

CROSS MODAL INVESTMENTS

FINAL REPORT

Prepared for
The National Cooperative Highway Research Program
Transportation Research Board
of
The National Academies

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES
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Washington, D.C.
September 2017

ACKNOWLEDGEMENT OF SPONSORSHIP

This work was sponsored by one or more of the following as noted:

- American Association of State Highway and Transportation Officials, in cooperation with the Federal Highway Administration, and was conducted in the National Cooperative Highway Research Program,
- Federal Transit Administration and was conducted in the Transit Cooperative Research Program,
- Federal Aviation Administration and was conducted in the Airport Cooperative Research Program,
- Research and Innovative Technology Administration and was conducted in the National Cooperative Freight Research Program,
- Pipeline and Hazardous Materials Safety Administration and was conducted in the Hazardous Materials Cooperative Research Program,
- Federal Railroad Administration and was conducted in the National Cooperative Rail Research Program, which is administered by the Transportation Research Board of the National Academies.

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ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ARB	(California) Air and Resources Board
BOC	Bond Oversight Committee
BRT	Bus Rapid Transit
CBE	Colorado (DOT) Bridge Enterprise
CDBG	Community Development Block Grants
CDE	Community Development Entity
CDFI	Community Development Financial Institutions
CDOT	Colorado Department of Transportation
CIP	Capital Improvement Plan
CMAQ	Congestion Mitigation and Air Quality Improvement
CPCS	Canadian Pacific Consulting Services
DOT	Department of Transportation
DRCOG	Denver Regional Council of Governments
EPA	(US) Environmental Protection Agency
EWCOG (EWG)	East-West Gateway Council of Governments
FAA	Federal Aviation Administration
FAST Act	Fixing America's Surface Transportation Act
FASTER	Funding Enhancement Surface Transportation and Economic Recovery
FHWA	Federal Highway Administration
FRN	Federal Register Notice
FTA	Federal Transit Administration
GAO	Government Accountability Office
GHG	Greenhouse Gas
HOT	High Occupancy Toll
HPTE	High Performance Transportation Enterprise
HRTG	Highly Rural Transportation Grants
HSR	High Speed Rail
HUD	(US) Department of Housing and Urban Development
IAD	Dulles International Airport
IBTTA	International Bridge, Tunnel and Turnpike Association
IRS	Internal Revenue Services
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITS	Intelligent Transportation System
LACMTA	Los Angeles County Metropolitan Transportation Agency
LPA	Locally Preferred Alternative

LRT	Light Rail Transit
LTC	Loop Trolley Company
MAG	Maricopa Association of Governments
MPO	Metropolitan Planning Organization
MTA	Metropolitan Transportation Authority
MWAA	Metropolitan Washington Airports Authority
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act of 1969
NMTC	New Market Tax Credit
O&M	Operating and Maintenance
PFC	Passenger Facility Charge
PTF	Public Transportation Fund
QECB	Qualified Energy Conservation Bond
RBDG	Rural Business Development Grants
RGGI	Regional Greenhouse Gas Initiative
ROW	Right-of-Way
RTD	Regional Transportation District
RTP	Regional Transportation Plan
SFMTA	San Francisco Municipal Transportation Agency
STBG	Surface Transportation Block Grant
STP	Surface Transportation Program
TANF	Temporary Assistance for Needy Families
TCRP	Transit Cooperative Research Program
TDD	Transportation Development District
TIF	Tax Increment Financing
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIRCP	Transit and Intercity Rail Capital Program
TMR	Transport and Main Road
TOD	Transit Oriented Development
TPAN	Transportation Project Advancement Note
TPC	Transportation Policy Committee
TPCB	Transportation Planning Capacity Building
TRIS	Transportation Research Information Services
TWP	TANF Work Program
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
VA	Veterans Affairs
VDOT	Virginia Department of Transportation
VFW	Veterans of Foreign Wars
WMATA	Washington Metropolitan Area Transit Authority

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Many transit agencies across the United States have faced difficulties finding revenue streams and funding sources to cover their operating and capital costs. This has been exacerbated as many traditional funding options for public transportation have become increasingly committed and unavailable, or have not kept with the pace of inflation, while transit needs have continued to rise. This has further led many project sponsors to look towards innovative, non-traditional funding options to fill the gap between costs and revenues and to meet the required local match for federal grants. One non-traditional funding option available to transit projects is known as a “cross modal investment,” or funding acquired by or intended for one mode that can be used to support another mode.

OBJECTIVES OF RESOURCE GUIDE

This resource guide compiles a summary of current literature with findings from a case study review into a single resource for transit and other transportation agencies to develop, plan for, and execute cross modal funding investments. The purpose of this resource guide is to share available resources and guidance on best practices and potential issues with agencies to enable them to determine whether a cross modal investment is the right approach to fund a capital project or to sustain the operating and maintenance expenses of a new or existing transportation system. The cross modal funding opportunities described in this resource guide are generated from non-transit mode revenues, such as roadways, highways, toll roads, freight and intercity passenger rail, ports, and air. Such cross modal investments in the form of gas taxes, motor vehicle fees, toll revenues, port usage fees, and passenger facility charges have been used to advance transit projects of all sizes across the United States that otherwise may not have been funded. Complementary to this resource guide is a searchable cross modal funding database, which provides additional detail and examples of cross modal funding options and successful uses of these tools across the United States.

DEFINITION OF CROSS MODAL INVESTMENT

A cross modal investment utilizes a funding source that is not specific to the mode for which it is being applied. For the purposes of this resource guide, a cross modal investment is a transit project that is funded, either in whole or in part, by a revenue source typically utilized for other transportation modes. A cross modal investment may be utilized in two scenarios: either for a multimodal project, or applied to a single, unrelated mode.

DESCRIPTION OF THE SEARCHABLE CROSS MODAL FUNDING DATABASE

The interactive cross modal funding database was developed to complement this resource guide and to provide additional details on potential funding sources. It provides information on funding sources available in the United States, including the total amount of funding provided by state - when known - and whether a project and location may be a good fit for a specific funding opportunity. It can be used by agencies as a

starting point, before confirming eligibility for any of the cross modal sources suggested, or to learn more about the policies and procedures that regulate cross modal funding.

DESCRIPTION OF THE ANNOTATED LITERATURE REVIEW

The current existing documentation on cross modal investments is scarce. However, the authors of this resource guide identified a small set of prior research, white papers, congressional testimonials, and program guidance to understand the broad range of opportunities – and issues – associated with cross modal investments. An annotated literature review is attached to this resource guide in Appendix A to help the reader identify additional research on this topic.

DESCRIPTION OF CASE STUDIES

Seven case studies build the foundation of the findings of this resource guide, and capture the state-of-the-practice of the use of cross modal funding to advance public transportation capital projects and operating and maintenance costs. The selected case studies are from across the United States and cover a range of cross modal investment sizes. Five of these case studies have been completed, one is in the process of securing the legal approvals to fully execute the cross modal investment, and another outlines a proposed pilot project that would create a long term cross modal funding solution. These case studies, organized by funding use, are described briefly below:

Capital:

- **Dulles Corridor Metrorail Phase 2** is a heavy rail extension project in Northern Virginia that involved the use of aviation funds and toll revenues, as the project will serve an airport on a route parallel to an existing toll road.
- The **Delmar Trolley Loop** is a vintage streetcar built in St. Louis, Missouri, that used a variety of innovative funding sources, such as New Market Tax Credits, and local revenues raised through the Transportation Development District, as well as the cross modal Congestion Mitigation and Air Quality Improvement (CMAQ) and Surface Transportation Block Grant (STBG) funds from the Federal Highway Administration (FHWA).
- **Gilbert Road Light Rail Extension** also used CMAQ and STBG resources through funding swap agreements with local municipalities that allowed otherwise mode-restricted funds to be used in the local area.
- **US 36 Managed Lane / Bus Rapid Transit (BRT) Phase 1** is a multimodal project in Colorado that was financed in part by a state bridge funding mechanism.

Operations and Maintenance:

- The **San Francisco Municipal Transportation Agency** is a multimodal agency responsible for both parking and transit in the City, with the authority to collect and distribute funding across modes.
- **Tampa Hillsborough Expressway Authority (THEA) Bus Toll Lanes Proposal** is a proposed concept wherein the construction of a managed lane is funded in part by transit capital grant programs, while operating costs of the bus service that can travel in the managed lane are support by toll revenues.

Both:

- **Pennsylvania Act 44 & Act 89** describe in part an agreement between PennDOT and the Pennsylvania Turnpike Commission to lease and implement tolling on Interstate 80 by the Commission in exchange for annual support of the state's overall transportation needs, including transit.

CROSS MODAL ISSUES

These case studies, and other projects involving cross modal investments, tend to face common issues. Though their experiences with these issues can be unique, and the mitigation strategies they use varies, the issues themselves fall into three primary theme: legal, modal, and jurisdictional.

Legal issues include institutional limitations that may limit the implementation of a funding agreement, as well as the structure of formal or informal partnerships agencies enter into.

Modal issues include spatial connections, or the lack thereof, between infrastructure serving different modes. They also include cross modal investments involving a variety of different modes, with transit not necessarily being the primary benefactor of funding.

Jurisdictional issues describe the challenges involved in working across different localities, that may have separate project prioritization criteria, and the challenges of exploring a cross modal investment if it has never been done before and there is no local awareness of the concept. Jurisdictional issues also include the long-term implications of a cross modal agreement, which may alter the flow and availability of future funding sources

BEST PRACTICES

This resource guide culminates in a list of best practices, based on the successful - and unsuccessful - experiences of past and existing cross modal investments. These best practices include:

- Leveraging any economic or operational benefits a transit project may bring when seeking cross modal funding from another agency or jurisdiction.
- Fostering support from the public.
- Identifying a project champion early in the planning phase.
- Selecting the most appropriate legal entity to administer funding and serve as project lead.
- Thinking creatively when considering funding eligibility.
- Creating equitable ways to distribute and administer cross modal funding to projects of all sizes.

CHAPTER 1

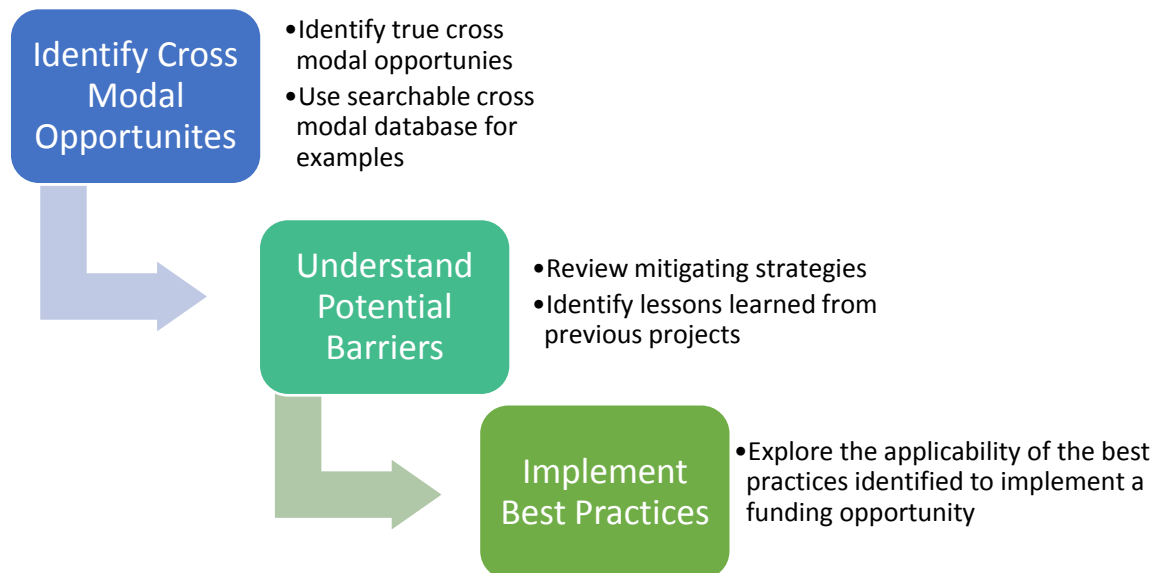
INTRODUCTION

1.1 PURPOSE OF THE RESOURCE GUIDE

Public transportation needs in the United States continue to increase, and federal funding for transit is not keeping pace with these ever-increasing needs. In response, innovative, non-traditional funding options have been developed to fill the gap in funding and to meet the required local match for federal grants. One such funding option that may be available to transit projects, but not always considered, is known as a “cross modal” investment. A cross modal investment is transit funding derived from non-transit modes (e.g., roadways, highways, toll roads, freight rail, intercity passenger rail, port, and air). This resource guide has been developed to broaden the literature on cross modal investments by providing an overview of existing studies on the topic, identifying available cross modal sources currently used for transit projects in the United States, profiling effective projects across the country, and documenting potential issues and best practices for other agencies.

This resource guide, and the accompanying searchable cross modal funding database, can be used to steer agencies seeking funding towards available cross modal opportunities in their state. The resource guide also provides a clear understanding of potential issues, and offers potential mitigation strategies when contemplating a cross modal investment. Lastly, the resource guide outlines best practices obtained from a review of projects across the country, in order to equip an agency with the tools required to implement a successful cross modal investment strategy. Figure 1-1 below shows the three primary steps necessary to secure a cross modal investment, this resource guide will walk the user through each.

Figure 1-1 Resource Guide Steps to Implement Cross Modal Investments



1.2 BENEFITS TO THE TRANSIT AGENCIES

With traditional funding sources becoming increasingly committed and unavailable, transit agencies are seeking new ways to maintain and expand their systems by fostering relationships with agencies serving other modes and developing multimodal projects that can attract additional sources of funding. By cultivating cross modal investments, transit agencies may benefit from:

- Increased funding to cover capital and operating costs through eligibility for funding programs and sources otherwise dedicated to other modes;
- Better ability to meet local funding match for federal grants, in some cases without restricting this amount from being used for another mode at the same time;
- Local decision-making power due to local funding sourcing; and
- Efficiencies in service provision due to system-wide transportation service coordination.

Overall, cross modal investments can be advantageous to transit agencies and agencies responsible for other modes by providing them with additional funding sources and revenue streams while promoting local and regional coordination between agencies.

1.3 BENEFIT TO FUNDING AGENCIES

This resource guide also serves as a tool for organizations that typically serve as funding administrators for transit projects, such as Metropolitan Planning Organizations (MPO) and state Departments of Transportation (DOT) to better understand how to administer cross modal funding, and how to equitably distribute it. This resource guide will help funding administrators:

- Identify potential ways to leverage limited funding to support more transit projects;
- Consider and implement cross modal funding selection criteria to equitably evaluate projects; and
- Understand the legal implications for a variety of cross modal sources.

1.4 SEARCHABLE CROSS MODAL INVESTMENT FUNDING DATABASE

1.4.1 Purpose

To complement this resource guide and provide additional detail on potential funding sources, a searchable database has been developed with additional research findings. This interactive database provides further detail on some cross modal funding sources available in the United States, including the total amount of federal provided funds for each state in FY 2017, and gas tax revenues for each state in FY 2017. While these amounts should be updated each year, links are provided to each program page to empower project sponsors to identify funding levels after FY 2017.

The database also provides an indication of whether a project and location may be a good fit for a specific funding opportunity based on the other modes available in the project area and any state-level regulations that may apply. It is important to note that this database does not include funding options derived from non-cross modal sources, such a public taxes and fees dedicated to transit. This database also provides examples of successful projects funded by each suggested cross modal source, and links to some federal funding programs to guide users to additional information. A comprehensive user guide for the database is included in *Chapter 3 Identifying Cross Modal Investment Options*.

1.4.2 Uses

The cross modal investment database can be used by agencies as a starting point, before confirming their eligibility for the variety of potential suggested cross modal sources. It can also be used to learn more about the policies and procedures regulating cross modal funding in any state, such as whether it is common for gas taxes to be dedicated exclusively to road and highway projects or whether they can be used across modes. It is not the intent of the cross modal funding database to guarantee funding for a specific cross modal source, but rather to begin a discussion between a public transportation provider, their state DOT, and other transportation agencies that may be interested in a partnership.

1.5 RESEARCH METHODOLOGY

1.5.1 Literature Review

The intent of the review and summary of literature surrounding transit projects using cross modal sources was to build a foundation of understanding regarding the most common issues and opportunities associated with cross modal investments, and to help define the industry standard of a true cross modal investment. At this time, the existing documentation on cross modal investments is scarce. However, the authors of this resource guide identified a small set of prior research, white papers, congressional testimonials, and program guidance to understand the broad range of opportunities – and issues – associated with cross modal investments. The research team relied heavily on the Transportation Research Board’s Transportation Research Information Services (TRIS) database and the Government Accountability Office’s (GAO) website of reports and testimonies to locate relevant literature.

Through this review, three primary themes surrounding the issues and opportunities associated with cross modal investments emerged: 1) legal; 2) modal; and 3) jurisdictional. These themes have been identified as the primary categorical issues for dealing with cross modal investments, and their designation is intended to assist the reader in focusing on specific topics most relevant to the issues surrounding a particular regions’ funding framework.

Each piece of literature reviewed has been notated with one or more of the selected categories - legal, modal, or jurisdictional - in the annotated bibliography in Appendix A of this resource guide. The reader of this research is encouraged to explore these resources further to better understand the opportunities and circumstances for pursuing a cross modal investment.

1.5.2 Review of Available Cross Modal Investment Sources and Program Documentation

Through the literature review process, a comprehensive list of funding sources available to cross modally fund transit projects was compiled, and is presented in Chapter 3. This resource guide defines each funding source, its mode of origin, potential for cross modal partnerships, associated issues when applicable, and relevant examples. This information was gathered through federal program websites, funding resource guides from transportation organizations such as APTA, AASHTO, state DOTs, and individual transit agency and project websites.

Program funding and obligation data for the two primary cross modal federal programs, CMAQ and STBG, is derived from the Federal Transit Administration (FTA)-published annual apportionments and grant statistical summaries available on its website (www.dot.fta.gov).

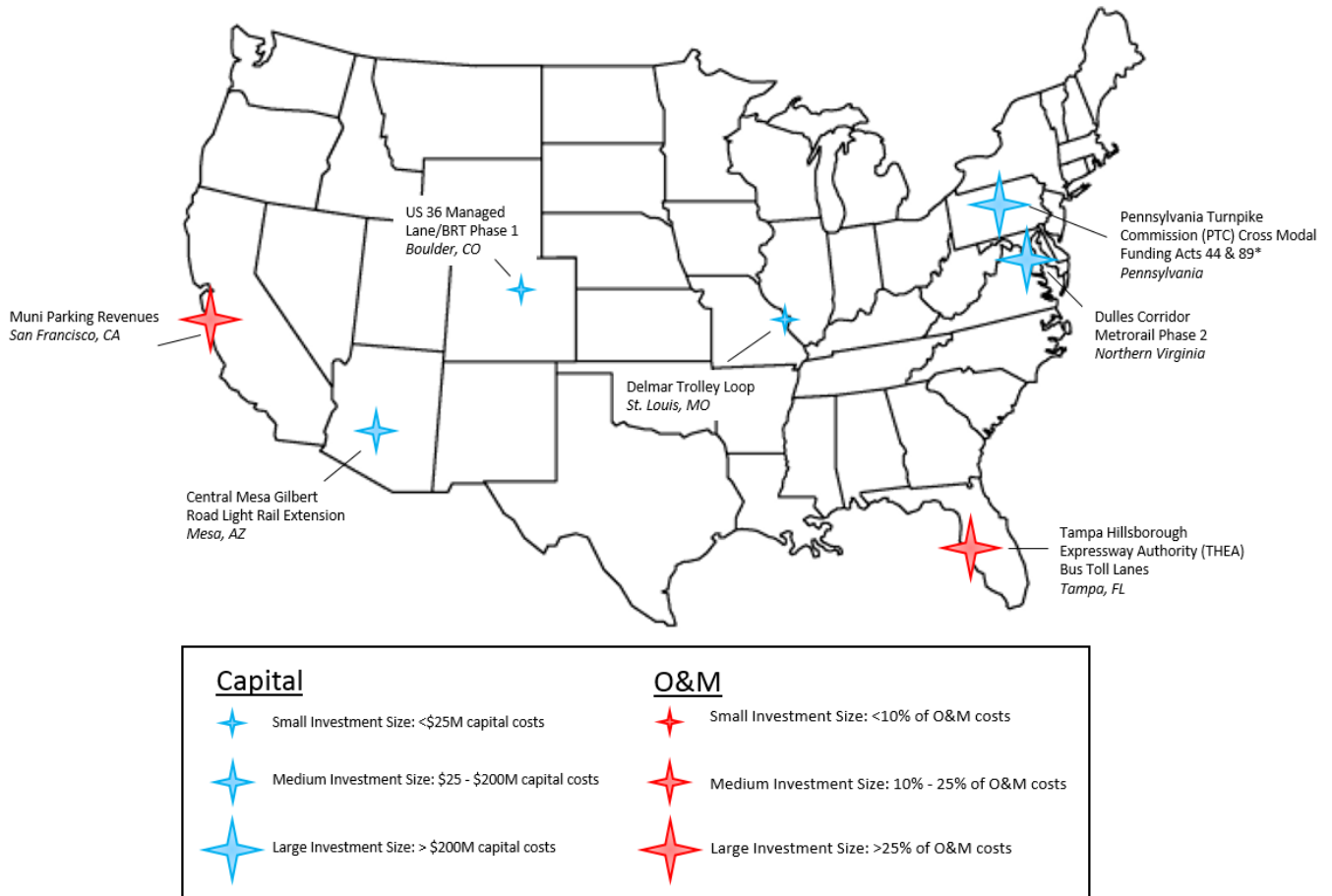
1.5.3 Case Studies and Project Profiles

This resource guide presents seven case studies, each based upon a review of relevant project-specific materials collected by the research team and provided by the case study sponsor. The research materials

included project websites, project funding presentations, project sponsor comprehensive annual financial reports, Capital Improvement Plans (CIPs), federal financing program application materials – such as Transportation Infrastructure Financial and Innovation Act (TIFIA) letters of interest – and published environmental impact statements and National Environmental Policy Act (NEPA) documentation.

A case study interview questionnaire was prepared and distributed to interview candidates associated with each project or program. When possible, phone interviews were conducted between members of the research team and the local project team. Other (generally smaller) project examples have been included throughout the resource guide to additionally highlight best practices or lessons learned regarding cross modal investments. Case studies and project examples were thoughtfully selected to illustrate a variety of cross modal investments with a range of characteristics, including geography, size, purpose (capital or operating and maintenance (O&M)) and mode. Figure 1-2 below represents these projects and further discussion on the case study methodology is presented in *Chapter 4 Case Studies*.

