

NATIONAL
COOPERATIVE
RAIL
RESEARCH
PROGRAM

NCRRP

Web-Only Document 3:

Documentation of Case Studies for NCRRP Project 07-02

WSP | Parsons Brinckerhoff
Washington, D.C.

Contractor's Case Studies for NCRRP Project 07-02
Submitted December 2015



TRANSPORTATION RESEARCH BOARD

The National Academies of

SCIENCES • ENGINEERING • MEDICINE

ACKNOWLEDGMENT

This work is sponsored by the Federal Railroad Administration (FRA). It was conducted through the National Cooperative Rail Research Program (NCRRP), which is administered by the Transportation Research Board (TRB) of the National Academies of Sciences, Engineering, and Medicine.

COPYRIGHT INFORMATION

Authors herein are responsible for the authenticity of their materials and for obtaining written permissions from publishers or persons who own the copyright to any previously published or copyrighted material used herein.

Cooperative Research Programs (CRP) grants permission to reproduce material in this publication for classroom and not-for-profit purposes. Permission is given with the understanding that none of the material will be used to imply TRB, AASHTO, FAA, FHWA, FMCSA, FRA, FTA, Office of the Assistant Secretary for Research and Technology, PHMSA, or TDC endorsement of a particular product, method, or practice. It is expected that those reproducing the material in this document for educational and not-for-profit uses will give appropriate acknowledgment of the source of any reprinted or reproduced material. For other uses of the material, request permission from CRP.

DISCLAIMER

The opinions and conclusions expressed or implied in this report are those of the researchers who performed the research. They are not necessarily those of the Transportation Research Board; the National Academies of Sciences, Engineering, and Medicine; or the program sponsors.

The information contained in this document was taken directly from the submission of the author(s). This material has not been edited by TRB.

The National Academies of SCIENCES • ENGINEERING • MEDICINE

The **National Academy of Sciences** was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, non-governmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research. Dr. Ralph J. Cicerone is president.

The **National Academy of Engineering** was established in 1964 under the charter of the National Academy of Sciences to bring the practices of engineering to advising the nation. Members are elected by their peers for extraordinary contributions to engineering. Dr. C. D. Mote, Jr., is president.

The **National Academy of Medicine** (formerly the Institute of Medicine) was established in 1970 under the charter of the National Academy of Sciences to advise the nation on medical and health issues. Members are elected by their peers for distinguished contributions to medicine and health. Dr. Victor J. Dzau is president.

The three Academies work together as the **National Academies of Sciences, Engineering, and Medicine** to provide independent, objective analysis and advice to the nation and conduct other activities to solve complex problems and inform public policy decisions. The Academies also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding in matters of science, engineering, and medicine.

Learn more about the National Academies of Sciences, Engineering, and Medicine at www.national-academies.org.

The **Transportation Research Board** is one of seven major programs of the National Academies of Sciences, Engineering, and Medicine. The mission of the Transportation Research Board is to increase the benefits that transportation contributes to society by providing leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board's varied committees, task forces, and panels annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation.

Learn more about the Transportation Research Board at www.TRB.org.

Contents

Developing Multistate Institutions to Implement Intercity Passenger Rail Programs: Case Study Companion Document	1
Introduction	1
CASE STUDY A: THE APPALACHIAN REGIONAL COMMISSION & APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM.....	2
A.0 Executive Summary	5
A.1 Introduction	9
A.2 Description of the Appalachian Regional Commission.....	9
A2.1 Purpose of the ARC.....	10
A2.2 Description of the ADHS	11
A2.3 Involvement of State DOTs.....	13
A2.4 MAP-21 Changes in Funding.....	14
A2.5 Key Differences between ARC’s Non-transportation Projects & ADHS.....	15
A.3 Corridor Participants.....	15
A3.1 Organizational Structure of the ARC.....	15
A3.2 Organizational Activities & Project Development Process.....	17
A3.3 Funding Mechanics of the ARC.....	18
A3.4 Functional Relationships & Decision-Making within the ARC	19
A.4 Development and Implementation Process	20
A4.1 Corridor K.....	20
A4.2 Corridor A.....	21
A4.3 Corridor H	23
A4.4 Corridor N	23
A4.5 Corridor Q.....	24
A.5 Barriers/Challenges Faced in Implementing the ADHS	25
A5.1 Lack of Project Prioritization.....	25
A5.2 Funding Process Changes Due to MAP-21.....	25
A5.3 Increased Federal Regulations Due to Geographic Surroundings	26
A5.4 Lack of Coordination between Stakeholders.....	26
A.6 Interpretation and Synthesis	27

A6.1 Key Lessons Learned	27
A6.2 Key Aspects of the Case with Respect to Research Objectives	30
A6.3 Degree to Which Results are Transferable	30
A.7 References	32
CASE STUDY B: CHICAGO – DETROIT / PONTIAC CORRIDOR	34
B.0 Executive Summary.....	37
B.1 Introduction	38
B.2 Description of the Chicago – Detroit / Pontiac Corridor.....	39
B.3 Chicago – Detroit / Pontiac Corridor Participants	42
B.3.1. Agency/Organization Descriptions	43
B.3.2 Description of the Project Implementation Process.....	46
B3.3 Step-by–Step Description of the Implementation Process.....	48
B.4 Barriers/Challenges Faced in Implementing the Chicago – Detroit / Pontiac Corridor.....	55
Varying Degrees of Stakeholder Support and Understanding among the Three Corridor States.....	55
Balancing Competing Needs	55
Executing a Long-term, Phased Implementation Approach for a Multistate project	56
Addressing Freight Rail Capacity Constraints in Illinois and Indiana within the Michigan-led Study Framework.....	56
Coordination with Freight Railroads.....	56
Limited Funding for Rail and Transit.....	56
B.5 Interpretation and Synthesis	57
B5.1 Key Aspects of the Case with Respect to Research Objectives	57
B5.2 Key Lessons Learned	58
B5.3 Degree to Which Results are Transferable	61
B.6 References	63
Appendix B-1: July 2009 MOU	65
CASE STUDY C: MIDWEST PASSENGER RAIL	66
C.0 Executive Summary.....	69
C.1 Introduction	78
C.2 Description of the Midwest Region	78
C.3 Midwest Region Participants	81
C.3.1 State Departments of Transportation	81

C.3.2 Passenger and Intercity Rail Providers.....	88
C.3.3 Leadership and Advocacy Groups.....	88
C3.4 Federal Railroad Administration	90
C3.5 Freight Railroads--Class I Railroads.....	90
C3.6 Freight Railroads--Regional / Short Line Railroads	95
C.4 Description of the Project Development and Implementation Process.....	96
C4.1 Developing the Vision and Planning	96
C4.2 Implementation Process	99
<i>Chicago – St. Louis High Speed Rail Corridor</i>	101
C.5 Multistate Agreements in the Midwest Region.....	108
C.5.1 Memorandum of Understanding (MOU).....	108
C.5.2 Agreement in Principle (AIP).....	108
C.5.3 Intergovernmental Agreement (IGA).....	109
C.6 Challenges and Barriers in the Midwest Region	112
<i>Changing Political Goals and Priorities</i>	112
<i>Separation of Political and Technical Bodies in Vision Development</i>	112
<i>Need for Single, Centralized Governance Entity</i>	112
<i>Lack of Clear Direction in Forming Agreements</i>	113
<i>Risk and Liability</i>	113
<i>Funding</i>	114
<i>Negotiating with Private Railroads</i>	115
C.7 Interpretation and Synthesis	116
C 7.1 Key Lessons Learned	116
C7.2 Key Aspects of Case Study with Respect to Research Objectives.....	118
C7.3 Degree to Which Results are Transferable	118
C.8 References	120
Appendix C-1 – Background on High Speed Intercity Passenger Rail Program FY 2009 Funding and Service Development Plans	123
Appendix C-2: MOU 2009 HSIPR Midwest Grant Application	125
Appendix C-3: Agreement in Principle between Iowa DOT and Illinois DOT for Chicago-Iowa City	130
CASE STUDY D: THE NORTHERN NEW ENGLAND PASSENGER RAIL AUTHORITY & THE AMTRAK DOWNEASTER SERVICE CORRIDOR.....	131

