Lead Agency

The agency or agencies preparing or having taken primary responsibility for preparing the environmental impact statement. (Source: CEQ)

Lead Federal Agency

The Federal agency taking primary responsibility for reviewing and approving an EIS.

National Environmental Policy Act – NEPA

A Federal environmental policy that establishes a process by which Federal agencies must study the environmental effects of their proposals, document the analysis, and make the information available to the public for comment. For transportation projects, NEPA requires examination and avoidance of potential impacts to the social and natural environment when considering approval of proposed projects. It provides an interdisciplinary framework for federal agencies to prevent environmental damage and contains “action-forcing” procedures to ensure that Federal agency decision makers take environmental factors into account. For additional information, see <http://www.environment.fhwa.dot.gov/projdev/index.asp>. (Source: TCAPP)

Participating Agency

SAFETEA-LU defines participating agencies as those with an interest in NEPA projects, as opposed to cooperating agencies, which are Federal regulatory agencies with jurisdiction over environmental issues and permits. The roles and responsibilities of cooperating and participating agencies are similar, but cooperating agencies have a higher degree of authority, responsibility, and involvement in the environmental review process. (Source: CEQ)

Pre-Development Agreement – PDA

An agreement that allows private development partners to participate in the preliminary design of a project during the environmental review process at either a reduced or deferred cost, in exchange for the right of first refusal to develop the project on a DBOM or DBFOM basis.

Preferred Alternative

The NEPA alternative that the project sponsor believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors. The concept of the “agency’s preferred alternative” is different from the “environmentally preferable alternative,” although in some cases one alternative may be both. (Source: CEQ)

Principal

Cash provided by a private borrower in order to obtain a loan and later recovered from project revenues after most other debt obligations have been paid off.

Procurement

The process on the part of project sponsors for obtaining services related to the implementation of highway improvement projects. Procurement processes for large highway improvement and P3

projects normally include a request for qualifications, after which the project sponsor invites a shortlist of the most qualified bidders to submit detailed proposals.

Project Definition

The act of assessing alternative designs and alignments for highway improvements and identifying a preferred alternative that is approved with a CE, FONSI, or ROD.

Project Delivery

The act of procuring private sector services. (See definition of “Procurement” above.)

Project Development

The general process of seeing a transportation project from the beginning, where a need is identified from an existing plan, to getting it programmed, to the end, where it is approved for implementation. (Source: TCAPP)

Project Sponsor

A public sector agency that advances and procures a transportation improvement project.

Public-Private Partnership – P3

A contractual agreement formed between public and private sector partners, which allow more private sector participation than is traditional. The agreements usually involve a government agency contracting with a private company to renovate, construct, operate, maintain, and/or manage a facility or system. While the public sector usually retains ownership in the facility or system, the private party will be given additional decision rights in determining how the project or task will be completed.” In some P3s, the private sector may also finance some or all of a project. (Source: FHWA)

Purpose and Need Statement

A brief written statement specifying the underlying purpose and need to which the agency is responding in proposing alternatives included in an EIS. Purpose and need statements articulate the objectives that the proposed transportation improvements are designed to achieve. EIS analyses assess the ability of different project alternatives to meet the objectives established in the purpose and need statement. (Source: CEQ)

Real Toll Concession

A concession awarded to a private development partner to design, build, finance, and operate a transportation project for a pre-determined concession period, in exchange for the right to collect all revenues generated by the project during the concession period. (Source: FHWA)

Record of Decision – ROD

A Federal environmental decision document issued by FHWA approving an EIS and explaining the basis for the project decision and summarizing mitigation measures incorporated into the project. (Source: TCAPP)

Resource Agencies

Federal agencies with regulatory and/or permitting authority related to protection of natural or cultural resources. Examples include (but are not limited to) the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers. (Source: TCAPP)

State Department of Transportation – DOT

State public agencies charged with the maintenance, operation and development of highway and transportation infrastructure.

Study Area

The area of analysis in a NEPA document for a highway improvement project.

Toll

A fee paid by motorists to use a limited-access highway facility, often used to cover the costs of construction and operations.

Unsolicited Offer

Unsolicited proposals from private sector developers to public sector transportation agencies to design, build, finance, operate, and maintain transportation improvement projects. The ability for an agency to consider unsolicited offers is normally promulgated in state law.

Appendix B.
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