Figure 1-2 Case Study and Project Profile Map



*Also a small size project in the O&M category

1.6 ORGANIZATION OF THE RESOURCE GUIDE

The remaining chapters of this resource guide address the following topics:

- **Chapter 2** defines cross modal investments and introduces common issues they tend to face, categorized as either:
 - Legal
 - Modal
 - Jurisdictional
- **Chapter 3** provides an overview of cross modal funding and funding mechanisms available to transit projects at the federal and non-federal levels. It also introduces the cross modal funding database and includes a detailed user guide with direction for potential project sponsors.
- **Chapter 4** introduces the case studies, describes how they were selected, and provides a description of each project, including the process through which the cross modal investment was agreed upon, the funding sources utilized, the relevant project partners, and any significant issues that needed to be resolved prior to securing the funding source.
- **Chapter 5** summarizes the information presented in previous chapters and offers a step by step approach to implementing a cross modal investment. The chapter discusses what to consider when identifying cross modal sources that may be a fit a proposed project, highlights the most common cross modal issues and successful mitigating strategies as seen through project examples, and presents key best practices identified throughout the development of this resource guide.
- **Chapter 6** concludes the resource guide with a summary of conclusions and suggestions for further research.
- **Searchable Cross Modal Funding Database.** Complementary to this resource guide allows transit agencies to quickly search for potential cross modal funding options available to them based on their location and project characteristics.
- **Appendix A – Annotated Literature Review.** An annotated review of the existing research surrounding cross modal investments is presented as an appendix to this resource guide. Existing literature is scarce; however, the resource guide authors have identified and outlined relevant studies, reports, and testimonies to provide additional background on cross modal investments for the reader.

CHAPTER 2

DEFINING CROSS MODAL INVESTMENTS

2.1 CROSS MODAL INVESTMENTS DEFINED

Cross modal investments are those that utilize a funding source that is not specific to the mode for which it is being applied. For the purpose of this resource guide, then, a cross modal investment is a transit project which is funded, in whole or in part, from a revenue source which is typically utilized for other transportation modes. A cross modal investment may be utilized for a multimodal project, or may simply be applied to a single, unrelated mode. In order to reach the most exhaustive list of potential cross modal investments, the case studies presented in Chapter 4 will focus on both types of cross modal investments shown below in Figure 2-1.

Figure 2-1 Cross Modal Definition

Cross modal investments are those that either:

1. **Involve cross modal funding elements within a multimodal project** where unrelated modes may contribute mode-specific funding, or leverage revenues from one for the other.
– **OR** –
2. **Utilize revenues from a mode not connected to the project**, either through federal flexible funds, or through state or local funding used to meet a regions' priority project's needs.

While other innovative transit funding options exist, such as public-private partnerships (P3s) or special taxes, they are not considered cross modal investments for the purposes of this research because they are not deriving funds from one mode and dedicating them to another. For this reason, discussion of these mechanisms has not been included in this resource guide. Similarly, many states administer a wide variety of non-transportation related funding options that are not included in this resource guide as they do not meet either definition of a cross modal investment presented in Figure 2-1.

Chapter 3 Identifying Cross Modal Investments does, however, provide a brief overview of non-transportation related federal funding programs that, while not cross-modal, do have the ability to be used to fund transit. These programs have been included as background information for case studies presented in *Chapter 4 Case Studies* that have paired these funding options with true cross modal funds.

2.2 COMMON CROSS MODAL ISSUES

Through the literature review, three primary categories of potential cross modal investment issues emerged, as defined in Figure 2-2 below.

Figure 2-2 Common Cross Modal Issues

<u>Legal</u>	<u>Modal</u>	<u>Jurisdictional</u>
<ul style="list-style-type: none"> • Understanding of legal and institutional considerations • Cross modal partnerships 	<ul style="list-style-type: none"> • Modal Connections • Variety of modes that may utilize cross modal funding 	<ul style="list-style-type: none"> • Ease of implementation • Long term implications of cross modal funding • Identification and implementation of cross modal funding

These common issues were evident throughout the case study research and interviews, and unique experiences with each, as well as individual mitigation strategies, are identified in *Chapter 4 Case Studies*. Furthermore, *Chapter 5 Implementing a Cross Modal Investment*, synthesizes these lessons learned and highlights best practices for transit agencies to apply as they shape future projects using cross modal investment strategies. The following explains the most common cross modal issues noted in the literature review, as they relate to each of the three primary issues. The icons associated with each category below will appear throughout the resource guide to help readers identify the type of issue an agency may face.

2.2.1 Legal



Understanding of legal and institutional ability to make cross modal investments: Some localities and agencies have the legal authority to apply funding options across multiple modes, while others are legislatively restricted. Still other states and/or regions may have the legal capacity to advance a cross modal funding strategy, however other institutional limitations may prevent implementation.

Lack of experience surrounding cross modal partnerships: Cross modal investments may be aided by formal or informal partnerships. These partnerships may be entered into to execute funding swaps, financing, and/or project delivery risk sharing. Issues may arise when partners are unfamiliar with the legal

2.2.2 Modal



Modal connections: Cross modal investments may or may not have a direct spatial connections with the transit project. For example, where eligible, toll revenues may be applied to a transit project that is not located near a tolled facility. This can present a unique set of legal and jurisdictional challenges as well.

Variety of modes that may utilize cross modal investment: While the most common cross modal investment transfers funding from roadways/highways/toll roads sources for use in public transportation projects or project elements, funding sources for other modes (e.g., freight, intercity passenger rail, port, and air) will also be included in this research. Each mode brings a different potential pool of non-traditional funding options for transit investments.

2.2.3 Jurisdictional



Ease of implementation: Each public transportation provider has a unique set of goals, needs, and institutional environments – as well as a set of “traditional” funding options available to achieve its goals and advance projects. Localities often also have separate project prioritization criteria, which may not always align across jurisdictions, slowing a cross modal investment’s funding or implementation.

Identification and implementation of cross modal investments: For many public transportation operators, especially small providers, cross modal investments present largely uncharted territory and there may be a lack of awareness of surrounding available funding sources or allowable partnership methods across jurisdictional or modal lines.

Long Term Implications: The flow of federal transportation funds into a region are generally based on formulas and therefore relatively constant from year to year. Thus, should federal funds that may have otherwise been allocated to highway or arterial street projects go toward transit projects, the long term programming of those funds may be altered. Consideration should be given to the timing and terms of cross modal funding.

CHAPTER 3

IDENTIFYING CROSS MODAL INVESTMENT OPTIONS

This chapter presents a non-exhaustive list of cross modal investments in the United States. The funding and financing mechanisms presented here meet the cross modal definition presented in Chapter 2. This overview includes a description of specific federal cross modal investment options, as well as general state and local cross modal investment mechanisms. This chapter also introduces the resource guide's cross modal investment database, with user friendly instructions designed to assist transit agencies in identifying the most relevant cross modal funding sources available for their projects, and to encourage grantees and grantors to pursue additional cross modal options, based on the state-of-the-practice in other states.

3.1 FEDERAL CROSS MODAL INVESTMENT OPTIONS

Technically, a large portion of federal transit funding may be considered cross modal, since many authorized transit funding programs are funded through the federal Highway Trust Fund. In 1956, the federal gasoline tax was dedicated to financing the Highway Trust Fund. The current tax rate is \$0.184 per gallon, which has not been adjusted since 1993. In 2015, the federal government obligated 16 percent of federal gasoline tax revenue on transit.

However, this section focuses on two funding programs STBG and CMAQ and Toll Revenue Credits that are derived from and dedicated to highway transportation, but also allow for cross modal transit investments.

3.1.1 *Surface Transportation Block Grant (STBG)*

The Fixing America's Surface Transportation (FAST) Act authorized \$11.16 billion in FHWA STBG funding in FY 2016. The amount of annual STBG funding increases gradually over the five-year life of the FAST Act to \$12.13 billion in 2020. STBG funds are distributed to states by a formula based on lane-miles of federal-aid highways, total vehicle-miles traveled on federal highways, and estimated contributions to the Highway Account of the Highway Trust Fund attributable to commercial vehicles. STBG funding may be used for a broad range of capital purposes, including public transportation capital projects. From 2009 to 2013¹, \$3.7 billion, or 9.6 percent of total STBG (formerly known as the Surface Transportation Program, or STP) funds have been transferred to FTA's Section 5307 Urbanized Area Formula, Section 5310 Elderly/Person with Disabilities, or Section 5311 Non-urbanized Area formula programs for eligible transit projects selected by either the state DOT or metropolitan planning organization (MPO). The majority of these funds each year (as shown in Table 3-1 on the following page) have been transferred to urban areas through Section 5307, while rural areas only received about 2 percent of STP funding for transit through Section 5311.

¹ FTA did not report flex funding broken out by individual funding program after 2013.

Table 3-1 STP Funding for Transit 2009 – 2013

STP	Urbanized Area Formula Section 5307		Elderly / Persons with Disabilities Section 5310		Non-urbanized Area Formula Section 5311		TOTAL
	\$	%	\$	%	\$	%	
2009	285,366,790	80	61,964,956	17	10,282,380	3	357,614,126
2010	633,115,784	89	64,573,808	9	15,720,157	2	713,409,749
2011	628,122,849	87	81,227,517	11	11,479,128	2	720,829,494
2012	802,375,976	88	87,046,197	10	19,062,300	2	908,484,473
2013	904,136,141	90	81,725,741	8	18,971,905	2	1,004,833,786
Total	3,253,117,540	88	376,538,219	10	75,515,870	2	3,705,171,628

3.1.2 Congestion Mitigation and Air Quality Improvement (CMAQ) Program

FHWA CMAQ program funds are distributed to air quality “non-attainment” areas (regions that do not meet National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter) or areas in “maintenance” of these pollutants using a formula based on the population by county and the severity of its air quality problems within the non-attainment or maintenance area. Greater weight is given to areas that are both carbon monoxide and ozone non-attainment/maintenance areas. Funds are apportioned to state DOTs who then allocate them to eligible transportation projects and programs that reduce congestion and improve air quality, including the capital costs of transit projects and up to five years of the operating costs of new transit service. The FAST Act authorized \$12 billion in CMAQ funding between FYs 2015 and 2020.

From 2009 to 2013, \$5.4 billion - or 54 percent of total available CMAQ funding - was transferred by FHWA to FTA’s Section 5307 Urbanized Area Formula, Section 5310 Elderly/Person with Disabilities, or Section 5311 Non-urbanized Area Formula programs.

The majority of CMAQ funds transferred - 98 percent - were used for projects funded in urban areas. Rural areas (much less likely to suffer from air quality problems) received only 1.5 percent of transferred funding through Section 5311, while the remaining funds were used for Section 5310 purposes.

Table 3-2 CMAQ Funding for Transit 2009 – 2013

CMAQ	Urbanized Area Formula Section 5307		Elderly / Persons with Disabilities Section 5310		Non-urbanized Area Formula Section 5311		TOTAL
	\$	%	\$	%	\$	%	
2009	619,477,799	98	3,330,000	1	11,747,675	2	634,555,474
2010	961,718,625	98	6,584,001	1	17,159,111	2	985,461,736
2011	1,059,526,368	98	7,469,001	1	14,834,914	1	1,081,830,283
2012	1,401,369,937	98	9,382,665	1	12,712,565	1	1,423,465,167
2013	1,295,238,890	97	10,162,668	1	26,224,802	2	1,331,626,360
Total	5,337,331,619	98	36,928,335	1	82,679,067	2	5,456,939,020

The Minneapolis-St. Paul MPO, the Metropolitan Council, administers its STBG and CMAQ funding jointly through a bi-annual Regional Solicitation for locally-initiated transportation projects. Roadway, bicycle and pedestrian, and transit projects may all apply, as the MPO sets aside a range of available funds for each modal category. Eligible projects are evaluated based on a weighted scoring system with regionally prioritized project criteria and measures specific to each type of project. For transit and travel demand management projects, the Council reviews a project’s merits based on its role in the regional transportation system and economy; existing or projected ridership; equity and housing performance near the project; emissions reductions; multimodal elements and existing connections; a risk assessment; and cost effectiveness. In 2017, Met Council awarded over \$21 million in federal funds to four transit projects, including a new bus garage, bus stop modernization, and communication improvements.

Many other MPOs use a similar competitive selection process to award STBG and CMAQ funding, but Minneapolis’ Met Council is a strong example of a funding agency promoting multimodal projects, and equitably evaluating a range of modal projects with unique characteristics, through its weighted scoring system and modal set asides.

3.1.3 Toll Credits as Credit for Non-Federal Share

Toll credits, also known as Transportation Development Credits (TDC), are a method of providing a “soft” match to federal funds, technically allowing an entity to fund a project with 100 percent federal funding, rather than the typical 80 percent maximum federal share. Toll credits were first authorized under Section 1044 of the 1991 ISTEA legislation, and reauthorized in every surface transportation authorization since. The amount of toll credits earned is based on revenues generated by a toll authority (i.e., toll receipts, concession sales, right-of-way leases, and interest) - including borrowed funds (i.e., bonds, loans) supported by the revenue stream - that are used by that authority to build, improve, or maintain public highways, bridges, or tunnels that serve interstate commerce. It cannot include expenditures for routine maintenance (e.g., snow removal or mowing), debt service, or costs of collecting tolls. The toll facility generating the revenue must be open for travel by the general public.

Toll credits are not actual funds from the federal government. No funding is generated for a project by using toll credits. In fact, the total project improvement budget will be less when using toll credits rather than developing an actual local match revenue source.ⁱ Take, for example, a transportation agency which is eligible to receive a \$1 million grant. Its options are: 1) to use toll credits to meet the local match “soft match”; or 2) to provide a “hard match” using actual agency revenue. As shown in Table 3-3 on the following page, an agency that generates usable local match dollars will have a total project budget that is larger than if toll credits are used to meet the local match requirement.ⁱⁱ

Table 3-3 Toll Revenue Example

	OPTION 1: - TOLL REVENUE CREDITS SOFT MATCH	OPTION 2: CASH HARD MATCH
Grant Funding	\$1,000,000	\$1,000,000
Matching Requirement	\$200,000	\$200,000
<u>Cash Match Dollars</u>	\$0	\$200,000
Total Project Budget	\$1,000,000	\$1,200,000

Transit programs authorized by Chapter 53 of Title 49 of the FAST Act legislation may be eligible for toll credit usage. The funds may be used for a cross modal investment since a tolling agency that oversees both tolled roads and transit may apply toll revenues collected from a toll road to a transit project also under its jurisdiction.ⁱⁱⁱ

Texas DOT (TxDOT) allows toll credits (which they refer to as TDCs) to be used as local match for federal transportation dollars for both operating and capital costs associated with transit projects. Seventy-five percent of the state's TDCs are credited back to the region where they originated from, while the remaining 25 percent is reserved for a competitive statewide program, which may fund up to \$50 million for eligible surface transportation projects, including transit, each year.

Each MPO has the option to set its own competitive project selection criteria for regional projects. For example, since 2013, the North Central Texas Council of Governments (NCTCOG) has awarded \$11.2 million to small transit providers in the region for transit operations, and capital costs such as vehicles software, and transit stops. This is an example of a state leveraging all of its cross modal funding opportunities to help both urban and rural transit providers address both capital and operating needs. TXDOT adheres to the overarching federal laws surrounding the use of TDCs, and chose to shape its own state laws regarding the use of TDCs to further support transit. Its approach of preserving a portion of TDCs for a statewide competitive selection provides an equitable approach allowing local jurisdictions to set their own funding priorities, while also creating an opportunity to cross modally fund transit projects with a multi-jurisdictional focus through the statewide solicitation.

3.2 NON-FEDERAL CROSS MODAL INVESTMENT OPPORTUNITIES

This section provides a broad overview of several non-federal cross modal revenue options. The database expands upon this list, and includes additional details such as revenue potential by state for FY 2017 and specific eligible activities for particular modes.

3.2.1 Roadway/Highway/Toll Revenues

3.2.1.1 State Gas Taxes

Each state sets its own state gas tax rates and laws regarding how these revenues can be spent. Some state gas taxes are established at the county level, allowing residents to vote for a higher gas tax to finance large transportation/transit packages in a region. The revenue stream from gas taxes can be volatile due to economic conditions, the changing price of gasoline, consumer trends, and improved vehicle fuel efficiencies. Some jurisdictions place a price floor on gas tax amounts to ensure a minimum level of revenues. These fluctuations generate uncertainties in future revenue projections, and should be considered when pursuing gas tax revenues as a long term cross modal investment strategy. For gas tax amounts by state, please see the cross modal funding database attached to this resource guide.

The Northern Virginia Transportation Committee (NVTC), uses funds from a regional Motor Vehicle Fuel sales tax levied at a rate of 2.1 percent to cover a portion of its operating funding commitment to the Washington Metropolitan Area Transit Authority (WMATA) Compact. The revenue amounts derived from gas taxes can be somewhat unsteady. While Virginia enacted legal protections surrounding the minimum amount of gas taxes to be collected at the state level in 2013, the NVTC region does not have such protection, and because of that, NVTC has seen a 40 percent decrease in monthly regional gas revenues since 2013, forcing it to find other regional revenues to meet its funding obligations to WMATA.

3.2.1.2 Parking Taxes

Taxes or fees on paid parking are collected at the local level. A parking fee could include a tax or surcharge on paid parking, assessed as a percentage of receipts or a fixed cost per space. These taxes and fees are

often used in urban areas to discourage driving and promote transit, and all or portions of the revenue streams may be dedicated to transit.^{iv}

San Francisco Metropolitan Transportation Agency (Muni) utilizes 80 percent of city parking revenues for its transit operations. This case is discussed in detailed in *Chapter 4 Case Studies*.

3.2.1.3 Rental Car Taxes

Over 40 states levy a charge on rental cars, either with an additional tax, daily fee, or both. Some states authorize local government to impose its own additional taxes or fees on rental vehicles. These charges are primarily paid by out-of-state visitors, making them easier to approve through legislation or ballot measure. It is common for a portion of these revenues to be dedicated towards roads and/or transit.

In Pennsylvania, the Public Transportation Assistance Fund is used to fund mass transit projects. The fund receives money from multiple taxes, including a Motor Vehicle Rental Fee tax. This tax is imposed on the rental of motor vehicles at a rate of \$2 a day for a period of less than 30 days. In 2016, the state of Pennsylvania raised over \$200 million through its Public Transportation Assistance Fund through revenues such as the rental car tax.

3.2.1.4 Taxi Fees

Taxes and fees are typically collected at the local level as an additional surcharge on a per ride basis on regulated taxi or transportation network company fares. In some cities, taxi taxes and sales taxes derived from taxi rides are dedicated to a transit agency or transportation authority to provide additional revenue for transit operations and capital projects.

New York City's Metropolitan Transportation Authority (MTA) receives funding from a \$0.50 per ride taxi surcharge. This fee was created in 2009 by state legislation. The surcharge was part of a \$1.9 billion plan to bailout the MTA. State action was required because while the city can set taxi rates, only the state can enact a surcharge. This taxi tax is deposited into the MTA Air Trust Account, alongside a Supplemental Auto Rental Tax, Supplemental License Fee, and a Supplemental Registration Fee. Approximately \$90 million is raised annually by this surcharge.

Uber, Lyft, and other ride-sharing companies are not required to collect the MTA fee that is levied on taxis. They do pay sales tax, but only a small portion of the sales tax goes to the MTA (0.375%). The TNC fare would need to be \$133 for the MTA to get the same revenue as it receives from every New York taxi trip, regardless of fare. This has challenged the sustainability of this funding source for the MTA as ride-sharing companies have become more popular; on the other hand, ride-sharing companies argue that they do pay their fair share of taxes; it is just where the tax revenue is allocated that is different.

3.2.1.5 Motor Vehicle Fees

Most states authorize an annual vehicle license or registration tax. These taxes and fees are typically implemented at the local level and the revenues are used for a wide variety of purposes, including transit. Some states designate the entirety of vehicle registration taxes for roads and/or transit.

Previously only a highway revenue stream, the **State of Washington** approved a vehicle fee increase which generated approximately \$1 billion for bike paths, pedestrian walkways, and transit. The Connecting Washington transportation package, approved by the State Legislature in 2015, funds many important transportation projects in Washington. Part of the package included licensing fees, such as the Enhanced Driver License fee, the electric vehicle renewal fee, and the gross weight license fee.

3.2.1.6 Toll Revenues

Toll revenues are the fees collected along tolled highways, bridges, or tunnels. According to the International Bridge, Tunnel and Turnpike Association (IBTTA), 35 states have at least one tolled piece of infrastructure and \$13 billion in toll revenues were collected nationwide in 2013 by tolling agencies. Some toll revenues are collected by state operated agencies, while other toll roads are run by private concessionaries who are responsible for building, operating, and maintaining the tolled asset.

In San Francisco, California, the Golden Gate Bridge Transportation District's toll revenues fund 48 percent and 37 percent of its bus and ferry system's annual budgets, respectively. In 2004, Bay Area voters approved Regional Measure 2 (RM2) to raise tolls on seven of the region's state owned bridges by \$1. The resulting Regional Traffic Relief plan helped to finance highway, transit, bicycle, and pedestrian projects in the bridge corridors.

3.2.1.7 Congestion Pricing

Congestion pricing is a tool for tolling vehicles that use specific transportation facilities during peak travel periods. One subset of congestion pricing is cordon pricing, in which vehicles are assessed a fee for driving into or within an identified geographic boundary, or cordon area. The cordon area is typically a congested area within a city, and is usually a city center. Fees can be structured in a variety of ways to optimize traffic flow, but are often set as a flat rate with exemptions for certain vehicle categories, residential status, or other factors. Revenues may be used on public transportation improvements.

San Diego County's I-15 HOV/HOT-lane system is a reversible facility that operates along an 8-mile corridor north of downtown San Diego. The facility generates annual toll revenues of approximately \$1–\$2 million, approximately half of which are used to fund express service between northern San Diego County and downtown.

3.2.2 Freight/Intercity Passenger Rail

3.2.2.1 Right-of-way Leases

A right-of-way (ROW) lease is an annual lease payment from one railroad to another in order to operate on a railroad's active ROW. If the ROW is owned by a passenger railroad, such as the case with the Amtrak's ownership of the Northeast Corridor, the owner can charge private freight operators an annual fee to continue using the tracks. These fees can be used for railroad operations, or can be used towards a larger regional transit and transportation investment package.

Trinity Railway Express (TRE) is a cooperatively owned commuter rail service between Fort Worth and Dallas. TRE has track usage agreements with four freight railroads allowing them to operate within its ROW for a fee. The revenues from these fees are used to cover annual operating services of passenger service.