D.0 Executive Summary	134
D.1 Introduction.....	138
D.2 Description of the Amtrak Downeaster Service	138
D.3 Downeaster Corridor Participants.....	139
D.4 Description of the Project Development and Implementation Process.....	141
D.4.1 Project History	141
D4.2 Existing Agreements, Roles & Responsibilities Supporting the Downeaster	145
<i>Access to Trackage</i>	146
<i>Track Maintenance & Inspection</i>	147
<i>Station Operations, Ownership, Maintenance & Staffing</i>	147
<i>Food Service</i>	148
<i>Fares & Reservations</i>	148
<i>Customer Service</i>	148
<i>Marketing</i>	149
D.5 Overview of NNEPRA as an Organization	149
D.6 Notable Projects and Efforts.....	154
D.7 Barriers/Challenges Faced in Implementing the Downeaster Service	157
<i>Access and Cost-sharing Negotiations with Freight Railroad</i>	157
<i>Lack of Dedicated Capital Funding</i>	158
<i>Lack of Dedicated Operations Funding</i>	158
<i>Rural Station Settings Hinder “Last Mile” Connections</i>	159
D.8 Interpretation and Synthesis	159
D.8.1 Key Aspects of the Case with Respect to Research Objectives	159
D.8.2 Key Lessons Learned.....	159
D.8.3 Degree to Which Results are Transferable.....	164
D.9 References	167
CASE STUDY E: NORTHEAST CORRIDOR.....	169
E.0 Executive Summary.....	172
E.1 Introduction	180
E.2 Description and History of the NEC	180
E.3 Northeast Corridor Passenger Rail Participants.....	183
E.3.1 Northeast Corridor Passenger Rail Operators	183

E.3.2 Freight Railroads	187
E.3.3 Northeast Corridor States	188
E.4 Existing Arrangements for Multistate Passenger Rail Service Operations	193
E.5 Existing Arrangements for Multistate Passenger Rail Service Planning	196
E.5.1 Amtrak Northeast Corridor Infrastructure Master Plan Working Group.....	197
E.5.2 Northeast Corridor Infrastructure and Operations Advisory Commission	199
E.5.3 Federal Railroad Administration (FRA) NEC FUTURE	202
E.5.4 Other NEC Participants	206
E.6 Barriers/Challenges in the Northeast Corridor Structure	208
E.7 Strategies Used to Overcome Barriers/Challenges.....	214
E.8 Interpretation and Synthesis.....	215
E.8.1 Key Aspects of the Case with Respect to Research Objectives.....	216
E.8.2 Key Lessons Learned	217
E.8.3 Degree to Which Results are Transferable	220
E.9 Conclusions	221
E.10 References	222
Appendix E-1 – Comparison of State and Commuter Rail Service Agreements	225
Appendix E-2 - Proposed Passenger Rail Reform and Investment Act of 2014 (PRRIA).....	229
CASE STUDY F: PACIFIC NORTHWEST HIGH SPEED RAIL CORRIDOR.....	231
F.0 Executive Summary	233
Background	233
Nature of the Partnership	233
Challenges and Barriers	234
Lessons Learned	234
F.1 Introduction	237
F.2 Description of the Passenger Rail Corridor	237
F.3 Cascades Rail Corridor Participants.....	238
F.4 Description of the Project Development and Implementation Process	239
F.4.1 Major State-led Planning Efforts.....	240
F.4.2 Coordination through State Rail Plans	241
F.4.3 Cascades Rail Corridor Management Workplan	242
F.5 Barriers/Challenges Faced in Implementing the Cascades Rail Corridor	246

F.6 Interpretation and Synthesis.....	247
F.6.1 Key Aspects of the Case with Respect to Research Objectives.....	247
F.6.2 Key Lessons Learned	249
F.6.3 Degree to Which Results Are Transferable	251
F.7 References.....	252
Appendix F-1 - WSDOT / ODOT Pacific Northwest Rail Corridor Memorandum of Understanding.....	254
CASE STUDY G: SOUTH CENTRAL HIGH-SPEED RAIL CORRIDOR	255
G.0 Executive Summary	258
G.1 Introduction.....	261
G.2 Description of the South Central High-Speed Rail Corridor	261
G.3 SCHSR Corridor Participants	265
G.3.1 Agency/Organization Descriptions	265
G.4 Description of the Project Development and Implementation Process	269
G.4.1 Texas and Oklahoma Efforts.....	270
G.4.2 Efforts Underway in Arkansas	275
G.5 Barriers/Challenges Faced in Planning and Implementing the SCHSRC.....	276
G.6 Interpretation and Synthesis	279
G.6.1 Key Aspects of the Case with Respect to Research Objectives	279
G.6.2 Key Lessons Learned.....	281
G.6.3 Degree to Which Results are Transferable	282
G.7 References	283
Appendix G-1	285
Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices.....	285
Appendix G-2 – Texas-Oklahoma Service Development Plan Agreement.....	286
CASE STUDY H: SOUTHEAST HIGH-SPEED RAIL CORRIDOR.....	293
H.0 Executive Summary	296
H.1 Introduction.....	302
H.2 Description of the Southeast High-Speed Rail Corridor	302
H.3 SEHSR Corridor Participants	303
H.3.1 Agency/Organization Descriptions.....	303
H.3.2 Virginia-North Carolina Interstate High-Speed Rail Compact	305
H.4 Description of the Project Implementation Process	306

<i>The Strategic Role Played by FRA High Speed Rail Process Requirements</i>	311
<i>A Turning Point for the Virginia-North Carolina Interstate High-Speed Rail Compact</i>	312
H.5 Barriers/Challenges Faced in Implementing the SEHSR Corridor.....	313
H.6 Interpretation and Synthesis	314
H.6.1 Key Aspects of the Case with Respect to Research Objectives	314
H.6.2 Key Lessons Learned.....	316
H.7 References	319
Appendix H-1 - Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices.....	320
CASE STUDY I: WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA)	321
I.0 Executive Summary.....	324
I.1 Introduction	327
I.2 Description of the Washington Metropolitan Area Transit Authority.....	327
I.3 WMATA Participants	329
I.4 Functional Relationships & Decision-Making within WMATA	333
I.4.1 Development and Implementation Process	334
I.4.2 Organizational Activities	336
I.4.3 Capital Projects & Regional Coordination.....	339
Silver Line	340
Potomac Yard Metro Station	340
Other Projects in the Region.....	343
I.5 Barriers/Challenges	343
I.6 Interpretation and Synthesis	345
I.6.1 Key Aspects of the Case with Respect to Research Objectives.....	345
I.6.2 Key Lessons Learned	347
I.6.3 Degree to Which Results are Transferable	348
I.7 References	349
Appendix I-1 – WMATA Compact	350

Developing Multistate Institutions to Implement Intercity Passenger Rail Programs: Case Study Companion Document

Introduction

This report is a companion document to the final report for project NCRRP 07-02, *Developing Multistate Institutions to Implement Intercity Passenger Rail Programs*. The final report presents practical models of multistate institutional arrangements for developing and providing intercity passenger rail networks and services, models that are needed given the thrust of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) to provide more flexibility in developing and supporting intercity passenger rail operations in the U.S. The research was largely based on case studies of both intercity passenger rail initiatives and of non-transportation, multi-agency programs. The case studies were used to identify the key success factors of multi-participant efforts. This document presents the complete case studies; they are also summarized in the final report. The following case studies are found in this companion document.

- Appalachian Regional Commission & Appalachian Development Highway System
- Chicago – Detroit / Pontiac Corridor
- Midwest Passenger Rail
- Northern New England Passenger Rail authority & Amtrak Downeaster Service Corridor
- Northeast Corridor
- Pacific Northwest High-Speed Rail Corridor
- South Central High-Speed Rail Corridor
- Southeast High-speed Rail Corridor
- Washington Metropolitan Area Transit Authority (WMATA)

CASE STUDY A: THE APPALACHIAN REGIONAL COMMISSION & APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM

Contents

A.0 Executive Summary	12
A.1 Introduction	16
A.2 Description of the Appalachian Regional Commission	16
A.3 Corridor Participants.....	22
A.4 Development and Implementation Process	27
A.5 Barriers/Challenges Faced in Implementing the ADHS	32
A.6 Interpretation and Synthesis	34
A6.1 Key Lessons Learned	34
A6.2 Key Aspects of the Case with Respect to Research Objectives	37
A6.3 Degree to Which Results are Transferable	37
A.7 References	39

Glossary

ADHS	Appalachian Highway Development System
ARC	Appalachian Regional Commission
ARDA	Appalachian Regional Development Act
CFX	Coalfields Expressway
COG	Council of Governments
DOT	Department of Transportation
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
GDOT	Georgia Department of Transportation
LDD	Local Development District
MAP-21	Moving Ahead for Progress in the 21st Century Act
MPO	Metropolitan Planning Organization
NCDOT	North Carolina Department of Transportation
PARC	President's Appalachian Regional Commission
SASS	State of Annual Strategy Statements
SSP	State Spending Plan
STP	Surface Transportation Program
VDOT	Virginia Department of Transportation
WVDOT	West Virginia Department of Transportation

A.0 Executive Summary

Background

During the 1950s the Appalachian region of the eastern United States was lagging behind the rest of the nation in terms of education, income, health, and transportation infrastructure. This gap was primarily due to the presence of the Appalachian Mountains, which isolated the region from adjacent areas and commerce. Beginning in 1960 a coalition of governors from ten states lobbied for federal assistance to reduce the region's isolation and promote economic development. In 1963, President Kennedy formed a federal-state committee, called the President's Appalachian Regional Commission (PARC), and tasked the group with formulating a comprehensive plan to strengthen the region's economy.

The Appalachian Regional Development Act (ARDA), passed by Congress in 1965, created the Appalachian Regional Commission (ARC) and charged its Board with developing a system of rural highways throughout Appalachia that would provide internal circulation and connect to the surrounding interstate highways. While the Appalachian region was initially defined as consisting of ten states, three states (Mississippi, New York and Ohio) were added in subsequent updates to the ARDA. The current geographical definition of Appalachia, which encompasses 205,000 square miles and includes portions of 12 states, the entire state of West Virginia, and 420 counties, is depicted in Figure A-1.

Nature of the Partnership

The decision-making body housed within the Appalachian Regional Commission, often referred to as simply "the Board," is composed of governors from each of the 13 states within the Appalachian region (Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, West Virginia, and Virginia), a federal co-chair appointed by the President and confirmed by the Senate, and a states' co-chair who is appointed by a majority vote of the governors. There are only two votes in play, with the federal co-chair retaining one and the thirteen governors sharing the other vote, which is cast by the states' co-chair. Thus, for all resolutions considered by the ARC Board, both the federal government representative and the majority of the governors must approve.

In order to provide a degree of objectivity to this working arrangement, the Executive Director and his 48 staff members are neither federal nor state employees. The Executive Director is appointed by the Commission and serves as the chief executive, financial, and administrative officer for the ARC program. The Commission staff report to the Executive Director and are tasked with providing impartial technical and analytical support in the areas of finance, program management, administration, planning, research, and legal issues. Ultimately, it is the Commission staff that is responsible for working with state agencies and Local Development Districts (LDD) to help implement the programs and policies adopted by the ARC Board. The federal and state government partners equally split the administrative costs of the Executive Director and the Commission staff.

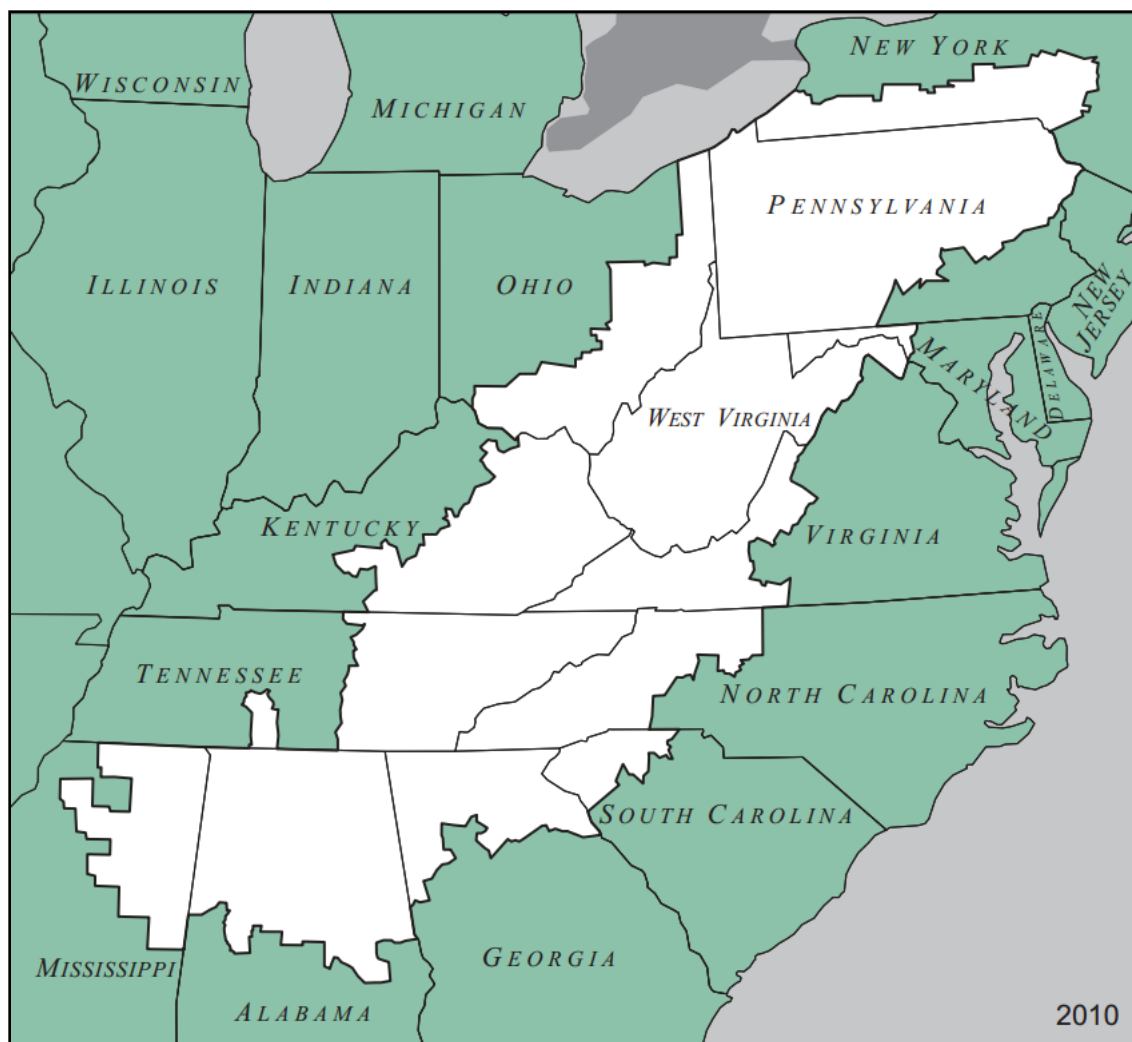


Figure A-1: Appalachian Region as Currently Defined by ARC

Given that the interests and priorities of the federal government, the ARC, the constituents and businesses within the partner states, and the individual Board members rarely converge and are often disjoint, coalition building and consensus are the primary ingredient for compromise. As an organization, ARC has very broad priorities relative to any of the individual proposals that it considers. Much of the compromise occurring within the ARC is related to individual projects, not long-term visioning and policymaking. The compromise is usually between an individual governor and the federal co-chair who, as mentioned above, holds the authority to accept or reject a project's application for funding.

Challenges and Barriers

- *The lack of prioritization for corridors has led to the development of a fragmented network, with all of the “low hanging fruit” segments being completed prior to the build out of the most expensive segments (e.g. bridge crossings, tunnels, etc.) which, from both an engineering and financial perspective, carry a greater share of the network's overall risk. Thus, while the network*

is 88 percent complete, there are still critical bottlenecks that tend to occur at either state lines or inter-corridor crossings.