On the capital side, **CalTrain in the San Francisco Bay Area** used \$6.2 million in revenues from right-of-way leases to fund a portion of its Downtown San Francisco Rail Extension.

3.2.3 Port and Air

Port usage fees are surcharges that apply to a ship and/or the cargo on board the ship once it reaches the port. Port authorities, which are governmental or quasi-governmental public authorities of special-purpose districts, collect these fees. Most port authorities use the fees solely to operate the port, but some port authorities also operate transit and may use these fees towards a larger transit and transportation investment package.

The Port Authority of New York and New Jersey collected over \$200 million port usage fees in FY 16, a portion of which was used to fund its passenger ferry and rail transit operations.

3.2.3.1 Passenger Facility Charges

The Federal Aviation Administration's (FAA) Passenger Facility Charge (PFC) program allows the collection of fees up to \$4.50 for every enplaned passenger at commercial airports controlled by public agencies. PFCs are capped at \$4.50 per flight segment with a maximum of two PFCs charged on a one-way trip or four PFCs on a round trip, for a maximum of \$18 total. Current guidelines allow these funds to be used for road and rail transportation on airport property.

In New York, PFCs were the principal funding source for the \$1.9 billion AirTrain system, providing \$1.15 billion in revenue collected from PFCs at all three airports. The system used no state or federal taxes, but rather a combination of Port Authority funds and revenue from the \$3 PFC surcharge on departing passengers at the New York City airports.

3.2.4 Bicycle and Pedestrian

3.2.4.1 Bike Licensing Fees

Bicycle licensing fees are a potential source of revenue that some municipalities have experimented with that potentially could be used cross modally, but rarely are. The methods vary, but in each case a bicycle owner must pay a fee in order to ride their bicycle on the street. There are a few advantages to having such a program. It can deter bike theft and help with the recovery of stolen bikes, it can promote safer bicycle use, and the licensing fees can be used to fund the acquisition or repair of bikeways. However, the programs can be costly to administer and raise minimal revenue. It is more likely that transit or highway funding is used to cross modally support bicycle improvements.

Honolulu, Hawaii, has had a successful bicycle licensing program since 1999. It requires a onetime registration fee of \$15 and a \$5 transfer of ownership fee. All of the revenue is deposited into the bikeway fund which can be used to fund projects related to bikeways and the promotion of bicycling. However, it is more likely that it is FTA or FHWA programs that fund bicycle projects, specifically when they are relevant to a transit project that is receiving funding. The Honolulu Rail Transit Project, which received \$1.55 billion from FTA Capital Investment Grant program, includes bicycle lanes that make access to stations easier and safer.

3.3 ALTERNATIVE NON-TRANSPORTATION FEDERAL FUNDING PROGRAMS

The following federal funding sources are from programs that peripherally support or include public transportation as a service to constituents. The research team chose to identify them in order to best inform the case study selection and to show the reader potential complimentary non-traditional federal funding options available to a project sponsor. While only one of the selected case studies uses one of these sources, a potential project sponsor should understand if its project may be eligible for any of these additional federal sources.

3.3.1 Highly Rural Transportation Grants (HRTG), Veterans Affairs (VA)

To comply with Section 307 of the Caregivers and Veterans Omnibus Health Services Act of 2010, the VA awards grants to eligible recipients to assist veterans in highly rural areas to provide innovative transportation services for travel to VA and non-VA facilities in connection with the provision of VA medical care. The program makes \$3 million available annually for transportation, with a maximum grant award of \$50,000.

There are currently 14 recipients of HRTG grants, primarily VFW posts and state I Veteran Affairs Departments which provide transportation services in rural areas, such as the **North Dakota Department of Veterans Affairs** which serves 36 rural counties in the state.

3.3.2 *Community Development Block Grants (CDBG), Department of Housing and Urban Development (HUD)*

In FY 16, HUD allocated \$3.3 billion in CDBG funds nationwide, making a total of \$69 billion in CDBG funds allocated since the program's inception in 2001. Since then, \$89 million in CDBG funds were expended by grantees on "transportation services" (\$4.1 million (0.13 percent) of FY 16 funding was expended on transportation that year). HUD allocates its CDBG funds on a formula basis directly to larger cities and the country's most-urban counties; for smaller cities and less-urban areas, CDBG allocations are made by formula to state agencies. Nearly all decision-making on the use of CDBG funds is made by local community development agencies that receive these funds from HUD. These may be used as "non-federal" matching funds for some FTA formula programs.

Abilene, Texas, received \$52,000 in CDBG funding for transportation services to provide access to jobs and training during non-public transit hours in 2015.

3.3.3 *Rural Business Development Grants (RBDG), United States Department of Agriculture (USDA)*

RBDG is a competitive grant program designed to support targeted technical assistance, training, and other activities leading to the development or expansion of small and emerging private businesses in rural areas that have fewer than 50 employees and less than \$1 million in gross revenues. Programmatic activities are separated into enterprise or opportunity type grant activities. Generally, grants range from \$10,000 up to \$500,000. There is no cost sharing requirement. A rural transportation improvement is an eligible expense, however the program has not awarded any funds for transportation in recent years.

3.3.4 *Qualified Energy Conservation Bond (QECCB), Internal Revenue Service (IRS)/ Environmental Protection Agency (EPA)*

A Qualified Energy Conservation Bond (QECCB) is a bond that enables qualified state, tribal, and local government issuers to borrow money at attractive rates to fund energy conservation projects (QECCBs are a financing mechanism, and are not grants). A QECCB is a lowest-cost public financing tool because the U.S. Department of the Treasury subsidizes the issuer's borrowing costs. Issuers may choose between structuring QECCBs as tax credit bonds (bond investors receive federal tax credits in lieu of interest payments) or as direct subsidy bonds (bond issuers receive cash rebates from the U.S. Department of the Treasury to subsidize its net interest payments). Congress authorized \$3.2 billion of QECCB issuance capacity, which has been allocated to states and local governments based on its population.^v

The Roaring Fork Transportation Authority in Colorado received \$6.5 million in QECCBs from the state of Colorado to finance its CNG bus fleet in 2013.

3.3.5 **New Market Tax Credits (NMTC)**

The NMTC program is overseen by the Community Development Financial Institutions (CDFI) Fund within the U.S. Department of Treasury and is aimed at incentivizing community and economic development through private investment. Private parties make equity investments in a domestic partnership called a Community Development Entity (CDE) to fund an economic development capital project. In return, investors receive a tax credit against their federal income tax.^{vi} These tax credits are issued to CDE's who

select projects to receive the equity after an investor purchases the credit. If the economic development case is made for the region, NMTCs may be used to fund transit projects.^{vii viii}

The **Detroit QLine streetcar (owned and operated by M-1 RAIL)** was the first public transportation project to receive NMTCs in 2014. The project received a total of \$9.4 million in NMTC proceeds towards its capital costs. For the QLine, five investors made up the NMTC partnership: JPMorgan Chase, Invest Detroit, The Great Lakes Capital Fund, Local Initiatives Support Corporation (LISC), and United Way. The investors receive a tax credit equal to 39 percent of its total qualified investment in the project over a seven year period. Since the successful use of NMTCs for transit in Michigan, other projects, such as the Delmar Loop Trolley streetcar in St. Louis, Missouri, have secured these tax credits for transit projects.

3.3.6 *Temporary Assistance for Needy Families (TANF) Block Grant Program, Health and Human Services*

The TANF Program is designed to help needy families achieve self-sufficiency through employment and training activities provided by the TANF Work Program (TWP). TANF supportive services such as assistance with child care and transportation expenses are available to help adults in the family prepare for employment and to promote self-sufficiency. The TANF program is comprised of \$16.5 billion in annual nationwide assistance. TANF funding for transportation is typically in the form of operational subsidies to provide rides to work, often in rural areas under the “Work-related Activities and Supports” eligibility category.^{ix}

In Hampton County, South Carolina, the TANF agency provides vouchers for public transportation to TANF recipients.

3.4 **CAP AND TRADE**

One other source of note is emerging state and regional “cap-and-trade” programs. Cap-and-trade is a market-based approach to gradually reducing greenhouse gas (GHG) emissions. The “cap” refers to an annual ceiling that is set on the total amount of carbon pollution from designated industries such as refineries, power plants, and industrial facilities. The cap serves as a hard limit on how much GHG may be emitted by all combined designated entities within the regulated industries. The ceiling is lowered each year until the targeted emission level is achieved. “Trade” refers to the regulated marketplace where companies may purchase or trade for the right to produce GHGs through carbon allowances, which are tradable permits that allow a designated level of emissions. Participating entities are incentivized to invest in cleaner technologies that will decrease their carbon emissions in order to reduce their need for allowances. Some programs also offer the opportunity for entities to offset their emissions by engaging in an approved carbon reducing project or activity.

Two formal cap-and-trade programs exist in the US:

- State of California Cap-and-Trade program
- Regional Greenhouse Gas Initiative (RGGI), a multi-state partnership between Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont.

The programs are independently run by their host state or states. Each program sets its own emissions cap, identifies participating industries, hosts emissions auctions, and determines how the cap-and-trade revenue will be used. Currently only California uses a significant amount of cap-and-trade revenues towards transit and transportation (only 0.04 percent of RGGI funds have been used to date for public transportation).

3.4.1 State of California

California's comprehensive approach to cap-and-trade is largely considered a national best practice, having successfully reduced carbon emissions while generating approximately \$2.4 billion in cap-and-trade revenues since 2012. The California Air and Resources Board (ARB) has hosted 13 quarterly auctions, auctions since November 2012 to trade carbon emission credits, and raise cap-and-trade revenues.

California sets a cap on six types of GHGs. The program initially regulated carbon emission from electricity generators and industrial sources, and was only recently expanded to include fuel and natural gas distributors. Free allowances are distributed to electric utilities, industrial facilities, and natural gas distributors for up to 90 percent of their current emission in order to protect consumers from an inequitable increase in utility prices. This percentage decreases annually to continue to encourage the gradual reduction of carbon emissions by the industries. Designated sectors are able to bank a limited amount of allowances. Additional ARB-approved offset projects may account for up to 8 percent of an entity's emissions.

Prior to the first auction in 2012, the transportation sector was responsible for emitting 38 percent of all GHGs in California. The state invested 50 percent of revenues in transportation-related projects as part of a larger goal to support transportation projects that lower GHG emissions. In addition, approximately 22 percent was apportioned to the state's Housing and Sustainable Communities program for transit oriented development (TOD), complete streets, and active transit and transportation projects. The remaining 18 percent supported energy efficiency, clean energy programs, natural resources, and waste diversion.

In addition to expanding the program to the fuel sector, annual cap-and-trade apportionments to transportation were increased from 50 to 60 percent in FY 2015 and beyond. This includes the dedication of 25 percent of the program's future revenues to the California's High Speed Rail (HSR) program and 10 percent to the Transit and Intercity Rail Capital Program (TIRCP). The TIRCP funds projects that reduce GHG emissions, expand and improve rail service to increase ridership, and integrate new or existing transit services with the state's other existing rail operations, including HSR. Notable past TIRCP investments include \$41 million to the San Francisco Municipal Transit Agency to expand its light rail fleet, \$38 million to Los Angeles Metro to improve Blue Line light rail operations, and \$31 million to San Diego's Metropolitan Transit System to increase its light rail transit system capacity. The remaining 40 percent of program funding is allocated at the discretion of the state to invest in projects that help California achieve its climate goals and provide benefits to disadvantaged communities through approved programs outlined in the state's official *Cap-and-Trade Auction Proceeds Investment Plan*.

3.5 SEARCHABLE CROSS MODAL FUNDING DATABASE – USER GUIDE

Cross modal investments have been used to advance transit projects of all sizes across the United States that otherwise may not have been funded. The complementary interactive cross modal funding database produced with this resource guide provides recommendations and examples of non-traditional transit funding options to fill in the gap between funding needs and/or to meet the required local match for federal grants using cross modal sources.

The database has been developed based on the literature review conducted (see Appendix A) for this research and a series of case studies presented later in this resource guide, with significant input from the American Association of State Highway and Transportation Officials (AASHTO) *2016 State Transportation Funding Survey, Transportation Governance and Finance: A 50 State Review of State Legislatures and Departments of Transportation* and program websites. The database provides potential cross modal funding options and examples of other successful public transportation projects that have used these cross modal tools. This searchable database does not include funding sources not considered cross modal, such as special taxes used for transportation. The database therefore does not present all potential

funding options, if not cross modal, from each specific state of locality and a user should reach out to local funding agencies to learn of any additional non-cross modal funding options that may be available in the project’s area. To provide the database user with additional specificity, the database includes FY 2017 funding amounts for each federal program by state. The database also includes active links to funding pages, so the user can easily identify specific funding amounts past FY 2017.

3.5.1 Searchable Cross Modal Funding Database – User Guide

By entering basic information regarding the characteristics and location of the database user’s transit project, the results provided by the database can be used to inform a better understanding of the types of cross modal funding solutions that may be available for a project. The results also provide more information on what other states and jurisdictions have done to find innovative funding solutions to help a project team learn about and develop new ideas. Lastly, the results provide information on how laws and regulations vary across states, which could provide a precedent for regulatory change in an area where such change could open up valuable future opportunities that are currently restricted.

Of course, this database does not provide all of the answers, nor does it guarantee eligibility for any specific funding program; rather, it informs users of their existence, provides details and examples, and offers a starting point to seek a cross modal funding opportunity. To this effect, a note is included to remind users to confirm eligibility for any of these programs by contacting their local transit agency, state DOTs, and, in urbanized areas, their MPO.

3.5.2 Cross Modal Database User Directions

The database is an interactive tool that allows users to select responses from a series of dropdown menus to populate the information that may be most relevant given their needs and constraints. This database is available for download as a Microsoft Excel worksheet file. Database users will need access to Microsoft Excel in order to use the tool interactively. The following sections will walk the user through how to accurately input information that will identify potential cross modal funding sources available to them.

3.5.2.1 Project Characteristics

Users begin by responding to the background questions in the numbered rows 1, 2, and 3 (Figure 3-1). Each selected response will generate illustrative background information in the adjacent right column, including specific restrictions for cross modal funding in a state or more information on the types of recommendations the user may see in the bottom half of the worksheet.

Figure 3-1 Background information rows 1, 2, and 3, unpopulated

Background		
Characteristics	Response	Background Information
1	Project Mode and Type	Please select your response.
2	State	Please select your response.
3	Rural or Urban?	Please select your response.

In row 1, a user will select the project mode from a list of seven options – “Bus”, “Rail”, “Ferry”, “Demand Response”, “Multimodal”, “Complete Street / Bike / Pedestrian”, or “Transit Oriented Development” – and

the project type – “Operating / Maintenance” or “Capital.” If the project mode is not included in this list, the user can select the “Other” option.

In row 2, all 50 states, the District of Columbia, and United States territories are available as selections. For each state or territory selected, information is provided on legal restrictions for cross modal funding in that jurisdiction and/or unique features it may have, such as the Cap-and-Trade program in California, or a lack of state transit funding, as in Alabama. A link to the state DOT website is also included.

In row 3, a user may select “Rural”, “Urban”, or “Unsure” in regards to the project area’s geographic classification. These selections will also populate responses regarding the potential availability of cross modal sources in the user’s project area. For example, if a user selects “Unsure,” they will be warned that they will be shown recommendations that apply to both urban and rural areas and that they should confirm eligibility before pursuing any of these funding options.

As an example, Figure 3-2 illustrates what a user in an urban area of Delaware with a bus capital project will see.

Figure 3-2 Background information rows 1, 2, and 3, populated as example

Background					
Characteristics	Response	Background Information			
1	Project Mode and Type	<table border="1"> <tr> <td>Bus</td> <td rowspan="2">Capital expenses for buses include stops, vehicles, and maintenance and administrative facilities. Some funding programs, particularly at the federal level, are dedicated exclusively to capital projects. More details will be provided in the program descriptions below.</td> </tr> <tr> <td>Capital</td> </tr> </table>	Bus	Capital expenses for buses include stops, vehicles, and maintenance and administrative facilities. Some funding programs, particularly at the federal level, are dedicated exclusively to capital projects. More details will be provided in the program descriptions below.	Capital
	Bus	Capital expenses for buses include stops, vehicles, and maintenance and administrative facilities. Some funding programs, particularly at the federal level, are dedicated exclusively to capital projects. More details will be provided in the program descriptions below.			
Capital					
2	State	<table border="1"> <tr> <td>Delaware</td> <td>While Delaware does not have a dedicated transit funding scheme, it does have a State Transportation Trust Fund that can be used for transit and is funded by toll revenues, state gas tax, and vehicle registration fees.</td> <td>DelDOT's Website</td> </tr> </table>	Delaware	While Delaware does not have a dedicated transit funding scheme, it does have a State Transportation Trust Fund that can be used for transit and is funded by toll revenues, state gas tax, and vehicle registration fees.	DelDOT's Website
Delaware	While Delaware does not have a dedicated transit funding scheme, it does have a State Transportation Trust Fund that can be used for transit and is funded by toll revenues, state gas tax, and vehicle registration fees.	DelDOT's Website			
3	Rural or Urban?	Urban	Urban areas are more likely to receive some sources of funding, but are not eligible for programs devoted exclusively to rural areas.		

3.5.2.2 Selection of other non-transit modes operating in your area

In rows 4 through 8 (shown in Figure 3-3), users should identify whether or not other modes of transportation, separate from the transit modes the user is attempting to fund, exist or are being operated in the project area. The user may select, “Yes”, “No”, or “Unsure.” If the user is not aware of the answer, they should answer “Unsure,” as rows 1 through 8 must be fully populated in order to identify the best possible cross modal funding options for a user in the second half of the worksheet.

Figure 3-3 Selection of other existing and operating modes in project area, unpopulated

Are the following modes operated in your project area?	Response	Background Information
4	Roadway / Highway	Please select your response.
4a	Within roadway / highway, are there currently any toll roads?	Please select your response.
4b	Within roadway / highway, are there separate bridge funding mechanisms?	Please select your response.
5	Other Transit (other than the agency seeking funding)	Please select your response.
6	Freight / Intercity Passenger Rail	Please select your response.
7	Port / Air	Please select your response.
8	Bicycle / Pedestrian	Please select your response.

Once the user makes their selections, background information on funding associated with each mode will be populated in the column to the right, as shown in Figure 3-4.

Figure 3-4 Selection of other existing and operating modes in project area, populated as example

Are the following modes operated in your project area?		Response	Background Information
4	Roadway / Highway	Yes	Roadways and Highways are a common source of cross modal funding. More details and examples will be provided below.
4a	Within roadway / highway, are there currently any toll roads?	Yes	Toll revenues are the fees collected along tolled highways, bridges, or tunnels. More details on how toll revenues could be used to provide cross modal funding will be provided below.
4b	Within roadway / highway, are there separate bridge funding mechanisms?	Yes	A case study in Colorado presents the use of CDOT Bridge Enterprise (CBE) Funds, to be used for the repairing, reconstructing, and replacing of structurally deficient or functionally obsolete bridges, to provide cross modal funding for a transit project. For more information, see the Case Study Report.
5	Other Transit (other than the agency seeking funding)	Yes	Collaboration between different transit agencies in a region, for example between a bus agency and a commuter rail agency, can be mutually beneficial.
6	Freight / Intercity Passenger Rail	Yes	This type of funding comes primarily from railway companies, from fees they charge each other and to passengers.
7	Port / Air	Yes	Ports and airports charge a variety of fees to customers, though this funding can be restricted to certain modes or types of projects. More details will be provided below.
8	Bicycle / Pedestrian	Yes	Bicycle and pedestrian funding programs may be able to be used for transit when paired with first-mile/last-mile improvements to transit stations, or when purchasing vehicles or equipment that would enable bicycle storing on transit or bicycle parking at stations.

3.5.2.3 Available Funding Opportunities

The cell labeled "STOP" (as shown in Figure 3-5 **Error! Reference source not found.**) will change to "Recommendations" once all required responses in the Background section of the worksheet have been provided.

Figure 3-5 "Stop" message indicates a user has not completed selections in rows 1-8



Once the user has completed their selections for rows 1-8, the "STOP" cell will turn into "Recommendations" as shown below in Figure 3-6.

Figure 3-6 "Recommendations" cell indicates the user may now assess the available cross modal funding options



Once the Recommendations message appears, users may then continue to the bottom half of the worksheet to view the cross modal funding recommendations available for their transit project. Recommendations are organized into federal, state, and other funding opportunities. Any corresponding available funding amounts are current as of FY 2017. While the authors recognize these amounts will change each year, the initial FY 2017 amount is intended to give a reader context as to the typical size of available funding for certain programs. Beyond FY 2017, users should consult the program's sponsoring agency to determine the current year's level of funding.

3.5.2.4 Federal Cross Modal Options

The first sub-section of the recommendations worksheet includes traditional federal transportation funding for roadways through FHWA that may be used towards transit, such as the CMAQ and STBG programs. This sub-section also includes funding options that are not technically cross modal - as defined by the resource guide - but are included as “non-traditional” funding sources, meaning a funding source originates from a federal program targeted toward (for example) the environment, housing, or economic development, and *may* be used for transit. Each federal option includes the total amount of Fiscal Year (FY) 17 funding available for each program, and for some programs, the amount available to the specific state selected in row 2. Available funding options will also display a link to the program’s website, the administrating agency, a description of the funding opportunity, eligibility, and a national example of a transit project that successfully used the sources cross modally. See Figure 3-7.

Figure 3-7 Federal cross modal funding recommendation example

Recommendations					
Federal	Distributing Agency	Funding Opportunity Description	FY17 Funding Available	Eligibility	National Example Project
1	Congestion Mitigation and Air Quality Improvement (CMAQ)	FHWA CMAQ program funds are distributed to air quality "non-attainment" or "maintenance" areas. Funds are apportioned to state DOTs who then allocate them to eligible transportation projects and programs that reduce congestion and improve air quality. The majority of CMAQ funds transferred, 98%, were used for projects funded in urban areas.	\$2.4B DE: \$12M	In past years, 54% of funds nationally went to transit; can cover capital costs and up to 5 years of operating costs for a new service	Because LA County is a non-attainment area, LACMTA uses CMAQ program funds for transit. High priority projects include diesel retrofit programs, emissions reduction projects, and congestion mitigation projects that provide air quality benefits.

3.5.2.5 State Cross Modal options

The next sub-section will alert users to the availability of four major cross modal sources offered for transit in each state: 1) gas taxes; 2) motor vehicle fees; 3) rental car taxes; and 4) cap-and-trade proceeds.