- *MAP-21 restructured the process for funding ARC projects*, shifting the funding program from a direct earmark for Appalachian Highway Development System (ADHS) projects to a competitive opportunity pooled with other funding under the Federal Highway Administration's (FHWA) Surface Transportation Program. Despite the fact that ADHS projects no longer require a local funding match, projects must now compete with all other roadway and transit projects throughout the state for limited STP funding.
- *Difficulty demonstrating a return on investment at the state level given the regional nature of ADHS corridors* (e.g., benefits are distributed throughout Appalachia, not concentrated in a single area) and the fact that the remaining segments are the most expensive, any given ADHS project is likely to have a low return on investment relative to an internal project with the same cost. For ARC Highway projects each state in which a project is being constructed leads the project and project advocates can anticipate challenges convincing state DOT officials that they should move money away from high-priority projects (i.e. bridge replacements, interstate crossings, etc.) that have been in planning for decades.
- *A wide variety of potential environmental impacts continue to be a risk to completion of the ADHS* as there are many federal regulations (i.e. ESA, Section 4(f), etc.) and regulatory bodies that are more likely to apply, or become involved with, the implementation of ADHS projects. Further, public opposition surrounding these projects has been more frequent, intense, and effective at delaying project delivery.

Lessons Learned

- As a highly interdependent network, decisions made regarding one corridor can fundamentally affect the potential universe of actions that could be taken relative to unbuilt corridors, as well as current and future operations within existing corridors. The ARC Board only has the power to approve or deny the realignment of a corridor or use of new termini; there is no overarching body that takes on the responsibility for coordinating operations along corridors that are impacted by the decision. Such uncoordinated decisions often create a sub-optimal operating environment and can potentially undermine the purpose, need, and viability of the existing and planned corridors.
- Funding granted in perpetuity can be inefficient by constraining a state's ability to transfer funds to more needed projects. Prior to MAP-21, funding for ADHS projects was provided through Congressional earmarks. Although this mechanism contributed to extensive development of the ADHS network by limiting the use of the funds to one expressed purpose, funding for the unbuilt segments of the network is not being used as efficiently as it could. The granting of ADHS funds in perpetuity can result in large sums of money earmarked for a particular corridor going unused for decades instead of being put to immediate use in corridors that are ready to advance.
- Voting rules and board structure provide a system of checks & balances. The federal-state-local partnership model of ARC and its Board structure are effective at providing a network of oversight that serves to ensure the program and its funding pool are not abused.

- Independent researchers provide unbiased data supporting decision-making. One of the more unique features of the ARC's organizational structure is the presence of support staff and researchers who are neither federal nor state employees. These employees, who report directly to the Executive Director, are charged with producing quantitative measures and analyses that are then used by the ARC Board and the co-chairs to assess the benefits and consequences of ARC's programs and proposals. Given that the employees are not directly governed by a party that has a particular leaning (e.g., one that is sympathetic to federal versus state interests), this structure has been designed to provide unbiased estimates of a program's value.

Table A.1 summarizes how the Appalachian Regional Commission addresses the case study focus issues identified in the Conceptual Framework for multistate organization partnerships implementing intercity passenger rail programs.

Table A.1: Appalachian Regional Commission Efforts for Planning/Visioning

Characteristic	Discussion
Phase of Project Development	Planning, Design, and Construction
Stakeholders	✓ 13 States of the Appalachian Region (Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, West Virginia, and Virginia), Federal Government, local Municipalities and Counties, MPOs
Institutional Relationships	✓ Established through an act of the U.S. Congress
Identification of Responsibilities	✓ Appalachian Regional Commission and Board of Commissioners responsible for authorizing federal funds to develop a system of rural highways through Appalachia and other infrastructure and economic development projects throughout the Appalachia Region
Role of regulatory agencies	✓ US Office of Inspector General provides oversight to ARC, FHWA provides oversight of ADHS during and after implementation
Political Foundation	✓ Political support for ARC began under Presidents Kennedy and Johnson along with governors of the member states of the Appalachia Region, as well and the U.S. Congress
Why – 'Compelling Need'?	✓ Appalachian Region had lagged behind the remainder of the U.S. in terms of education, income, health, and transportation infrastructure. ARC's primary purpose was to provide a collaborative forum in which federal, state, and local government entities could work together to address the problems affecting the Appalachians, including construction of the ADHS.
Decision-making Process	✓ ARC's Board of Commissioners is decision-making body, composed of governors from each of the 13 member states, a federal co-chair appointed by the President and confirmed by the Senate, and a states' co-chair appointed by a majority vote of the member governors. Only two votes in Board decisions: federal co-chair has one vote and the 13 governors share the other vote, which is cast by the state co-chair.
Lead Agencies/Groups	✓ ARC Board
Legal Authority	✓ <i>United States Code Title 40 Subtitle IV – Appalachian Regional Development Act, 1965</i>
Cost Sharing	✓ Depending on location and economic viability of specific area differing levels of local match funding can be required for the expenditure of federal funds for ADHS projects
Funding Sources	✓ U.S. Congress appropriates funding for all ARC administrative costs and projects. Local matching funds vary across projects.
Interaction with Others	✓ ARC Board interacts with 73 Local Development Districts (some are also the MPO), 420 counties, federal government agencies and other agencies as needed.

Characteristic		Discussion
Oversight	✓	Oversight provided by U.S. Office of Inspector General
Procurement	✓	Authorized to enter contracts for services, leases, property, construction, etc.
Contractual Arrangements	✓	Federal legislation is governing arrangement

A.1 Introduction

This case study examines the collaborative process used by the Appalachian Regional Commission (ARC), a federal-state-local partnership, in its general operations and in the context of developing the Appalachian Development Highway System (ADHS). The ADHS is notable in that it has been in development since ARC's inception in 1965; it forms a network of roadways that traverses state lines and provides access to rural areas in the 13-state Appalachian region. As of April 2013, just over 2,700 of the 3,090 total miles (88 percent) had been completed and two of the remaining corridors are currently included within FHWA's High Priority Corridors on the National Highway System. This case study focuses on the organizational structure of the ARC, this structure's influence on the group's visioning and decision-making, and the progress made by various state departments of transportation in implementing the remaining sections of the ADHS network. The case also highlights the significant and unanticipated effects that changes in federal policy can have related to developing large-scale transportation networks that cross jurisdictional lines.

A.2 Description of the Appalachian Regional Commission

During the 1950s the Appalachian region of the eastern United States was lagging behind the rest of the nation in terms of education, income, health, and transportation infrastructure. This gap was primarily due to the presence of the Appalachian Mountains, which isolated the region from adjacent areas and commerce. Beginning in 1960 a coalition of governors from ten states lobbied for federal assistance to reduce the region's isolation and promote economic development. In 1963, President Kennedy formed a federal-state committee, called the President's Appalachian Regional Commission (PARC), and tasked the group with formulating a comprehensive plan to strengthen the region's economy.

A year later the commission issued a report that put forth four "priority areas of investment for the immediate future" the first of which was "provisions of access both to and within the region" (PARC 1964, page 31). The PARC report formed the backbone of the Appalachian Regional Development Act (ARDA) passed by Congress and ratified into law by President Johnson in 1965. The ARDA created the ARC and charged the Board with developing a system of rural highways throughout Appalachia that would provide internal circulation and connect to the surrounding interstate highways. While the Appalachian region was initially defined as consisting of ten states, three states (Mississippi, New York and Ohio) were added in subsequent updates to the ARDA. The current geographical definition of Appalachia, which encompasses 205,000 square miles and includes portions of 12 states, the entire state of West Virginia, and 420 counties, is depicted in Figure A-2.

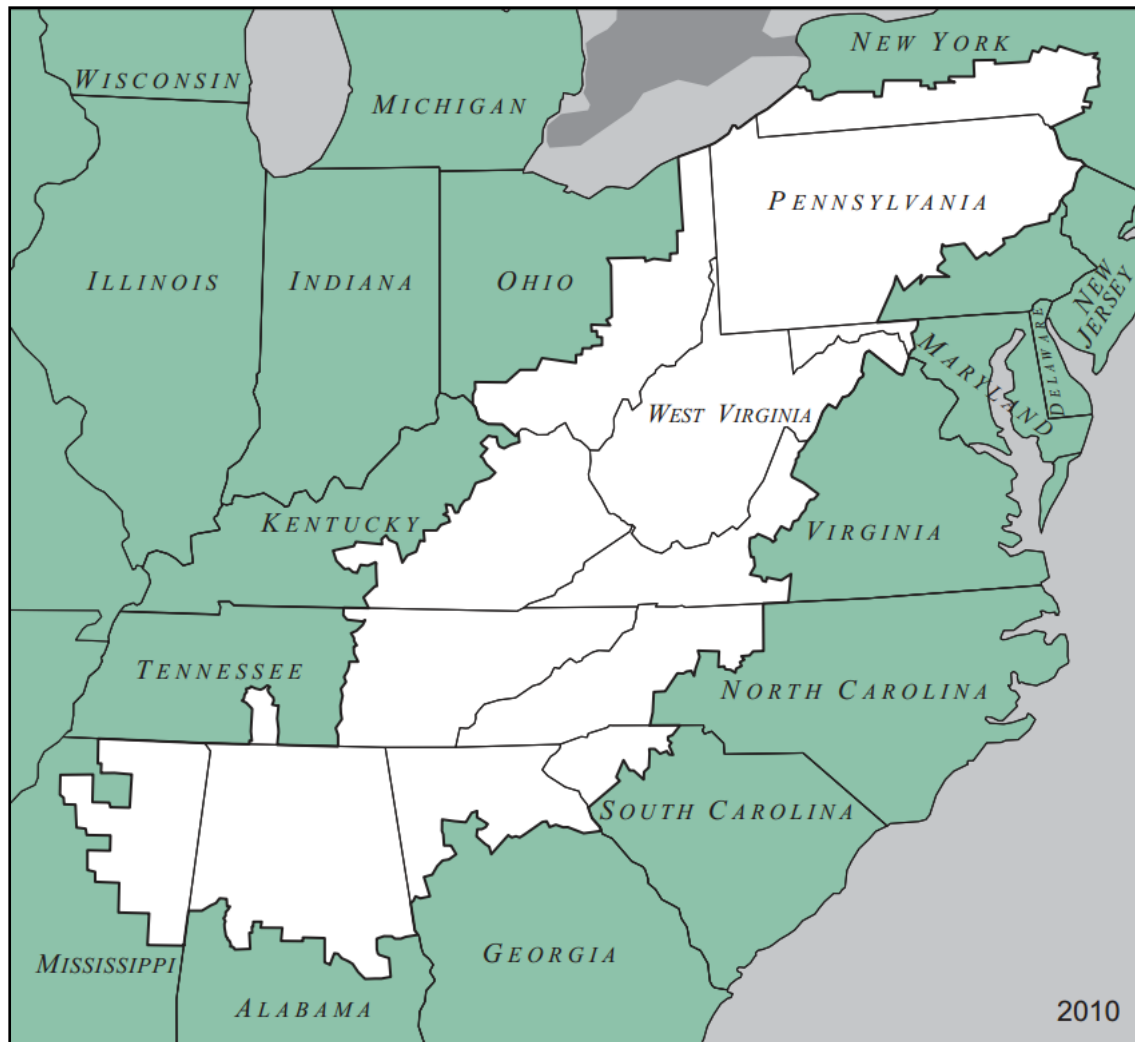


Figure A-2: Appalachian Region as Currently Defined by ARC (Source: Reference 9, page ii)

A2.1 Purpose of the ARC

The ARDA chartered the ARC as a regional economic development agency whose primary purpose was to provide a collaborative forum in which federal, state, and local government entities could work together to address the problems affecting the Appalachians. Similar to the approach used by President Roosevelt in the New Deal programs, ARC initially focused on constructing infrastructure projects, primarily roadways, as well as water and sewer lines. These projects were intended to serve as a means of stimulating the region's economy by increasing employment within the region, improving quality of life, and enhancing access to inland markets and seaports, thereby opening the region to additional freight flows and commercial activities opportunities outside of Appalachia.

Over the years, ARC's strategies to improve the Appalachian economy have evolved to meet the demands of emerging problems and issues specific to the region. As included in the commission's current Strategic Plan, the four goals of the ARC are as follows (ARC 2010):

1. Job Growth – Increase job opportunities and per capita income in Appalachia to reach parity with the nation
2. People – Strengthen the capacity of the people of Appalachia to compete in the global economy
3. Infrastructure – Develop and improve Appalachia’s infrastructure to make the region economically competitive
4. Highways – Build the ADHS to reduce Appalachia’s isolation

Currently, ARC engages in a wide variety of activities that touch nearly every facet of federal domestic policies and programs, including business development, education and job training, telecommunications, community development, health care, food systems, and affordable housing. Given its breadth of engagement, ARC works closely with other federal agencies, including the United States Departments of Transportation (USDOT), Energy, Labor, Education, Housing and Urban Development, Agriculture, and the Environmental Protection Agency. ARC has formed a formal partnership with some of these agencies, called the Appalachian Regional Development Initiative, in order to better coordinate federal efforts in the region and increase local participation in the planning process.

A2.2 Description of the ADHS

Although the interstate highway system had largely been in place when ARC was first established, the network had bypassed the rural communities in the region, mostly due to the need to minimize the costs of a vast national network of high-capacity roads and the relatively high construction costs associated with passing through mountainous areas. The construction of the ADHS was authorized by Congress as one of the foundational components of the Appalachian Development Act of 1965. The ADHS originally started as a 2,350-mile system of highways designed to connect the Appalachian region and its people to the interstate highway system. Over time, Congress added corridors to the original network and the current goal for the network is to develop 3,090 miles within 32 corridors.

The ADHS functions like the interstate highway system in that each state has designated miles within a corridor and the Federal Highway Administration (FHWA) provides federal oversight during and after implementation. ARC provides funding for construction of the unbuilt ADHS segments only and apportions funding to each state based on each state’s share of the remaining cost to complete the ADHS network. Figure A-3 provides a snapshot of the ADHS network as of 2009.

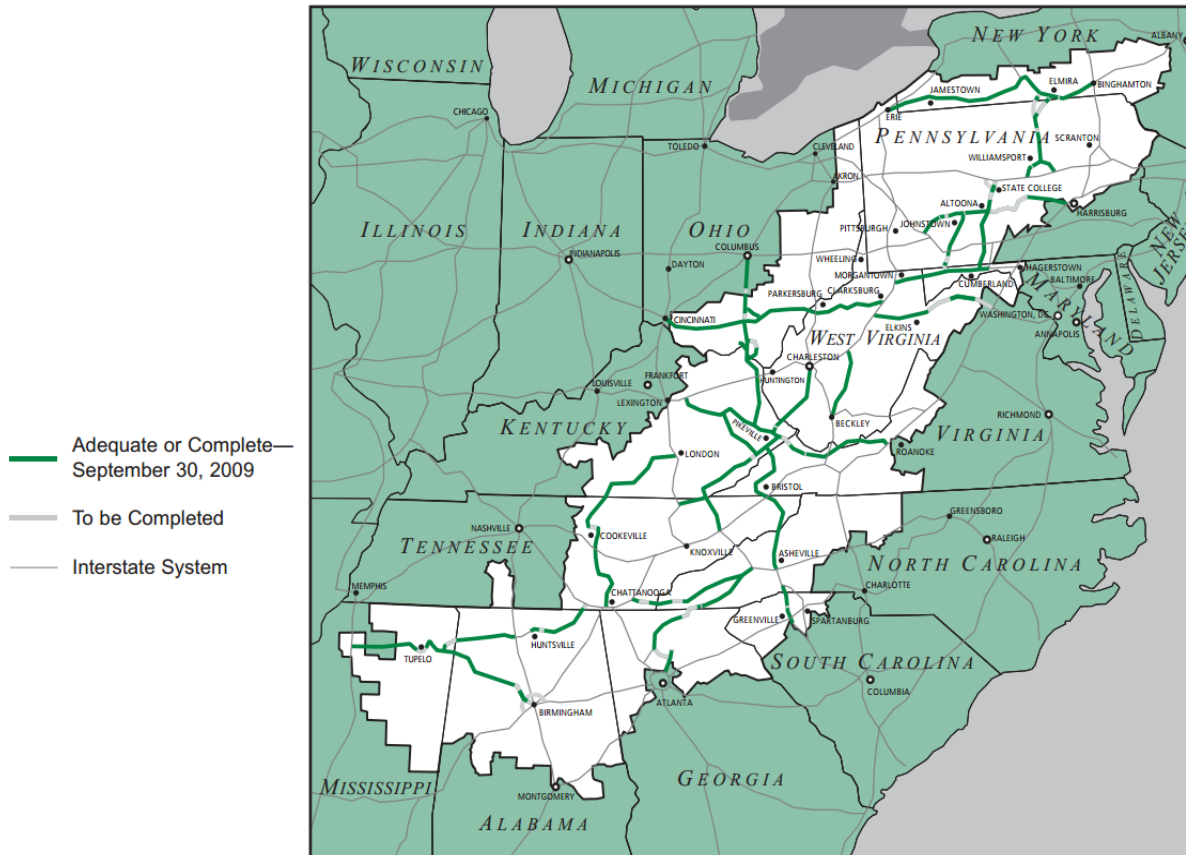


Figure A-3: Appalachian Development Highway System Overview
(Source: Reference 9, page 18)

From 1965 through fiscal year (FY) 2012, an estimated \$8.6 billion in federal support had been provided to the ADHS. Taking into account that the local match for these projects has traditionally been set at 20 percent, the total cost for the 2,717.50 miles (88 percent of the network) that had been completed as of April 2013 was approximately \$10.75 billion. However, from an engineering perspective, the segments that have not yet been developed are considered the most difficult to construct due to topographic and other environmental constraints. Thus, the remaining portions of the network will likely be the most expensive segments built thus far. As of 2012, the cost-to-complete estimate for the unbuilt sections of the ADHS is \$11.4 billion, which includes around \$2.3 billion in unspent ADHS funds. Figure A-4 depicts in red the yet-to-be-built segments of ADHS corridors.