Each source will identify the mode of its revenue’s origin; a description of the funding opportunity; the funding mechanism, specific by state when available; the transit project’s eligibility to receive that funding source; and an example of a transit project that has used the cross modal funding sources successfully in the past, as shown in Figure 3-8.

Figure 3-8 State cross modal funding recommendation example

State	Mode	Funding Opportunity Description	Funding Mechanism	Eligibility	National Example Project
9	Gas Taxes	Roadway / Highway Each state sets its own state gas tax rates and legislates whether or not revenues can be used for transit and other non-highway modes. The value provided is an average across all jurisdictions within Delaware.	State Taxes & Fees: 23 cents per gallon	In Delaware, fuel tax revenues can be used for other modes	While your state does allow fuel tax revenues to be used for transit, there may be some restrictions or limits. For example, Article 19 in the State of California allows gas tax revenues to be used for capital transit projects, specifically fixed guideways, though it also excludes the use of gas tax revenues for transit maintenance and operations.

3.5.2.6 Other Cross Modal Options

Lastly, the final sub-section of the recommendation worksheet will identify any other cross modal funding options that may be available to the transit project. These recommended sources are less specific to the

user’s project location, as they are typically determined at the local or project-specific level. Each recommendation in this sub-section will also will identify the mode of its revenue’s origin; a description of the funding opportunity; the funding mechanism; an overview of potential eligibility to receive that funding source; and an example of a transit project that has used the cross modal funding sources successfully in the past, as shown in Figure 3-9.

Figure 3-9 Other cross modal funding recommendation example

Other		Mode	Funding Opportunity Description	Funding Mechanism	Eligibility	National Example Project
13	Local Gas Taxes	Roadway / Highway	Some state gas taxes are indexed at the county level, allowing counties to vote for a higher gas tax to finance large transportation or transit packages in a region.	Additional taxes and fees	Set by county or other local jurisdiction	Northern Virginia uses funds from a regional Motor Vehicle Fuel sales tax levied at a rate of 2.1 percent to cover a portion of its funding commitment to transit operations.

CHAPTER 4

CASE STUDIES

This chapter presents seven unique cross modal investment case study profiles that, together:

- 1) Illustrate the current state-of-the-industry regarding transit agencies and transit project sponsors realizing cross modal investments; and
- 2) Highlight pertinent cross modal issues related to the use of cross modal funding sources.

Each of the case studies selected meets the previously defined criteria of a true cross modal investment, that either:

- 1) Involves cross modal funding elements within a multimodal project where an unrelated mode may contribute mode-specific funding, or revenues from one or more mode which may be leveraged for another; or
- 2) Utilizes revenues from a mode not connected to the project, either through federal flexible funds, or through state or local funding used to meet a region's priority project's needs.

To capture the wide range of current cross modal investment funding packages, the case studies presented herein summarize research and interviews conducted on both project-specific capital cross modal investments (of both singular and multimodal transit projects) and agency-wide cross modal investments to support ongoing operating and maintenance (O&M) costs.

Each case study provides an overview of the project or agency, a detailed funding breakdown, including cross modal and non-traditional transportation funding sources, and insights regarding any cross modal issues, as well as best practices.

4.1 CASE STUDY SELECTION

The case studies were selected based on the following criteria:

- **Category:** Case studies were identified that were either using cross modal sources for project-specific capital funding, or for agency wide O&M.
- **Mode:** Case studies were chosen to illustrate cross modal investments across modes, including both multimodal projects, such as a bus rapid transit (BRT) project operating on a managed lane, and others that are unimodal, like a light rail transit (LRT) extension.
- **Location:** Case studies were purposefully selected from a wide range of geographies across the United States.
- **Project Sponsor:** Selected case studies represent project sponsors of all sizes, including a special transportation district created solely to operate a single streetcar; a state DOT; an airport authority; and transit agencies. The diversity of experiences suggests that cross modal investments can occur in both small and large organizations.

- **Cross Modal Source:** Case studies represent a variety of cross modal sources at the federal, state, and local level. While not all cross modal sources are used in these case studies, they do represent a wide cross-section of available cross modal sources.
- **Non-Traditional Transportation Source:** Case studies were given preferential selection if the agency and/or project also utilized non-traditional transportation funding to complete its funding package. For purposes of this research project, a non-traditional transportation funding source is one where the revenues originate from a non-transportation related source, such as a federal environmental or veterans assistance program, special tax district revenues, and private developer contributions. The research team found that project sponsors who sought out cross modal investment opportunities were also likely to take advantage of non-traditional funding options.
- **Cross Modal Investment Size:** Case studies cover a range of small, medium, and large capital projects and O&M contributions. Cross modal investments can vary widely by project size. For example, cross modal investments may be used to fund a small bus shelter or the expansion of a transit system. The case studies include a range of large and small cross modal investment projects and programs. For purposes of these case study classifications, their sizes are as shown in Table 4-1.

Table 4-1 Case Study Selection Cross Modal Investment Sizing

<i>Capital <u>or</u> O&M Costs*</i>
Large
> \$200M capital costs <u>or</u>
> 25% of O&M costs
Medium
\$25M - \$200M capital costs <u>or</u>
25% - 10% of O&M costs
Small
< \$25M capital costs <u>or</u>
< 10% of O&M costs

*O&M costs refer to either a specific project or agency wide operations.

- **Status:** Case studies of projects under construction or recently completed were chosen to generate best practice findings that represent the current state-of-the-practice. This facilitated the identification of interviewees who were intimately involved with each initiative and who could provide lessons learned that are fresh and innovative. One case study, THEA’s Bus Toll Lanes, was included as a proposed concept that has not yet been initiated, but serves as an example of the most current cross modal strategies being pursued.
- **Cross Modal Issues:** Case studies were chosen that addressed at least two or more of the core cross modal issues identified in Chapter 2 of this resource guide: legal, modal, or jurisdictional.

Table 4-2 on the following page presents the seven selected case studies and categorizes based on the project selection criteria described above.

Table 4-2 Cross Modal Case Study Categorization

Case Studies								
Name/Location	Category	Mode	Project Sponsor	Cross Modal Source	Non-Traditional Source	Cross Modal Investment Size	Status	Cross Modal Issues
Dulles Corridor Metrorail Phase 2 <i>Northern Virginia</i>	Capital	<i>Single</i> Heavy Rail	Metropolitan Washington Airports Authority (MWAA)	PFC's (Federal) Aviation Funds (Local) Toll Revenues (Local) Motor Fuel Taxes (State)	TIF (Local) Special Assessment Districts (Local)	Large	Under Construction	Legal Jurisdictional Modal
San Francisco Municipal Transportation Agency Parking Revenues <i>San Francisco, CA</i>	O&M	<i>Multimodal</i> Bus LRT Cable Cars Streetcars	San Francisco Municipal Transportation Agency (Muni)	Parking Revenues (Local)	Parking Bonds (Locally voter approved financing)	Large	Ongoing	Legal Modal
Delmar Trolley Loop <i>St. Louis, MO</i>	Capital	<i>Single</i> Streetcar	Loop Trolley Transportation Development District	STP (Federal) CMAQ (Federal)	New Market Tax Credits (Federal/private financing) TIF (Local) Private Contributions (Local)	Small	Under Construction	Legal Jurisdictional
Central Mesa Gilbert Road Light Rail Extension <i>Mesa, AZ</i>	Capital	<i>Single</i> LRT	Valley Metro	STP (Federal) CMAQ (Federal)	Funding Swap with the regional sales tax revenues (Local)	Medium	Under Construction	Legal Jurisdictional
US 36 Managed Lane/BRT Phase 1 <i>Boulder, CO</i>	Capital	<i>Multimodal</i> Managed Lanes BRT	Colorado High Performance Transportation Enterprise (HPTE)	Bridge Enterprise Funds (State)	Regional Sales Tax Revenues (Local)	Small	Completed	Legal Jurisdictional Modal
PennDOT Capital and Operating Funding for Transit - Act 44 & Act 89 <i>Pennsylvania</i>	Capital, O&M	<i>Multimodal</i> Toll Roads Bus/ LRT Heavy Rail	Pennsylvania Turnpike Commission (PTC) PennDOT	Toll Revenues (Local)		Large	Ongoing	Jurisdictional
Tampa Hillsborough Expressway Authority Bus Toll Lanes <i>Tampa, FL</i>	Capital, O&M	<i>Multimodal</i> Managed Lanes BRT	Tampa Hillsborough Expressway Authority (THEA)	Toll Revenues (Local)	Transit grant programs used to fund Bus Toll Lanes (BTL)	Large	Proposed Concept	Modal

4.2 DULLES CORRIDOR METRORAIL PHASE 2

Northern Virginia

Sponsor(s):	Washington Metropolitan Area Transit Authority (WMATA), Fairfax County, Loudon County, and Metropolitan Washington Airports Authority (MWAA)
Case Study Category:	Capital Project with Cross Modal Funding Sources
Mode:	Heavy Rail, Airport Extension
Project Cost:	\$2.78 billion
Cross Modal Funding:	\$1.67 billion
Cross Modal Sources:	Motor Fuel Taxes, Toll Revenues, Aviation Funds (including Passengers Facility Charges)
Cross Modal Issues:	Legal, Jurisdictional, and Modal
Status:	Under Construction

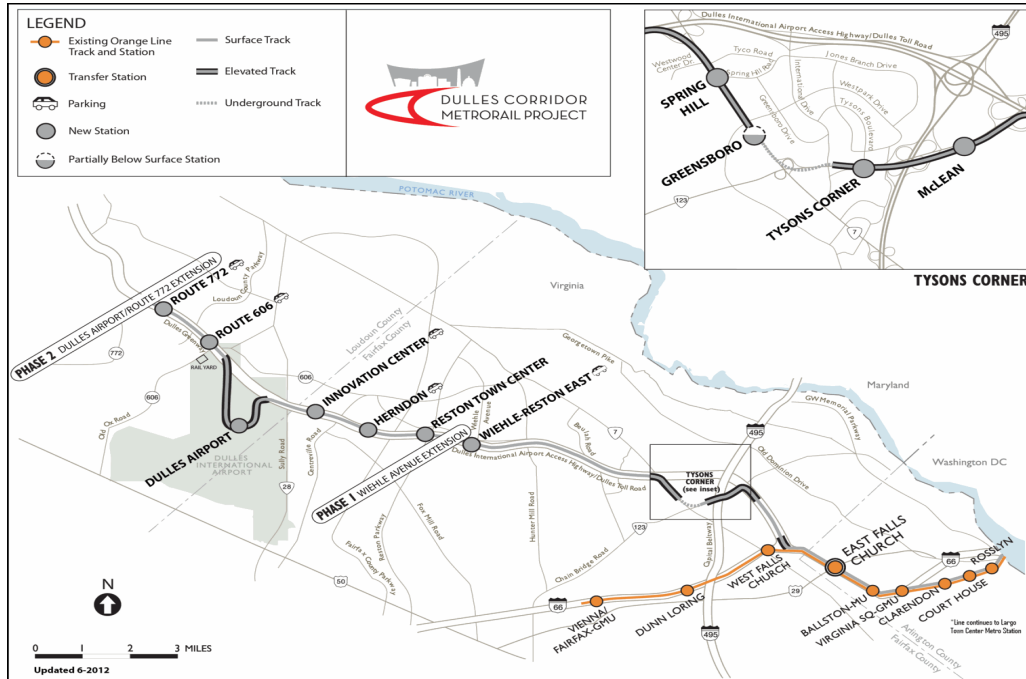
4.2.1 *Project Description*

The Dulles Corridor Metrorail Project, being built in two phases, is a 23-mile extension of the Washington DC region's existing rail system. The project is being managed by the Metropolitan Washington Airports Authority (MWAA). As with Phase 1, Phase 2 of the extension will be operated by the Washington Metropolitan Area Transit Authority (WMATA) and referred to as the Silver Line. The Silver Line will offer a no-transfer Metrorail option for passengers traveling between downtown Washington, DC and Dulles International Airport (IAD). The project also includes substantial improvements to the adjacent roadway network.

Phase 1 of the new line opened on July 26, 2014, connecting Tysons Corner and Reston, Virginia's largest employment centers, with Falls Church, Arlington, downtown Washington, DC, and destinations along the Silver Line east to Largo, Maryland.

Phase 2 will include six new stations, extending the Silver Line 11.4 miles west from the Wiehle-Reston East station to IAD and on to Ashburn in eastern Loudoun County. Phase 2, the focus of this case study, is estimated to cost \$2.78 billion dollars, and is funded through a variety of federal, state, and local sources described below, including cross modal sources. Construction for Phase 2 began in 2014 and the extension is scheduled to begin operation in 2018.

Figure 4-1 Dulles Corridor Metrorail Project Phase 1 and Phase 2



4.2.1.1 Purpose

When both phases are complete, the Silver Line will provide a one-seat, no transfer ride from IAD to downtown Washington, DC, creating long-sought-after connectivity between the rapidly developing Dulles corridor and the nation’s capital.

4.2.1.2 Cross Modal Investment Need

A heavy rail expansion project such as Dulles Corridor Metrorail may have traditionally been sponsored by the regional transit agency; however, WMATA was not in a position to shoulder the burden of a \$5.68 billion capital undertaking (\$2.91 billion for Phase 1 and \$2.78 billion for Phase 2). In 2007, an agreement was reached with MWAA to become the lead project sponsor due the project’s direct benefits to IAD. In 2008, MWAA and the Virginia Department of Transportation reached an agreement for MWAA to acquire the Dulles Toll Road in order to leverage toll revenues collected in the corridor to raise additional funding for the transit project, thereby creating a true cross modal investment.

4.2.2 Initiation

The idea for project was originally conceived in the 1960s after IAD was opened. Surrounded by what was then miles of undeveloped land, it quickly became clear to both FTA and FAA personnel that the airport was desperately lacking an easy connection to downtown Washington, DC. It was this early identification of the potential project’s merit that prompted FTA and FAA to agree to preserve the right-of-away parallel to what became the Dulles Toll Road for a future transit connection. In 1982, the Dulles Toll Road was completed by its then owner and operator, the Virginia Department of Transportation (VDOT). As discussions continued about the need for rail transit out to Dulles Airport and to serve the quickly growing communities in Northern Virginia, it became clear there was a need for a new funding mechanism to build the project. In 2005, MWAA proposed to take the ownership and operational responsibilities of the toll

road from VDOT, in exchange for the ability to one day dedicate toll revenues towards the rail project as a part of a larger funding plan. The transaction was completed in 2008.

In June 2011, US Secretary of Transportation Ray LaHood hosted the first of a series of meetings between key project stakeholders to agree to an overall project scope, design, and financial plan.

4.2.2.1 Project Parties:

Phase 2 of the Dulles Corridor Metrorail Project is being developed under a multi-jurisdictional partnership led by MWAA, the public agency charged with overseeing the project's implementation. WMATA, the Commonwealth of Virginia, FTA, Fairfax County, and Loudon County in Virginia are also active project partners. Each major partner's role is briefly discussed below:

- **MWAA:** MWAA is responsible for the operation of and capital improvements for Ronald Reagan National Airport and Dulles International Airport. MWAA is a self-supporting public agency, reliant on its aircraft landing fees, rents and revenues from airlines and concessions, toll revenues from the Dulles Toll Road, and Federal Aviation Administration (FAA) Passenger Facility Charges (PFC's) to fund its operational and capital needs. MWAA is responsible for \$1.67 billion of the Phase 2 capital costs.
- **Fairfax County:** Fairfax County has been an active project champion since 1999, and has worked diligently towards providing opportunities to improve the land uses surrounding planned stations in the Reston and Tysons areas to support a rail transit investment. Fairfax County has created three special tax districts along the Dulles corridor to generate revenues to be dedicated to the project. The county had raised over \$200 million in additional tax revenues by 2012, and has issued \$247 million in bonds secured by future special district revenues. Additionally, the county used a special countywide tax on commercial and industrial properties of 11 cents per \$100 of assessed value to fund an additional \$200 million in commitments to the project.
- **Loudon County:** Loudon County stands to benefit from the project as it provides its residents improved transit access to Reston, Tysons, Washington, DC and other major employment centers. Loudon County has agreed to contribute \$515 million towards Phase 2 of the project. Proceeds from a special tax district (described later in this section) will repay the debt service from the project's TIFIA loan.^x
- **WMATA:** WMATA will be solely responsible for the operations and maintenance of the project. While WMATA is not responsible for any project costs before operation and has not financially contributed to the development of either construction phase, it has been an active project participant throughout design, construction, safety certification and pre-revenue start up for Phase 1 which began operation in 2014.

4.2.2.2 Support:

Overall, this project had political support at the regional, state, and federal level, which helped to secure the sale of the Dulles Toll Road to MWAA from VDOT to allow for the cross modal investment of toll funds. However, support was not unanimous surrounding the sale of the toll of road. As is the case with any user fee based revenue stream, there is likely to be some opposition, and using cross modal funding from the Dulles Toll Road for the Silver Line Metrorail was no exception.

Several lawsuits were filed opposing the project, or more specifically opposing the use toll road revenues to pay for a transit project. The first, filed in Virginia in 2007 (and then appealed in 2008), directly challenged the Governor’s authority to transfer the toll road from VDOT to MWAA before the sale was official. In 2016, a class action lawsuit was filed in the U.S. District Court in Washington, DC, looking to recoup funding for toll users. The crux of both cases was that because the toll road user’s fees were paying for a capital project not directly linked to the toll road, the toll fees were, in this situation, akin to a tax. Because MWAA is not an elected body, it would therefore be unconstitutional under Virginia State law for them to levy any “tax” on constituents. To date, all lawsuits against the project have been dismissed, as the judge, each time, has ruled that a user fee is not a tax.^{xi xii}

4.2.3 Project Funding

Due to the varying organizational natures of its partners, the project was in a unique position to pursue cross modal funding. While it utilized a variety of innovative funding and financing sources, as shown below in Table 4-3, the specific cross modal sources are highlighted in this section.

Table 4-3 MWAA Dulles Corridor Project Phase 2 Funding Amounts

Funding Source	Contributor	Level	Amount (\$ million)
Aviation Funds*	MWAA	Local	\$233
Dulles Toll Road Funds	MWAA	Local	\$1,434
Special Tax District	Loudon County	Local	\$273
Special Tax District	Fairfax County	Local	\$515
Grants	Commonwealth of Virginia	State	\$323
Total			\$2,778

*Aviation funds include passenger facility charges (PFC’s) collected by MWAA as well as other aviation funds described above, such as rents and concession revenues.

Special Tax Districts were created both in Loudon and Fairfax counties to fund the local commitments towards this project. In Loudon County, the Board of Supervisors created Metrorail Service Districts surrounding its the three planned Metro stations. An additional property tax within these districts may be levied at a maximum rate of \$0.20 per \$100 of assessed property value.

4.2.4 Cross Modal Sources

As noted, MWAA generates its revenues from rents and revenues from airlines and concessions, landing fees, PFCs, and toll revenues from the Dulles Toll Road. PFCs are being utilized to fund Phase 2 of the Dulles Corridor Metrorail Project.

PFCs are fees collected, up to \$4.50 for every enplaned passenger, at a commercial airport controlled by a public agency.^{xiii} PFCs are used by airports authorities such as MWAA to fund FAA approved projects that “enhance safety, security, or capacity; reduce noise; or increase air carrier competition.” In May 2001, MWAA gained approval from FAA to receive the maximum amount of fees per passenger at \$4.50. Table 4-4 presents the collected or anticipated PFC revenues to MWAA for FY13 through FY17. For Phase 2 of the project, a portion of the \$233 million in Aviation funds committed from MWAA are comprised of PFCs.

Table 4-4 MWAA PFC Amounts Collected or Anticipated Annually, FY13 -FY17 (\$ million)

2013	2014	2015	2016	2017
\$79	\$82	\$89	\$87	\$91

The dedication of PFCs towards a heavy rail extension that serves well beyond IAD - as well as subsequent roadway improvements along the corridor - represent a unique and truly cross modal partnership.

Dulles Toll Road Funds are revenues derived from the toll road originally built and operated by VDOT in the Dulles corridor. VDOT transferred operation and financial control of the toll road to MWAA in 2008. MWAA's primary interest in acquiring responsibility for the toll road was to partially finance the construction of the Dulles Corridor Metrorail Project with toll road revenues to back an issuance of bonds. Cognizant of the need to capitalize on the toll revenues for the Dulles Corridor Metrorail Project, while still maintaining sufficient funds to properly operate and maintain the existing toll road, the Authority created the Dulles Corridor Enterprise Fund in order to segregate the financial activity associated with the project's capital expenses and day-to-day toll road operation. ^{xiv}

4.2.5 Cross Modal Issues

Barrier:



- ***Legality of a non-elected authority dedicating revenues cross modally.*** MWAA and the Commonwealth of Virginia faced several lawsuits from those who argued the use of toll revenues as a funding source for an unlinked project was tantamount to a tax, and therefore unconstitutional. These lawsuits caused project delays and increased upfront project costs as the project team has continually fought legal battles to prove the legality of this cross modal investment.

Mitigation Strategies:

- **Compile a team that understands the laws associated with the cross modal sources.** While these lawsuits were time consuming, ultimately MWAA prevailed because the primary project stakeholders had worked closely with the Commonwealth of Virginia to understand what would be allowable.
- **Allow for a competitive selection process when identifying cross modal partners, when applicable.** When VDOT was initially considering the sale of the Dulles Toll Road, it received bids from private operators to purchase the toll road through a competitive bid process. Because of this process, MWAA was able to take the time to create a thorough and competitive bid for the toll road which proved to VDOT, and the public, that it had the capabilities to continue to successfully operate the toll road.

Barrier:



- ***Multiple stakeholders with little experience with each other.*** This project is the collaboration and partnership of two counties, an airport authority, a transit agency (that is also governed, in part, by the two counties included here), and, originally, a state DOT. With so many parties involved there were ample opportunities for differing local, state, and federal laws to impede the partnership.

Mitigation Strategies:

- **Establish clear roles and responsibilities through defined legal agreements both during construction and throughout the operational life of the project.** Once the Toll Road was

being operated by MWAA and the Metrorail project was being fully developed, MWAA and WMATA also created a clearly defined legal partnership defining who was responsible for which costs. As per the agreement, WMATA, who would traditionally implement and operate a rail project in the region, transferred risk to MWAA who had the funding available for construction, in the form of toll revenues and PFCs, in exchange for taking over the financial burden of operating the Silver Line once it has been completed. Similarly, both Loudon County and Fairfax County have defined contribution amounts and agreed upon roles and responsibilities surrounding the implementation of the line in their jurisdictions.

Barrier:



- **Identification and implementation of all available cross modal funding.** Aside from the toll revenues, this project also utilizes funds from airport PFC's revenues in order to complete funding for a major capital transit project, which has its own set of federal grant requirements.