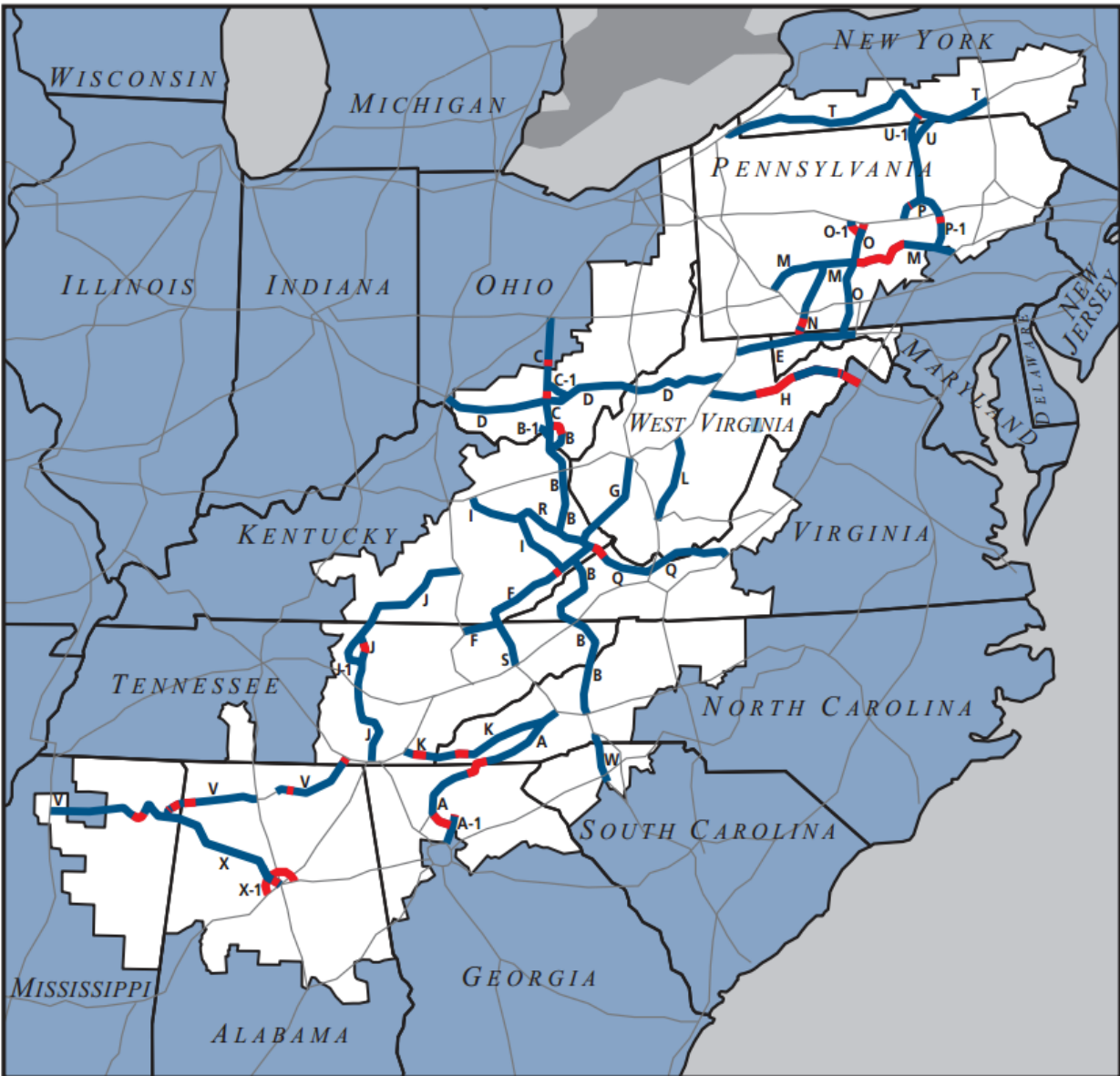


Figure A-4: Remaining Segments of the ADHS (Source: Reference 20, page 9)

A2.3 Involvement of State DOTs

Local Development Districts (LDD), discussed in greater detail below, are often responsible for identifying projects and usually serve as the implementing agency for all non-highway projects. In the case of ADHS projects, however, state DOTs are responsible for identifying projects (e.g. finalizing design and alignments) and always serve as the implementing agency. Thus, it is a state agency, not a local group that takes on all of the risks associated with an ADHS segment. According to ARC staff, the assignment of any project, not just roadways, to a state agency opens the proposal up to a greater degree of public scrutiny than would otherwise occur if the project was sponsored at the local level. However, projects that are controversial will likely stand a better chance of being implemented by a

state agency than a local organization, as the agency's decisions must consider the overall needs of the entire state, not just the desires of those contained within the effected project environment.

The ARC is primarily concerned with overall continuity throughout and completeness of the ADHS system; the state DOT is given the discretion on the details of each project, which is subject to some oversight from FHWA both during and after implementation. There are only two instances in which a decision from the ARC Board is required relative to an ADHS corridor: (1) a change in the termini or (2) substantial changes in alignment (e.g. moving to a different route than originally proposed).

A2.4 MAP-21 Changes in Funding

From 1965 to 1998, per the ARDA, ADHS projects received federal funding via annual appropriations made by Congress to the ARC. From 1999 to June 2012, under TEA-21 and SAFETA-LU, funding for ARC's ADHS projects relied on the Federal Highway Trust Fund account. In addition, from 1965 to 2012, ARC had two different accounts that it used to distribute federal monies, one for non-highway projects called the Area Development Program and another for ADHS projects called the Appalachian Development Highway Program (ADHP). From its inception until June 2012, ARC funded ADHS highways with an 80 percent federal match and required states to contribute the remaining 20 percent of the ADHS segment's construction costs.

With the passage of MAP-21 in July 2012, funding for ADHS projects underwent a major restructuring. First and foremost, the legislation fundamentally changed the way in which ADHS projects were considered relative to other projects. Prior to MAP-21, ADHS funds were specifically earmarked and could only be used in developing the ADHS. Based on a state's mileage share of the unbuilt ADHS network, ARC disbursed the earmarked funds to the state DOTs once a project was ready to advance. Under MAP-21, funds are no longer set aside strictly for ADHS purposes. As opposed to direct Congressional appropriations or accessing the Highway Trust Fund, ADHS funding is now rolled into the Surface Transportation Plan (STP) funds that are annually disbursed to each state. Thus, ADHS projects, which are meant to connect rural populations and enhance access, not increase through-put volumes, must now compete with other surface transportation projects for a share of a state's limited STP funding.

MAP-21 raised the federal matching share for ADHS projects from 80 percent to 100 percent through the year 2021. Additionally, the legislation retroactively changed the matching limitations associated with previous ADHS funding allotments. Thus, if a state was granted ADHS funds prior to 2012, then it can use all of that money in constructing an ADHS corridor without additional state funds. In an effort to prevent states completely abandoning plans for their unbuilt portions of the ADHS, MAP-21 included a provision requiring any state whose ADHS needs are greater than or equal to 15 percent of the total remaining cost to complete the ADHS system to continue to obligate the same level of funding at the state level for its ADHS projects until the cost of the state's remaining ADHS needs falls below 15 percent of the cost to complete the system.