Mitigation Strategy:

- **Select a cross modal partner with strong familiarity of the rules and regulations regarding how its modal funding may be used.** FAA sets stringent rules on how PFCs can be used, especially when being applied to transit projects. Since MWAA serves as the primary project sponsor of the rail project while it is under construction, it relieves any potential issues associated with MWAA needing to dedicate PFCs to a transit agency to spend.

Barrier:



- **Equitable relationships between modes and jurisdictions.** The option for a future Metrorail extension to Dulles in the median of the Dulles Toll Road had been preserved for many decades. The implementation of the Metrorail extension serves a number of regional destinations and employment centers, but highlights the need for multiple modes of transportation to serve the large travel markets between IAD and downtown Washington, DC.

Mitigation Strategy:

- **Foster strong working relationship with partner agencies.** In order to create a clear line of communication between all parties, representatives from each involved agency - and each jurisdiction - all sit in the same physical MWAA office, dedicated to the Dulles Corridor MetroRail Project. This type of physical proximity and fluidity between projects partners greatly reduces approval and coordination times between the parties. MWAA also hosts "Principal Meetings" several times a year with the key stakeholders of each funding partner to present the project's progress and to discuss any issues as a group.

4.2.6 Additional Lessons Learned/ Best Practices

- **Leverage economic and operational benefits to secure jurisdictional support for additional funding.** MWAA showed local jurisdictions that it was willing to put financial skin in the game by way of its massive cross modal investments through PFCs and toll revenues; however, a funding gap for the project still existed. In order to secure approval for local tax increases, MWAA supported a citizens advocacy group in the affected counties which helps to educate local residents and business owners about the benefits that the project would bring. MWAA created an extensive public outreach plan to garner public support for approving

additional taxation and to keep businesses and residents in the loop during construction regarding work hours, traffic delays, and road closures. Ultimately corridor residents understood the project was necessary to continue to spur growth in the region, provide much needed transit access, and increase surrounding property values.

4.3 SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY PARKING REVENUES

San Francisco, California

Sponsor(s):	San Francisco Municipal Transportation Agency
Case Study Category:	Operating - Dedicated Cross Modal Funding Source
Mode:	Multimodal
Annual Operating Cost:	\$936 million
Cross Modal Funding:	\$290 million
Cross Modal Sources:	Parking Revenues
Cross Modal Issues:	Legal, Modal
Status:	Active Practice

4.3.1 *Project Description*

The San Francisco Municipal Transportation Agency (SFMTA) was established in 1999 with the passage of Proposition E, which consolidated the Department of Parking and Traffic with the city’s transit system operator, the Municipal Railway, known as “Muni.” Today, SFMTA is responsible for most of the public transportation provided within San Francisco city limits. SFMTA operates buses, light rail, cable cars, and historic streetcars, in addition to managing city roads, public parking, bike lanes and other facilities, and pedestrian infrastructure. SFMTA also regulates the city’s taxi network. In FY 2016 SFMTA adopted a system wide operational budget of \$963 million.

As the operator of both the city’s lucrative public parking system and its costly transit services, SFMTA is in an advantageous position to use parking revenues for Muni operations as a cross modal funding source. Additionally, in 2007 San Francisco voters approved Proposition A, which allowed SFMTA to issue bonds for transportation improvement projects for Muni service and related facilities, and established that 80 percent of all parking tax revenues collected by the city be used for Muni transit operations.^{xv}

4.3.2 *Cross Modal Investment Need*

The Measure that consolidated the two agencies in 1999 was, in part, aimed at creating a sustainable cross modal funding system to help Muni meet its operational needs, while streamlining the collections of transit and parking revenues as well as improving the general operations of the city’s overall transportation system.^{xvi} Prior to 1999, Muni was funded as a part of the city’s overall budget using General Fund appropriations.

While the agency consolidation in 1999 did afford Muni a dedicated revenue stream through parking fees and fines, it still lacked the total funding necessary to fully operate and maintain its system. Proposition A

was therefore aimed at addressing the funding shortfalls by dedicating additional parking tax revenues for Muni operation, and affording SFMTA the opportunity to bond against future system revenues.

Before agency consolidation, Muni and the Department of Parking and Traffic were jointly responsive to the mayor and the city council, known as the Board of Supervisors. This was a cumbersome process for the City, as they had to request and receive approval even for minor projects. When the SFMTA was formed, its Board of Directors became responsive only to the mayor, outside of an intermittent level of budgetary oversight from the Board of Supervisors. This has allowed SFMTA to more quickly pursue projects aligned to economic development goals and other geographic changes. It also allows some transportation decisions to be perceived by the public as professional rather than political decisions, due to the lower level involvement from the Board of Supervisors on a day-to-day basis.

4.3.3 Operations Funding

Due to the organizational structure of SFMTA, a significant portion of annual operating funds are derived from cross modal sources. In addition, Muni transit projects may receive funding through bonds backed by cross modal revenues, as described in greater detail below.

4.3.4 Cross Modal Funding Sources

Parking Revenue for Transit Operations: Today, parking revenues are the largest source of operational income for the SFMTA. In FY 2016, parking revenues and traffic fines accounted for 30 percent, or \$290 million, of the agency’s total \$963 million operating budget. The second largest share – 27 percent, or \$256 million – was derived from General Fund transfer amounts, which includes 7 percent from parking tax revenue transferred from the city’s General Fund as a result of Proposition A. Transit fare revenues accounted for 21 percent of the budget at \$204 million.^{xvii}

City of San Francisco Parking Tax Revenues: The City of San Francisco imposes a 25 percent tax rate on total parking charges for all off-street parking spaces in the city. According to the city’s Controller, this is the highest parking tax rate in the state of California.^{xviii} This tax is paid by the user to the parking operator and collected by the city. Since the passage of Proposition A in 2007, 80 percent of total tax revenue collected is dedicated to SFMTA for Muni operations. Table 4-5 presents the amount of parking tax revenues dedicated to Muni from FY 2012 through FY 2016.

Table 4-5 Muni Annual Parking Tax Revenues for Transit Project

Year	Amount (\$ million)
2012	\$57.6
2013	\$61.2
2014	\$66.6
2015	\$67.9
2016	\$69.7

SFMTA Revenue Bonds: Proposition A also approved the sale of revenue backed bonds by SFMTA to fund authorized capital improvements. Bonds are secured by all SFMTA revenue, except for city General Fund allocations. In 2011, a Bond Oversight Committee (BOC) was established to ensure that SFMTA bond proceeds are spent on permitted purposes and to oversee the agency’s internal debt controls and practices. The BOC is comprised of seven members serving two-year terms.^{xix} After the sale of the

authorized amounts for four series of bonds, \$236.6 million in net bond proceeds were raised, as shown in Table 4-6.

Table 4-6 SFMTA Net Bond Proceeds as of FY 2016

Bonds	Total Net Proceeds (\$ million)
2012A	\$46.0
2012B	\$28.0
2013	\$82.2
2014	\$80.4
Total	\$236.6

At the close of FY 2016, the BOC had issued \$213.8 million of its Series 2012A, 2012B, 2013, and 2014 revenues bonds for new capital investments. The funds have been expended on a wide range of transit, active transportation, and parking projects. Muni projects to receive funding from these bond proceeds include the Metro Sunset Rail Tunnel, Muni Metro Turnback, and Muni Green Line Light Rail Facility Rehabilitation, as well as Muni’s system radio and public announcement system replacement projects. Both parking revenues and transit revenues are used to back these bonds. While transit is not a profitable business, it does have a large, stable cash flow that is protected and can be bonded against.

Other: Other forms of revenue for the SFMTA include various forms of parking permits, commuter shuttles, and emerging car/scooter/bike share program fees. Parking permits include those for residential use, street closures, construction, and special events. However, regulations in California restrict the cost of public parking permits to the administrative cost of the permits. Permit costs are therefore well below market value, relative to off-street parking, and cannot be used cross-modally, although the revenue does flow into the operating budget and covers the cost of the permit parking program. Commuter shuttle and vehicle share programs do not currently generate much revenue, but may be a potential source in the future.

4.3.4.1 Support/Opposition

Prior to the 1999 passage of Proposition E, the city has included a “transit-first” policy in its 1973 charter, establishing itself as a city willing to prioritize transit over vast roadway expansion within the city limits. The entire state of California is notable in its residents’ willingness to tax themselves to fund transit projects, known as the “self-help” model. Such one-time ballot measures often support large capital projects, but there are long term operational funding needs associated with transit as well. In the 1990s, San Francisco transit service was widely regarded as poor and a source of frustration for residents caused by frequent service delays, rush hour standstills, and vehicle failures. It was at this time that the city chose to take advantage of the widespread dissatisfaction of residents to propose a new organization structure to better deliver transit, which was established as ballot measure Proposition E. Deteriorating road conditions have been a continuous problem for the city, and some residents worried the lack of parking revenues would mean less funding to maintain streets. Ultimately, through a public campaign for transit and an explanation that roadway improvements would continue to be funded through the city’s general fund, Proposition E was approved.

Continued support for Muni’s use of cross modal funding sources has been evident with each subsequent referendum. Most recently in 2014, a Transportation and Road Improvement Bond passed - with a 71 percent voter approval rate – resulting in up to \$500 million for improving the city’s transportation infrastructure.

It has also been important to ensure internal support within the SFMTA during the multimodal merger. This was achieved gradually, as staff expanded in the decade following the 1999 agency consolidation. One way this was achieved was through a multimodal project known as Muni Forward. This on-street transit priority program allowed staff from different parts of the new agency to work together in a functional sense, through a matrix organization with a single reporting structure. This hands-on collaboration proved more effective than less tangible organizational chart changes could.

4.3.5 Cross Modal Issues

Barrier:



- ***Voter approval is required to legally use funds cross modally.*** Each Measure allowing dedicated cross modal revenues is voter approved. Furthermore, as noted in the Funding section (4.3.3), legislation prohibits City General Revenue Fund allocations from being used to back SFMTA's revenue.

Mitigation Strategy:

- **Capitalize on the urban nature of the region's voting base when applicable.** San Francisco is both a city and a county, so the voting base for its measures is urban. This is different from a full county or regional transit model seen in many other areas, and does make voter-approved transit initiatives more likely to be approved. Other cities could explore pursuing voter-approved initiatives just at the urban level where transit is most highly prioritized to gain a higher chance of success, though it may lead to a lower amount of funding due to the smaller revenue base.

Barrier:



- ***Multiple modes may utilize cross modal funding.*** Eighty percent of parking tax revenues is dedicated to Muni operations. However, parking tax revenues also support other transportation modes, with the goal of providing financial support to the city's transportation system as a whole. There was initial concern that transferring parking revenues to transit may lead to a decrease in the quality of the roadway network. Even in a dense city like San Francisco, there are still a significant number of people who drive.

Mitigation Strategies:

- **Ensure each mode receives the funding it needs to operate good service.** Because the revenue sources in Muni are not dedicated to any specific mode, this is especially important in order to avoid having one well-funded mode with features it does not need running alongside another underfunded mode that does not have the funding required to meet even its most basic needs. This is true even if the former mode is more highly-revenue generating, and is especially true if promoting the latter mode is in line with the city's policy goals (as transit is in San Francisco). Muni achieves this balance by maintaining a central function for overhead expenses such as human resources and training, and by having just one chief financial officer (CFO) for the entire agency. While department heads have their own budgets, the CFO is ultimately responsible for the single operating budget and can distribute funding according to agency need.

4.3.6 *Additional Lessons Learned/ Best Practices*

- **Foster public support for transit projects through marketing and open lines of communication surrounding the benefits and need for transit.** San Francisco did not build this public support overnight, but rather over decades, spanning back to a 1973 charter amended that created the first “transit first” policy in the city. This strong policy alignment -that has been consistent for over 40 years - has allowed Muni to propose and approve initiatives for transit funding that have been well-received by voters.
- **Form strong partnerships with local government in order to legally dedicate cross modal funding to transit.** In San Francisco, this was achieved by promoting a city-wide culture for “transit first” and by combining transportation agencies across modes into one single agency. Part of the reason this was possible is because Muni had a series of significant meltdowns in the late 1990s, with main line service being suspended during rush hour and passengers being sent off trains and having to walk through the tunnels. These high-profile failures were used to help motivate voters to prioritize transit funding.
- **Simplify how cross modal fund are dedicated.** SFMTA simplified its revenue structure by capturing all different forms of parking revenue into a single bucket and using this for the agency’s overall expenses. Parking revenues that would have been sent to the general fund were now dedicated to transportation. While San Francisco’s policy goal is to prioritize transit first, in order for this to be a sustainable solution they had to find a way to properly prioritize other transportation modes as well.

4.4 DELMAR TROLLEY LOOP

St. Louis, Missouri

Sponsor(s):	Loop Trolley Transportation Development District
Case Study Category:	Capital - Project with Cross Modal Sources
Mode:	Streetcar
Project Cost:	\$51 million
Cross Modal Funding:	\$11 million
Cross Modal Sources:	FHWA STP and CMAQ
Cross Modal Issues:	Legal, Jurisdictional
Status:	Under Construction

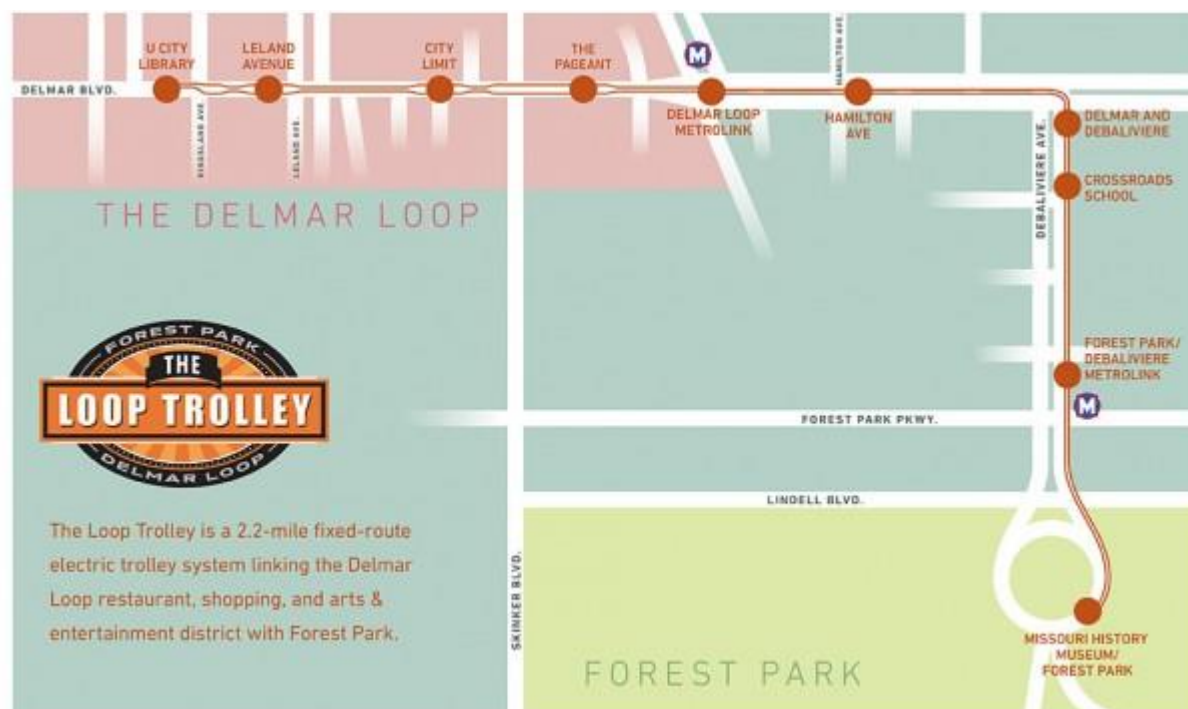
4.4.1 *Project Description*

The Delmar Loop Trolley in St. Louis, Missouri, is a 2.1-mile replica of a heritage urban streetcar line, which will connect the neighborhoods of Forest Park and University City, with a turnaround at the Missouri History Museum. The Loop Trolley includes 10 stations, all located within public right of way, as well as pedestrian improvements and a 26,000 square foot maintenance facility. The total project cost is estimated at \$51 million. The Loop Trolley is sponsored by the Loop Trolley Transportation Development District (TDD) and is supported by an innovative partnership between two municipalities, the City of St. Louis and University City, Missouri.

4.4.1.1 **Purpose**

The purpose of the Loop Trolley is to provide a) a direct transit connection between the major attractions in Forest Park and University City, such as the St. Louis Center for Creative Arts, the Regional Arts Commission, Social Security Building, the Washington University School of Music, and the People's Clinic, along Delmar Boulevard; and b) to enhance economic development by providing easier access to the amenities along the Delmar corridor for residents and visitors alike.

Figure 4-2 Delmar Trolley Loop Map



4.4.1.2 Cross Modal Investment Need

Since the Loop Trolley was not developed – nor would be operated – by the region’s public transit agency – the Bi-State Development Agency, also known as Metro Transit – the project was not supported by an existing dedicated revenue stream or capital fund. Although the TDD secured a \$25 million FTA Urban Circulator grant in 2011, it needed to look to additional funding sources to obtain the remaining funds. These additional revenues include Tax Increment Financing (TIF) funding, New Market Tax Credit proceeds, a local sales tax collected by the TDD, as well as cross modal funding sources available through the local MPO - the East-West Gateway Council of Governments (EWG) -; specifically, FHWA Surface Transportation Program (STP) (today, known as STBG) and CMAQ funds.

4.4.2 Initiation

Community and local agency coordination to bring a streetcar to the Delmar Loop began in the 1990s. The City of St. Louis, University City, and Metro Transit began working together to foster new development surrounding the Delmar MetroLink Station. In 2000, the *Delmar Boulevard Feasibility Study* was conducted by Metro, which examined three possible trolley alternatives along the corridor. During this time, several public meetings were held to discuss the alternatives, and, through this public engagement process, the Citizens for Modern Transit and other private citizens formed a local non-profit organization, the Loop Trolley Company (LTC), in 2001. The LTC took a leadership role in moving the project forward, and partnered with EWG, the region’s MPO, to conduct a more detailed planning study in 2009. That same year, a Locally Preferred Alternative (LPA) was selected by the EWG Board of Directors.

However, while EWG agreed that the project was feasible and supported it in theory, it had neither the funds nor technical capacity to implement such a capital investment. Therefore, the Loop Trolley TDD

was formally established by the State of Missouri under the Missouri Transportation Development District Act to serve as the lead project sponsor.

4.4.2.1 Project Team

- The Loop Trolley Transportation Development District (TDD): The TDD, established in 2008, is a political subdivision of the State of Missouri under the 1990 Missouri Transportation Development District Act. Under the Act, a TDD authorizes a District to promote, design, construct, improve, maintain and operate, and collect sales taxes from commercial transactions within the District’s boundaries to fund a project.^{xx}
- East-West Gateway Council of Governments (EWG): The EWG is the MPO for the bi-state East-West Gateway region spanning Missouri and Illinois. As the federally designated MPO, the EWG is responsible for the regional transportation planning in the St. Louis area, and is required to approve all transit and transportation projects that are planned within the boundaries of the eight member regions. The EWG had the funding and authority to lead the planning study for the project, and controlled the STP and CMAQ funds allocated to the region by FHWA.
- Metropolitan Saint Louis Transit Agency (Metro Transit): Metro Transit operates the city’s bus system (MetroBus), light rail system (MetroLink), and demand response services. Metro Transit operates the MetroLink station directly served by the Loop Trolley. Although not actively involved in planning the system, MetroTransit has more recently worked closely with the Loop Trolley TDD, offering guidance and support on construction and FTA grant administration.

4.4.3 Funding

The total project cost for the Delmar Loop Trolley Project is \$51 million (breakout shown in Table 4-7 on the following page). As discussed, the only dedicated transit funding source used for the project was a \$25 million grant under FTA’s 2011 Urban Circulator program. The Loop Trolley was one of only five projects to receive funding under this single year program.

The following summarizes the unique and cross modal funding sources which supported the project.

Tax Increment Financing: In 2005, the City of St. Louis created the Delmar East Loop Tax Increment Financing District (TIF), which encompasses properties located within a portion of the alignment. The TIF captures the future increment growth in property taxes and local economic activity taxes. The city agreed to issue a TIF Note to the project for a maximum principal amount of \$6 million, plus interest, to reimburse the TIF for project related infrastructure costs. The Note was sold for \$3.5 million in proceeds. While much of the Delmar corridor where the trolley will operate was not “blighted” – a traditional prerequisite to designate an area a TIF District in the city – the project’s supporters made the case that the true extent of economic revitalization along the corridor could not be made without the Trolley, and potential funds from a TIF district were vital to securing the project.^{xxi}

Loop Trolley TDD Sales Tax: The TDD collects a one cent sales tax from customers shopping and dining within the District. These funds are dedicated towards the project. The amounts have increased each year, and are projected to continue to grow once the trolley is operational, serving as the Loop Trolley’s primary source of operating revenue.

New Market Tax Credits (NMTC): The NMTC program is overseen by the Community Development Financial Institutions (CDFI) Fund within the U.S. Department of Treasury and is aimed at incentivizing community development and economic development through private investment. Private parties make equity investments in a domestic partnership called a Community Development Entity (CDE) to fund an economic development capital project. In return, investors receive a tax credit against their federal income

tax.^{xxii} These tax credits are issued to CDE’s who select projects to receive the equity after an investor purchases the credit. In St. Louis, the CDE is the St. Louis Development Corporation, the economic development agency for the City of St. Louis. Since 2003, the St. Louis Development Corporation has received \$336 million in NMTC allocation for syndication.

Table 4-7 Delmar Loop Trolley Project Funding Amounts

Funding Source	Funding Amount (\$ million)
FHWA CMAQ/STP	\$11.0
TIF	\$3.5
Loop Trolley Transportation Development District/Private Contributions	\$8.0
New Market Tax Credit Proceeds	\$3.5
FTA Urban Circulator Grant	\$25.0
Total	\$51.0

4.4.3.1 Cross modal Funding Sources

Funded in large part by non-traditional transportation sources and a unique federal transit grant opportunity, the Loop Trolley also received FHWA funds to complete its funding shortfall. The Loop Trolley TTD submitted applications to EWG for funding for both FHWA funded programs. The applications were rated, selected, and approved for funding by the EWG Board.

CMAQ funds are distributed to air quality non-attainment (regions that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter) or maintenance areas using a formula based on an area’s population by county and the severity of its air quality problems within the non-attainment or maintenance area. Greater weight is given to areas that are both carbon monoxide and ozone non-attainment/maintenance areas.

STP funds, now called the Surface Transportation Block Grants (STBG), are distributed to states by a formula based on lane-miles of federal-aid highways, total vehicle-miles traveled on federal highways, and estimated contributions to the Highway Account of the Highway Trust Fund attributable to commercial vehicles. STBG funding may be used for a broad range of capital purposes, including transit projects.

4.4.3.2 Support/ Opposition

The close relationships between EWG, the City of St. Louis, the Loop Trolley TDD, and, later, Metro Transit has been instrumental in the success of this project. Since EWG was responsible for reviewing and allocating cross modal CMAQ and STP funding, it was helpful that the TDD had been working closely with EWG to develop its project in a way that would help make it a high scoring candidate. However, there has been some public opposition regarding the use of the TIF district and regional transportation dollars for this project, which some residents call non-essential.^{xxiii}

4.4.4 Cross Modal Issues

Barrier:



- ***Understanding of legal and institutional considerations associated with a TDD.*** The Delmar Trolley Loop Project has been designed, is being constructed, and will be operated under the administration of the TDD. This entity, a non-traditional transportation provider, was established with the express intent to develop, construct, operate, and maintain this project. The project will also serve as a direct connection to a transit line run by the city's transit agency, introducing potentially complex multimodal legal considerations.

Mitigation Strategy:

- **Secure a project team with an understanding of how to manage special tax revenues.** Once a TDD, or similar agency is legally authorized by the state, a project team should ensure the TDD has capable staff with backgrounds in transit finance and management to administer the funds collected through the District to the project. When the TDD was first created, it lacked the necessary staff and expertise to execute this type of project. Although it was granted designated recipient status by FTA, TDD benefited greatly from the input and collaboration with Metro Transit who helped guide the TDD through federal grant administration processes.
- **Work closely with an entity who has experience with larger cross modal projects to help the project stay on track.** As a political subdivision of the State of Missouri, the TDD is a cross-jurisdictional entity. Because of this, the Loop Trolley TDD Board includes Directors from all involved jurisdictions, such as the Mayor of St. Louis, the Mayor of University City, the St. Louis County Executive, and the President of the city's transit agency. This cross-jurisdictional board promotes transparency and provides helpful oversight between each partner. Furthermore, the TDD works through the transit agency to secure federal funding, as the transit agency is the local designated recipient for FTA funds.

4.4.5 Additional Lessons Learned/ Best Practices

- **Identify a motivated and trusted project champion.** This is particularly true for a project like the Loop Trolley. Not being managed nor advocated for by an established transit agency, the Loop Trolley encountered several roadblocks as the TDD team navigated the world of transit laws and funding. Without its primary champion - a local business owner and current president of the TDD - the project may not have broken ground. While not a powerful politician, the project champion is a well-established local resident and business owner, with strong ties to the local business community along the trolley route. These connections were instrumental in showing stakeholders how beneficial the investment could be for the area and securing support for the additional taxation in the district.
- **Leverage potential benefits from transit to secure other non-traditional transportation funding for the project by promoting its regional benefits.** New Market Tax Credits are intended to incentivize development and have not been widely used to support transit to date. However, the TDD was able to show investors that this project would have a regional economic impact. This link between development and transportation provides non-transportation entities a mechanism to invest in transit funding that should be explored.

4.5 GILBERT ROAD LIGHT RAIL EXTENSION

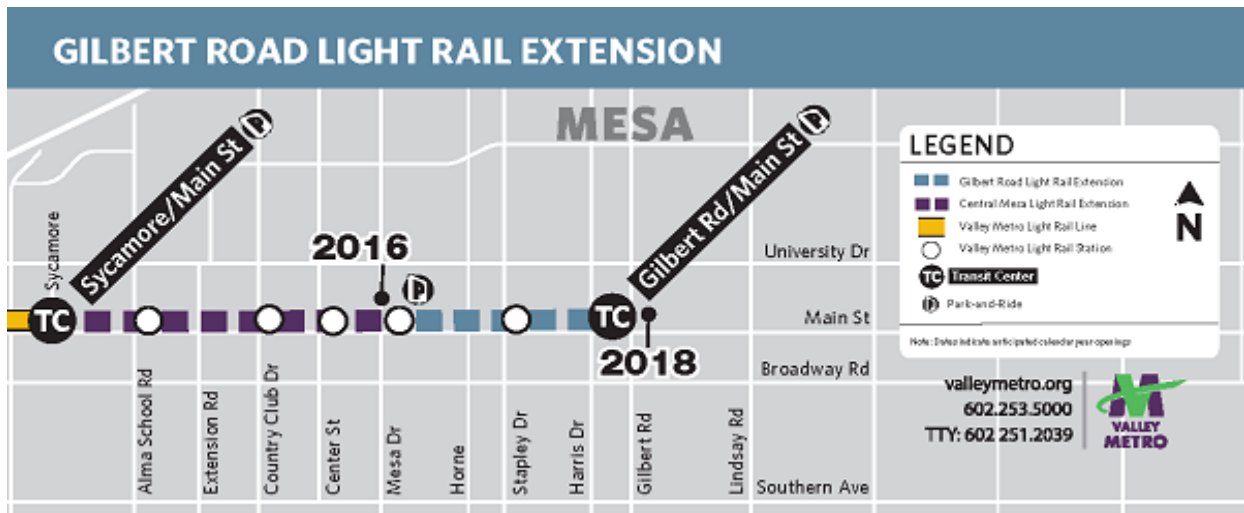
Mesa, Arizona

Sponsor(s):	Valley Metro
Case Study Category:	Capital - Project with Cross Modal Sources
Mode:	Light Rail Transit (LRT)
Project Cost:	\$186 million
Cross Modal Funding:	\$175 million
Cross Modal Sources:	CMAQ, STP, and local sources
Cross Modal Issues:	Legal, Jurisdictional
Status:	Under Construction

4.5.1 Project Description

The Gilbert Road Light Rail Extension (Gilbert Road Extension) is 1.9 additional miles of LRT serving two new stations, and an end-of-the-line park and ride lot to meet the growing transit demand in the region. The extension connects to downtown Mesa, the city’s arts and entertainment district, Mesa City Plaza, Phoenix Sky Harbor International Airport, and special events and activities in adjacent downtown Tempe and Phoenix. The project scope also includes 445 park-and-ride spaces at the terminal station on Gilbert Road. Total capital costs for the Gilbert Road Extension are estimated at \$186 million. The project is managed by the Greater Phoenix Metro Area’s transit agency, Valley Metro, with local match from the City of Mesa.

Figure 4-3 Gilbert Road Extension Map



4.5.1.1 Purpose

The purpose of the Gilbert Road Extension is to provide increased transit access from State Route 202, US 60, and central and east Mesa. The extension will allow for a more convenient park-and-ride location for access to LRT at the Gilbert Road Station, and will connect passengers to the rapidly redeveloping areas of Main Street just east of Mesa Drive near the extension's terminus station. Ridership forecasts showed that by adding the 1.9-mile extension, regional LRT system ridership will increase by 40 percent.

4.5.1.2 Cross Modal Investment Need

Once the extension to Gilbert Road was identified, Valley Metro and the City of Mesa knew that additional funding would be needed. At the time, only very limited city funding was available; and Proposition 400 funds – a regional one-half cent sales tax – were already allocated for other transportation projects in the Regional Transportation Plan (RTP). In 2012, the City of Mesa proposed a funding plan that would repurpose programmed FHWA (CMAQ and STP) funding for Mesa street projects in the RTP to instead fund the Gilbert Road Extension. The process of reallocating these funds from a previously programmed project to the Gilbert Road Extension required a lengthy approval process by multiple stakeholders, overseen by the Maricopa Association of Governments (MAG), the region's MPO. Aside from the \$10.6 million in local match, the remainder of the \$186 million project cost is funded cross modally through FHWA CMAQ and STP funds that had previously been dedicated to roadway projects.

4.5.2 Initiation

Valley Metro's 2009 Alternative Analysis for the Central Main LRT Corridor included the Gilbert Road Extension. Recognizing the benefits of the 1.9-mile extension, the Mesa City Council approved an initiative to extend the Central Mesa LRT to Gilbert Road, and in 2011 the Council approved funding for an additional planning study and subsequent Environmental Assessment.

4.5.2.1 Project Parties:

- Valley Metro: Valley Metro is the transit agency responsible for planning and operating the regional bus system, and for the development and operation of the region's fixed guideway transit system, including the Gilbert Road Extension. Currently, Valley Metro's LRT system is 26 miles long, with six fixed guideway extensions under development which would result in an additional 40 miles of rail transit by 2034.
- Maricopa Association of Government (MAG): MAG is responsible for the region's long range transportation planning and programs the Proposition 400 revenues for transportation. All projects included in the RTP are funded with a blending of the ½ cent sales tax federal funds, and local/private funds. MAG's Regional Council is responsible for final approval of any major amendments to the RTP after a proposed change has been approved by Valley Metro, the County Board of Supervisors and the Arizona Department of Transportation. In the case of the Gilbert Road Extension, MAG reviewed the City's proposed funding plan and recommended approval of the major amendment following an extensive Project Change Evaluation to determine that the proposed change was a better use of the funding.
- City of Mesa: The City of Mesa was responsible for the Gilbert Extension's local match. Two key players in the city were instrumental in the success of this cross modal funding plan. First, the city's Department of Transportation agreed to relinquish funding for 16 projects that were no longer needed in favor of the transit project, and second, the City Council approved the funding plan and agreed to finance the project.

4.5.3 Support

The Mesa City Council was the project champion and directed City staff to develop a funding and financing approach for the LRT extension. City staff collaborated with MAG, Valley Metro, and internally between its Transportation and Transit Departments. The financing approach also required getting the State Legislature to provide authority for Transportation Project Advancement Notes.

4.5.4 Funding

Proposition 400, a regional one-half cent sales tax for 20 years, was approved by voters in 2004. The allocation to transit is projected to support \$7.5 billion of transit projects and services through 2024. After years of collaborative studies and stakeholder outreach, the Transportation Policy Committee of MAG developed the RTP in 2006, which allocated the entirety of Proposition 400 funding to planned projects. Not yet initiated, the Gilbert Road LRT Extension was not included in the 2004 funding plan. Additionally, the state statute that guides Proposition 400 prohibits moving funds derived from the regional sales tax between modes, but there is no such prohibition on the movement of federal funds in the RTP. Because of that, this project used primarily cross modal funding sources through regional CMAQ and STP funds, as well as the necessary amount of local match funds, as shown in Table 4-8 and described below.

Table 4-8 Central Mesa Project Funding Amounts

Funding Source	Funding Amount (\$ million)
FHWA CMAQ	\$75.1
FHWA STP	\$100.6
City of Mesa - Local Match	\$10.6
Total	\$186.3

4.5.4.1 Cross modal Funding Sources

Because the Proposition 400 sales tax funding could not be used cross modally, the City of Mesa proposed that previously programmed FHWA federal funds for street projects in the RTP be repurposed instead for the Gilbert Road LRT Extension. The city's transit staff approached the city's transportation departments with this idea, knowing they would need to agree to forgo the programmed funds. Together, they initially identified 16 projects funded through the RTP that had either been completed through local development contributions associated with new development or were determined to be unneeded within the funding horizon of the Proposition 400 program due to a change in the rate and pattern of development.^{xxiv} An additional five projects were later identified to be repurposed for the Gilbert Road LRT Extension.

The identification of these projects and the decision to explore the reallocation of funding was not approved lightly. To ensure this redistribution was done responsibly- and was in the best interest of the entire regional transportation system - MAG conducted an extensive Project Change Evaluation to determine if the proposed changes provide for a better use of the transportation funds.^{xxv}

4.5.4.2 CMAQ/STP Financing Plan

Since the project is scheduled to complete construction before the end of FY 2019, and some CMAQ and STP funds dedicated to the project are programmed through FY 2022, the City of Mesa plans to issue a Transportation Project Advancement Note (TPAN) in August 2018 to pay for construction costs in advance of the remaining federal funds being issued. A TPAN is similar to the financing process used in Arizona to fund state highway routes. The Notes are limited obligations of the issuer (City of Mesa) and are only

payable from the transportation project advance revenues received by the issuer (future CMAQ and STP funds). The TPAN note will be repaid by the City with CMAQ and STP funds. Federal funding is 5.7 percent minimum local/regional funding match as prescribed by and the Department of Transportation, MAG, and Valley Metro.

4.5.5 Cross Modal Issues

Barrier:



- **Complex legal rules regarding funding swap cross modally and jurisdictionally.** In order to fund the LRT extension, the City had to be creative and repurpose funding for projects that were no longer needed. To do this, the City transferred federal funds programmed for street projects to a light rail extension that was a higher local priority and a better use of the funding. This approach had not been done within the region previously.

Mitigation Strategy:

- **Research all available funding and financing mechanisms.** This project financing strategy allowed the city to advance a high priority project well ahead of schedule. However it required multiple levels of buy-in and a deep understanding of how the swap could work. Close collaboration among agencies is necessary to examine all possible mechanisms, as well as the need to explain and defend the details of the plan to multiple stakeholders.

4.5.6 Additional Lessons Learned/ Best Practices

- **Approach cross modal partners with innovating funding and financing ideas.** If the City had not taken the initiative to ask that its transportation department take a critical look at outdated programmed projects, it is possible that the LRT Extension would not have been funded. Through the utilization of the TPAN, the city introduced a new approach for the regional programming of transportation funds. Never before had cities in the Phoenix region considered how to work together to best leverage federal funding and program those funds according to current needs.

4.6 US 36 MANAGED LANE/BUS RAPID TRANSIT (BRT) PHASE 1

City of Boulder to Denver, Colorado

Sponsor(s):	Colorado High Performance Transportation Enterprise (HPTE)
Case Study Category:	Capital - Project with Cross Modal Sources
Mode:	Managed Lanes, BRT
Project Cost:	\$312 million
Cross Modal Funding:	\$41 million
Cross Modal Sources:	CDOT Bridge Enterprise Funds
Cross Modal Issues:	Legal, Modal, Jurisdictional
Status:	Completed

4.6.1 *Project Description*

The US 36 Managed Lane/BRT Project Phase 1 is an initial four lane segment of improvements along 16 miles of roadway between the City of Boulder and Denver, Colorado. Completed in 2015, Phase 1 includes one express high occupancy toll (HOT) lane in each direction for ten-miles; the reconstruction of general purpose lanes; bus rapid transit (BRT) lane accommodations, stations, on ramps, adjacent park-and-rides, and a bus bypass ramp at key interchanges; a bikeway along the majority of the corridor; and intelligent transportation system (ITS) equipment for tolling, transit information, and accident management. Phase 1 of the project also includes the replacement of bridges at Wadsworth Parkway, Wadsworth Boulevard, Lowell Boulevard, Sheridan Boulevard bridges US 36. The total project cost of this multimodal project was \$312 million and was advanced under a design-build contract, overseen by the Colorado High Performance Transportation Enterprise (HPTE).

4.6.1.1 **Purpose**

The purpose of the project was to address significant safety concerns with infrastructure along the corridor, such as structurally deficient bridges, poor driver visibility, and steep grading. At completion, the project's infrastructure improvements, introduction of a HOT lane, increased transit access, and ITS components are expected to greatly reduce traffic, travel times, and accidents.

Figure 4-4 US 36 Managed Lane/BRT Corridor



4.6.1.2 Cross Modal Investment Need

Understating the unique opportunity to truly transform the US 36 corridor into a first-class multimodal transportation facility, Colorado Department of Transportation (CDOT) strategically chose to include highway, bridge, ITS, and transit elements into the first phase of the project. However, with a total project cost of \$312 million, CDOT understood that it would need more than typical highway funding to complete it. In 2009, the HPTA was created under Colorado’s Funding Enhancement Surface Transportation and Economic Recovery (FASTER) legislation, and a new Bridge Enterprise was established through CDOT, which allowed for additional revenues from vehicle registrations to be collected and used towards bridge replacement. The project was able to take advantage of both of these cross modal funding opportunities.

4.6.2 *Initiation*

4.6.2.1 **Project Parties**

- Colorado Department of Transportation (CDOT): CDOT was the original project sponsor for Phase 1, before passing over responsibility to its subsidiary HPTE in 2009. CDOT is responsible for managing federal and state highway funds and overseeing the environmental review process.
- Colorado High Performance Enterprise (HPTE): The HPTE was authorized under Colorado's 2009 FASTER legislation as a successor to the Colorado Tolling Enterprise. HPTE is a division of CDOT, however it is governed by an independent Board. The HPTE is able to borrow funds without needing voter approval, create public-private partnerships, manage user fee-based project financing, and oversee design-build contracting. HPTE was the logical project sponsor for Phase 1 as it required financing, toll collection, and the opportunity to pursue a design-build contract.
- CDOT Bridge Enterprise (CBE): The CBE was established in 2009 as a part of Colorado's FASTER legislation. It is operated as a government-owned business within CDOT. CDOT's Transportation Commission acts as the CBE's Board and has the ability to collect vehicle registration fees.
- Regional Transportation District (RTD): RTD operates public transit services for 2.8 million people throughout the 12-county Denver metropolitan area. RTD provides 137 fixed route services, including eight rail lines along 49 miles of track. The US 36 BRT system was adopted as a part of RTD's voter approved FasTracks program. RTD is responsible for the planning, development, and operation of the BRT service along the Phase 1 project corridor. The entirety of the US 36 BRT system is 18 miles with 6 stations, and 1,278 park-and-ride spaces.
- Denver Regional Council of Government (DRCOG): DRCOG is the Denver region's MPO and is responsible for administering FHWA STP and CMAQ funding that may be competitively awarded to transit and roadway projects.

4.6.3 *Funding*

The total project amount of \$312 million for this project is broken down in Table 4-9. ^{xxvi} A brief overview of the non-traditional transit funds and innovative financing options is summarized below, followed by a discussion of CDOT's cross modal revenue source.

The RTD Sales and Use Tax: The RTD tax was a 2004 voter approved increase of 0.4 percent (bringing its total sales tax revenue to 1.0 percent) designed to pay for its FasTracks program of projects which included 122 miles of light rail and commuter rail, 18 miles of BRT, 57 new transit stations, and 31 new park and ride facilities. RTD uses sales tax receipts to operate its system and to bond against future revenues in order to fund capital projects, such as matching FTA New Starts funding or securing TIFIA loans. The RTD committed \$112 million in sales and use tax revenues for the US 36 Managed Lane/BRT Project Phase 1.

TIFIA: Administered by USDOT's Build America Bureau, the Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects of national and regional significance. TIFIA leverages federal funds by attracting private and non-federal investment in projects that

critically improve the nation’s surface transportation program. TIFIA credit assistance provides improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments. Since 1998, the program has financed 65 projects, with loans ranging between \$42 million and \$1.8 billion, including \$54 million for the US 36 Managed Lane/BRT Project. The TIFIA loan was backed by future revenues collected on the US 36 Express Lanes Phase 1.

Table 4-9 US-36 Managed Lane/BRT Project Funding Amounts

Funding Source	Funding Amount (\$ million)
CDOT Bridge Enterprise Funds	\$48.5
Federal/State Grants	\$41.4
TIFIA	\$54.0
Regional Federal Funds	\$46.6
RTD Sales Tax Revenue	\$112.1
TIGER Grant	\$4.8
Local Funds	\$5.5
Total	\$312.9

4.6.3.1 Cross modal Funding

CDOT Bridge Enterprise (CBE) Funds: CBE funds are derived from a bridge safety surcharge vehicle registration fee ranging from \$12 to \$32 per vehicle based on weight. Table 4-10 below shows the annual availability of funds since the program’s inception. The funds are to be used for the repair, reconstruction, and replacement of structurally deficient or functionally obsolete bridges which have received a structural rating of “poor” along the state highway system.^{xxvii} As of 2016, there were 194 eligible bridges in the state. The funding may be used for every part of a bridge including the roadways, sidewalks, or other infrastructure connected to or adjacent to the bridge that will help it achieve optimal functionality.^{xxviii} In December 2010, the CBE issued \$300 million in CBE Revenue Bonds Series 2010A to help fund 93 selected projects, including the US 36 Managed Lane/BRT Project.

Table 4-10 Annual CBE Funding Revenue (\$ million)

2010	2011	2012	2013	2014	2015	2016
\$43.8	\$67.0	\$90.4	\$92.83	\$95.7	\$98.0	\$100.8

4.6.4 Cross Modal Issues

Barrier:



- **Understanding of legal and institutional considerations between modal entities.** As noted above, the HPTE was created in 2009 under Colorado’s FASTER legislation as a successor to the Colorado Tolling Enterprise. HPTE is a division of CDOT, however it is governed by an independent Board. The HPTE is able to borrow funds without needing voter approval, create public-private partnerships, manage user fee-based project financing, and oversee design-build contracting.

Mitigation Strategy:

- **Select a funding partner with the legal capacity to cross modally support a transit investment.** CDOT selected HPTE as the logical partner for this project due to how its legal structure aligned with the flexible needs of the cross modal project. Many of the provisions that HPTE was created to operate under - such as the ability to create public-private partnerships - were specifically designed as to more creatively and efficiently finance infrastructure projects. These benefits made HPTE a useful partner for CDOT, and provided additional flexibility that CDOT would not have had had it pursued this project alone.

Barrier:



- **Relationships between modes of investment.** In this case, the project is an integrated highway, bridge, and HOT/transit facility; as such a variety of funding sources with different funding restrictions and rules were needed.

Mitigation Strategy:

- **Emphasize the relationship between the different modes.** The intent of this project is to create a truly multimodal corridor. Thus, the construction of the project and its ongoing operation depends on funding funds from highway, bridge, and transit sources. The Bridge Enterprise Fund, as noted, was created through an act of state legislation and the project’s multimodal nature made it an appropriate candidate for these funds. . In addition, as a heavily trafficked corridor in the region, local interest existed in exploring options that would have less of an impact on congestion, such as BRT and bikeways. This multimodal need promoted a design that would different modes to work together rather than compete with each other.

Barrier:



- **Ease of implementation.** The improvements in this corridor crossed several modes, which could have been a challenge when it came to weighing the priorities and concerns of each set of project partners and stakeholders. The complexity of implementing a multimodal project creates some schedule risk..

Mitigation Strategy:

- **Integrate the design and construction of all the modes:** The project was delivered via a design-build method that enabled all multimodal elements to be designed in concert with one another. Thus, the design and construction of all modes was integrated. This complex project was made more manageable, by splitting the work into two phases. The first phase, described in this case study, included improving 10 miles of roadway that CDOT saw as a strong need, while the second phase was more focused on the private partner’s contribution of 5 additional miles of roadway construction and its operation and maintenance of the resulting HOV-toll lane.