A2.5 Key Differences between ARC's Non-transportation Projects & ADHS

With regard to project development and implementation, as well as funding mechanisms, there are two fundamental differences between ADHS projects and all other types of ARC projects. As discussed previously, in contrast to non-highway projects, the ADHS highway projects funded by ARC are always implemented at the state level by the state DOT. Unlike ARC's economic development projects, which compete for funds that come from an earmarked account, ADHS highway projects, with the passage of MAP-21, no longer have access to a dedicated funding source.

A.3 Corridor Participants

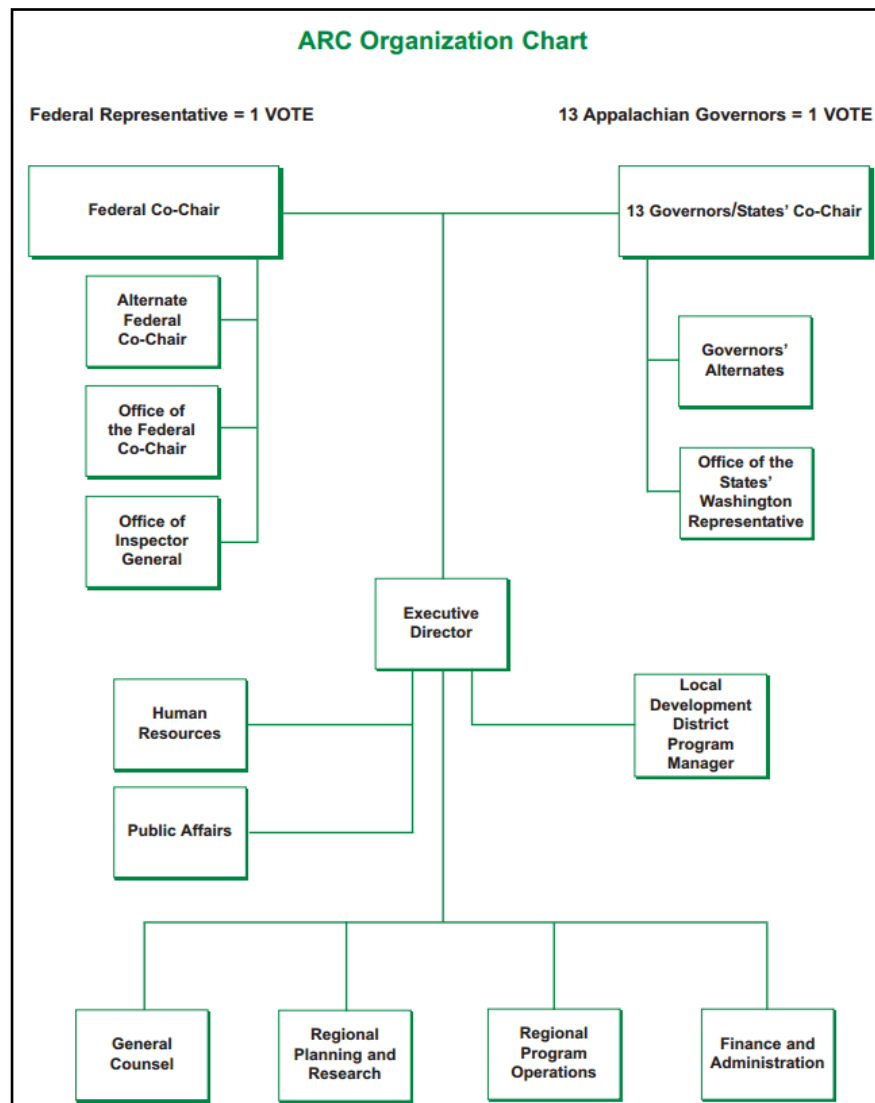
A3.1 Organizational Structure of the ARC

The decision-making body housed within the Appalachian Regional Commission, often referred to as simply "the Board," is composed of governors from each of the 13 states within the Appalachian region (Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, West Virginia, and Virginia), a federal co-chair who is appointed by the President and confirmed by the Senate, and a states' co-chair who is appointed by a majority vote of the governors. There are only two votes in play, with the federal co-chair retaining one and the thirteen governors sharing the other vote, which is cast by the states' co-chair. Thus, for all resolutions considered by the ARC Board, the federal government representative and the majority of the governors must approve. The ARC's organizational chart is shown in Figure A-5.

Aside from the Board members, there are 11 federal positions within the ARC, all of which are housed within the Office of the Federal Co-Chair and the Office of the Inspector General. These positions primarily serve an oversight role and ensure that the money appropriated by Congress to the program is fulfilling its original intent.

On the state side, each of the governors is accompanied by two staff members. The governor's alternate works closely with the governor and serves as the ARC understudy in the event of the governor's absence. The ARC State Program Manager fulfills more of a day-to-day implementation role and is in charge of providing oversight for the state's ARC program and projects, as well as serving as the official point of contact for organizations that wish to take advantage of ARC funding. Outside of any one state's personnel, there is also a single Office of the States' Washington representative hired by the states' co-chair to lobby the federal government on behalf of the states' interests and proposed projects.

Oversight for the ARC program at the local level is provided through 73 LDDs that cover all 420 counties within the ARC region. These organizations, some of which are Metropolitan Planning Organizations (MPOs) or Councils of Governments (COGs), are multi-jurisdictional in nature and most are local economic development authorities. LDDs serve to identify the area's priority needs; create plans to support local economic development; and coordinate local planning activities and economic development projects. Members serving on LDDs are often elected officials and business leaders.



**Figure A-5: Organization Chart for the Appalachian Regional Commission
(Reference 9, page 33)**

In order to provide a degree of objectivity to this working arrangement, the Executive Director and his 48 staff members are neither federal nor state employees. The Executive Director is appointed by the Commission and serves as the chief executive, financial, and administrative officer for the ARC program. The Commission staff report to the Executive Director and are tasked with providing impartial technical and analytical support in the areas of finance, program management, administration, planning, research, and legal issues. Ultimately, it is the Commission staff that is responsible for working with state agencies and LDDs to help implement the programs and policies adopted by the ARC Board. The federal and state government partners equally split the administrative costs of the program support provided by the Executive Director and the Commission staff.

A3.2 Organizational Activities & Project Development Process

Like many other organizations, the ARC has a variety of documents that formally steer the actions taken by the Board. However, three types of documents are fundamental to the program's operations: ARC's Five-year Strategic Plan, individual State Annual Strategy Statements, and State Spending Plans.

First and foremost, every five years the ARC drafts a strategic plan that sets forth the key themes or focus areas to be emphasized by the Commission. The latest strategic plan was adopted in 2010 and covers the time period between 2011 and 2016. The process to develop the current strategic plan included the following steps:

1. Convene field forums in five states to obtain citizen input and identify emerging regional issues
2. Perform an assessment of the region's economy by conducting research, consulting with experts, and completing a socio-economic review of the entire region
3. Conduct online town halls to prioritize the regional issues identified by residents during the field forums
4. Host a working session to review the conclusions from the public involvement activities; perform additional research that identifies issues, opportunities, goals and strategies; and synthesize the findings
5. Draft the strategic plan document
6. Distribute the document to the ARC Board
7. Host a consensus session to review the plan and make any necessary changes
8. Approve and adopt the strategic plan

While the Strategic Plan guides the Commission's activities over a five-year period, each state sets forth its own plan for ARC activities on an annual basis in the form of State Annual Strategy Statements (SASS). These high-level documents formally identify a state's needs, goals and objectives for its ARC program. The ARC State Program Manager drafts the SASS over the course of six weeks with consultation from the governor. This process mainly focuses on aligning the governor's priorities with those of ARC and then resolving any inconsistencies among the parties. While the state-level priorities tend to remain relatively consistent, the State Program Manager, nevertheless, works to ensure that the final contents of the SASS are consistent with the governor's perspectives, the ARC federal co-chair, and the ARC Strategic Plan.