4.6.5 *Additional Lessons Learned/ Best Practices*

- **Identify funding programs that have the flexibility to be used cross modally.** The use of highway bridge funds for a project that built a bridge to benefit multiple modes was possible due to the flexible provisions of Colorado’s bridge maintenance program. Because these funds are allowed to be used on any infrastructure on or connected to a bridge, they could be used for a multimodal piece of infrastructure that provided a connection for many different users. If bridge funds had been restricted to roadway projects, funding for BRT and other elements of this project would have been more challenging. This may have resulted in some of the multimodal components either not being pursued or being pursued separate from the vital roadway upgrades, in which case they may have been delayed. By allowing some flexibility for a transportation funding source, CBE funds could be used to produce a bridge with benefits both in line with and beyond the original goals of the program.
- **Separate the project into phases, with clear goals for each.** Phasing made the work more manageable and allowed for the multimodal project to be delivered on time. Separating the project into phases also allowed CDOT to clearly define when the cross modal funds would be used -and for which elements -discouraging any legal issues surrounding cross modal funding.
- **Limit risk by engaging in a public-private partnership for a multimodal cross modal project.** Using a public-private partnership as the project financing mechanism limited public risk and helped create an infrastructure investment with benefits to a variety of types of users.

4.7 PENNDOT, SEPTA, AND PORT AUTHORITY: CROSS-MODAL FUNDING BY ACT 44 & ACT 89

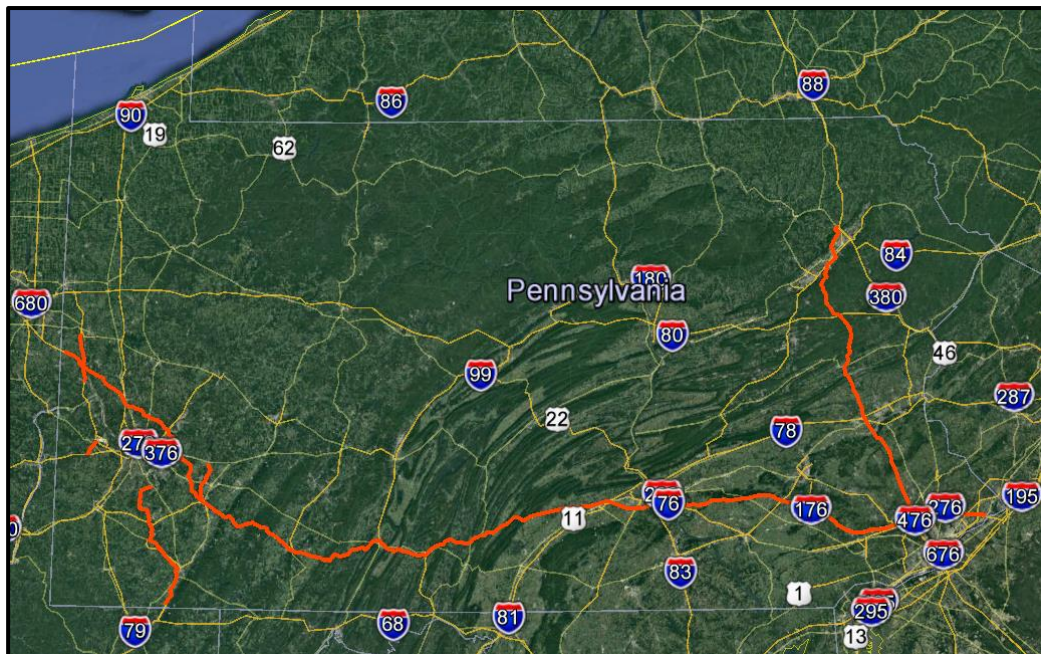
Pennsylvania

Sponsor(s):	Pennsylvania Turnpike Commission (PTC)
Case Study Category:	Operating and Capital - Dedicated Cross Modal Funding Source
Mode:	Multimodal
Project Cost:	\$9,088,502,000 (PennDOT 2016 Annual Budget)
Cross Modal Funding:	\$450,000,000 (PTC Contribution)
Cross Modal Sources:	Toll revenues
Cross Modal Issues:	Legal, Jurisdictional
Status:	Active practice, with some amendments

4.7.1 *Project Description*

The Pennsylvania Turnpike Commission (PTC) operates 553 miles of roadway in Pennsylvania, including the 359-mile long Turnpike mainline that connects the New Jersey and Ohio Turnpikes. In 2015, PTC collected over \$934 million in tolls. In 2006, the Pennsylvania Transportation Funding and Reform Commission suggested dedicating a portion of these toll revenues to transit projects in the state. Figure 4-5

Figure 4-5 Major Roadway Map of Pennsylvania



shows the major roadway network in the state of Pennsylvania, with current tollways in orange and other interstates and major roads in yellow.

4.7.2 Cross Modal Investment Need

A report published by the Pennsylvania Transportation Funding and Reform Commission in 2006 found that previous state-level funding acts had not been providing the amount of funding anticipated and necessary for the sustainable operation of the state’s transportation network, particularly transit. It also found that while almost all highway and bridge funding was dedicated, only 30 percent of state transit funding was dedicated. The report recommended initiating a more stable, dedicated funding source for transit, particularly in response to a general trend of the growth of agency expenses outpacing that of revenues.

4.7.3 Initiation

In partial response to the Commission’s report, the Pennsylvania General Assembly passed Act 44 in 2007. This Act created a partnership that required the PTC to pay the Pennsylvania Department of Transportation (PennDOT) a certain amount of revenues, presented in Table 4-11, , per year for 50 years, under the assumption that Interstate 80 would be leased from PennDOT- and that tolling would be introduced by the PTC.

Table 4-11 Act 44 Funding Requirements Proposed for PTC

FY	Amount (millions)
2008	\$750
2009	\$850
2010	\$900
FY2011 – FY2057	Increase by 2.5% each year

4.7.4 Support/Opposition

In 2008 and again in 2010, FHWA denied PennDOT’s application to toll I-80, leaving PTC with significant funding obligations but without the initially agreed-upon additional revenue. The application was rejected in part because tolls from I-80 would be used for purposes other than maintenance of the roadway, and outside of the roadway corridor.

Due to a clause in Act 44, the annual payment to PennDOT was reduced to \$450 million when I-80’s tolling application was denied. This contribution was split within the agency, with \$250 allocated to transit agencies and \$200 million allocated to roads and bridges. Two of the largest beneficiaries of the transit funding were the Southeastern Pennsylvania Transportation Authority (SEPTA) and the Port Authority of Allegheny County (PAAC), the major transit agencies in Philadelphia and Pittsburgh, respectively.

Even with the modified funding clause, the funding obligations required under Act 44 placed a significant burden on the Turnpike. In 2013, Act 89 was passed to amend Act 44, which maintained the \$450 million annual funding level through fiscal 2022 and then reduced it to \$50 million annually through 2057 (as shown in Table 4-12).^{xxix}

Table 4-12 Act 89 Funding Requirements

FY	Annual Amount (millions)
2015 – 2022	\$450
2023 – 2057	\$50

Under Act 89, \$240 million was dedicated to transit capital and operating needs across Pennsylvania while \$30 million was dedicated to multimodal expenditures. In 2016 and 2017, \$110 million is allocated to operating expenses while \$310 million is allocated to capital expenses. Between 2018 and 2022, \$25 million is allocated to operating expenses while \$395 million is allocated to capital expenses. In 2023 and beyond, when the total funding amount is decreased to \$50 million, it will be split equally between capital and operating expenses.

4.7.5 Project Parties

- Pennsylvania Department of Transportation (PennDOT): PennDOT is the state DOT for the Commonwealth of Pennsylvania. The agency supports highways, roads, and bridges, as well as transit, passenger and freight rail, general aviation, and ports. In 2016, approximately 75 percent of PennDOT’s funding came from state collected revenues, with the rest coming from federal or other sources.
- Pennsylvania Turnpike Commission (PTC): PTC, also a public agency, is responsible for financing, maintaining, and operating the tollways in Pennsylvania. PTC is the only transportation agency in the state that is not part of PennDOT. In the past, there have been proposals to integrate PTC fully into PennDOT, mainly to reduce administrative expenses, but they have not been approved.

4.7.6 Cross Modal Sources

PTC funds its contributions to PennDOT through toll revenues on the highways it owns. To meet its full obligations, PTC has also explored alternative tolling options and debt financing strategies. In 2016, PTC saw gross operating revenues of \$1.052 billion and operating expenses of \$362 million. After debt payments and other adjustments, \$261 million remained before Act 44 payments, which were then met with the help of Subordinate Revenue Bonds and a \$50 million pay-as-you-go contribution. Payments to PennDOT are made quarterly.

4.7.7 Cross Modal Issues

Barriers:



- *Understanding of legal and institutional ability to make cross modal investments.* PennDOT and PTC knew it was possible that FHWA could reject their proposal to toll I-80. PTC has had to take on a significant amount of debt and raise toll rates above inflation to meet their funding obligations, while PennDOT has had to modify its plans around the lower amount of funding it has now received.

Mitigation Strategy:

- **Receive permission prior to making any agreements.** If a cross-modal funding opportunity is contingent upon another entity’s permission, it is essential to either receive this permission before an agreement is signed or include a full, realistic contingency plan in the initial agreement. Many states and municipalities have similar regulations or guidance restricting the use of funding cross-modally. The searchable cross modal funding database has more information on the types of regulations that exist across the country, and whether these rules may apply in a specific state or type of area. The Agreement between PennDOT and PTC did include a provision to reduce the amount of funding for transit if I-80 was not tolled.

Barrier:



- **Long Term Implications.** The flow of funding from PTC to PennDOT, while providing a source of transportation funding still in the same state, has generated significant long-term consequences for the Turnpike Commission. While its credit rating was downgraded, the cost of capital did not greatly increase. The real long term consequence of this has been that additional debt required the PTC to raise rates higher than inflation, which may limit its ability to increase toll rates in the future. Furthermore, the additional debt amounts has limited its financial flexibility and led to a reprioritization and reduction of its capital program.

Mitigation Strategy:

- **Efficiencies in the entire transportation network should be considered when structuring cross modal investments:** This is important, so that the system as a whole can function as cost-effectively as possible, especially when different public agencies share similar challenges, goals, and funding constraints.

4.7.8 Additional Lessons Learned / Best Practices

The biggest lesson learned through this sub-optimal cross-modal funding situation is that it is important to ensure flexibility in legislation and to always have a “Plan B”. In this case, when the expected revenue source did not materialize, the distributing agency had to alter its long term financial strategy because it did not receive the additional revenue it expected, but it was still required to pay a significant amount to other agencies.

- The original agreement did have a clause that if the conversion of I-80 did not occur by the expected conversion date, PTC would be required to fund PennDOT at a lower amount.
- Additionally, although I-80 was originally expected to be converted to a tolled facility within three years, three one-year extensions were stipulated in the agreement for added flexibility. However, FHWA’s complete denial meant that these extensions were not exercised and an alternative funding plan was enacted in Act 89 instead.

A full repeal contingency clause is not necessarily a viable “Plan B”. In this case, both the tolling agency and the transit agencies were in a tough position, as the transit agencies had planned around and were depending on receiving the funds, so they could not be excused entirely without significant negative consequences in the state

4.8 TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY (THEA) BUS TOLL LANES PROPOSAL

Tampa, FL

Sponsor(s):	THEA
Case Study Category:	Proof of Concept - Operating - Project with Cross Modal Sources
Mode:	Managed Lanes, BRT
Project Cost:	\$591 million to \$1.1 billion (estimated)
Cross Modal Funding:	Approximately \$300 to \$600 from transit to managed lanes, and in return operating costs will be covered by the managed lanes agency
Cross Modal Sources:	Transit Grant Funding, Toll Revenues
Cross Modal Issues:	Modal
Status:	Proposed concept

The preceding six case studies presented capital and operating projects that have been approved and are either under construction or being actively used as ongoing operating funding mechanisms. This final case study presents a proposed cross modal investment strategy currently being reviewed by the Tampa Hillsborough Expressway Authority (THEA) and Hillsborough Area Regional Transit (HART). This case study is not intended to provide an example of a proven cross modal investment strategy, rather to inform the reader of innovative cross modal solutions being pursued around the country. Due to the different nature of this case study, the information provided here slightly varies from the format presented in the previous case studies.

4.8.1 Proof of Concept Description

THEA, in partnership with the local transit provider, HART, has proposed the concept of implementing Bus Toll Lanes (BTL) to help mitigate issues that tolling facilities and transit agencies separately face when it comes to funding different parts of a project's lifecycle. The concept features express lanes that charge a toll to all vehicles except public transit buses, which would still be able to take advantage of the travel time savings and reliability improvement benefits offered by traveling in the express lanes. Prices would be set such that free flow conditions are maintained.

There are financial benefits to both the express lane tolling operator and the transit agency. Even when transit agencies raise capital for vehicles and facilities, they struggle to cover operations. Meanwhile, express lane projects struggle to raise capital for construction but have a strong revenue stream to cover operational costs. This BTL concept proposes funding capital costs by a combination of federal, state, and local grants designed for transit projects, and then funding operations and maintenance costs through toll revenues. THEA has called this potential revenue stream the "New Transit Fare Box."

4.8.2 Cross Modal Investment Need

THEA has plans to expand its managed lane network, presented in Figure 4-6, but in the past, has faced challenges covering the capital costs for many projects. Normally, a tolling agency could expect to fund approximately half of the capital costs required for a new project, but would receive significant revenue once the roadway is operational. A transit agency could qualify for a capital grant for construction, but would typically see operating deficits during the remainder of the project's lifecycle. The proposed BTLs are being considered as a solution to those funding shortfalls.

Figure 4-6 THEA 2013 Draft Managed Lane Plan



4.8.3 Initiation

In 2010 THEA and HART received an FHWA grant to study the proposed New Transit Fare Box concept of combining transit with price-managed lanes to increase capacity along congested urban corridors. With 200 miles of planned managed lanes in the region, THEA selected three highway networks to analyze: 1) a 65-mile network; 2) a 45-mile network; and 3) a 52-mile network. The study focused on travel time savings on existing routes with additional buses added at ten-minute frequencies. The New Transit Fare Box study found that boardings along the three route would increase from 375 to 1,826 percent, and that the tolling agency and transit agency could cover the capital costs required and expect to generate \$2 billion in net revenue through a multimodal public-private partnership (P3). Alternatively, it could be structured as a public partnership (P2) between two public agencies. ^{xxx}

4.8.4 Project Parties

- **THEA:** THEA is a user financed independent public agency of the state of Florida, which maintains and operates four expressways and managed lane facilities within Hillsborough County. When THEA was established in 1963, and began operations in 1973, it was seen as a way to speed up roadway infrastructure projects compared to traditional modes of funding due to its ability to self-finance projects. THEA has been the lead agency pursuing BTLs and works closely with its partner, HART to promote the initiative.
- **HART:** HART is the regional transit agency in the Hillsborough-Tampa region. It covers approximately 1,000 square miles and operates 200 buses along local and commuter express routes. HART operates 17.5-miles of BRT services, on-demand paratransit van services, a 2.7-miles streetcar, and a bike share program. HART has partnered with THEA to pursue the BTL program, as it would be the public transit providers of the express buses along the BTLs on THEA's right-of-way.

4.8.5 Support

This effort is in large part championed by the Executive Director of THEA. Since 2010, THEA's Executive Director recognized the need for additional funding to complete THEA's planned managed lanes program, and it was the Executive Director that originally developed the concept of BTLs. He was also responsible for pursuing the initial partnership with HART that led to the successful award of FHWA funds to further study this proposed concept.

4.8.6 Project Funding

THEA is currently exploring several corridors for implementation of this BTL concept. The amount of investment required will depend on the scale of the option chosen, with three alternatives under analysis, as presented in Table 4-13.

Table 4-13 BTL Corridor Options and Anticipated Results

Network Size (miles)	Capital Investment Required (million \$)	Projected Increase in Weekday Transit Ridership
65	\$591	472%
45	\$719	375%
52	\$1,100	1826%

4.8.7 Potential Cross Modal Issues

Barrier:



- **Variety of modes that may utilize cross modal investment.** While tollways and managed lane projects are not generally considered to have as strong of a need for cross-modal funding as less revenue-generating transit agencies do, this concept is an example of how transit may have the ability to provide a funding source that is valuable to another entity at a specific point in its lifecycle. This option may not always be considered since the operating deficits of a transit agency may exceed the expected shortfall the tollway experiences for capital expenses.

Mitigation Strategy:

- **Put a strong legal funding agreement between the two agencies in place.** THEA is demonstrating that it may be possible to structure a cross modal investment strategy that is mutually beneficial to different modes, at different points in its lifecycle when the appropriate legal structures are used.

4.8.8 *Additional Lessons Learned / Best Practices*

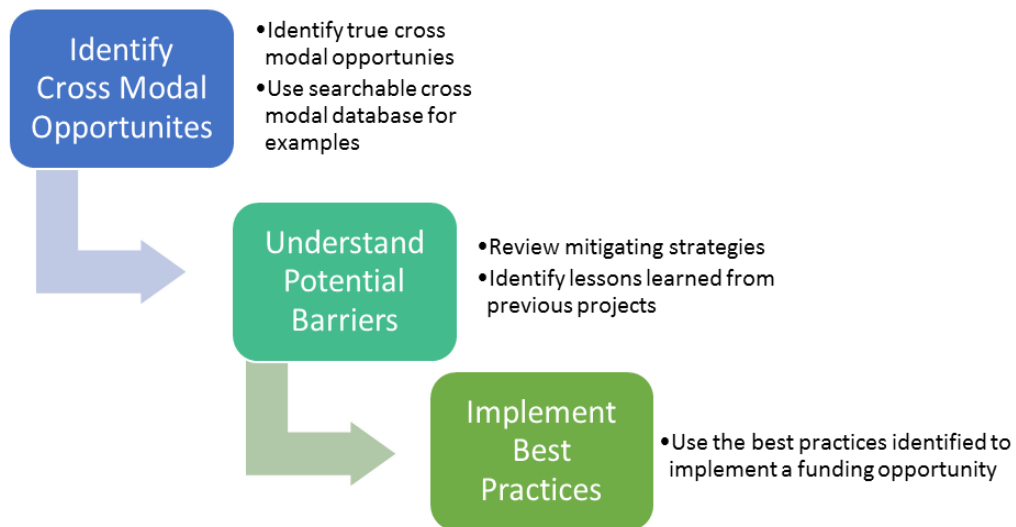
- **Understand additional responsibilities associated with some new cross modal revenue streams.** Under the BTL concept, a transit agency would own the corridor and the revenue stream, and the tolling agency would benefit from a streamlined project due to a more reliable capital funding source. The transit agency would be the equity owner of the highway infrastructure and would be responsible for operating and maintaining all rolling stock, while the tolling agency would operate the toll collection system and be responsible for maintaining the highway lanes.
- **Use cross modal investments as a method to enhance the transportation experience for user of multiple modes.** By enabling the use of express lanes for public transit vehicles while also fast-tracking a project that will positively improve traffic flow, the BTL concept enables all transportation options to be made more competitive, attractive, and efficient. This could result in reductions in traffic congestion, improvements in air quality, and support for the local economy due to increased accessibility to goods and services. This strategy could also provide more local flexibility to the two transportation agencies, building ongoing local support and allowing for continuous improvement of the transportation network.

CHAPTER 5

IMPLEMENTING A CROSS MODAL INVESTMENT

The purpose of the preceding chapters has been to equip the reader with the tools and knowledge to carry out the three steps necessary to implement a successful cross modal investment, as defined in Chapter 1 and, shown again below in Figure 5-1. This chapter summarizes the information already provided to the reader and presents step-by-step instructions to review the potential for a cross modal investment, as well as a series of questions each project sponsor should consider before pursuing such an approach.

Figure 5-1 Resource Guide Steps to Implement Cross Modal Investments



5.1 STEP 1 - IDENTIFY CROSS MODAL OPPORTUNITIES

The first step when working to secure a cross modal funding source is to identify the available sources in a state and region that a project may be eligible to receive. Chapter 3 presented the user with a broad overview of cross modal sources currently being used to fund transit today across the country, and the supplemental cross modal funding database allows project sponsors to identify funding currently available or being used in their state.

When considering what type of cross modal funding source may be appropriate for a transit project the following questions should be asked:

1. **Which aspect of a transit project’s funding is being considered for a cross modal investment? -capital or operating?** Some funding sources are restricted to being used for either capital or operating costs. Additionally, while some sources may not be precluded from being used for either, their revenue stream may be better suited to either cover a onetime capital investment or to serve

as a long term operating revenue stream. Understanding the amount of cross modal revenues collected, and at what frequency, will help a project sponsor plan for the long term financial stability of a project.

2. **Which agencies administer cross modal funding in your state and region?** Knowing who to talk to about potential existing opportunities can help project sponsors identify which sources should be pursued, and which will not be available for a project.
3. **Are any types of cross modal partnerships precluded in my state based on state law?** Understanding a state's law for creating cross modal partnerships, such as a P3 or P2, should be reviewed before pursuing certain cross modal investments. Understanding whether revenues like toll roads and gas taxes are dedicated solely for roadway projects in a state will help the project sponsor identify any upfront legal issues.
4. **Are partnering agencies available to present a new cross modal opportunity to?** Finding out the current revenue opportunities of other agencies or private partners from other modes can help a project sponsor know who to approach. For example, if a project may potentially share a right-of-way with another mode, it would be worthwhile to begin conversations with the potential partner to discuss any mutual benefits that a cross modal investment may bring.
5. **Has this been done before in my state?** In conversations with state and regional funding administrators, a project sponsor should be able to identify similar cross modal investments already existing in the state, if possible. Reaching out to other cross modal project sponsors to receive first-hand accounts of issues and opportunities can prove invaluable in setting up the partnership.

5.2 STEP 2 – UNDERSTAND COMMON ISSUES

Chapter 2 introduced the reader to general legal, modal, and jurisdictional issues that may arise when implementing a cross modal investment, and Chapter 4 explored existing projects that either overcame, or were stalled due to these issues. It is paramount for a project sponsor looking to use cross modal funding to identify any potential issues before pursuing the cross modal investment in order to avoid costly project delays and legal issues, and also to secure the confidence of cross modal partners and the public. Below is a summary of the largest cross modal issues identified during the literature review and case study research, along with potential mitigation strategies to consider before enacting a cross modal investment.

5.2.1 Legal and institutional considerations.



While some localities and agencies have the legal authority to dedicate and use cross modal funding for transit projects, not all do. As seen in the case of the Metropolitan Washington Airports Authority, the question surrounding the legal authority of the Commonwealth of Virginia to approve the transfer of the Dulles Toll Road to allow toll revenues to be applied to a transit project created a real issue for the project. Opposition argued that because the toll revenues were being collected by one set of users to fund a separate project, it was reminiscent of a tax, which MWAA does not have the authority to levy. While this issue was eventually settled in the courts, it caused project delays and increased the project's legal fees. In the case of the PTC tolling scenario, the project sponsor did not anticipate such a legal push-back from FHWA regarding the cross modal dedication of funding, and did not collect the amount of revenue it had planned on.

Questions to be considered to avoid these issues:

1. **What authorities does the project sponsor have?** The authorities afforded to individual project partners may drive the decision making process among project stakeholders as to which entity will serve as the primary project sponsor. For example, project stakeholders may favor a lead project sponsor based on their enhanced ability to flex funding and facilitate cross modal transactions.
2. **Are there any federal or state laws that may thwart a project's use of cross modal funding?** This question should be asked of both the funding source's eligibility to be used cross modally, as well as the project sponsor and partners. For example, in Northern Virginia, regional gas taxes are collected and are required to be dedicated to cover operating obligations for WMATA, the region's transit provider. This means that these cross modal funds are legally restricted, and not available for other transit investments. However, the use of local gas tax revenues supporting transit may be used as an example for other regions as a way to secure long term cross modal operating assistance.
3. **How will the funding be distributed from one mode to another?** Some cross modal funding is available through competitive selection process at the state or regional levels, with clear selection criteria and project guidelines. Understanding how a project aligns with the cross modal opportunity may help to secure the funding, and ensure that the sponsoring agency has the appropriate institutional capacity to receive cross modal funding. The City of Mesa constructed a unique funding swap agreement between previously dedicated tax revenues and federal CMAQ and STP funds across jurisdictional lines. Because this had never been attempted before in the area, the details surrounding the timing of the funding swap required approval from both the City of Mesa and the Maricopa County Board.
4. **Is a formal partnership agreement required in order to execute to the cross modal investment?** For instance, federal funds typically flow through a designated recipient, presumably with an experienced grants administrator.

5.2.2 *Multimodal projects and connections between separate unimodal projects using cross modal investments.*



At first glance, multimodal projects may seem like the most likely candidates to receive cross modal funding, simply using one revenue stream for a specific project element, like the CDOT bridge funds for BRT lanes within the US 36 corridor. Project sponsors should look to modes operating nearby within the same region or along the same right-of-way as potential cross modal partners. When considering potential partners who operate different modes, a project sponsor should consider these potential issues:

1. **Is the transit project looking for cross modal funding as a part of a larger multimodal project?** If the transit element in need of funding is part of a larger multimodal project, there may be more opportunities to secure a portion of revenues from one mode in the project towards the transit element. This can either be done through an upfront capital contribution from another mode, or an agreement can be created that will dedicate a portion of the total project's revenue generated from non-transit elements, such a tollways or freight rail, towards the transit service's ongoing operation each year.
2. **Are there other modes either operated by the same agency or in the same region as the transit project?** Projects do not need to be directly linked in order to share cross modal sources. Sometimes cross modal sources are collected from modes that are operated under the same agency to cover long term operational costs for transit. For example, in New York, the MTA applies taxi fees and

taxes the city collects to help cover the operational costs of its transit services, and the PANYNJ uses a portion of its port usage fees to operate its passenger ferry system. Alternatively, transit projects may use toll revenues collected from nearby toll roads, as long as state law permits. Similarly, in San Francisco, SFMTA is able to use parking revenues to fund its transit operations across modes. In either case, the cross modal project sponsor should be aware of varying funding requirements typically used by each mode, and how that may affect the spending and reporting requirements of a project.

5.2.3 *Jurisdictional ease of implementation.*



Different sponsoring entities may have more or less experience in delivering cross modal projects. When considering the implications of jurisdictional project leads, a potential sponsor should consider these questions:

- 1. What are the long term implications of the cross modal funding?** Cross modal funding can have long term implications on the budgets of both sponsoring and partnering agencies. Some cross modal sources may be bonded against for large upfront capital needs, which requires an agreement between agencies to dedicate the cross modal source over the life of the repayment. Other investments may involve long term dedication of revenues to cover the ongoing cost of a transit project's operation. In both cases, the agencies involved must ensure that the cross modal agreement is legal, and that they have the long term financial capacity to meet the cross modal obligations. The PTC tolling project, in Pennsylvania, illustrates a case where the cross modal legality and long term project obligations were not fully committed, which led to future funding reprioritization and additional debt.
- 2. Has this type of project been implemented before in the region or by the project sponsors?** If the jurisdictional agency has experience with cross modal projects, it may be easier for a project sponsor to implement and oversee the necessary cross modal legal agreements to secure funding. If a smaller agency is pursuing cross modal funding, perhaps it should consider partnering with a larger agency who has the capacity to implement a complex project. Alternatively, if the smaller project sponsor lacks internal resources of staff experience executing a transit project and reporting on federal funding, they should create an informal partnership with a larger funding administrators, such as their state DOT, MPO, or regional transit agency who will have experience with any financial reporting requirements that may be associated with the project. This was the case with the Delmar Loop Trolley project, where the TDD benefited from the guidance and support of the regional transit agency, Metro Transit, when navigating federal funding requirements.

5.3 STEP 3 - IMPLEMENT BEST PRACTICES

When a project sponsor has been able to identify potential cross modal funding opportunities and issues, the resource guide user should feel equipped with the tools to approach implementing a cross modal investment to support a transit project. Based on past and current experiences of successful and unsuccessful cross modal investments, the following summarizes best practices and lessons learned to help ensure the success and longevity of a multi modal project.

5.3.1 *Leverage any economic or operational benefits a transit project may bring when seeking cross modal funding from another agency or jurisdiction.*

As is the case with any partnership, a cross modal project sponsor will need to understand the value of the proposed transit project for the larger transportation system and the region as a whole before agreeing to

contribute cross modal funds. In the case of the Dulles Toll Road, a number of agencies and local governments - MWAA, VDOT, WMATA, and Loudon and Fairfax counties - all ended up financially supporting the project in some way either during the capital phases or as a commitment to ongoing project operations. VDOT was operating a successful toll road for the state, and was looking at other profitable sale opportunities when MWAA approached it with the intention of taking over the toll road and using the funds to complete the funding package for the Dulles Metrorail project. While the approach was unconventional, and some argued possibly illegal, the state and region supported the project because MWAA made a compelling case that the direct rail connection through the northern Virginia area from Downtown DC was necessary to fully realize the economic potential of the region.

A project sponsor seeking cross modal funding should identify any potential jurisdictional partners, and then create a case for the partnership. This can include forecasts for increased ridership, improved infrastructure, and streamlined operational opportunities across modes. A project sponsor can do this either by approaching a potential cross modal partner directly, or by applying for cross modal funding available through an administering agency, such as a state DOT or an MPO. By aligning a project with application criteria specific to the grantor, the project sponsor will fare better at securing the funds.

5.3.2 Foster support from the public.

With strong support from the public, cross modal funding can be more easily implemented. In the case of the San Francisco Municipal Transportation Agency, public support was essential in passing proposition E, which consolidated the Department of Parking and Traffic with Muni, creating the SFMTA. Proposition E further created a sustainable cross modal funding vehicle that ensured Muni would meet its operational funding needs. Eight years later, public support was once again instrumental to the success of cross modal funding when voters approved Proposition A, allowing SFMTA to issue bonds for transportation improvement projects, and establishing that 80 percent of parking tax revenues would be used for Muni transit operations. Without support from the public, the creation and success of a large cross modal funding system like the SFMTA would have been challenging.

A project sponsor should begin cultivating public support for a project during the initial project development phase. Through public outreach and stakeholder meetings, project sponsors can best define a project to serve its ridership population, often fulfilling federal funding requirements and create a valuable case regarding the need for the project from potential state, regional, and other local modal partners.

5.3.3 Identify a project champion early in the planning phase.

All transit investments are well served by securing a single, or a group of project champions. This is particularly true for cross modal investments that may require additional support at the regional, state, or even federal level.

Project champions do not always have to be politicians or even leaders of a transit agency. A project champion can also be a citizen passionate about the success of the cross modal investment, ideally with strong ties to the local business community in the area surrounding the project. In the case of the Delmar Trolley Loop, the primary champion was the owner of several businesses along the proposed line. His advocacy showed owners of other local businesses that the investment could be beneficial for the area, which helped secure support for an additional tax in the district. Having a project champion was especially important for a project like the Loop Trolley because it was not managed by a state or local public agency.

5.3.4 Select the most appropriate legal entity to administer funding and serve as project lead.

In the case of a cross modal investment, it is important that each funding partner is aware of their financial obligations, and that the funding or financing mechanism has been set up appropriately to transfer funds. Legal issues regarding the transfer of funds can cause issues once the project begins to move forwards so it is imperative that project partners select the most appropriate sponsor with the legal and financial capacity to administer funding and complete the project. In the case of the Dulles Metrorail project, the most appropriate project sponsors was MWAA, due to its ownership of the toll road and ability to contribute toll road revenues and airport passenger facility charges towards the project. The partners were wise to create a separate financial entity, the Dulles Corridor Enterprise Fund, to segregate its cross modal activity and create more financial transparency surrounding the project.

In Colorado, CDOT selected the newly created HPTE to oversee the multimodal design-build project due to its legal structure, which allowed the entity to take advantage of transit funds and financing opportunities, such as TIGER and TIFIA, local revenues from sales tax recipients, and cross modal Bridge Enterprise Funds. HPTE, which was created by CDOT as the successor to the Colorado Tolling Enterprise, was bestowed the authority from the state to borrow funds without voter approval, create P3s, and manage user fee-based project financing, which cut down on potential legal issues of this cross modal project. Not all states have an entity such as the HPTE; however, with political support, other states can create this type of flexible project delivery entity that will increase the likelihood and ease of completing large scale cross modal transit projects.

5.3.5 Think creatively when considering funding eligibility.

Project sponsors should think outside the box when considering not only what types of cross modal funding may be available, but also how to secure it. Traditionally, transit projects pursue cross modal funding in the form of CMAQ and STBG from their MPOs through a competitive selection processes. However, as shown in the City of Mesa Gilbert Road LRT extension, there is another way to secure those cross modal funds. The City of Mesa established funding need for its LRT extension project while also identifying unused local tax revenues that had previously been dedicated and programed to roadway projects. While the transportation department agreed to partner with the transit department to relinquish funding, it did not change the fact that the funds were legally restricted for non-transit projects. To mitigate this barrier, the project sponsor proposed a funding swap, where CMAQ and STBG funding would be used for the transit project and the local tax revenues would then be dedicated to roadway projects in the neighboring jurisdiction, allowing the local tax funds to be used.

Additionally, in the case of the proposed THEA pilot project, the tolling agency is exploring the idea of Bus Toll Lanes, which would operate as express lanes that charge a toll to all non-transit vehicles. The revenues would then be applied to the transit buses operating along the alignment. This is one way to promote managed lanes, decrease congestion, and cross modally support transit.

5.3.6 Creating equitable ways to distribute and administer cross modal funding.

For entities that administer cross modal funds like CMAQ, STBG, or toll credits to eligible transit projects, the entity should take care to structure the competitive funding process in an equitable way to support cross modal investments. Typically short on funding to meet an entire state or region's transportation need, some states and MPOs have had challenges equitably prioritizing transit, roadway, bicycle and pedestrian, and freight transportation projects. One way to address this issues is to write separate criteria specific to each mode in statewide or regional funding solicitations.

The Minneapolis-St. Paul region's MPO – the Met Council - has updated its regional solicitation criteria for STBG and CMAQ funds to evaluate each mode based on a set of mode-specific weighted criteria. This removed a potential bias towards a particular mode, and offers a better chance for transit projects in the region to be awarded the cross modal funds.

In Texas, TxDOT returns the majority of toll credits to their originating regions where the MPOs are responsible for creating their own competitive selection process, many of which set aside credits for smaller transit projects in their respective regions. This type of solicitation allows smaller transit projects a better opportunity to secure cross modal funding that may otherwise be administered to larger urban projects which demonstrate higher ridership and other benefits.

5.4 SUMMARY

In summary, this resource guide provides project sponsors and funding administrators with information surrounding cross modal investments in the United States and offers a step-by-step model for implementing cross modal projects where appropriate. Once project stakeholders have identified a potential cross modal funding option, with the help of this resource guide's complementary searchable cross modal funding and the annotated literature review that presents additional information, they should take care to ask the questions presented in this chapter as they embark on the implementation of cross modal investment.

APPENDIX A

ANNOTATED LITERATURE REVIEW

Title: *Proposed Policy Amendment to Expand Use of Aviation Passenger Facility Charges (PFCs) to Rail Projects—Docket Number FAA 2016-6596*

Published: 2016

Primary Author(s): Federal Aviation Administration

Brief Description: The Federal Register notice (FRN) describes the proposed policy change regarding the use of Federal Aviation Administration (FAA) PFCs for multimodal transportation projects. The FRN includes an explanation of the existing eligible expenses and conditions for using PFCs. It further includes project examples from airports that are currently using PFCs for transit projects that illustrate the current regulation’s limitations. This document outlines the FAA proposed policy change that would “expand PFC eligibility to the on-airport portions of track and supporting structures (electrical lines, lighting, etc.) for a through-line where the airport station is not the terminus,” which is pertinent to future uses of this cross modal investment revenue option.

Applicability: Legal, jurisdictional, and modal

Title: *Alternative Funding and Financing Mechanisms for Passenger and Freight Rail Projects, NCHRP Report 1*

Published: 2015, Transportation Research Board of the Academy of Sciences, National Cooperative Highway Research Program

Primary Author(s): Canadian Pacific Consulting Services (CPCS)

Brief Description: The report provides an in-depth look at the funding sources and financing mechanisms used to support rail projects, including “non-traditional” transportation sources and revenues derived from programs for other modes. Some non-traditional revenue sources included lotteries, casinos, and new taxes on unrelated project activities such as “hydraulic fracturing (fracking) project or fast foods.” The report also thoroughly defines the difference between transit funding and financing options, and how the appropriate funding amount is required in the form of user fees, tax revenues, or subsidies in order to repay any financed portion of a project. The report includes a look at how public policy goals set at the local, state, and federal level shape how revenue generating mechanism are spent across modes.

This report focuses on roadway/highway transportation and rail transit and includes five case studies of rail projects either in planning or early development: 1) California High-Speed Rail (high speed rail); 2) Amtrak Virginia (intercity passenger rail); Virginia Railway Express (commuter rail service); Chicago CREATE (shared passenger/freight corridor); and 5) New Orleans Rail Gateway, shared corridor.

Applicability: Legal, modal, and jurisdictional

Title: *Cross-modal Project Prioritization, Transportation Planning Capacity Building (TPCB) Peer Program*

Published: 2015, United States Department of Transportation (USDOT), Transportation Planning Capacity Program

Primary Author(s): Scott Middleton

Brief Description: This TCRP peer exchange, hosted by the North Carolina Department of Transportation, highlights key recommendations and best practices for cross-modal project prioritization. The peer exchange did not focus on types of cross-modal investment, but it provides a foundation for understanding how agencies and regions prioritize cross-modal projects when allocating limited amounts of funding, including cross-modal revenues. Understanding how agencies prioritize projects is critical when promoting the need for cross-modal investment.

Applicability: Legal, jurisdictional, and modal

Title: *Navigation Multi-Agency NEPA Processes to Advance Multimodal Transportation Projects, NCHRP Report 827*

Published: 2015, Transportation Research Board, National Cooperative Highway Research Program (NCHRP)

Primary Author(s): WSP | Parsons Brinckerhoff

Brief Description: This report was commissioned by NCHRP to help state departments of transportation (DOT) and their local partners structure and implement an efficient and effective approach to meeting National Environmental Policy Act (NEPA) requirements for multimodal transportation projects that require some form of approval by more than one U.S. DOT agency. This study includes a set of 12 diverse case studies that overcame five potential challenges regarding the multimodal NEPA process, which include “securing funding for multimodal NEPA studies.” Several case studies include a discussion of cross-modal investment in order to complete NEPA review. The report further examines issues with multimodal projects utilizing a variety funding and financing tools from more than one federal agency.

Applicability: Jurisdictional

Title: *Road User Charging in Norway as a Mechanism for Funding a Total Transport Package: What lessons, if any are there for Australia?*

Published: 2015, AITPM Traffic and Transport Conference Paper

Primary Author(s): Andrew Norton, Transport and Main Road (TMR)

Brief Description: This paper, presented at a traffic and transport conference in Queensland, Australia, investigates Norway’s pioneering approach to using “toll ring” charges as a form of demand management, as well as a viable funding source for complete roadway, active transit, and urban infrastructure improvement packages. Norton’s paper found that toll revenues now fund 60 percent of the combined transport packages, which are designed to promote modal shifts away from automobiles and towards transit in urban areas. Norton then evaluates the transportation funding climate in Australia to assess whether or not this modal may be transferable. While the paper focuses on readying Australia for this type of cross-modal investment, the same concepts apply

to understanding how this type of cross-modal investment may be introduced into the US.

Applicability: Legal, modal, jurisdictional

Title: *Local and Regional Mechanisms for Public Transportation, TCRP Report 129*

Published: 2009, Transportation Research Board, Transit Cooperative Research Program

Primary Author(s): Cambridge Systematics, Inc.

Brief Description: This report and corresponding database provides an extensive list of funding and financing sources that are in use or have the prospect of being used at the local and regional level to support public transportation. The research defined six major categories of local and regional funding for public transportation, including traditional tax- and fee-based funding sources and common business, activity, and related funding sources. The report also includes interviews with private and public parties involved in the operation and funding of public transportation systems, both domestically and internationally. The report identifies urban and rural areas that are currently experiencing cross modal investments in transit, such as Seattle, Washington; Washington, DC; and White River Junction, Vermont, where municipalities use vehicles registration and automobile fees for transit. Also Chicago, Illinois; Grand Rapids, Michigan; and Annapolis, Maryland, where each city uses parking revenues to fund transit.

Applicability: Modal and jurisdictional

Title: *Uses of Fees or Alternatives to Fund Transit, TCRP Legal Research Digest 28*

Published: 2008, Transportation Research Board of the National Academy of Sciences, Transit Cooperative Research Program

Primary Author(s): Jaye Pershing Johnson, Esq.

Brief Description: This report reviews the legal implications of intermodal partnerships between transit and other transportation modes surrounding financing initiatives and funding sources, environmental issues, and operational guidelines that may vary by mode and federal agency. It also focuses on the use of developer impact fees to fund transit projects. The first portion of the report discusses the type of impact and exaction fees that may be used to fund transit, and the related legal and policy issues tied to particular modes using such funding. The research authors define “impact fees” as a “type of development exaction that is:

- In the form of a predetermined money payment;
- Assessed as a condition to the issuance of a building permit, an occupancy permit, or a plat approval;
- Pursuant to local government powers to regulate new growth and development and provide for adequate public facilities and services;
- Levied to fund large-scale, off-site, public facilities and services necessary to serve new development;
- In an amount that is proportionate to the need for the public facilities generated by new development.”

The report provides a detailed look at how these fees are used for transit and how the use of the fees affect federal subsidies provided to transportation projects. It also includes case studies of transit projects across the country where municipalities and transit agencies have successfully coordinated land use and development with transit and transportation needs across modes. These examples include best practices from New York City, New York; Portland, Oregon; and Broward County, Florida.

Applicability: Legal, modal

Title: *Intermodal Transportation: Challenges to and Potential Strategies for Developing Improved Intermodal Capabilities, Testimony before the Subcommittee on Highways, Transit, and Pipelines, Committee on Transportation and Infrastructure, House of Representatives*

Published: 2006, Government Accountability Office (GAO)

Primary Author(s): **Testimony of Katherine Siggerud, GAO**

Brief Description: This white paper from the GAO explores the challenges of planning and funding intermodal transportation projects. The author points out that while federal transportation legislation encourages intermodal system wide planning, federal funding sources are often tied to a single mode. Furthermore, the federal funding structure in large part shapes local transportation investment choices, often favoring highway improvements and passenger rail, rather than freight rail, and restricting investment in intermodal projects in order to easily use mode-specific sources. This paper also outlines the use of airport passenger facility fees (PFCs) for ground transportation at airports, and provides detailed project examples. A sample of these projects, includes a light rail extension to Portland International Airport; the Newark Liberty International Airport people mover system; and St. Louis, Missouri's, transit station near the St. Louis Lambert International airport.

Applicability: Modal, legal, and jurisdictional

Title: *Funding Strategies for Public transportation, TCRP Report 31*

Published: 1998, Transportation Research Board of the National Academy of Sciences, Transit Cooperative Research Program

Primary Author(s): Price Waterhouse, LLP

Brief Description: This report provides a substantive look at the wide array of funding options for public transportation. While this report is nearly two decades old, and program requirements and funding trends have evolved over this time, the report serves as appropriate historical background for early cross modal investments. The objectives of the report were to define and assess the current state of funding for public transportation in the US, examine their performance, and identify strategies that transit agencies have pursued secure new sources of funding for operating and capital expenses. The report includes 17 case studies of how transit agencies have funded capital and operating expenses. The example studies are split between cases where funding originated within the transit agency and cases where external non-traditional funding sources were used. The Arkansas State Highway and Transportation Department case study focuses on the creation of a State Infrastructure Bank, and the ability of its revolving loan fund to support transit projects. Another case study outlines the Bi-State

Development Agency in St. Louis, Missouri's, ability to use funds from leasing right-of-way to telecommunication companies to fund transit. The report also includes a section focused on local automobile or gas taxes dedicated for transit purposes in Atlanta, Georgia; Pullman, Washington; and Fort Worth, Texas.

Applicability: Legal, modal, jurisdictional

Title: *Surface Transportation: Funding Limitations and Barriers to Cross-Modal Decision Making, Testimony to Senate Committee on Appropriations, Subcommittee on Transportation, United States Congress*

Published: 1993, Government Accountability Office (GAO)

Primary Author(s): Kenneth M Mead, GAO

Brief Description: This testimony to Congress provides important historical background on the early promotion of cross-modal investments in transit under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The speaker introduces USDOT's common project selection criteria for states and localities to use when prioritizing projects to receive federal or non-federal funds through their transportation plans to meet: mobility, environmental quality, cost-effectiveness, safety, and social and economic objectives. At the time of this testimony, transit and highway selection criteria did not align, thereby making it difficult to pursue cross modal investment. The testimony discusses the importance of ISTEA's flexible funding and other provisions in helping to promote cross modal transit investments.

Applicability: Legal, modal, jurisdictional

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