After the abstract elements of the state's ARC plan have been presented in the SASS, the State Spending Plan (SSP) then transforms these ideals into a more detailed, concrete list of projects and programs. SSPs, which are sometimes referred to as Area Development Plans, are submitted by the governor of each state to the ARC Board on an annual basis. These plans include a list of projects for which the state is seeking funding from ARC and provide reasoning as to why each of the projects is needed and how it relates to both the SASS and the ARC Strategic Plan. In general, the projects included within the list originate at the local level and are then brought to the LDDs for consideration. Assuming the proposed project addresses any of the goals and objectives set forth in the ARC Strategic Plan, the LDDs then take on the role of project champion and forward the proposal up to the state-level ARC staff. After considering the nature and cost of the project, as well as how the proposed project complements those

already included in the draft spending list, the Governor and his staff then decide whether to incorporate the project into the final SSP.

Once the SSP has been finalized, the Governor then takes his proposed list of projects to the ARC Board for approval. Given that there are only two votes, each SSP must be accepted by the federal co-chair and a majority of the governors. After plan approval, states then submit individual applications for each of the proposed projects contained within the SSP list. The Commission staff then analyzes the project and reviews its potential merits relative to the Strategic Plan's goals and objectives. Finally, the federal co-chair, using the results of the analyses conducted by the Commission's staff, performs a final round of review and formally approves or denies the project's request for funding from ARC.

A3.3 Funding Mechanics of the ARC

ARC's projects are funded through annual appropriations set aside by Congress. The magnitude of appropriations is relatively consistent and generally ranges between \$70 and \$80 million for non-highway projects. ARC program budgets (e.g. total funding for the organization, not individual SSPs) are approved at the February Board meeting on the same weekend that an annual Governor's Conference is held. The appropriations are distributed directly from Congress to the Washington D.C. office of ARC where the Commission staff and Executive Director perform their duties. Once an individual project has been approved, the Commission staff then passes the funds for approved projects to the states which, depending on the nature of the project being funded, either hold the funding within a state department, such as a state department of transportation (DOT), or further pass along the funding to the LDDs, which are typically in charge of project implementation.

ARC funding primarily covers construction, research, and administrative costs. The organization only provides operations funding to non-highway projects. The matching requirements for ARC projects, which vary based on the economic profile of the counties served by a project, help promote an efficient use of federal money and effectively target investments in economic development to the areas that need it most. There are four classifications for a county's economic status (distressed, at-risk, competitive, and attainment) and the county's designation is based on a comparison between the county's average and the national average across three economic performance measures (three-year average unemployment rate, per capita market income, and poverty rate). Generally speaking, ARC funding is limited to 50 percent of a project's cost; however, for projects serving distressed and at-risk counties ARC will provide up to 80 percent and 70 percent, respectively, of the cost. Projects serving competitive counties are eligible for up to a 30 percent match from ARC. Projects servicing attainment counties, which are counties whose local economies have finally reached parity with the nation based on the economic indicators mentioned above, rarely acquire ARC funding.

Although the ARC Board has set these general matching requirements at the federal level, individual states are still left with discretion to implement their own set of matching requirements. State-level matching requirements are adopted within the SASS and are not allowed to be less restrictive than the ARC requirements (e.g. a state can only increase the level of federal ARC funding provided to projects serving distressed areas). While there are specific matching requirements based on a project area's economic status that incentivize addressing problems in underserved areas, there is neither a formal

directive nor a prioritization process that guarantees that traditionally underserved areas and populations will benefit from ARC projects.

A3.4 Functional Relationships & Decision-Making within the ARC

Decisions that require a quorum of state-level ARC Board members in order to be heard include: “any decision involving Commission policy, approval of state, regional, or subregional development plans or strategy statements, modification or revision of the ARC code, allocation of [dollar] amounts among the states, or designation of a distressed county or an economically strong county.” [US CFR Title 40, Subtitle IV, Section 14302.c] For the majority of matters, the federal co-chair and the state’s co-chair each has a vote. Thus, the ARC Board structure emphasizes the development of consensus among state and federal officials.

Given that the interests and priorities of the federal government, ARC, the constituents and businesses within the partner states, and the individual Board members rarely converge and are often disjoint, the road to consensus usually involves compromise. As an organization, ARC has very broad priorities relative to any of the individual proposals that it considers. Much of the compromise that occurs within the ARC is related to individual projects, not long-term visioning and policymaking. The compromise is usually between an individual governor and the federal co-chair who, as mentioned above, holds the authority to accept or reject a project’s application for funding. The test of an effective State Program Manager is whether they can massage projects enough so that the narrowly defined proposals expand to meet the wider goals of the ARC while continuing to address specific problems in their home state.

In general, if a governor is going to support an action, then the results of that action must accomplish at least one of the following objectives: serve the interests of the governor (both politically and personally); serve the interests of local constituents; serve the interests of local businesses or regional industries; serve the interests of fellow ARC Board allies; or deny the interests of ARC Board opponents. While the previous decision-making rule is relatively simple, the decision-making process is granted even more dynamism when one considers that, across any given set of actions or issues, the arrangement of allies and opponents is likely to fluctuate from one issue to the next.

While the state representatives of the ARC Board are responsible for providing input into the majority of decisions, when it comes to individual project approval, the federal co-chair is the ultimate decision-maker. Given that the federal co-chair is directly appointed by the President, it stands to reason that the delegate, in carrying out such duties at ARC, will serve the current administration’s interests, as well as those of its allies, and utilize a policy approach for improving the region that reflects the administration’s general political philosophy (conservative vs. progressive, contraction vs. expansion, supply-side vs. demand-side solutions). From a legislative point of view, the federal co-chair’s approval of a project is primarily based on the degree to which the proposed project will address one of ARC’s four goals outlined in its five-year Strategic Plan. However, from a practical perspective, there are a host of other factors, such as the financial climate, political landscape, and past decisions made by individuals within the ARC Board that could potentially influence the federal co-chair’s approval or denial of a specific project.

Usually, the ARC Board meets twice a year, but the decision-making body is only legally required to meet once a year. There are often substantial periods of time that elapse between Board meetings. These gaps fundamentally influence the nature of the conversations that take place inside the ARC boardroom. Given that the average time to wait until a board meeting is three months, it is reasonable to assume that the vision and focus of the Board is oriented towards the mid-term and long-term horizons. As any action that requires Board approval must be put on hold until the Board reconvenes, ARC does not function as an appropriate venue in which to address immediate concerns or impending crises. Rather it effectively functions as a venue to facilitate compromise between the federal government and its member states. Finally, as the ARC does not possess any direct governing powers within the Appalachian region and therefore cannot mandate any of the parties to take a specific action, the organization primarily fulfills the role of planner, researcher and advocate for the Appalachian region at the federal level.

Aside from the ARC Board members, LDDs can also exert an influence in the planning and implementation of ARC projects. Local development districts typically serve as the incubator for ideas that eventually turn into ARC's non-highway projects. LDDs function as ARC's "boots on the ground" and help the organization continue to succeed by identifying the needs of communities; assisting in the development of economic development plans based on those needs; separating the plan into component projects; submitting the component projects to the ARC State Program Manager; and eventually implementing virtually all of ARC's non-highway projects. Whenever the federal or state partners have a desire to push something forward, but anticipate that the move will be met with significant local pushback, ARC federal staff cooperatively work with LDDs to help foster more positive working relationships with the local jurisdictions. As the party that is most familiar with the general context in which an ARC project will be implemented, LDDs are often called upon by federal staff to provide ideas as to how to mitigate any potential issues effectively that may arise during the course of planning, implementation, and operations.

A.4 Development and Implementation Process

The following section provides an overview of five ADHS corridors that cross state lines and are still being developed. This section will focus primarily on the degree to which some of the remaining ADHS projects had been impacted by changes in federal transportation policy under MAP-21, but will also look at particular issues challenging these projects at the state and local level.

A4.1 Corridor K

Corridor K goes from I-75 near Cleveland, Tennessee, just northeast of Chattanooga, Tennessee, and terminates at US-23 (Corridor A as originally proposed) near Sylva, North Carolina. Both states have been working to develop this corridor incrementally and most of the most difficult work has been completed. North Carolina has 18.8 miles left to complete and estimates its portion of Corridor K will be completed by October 2028. Tennessee has 30 miles left to complete and estimates that it will complete its activities by December 2025. Tennessee still has substantial work to be completed on its ADHS (102.1 miles remaining across six ADHS corridors). All but two of Tennessee's ADHS corridors are in stage construction status and, according to the most recent ADHS Completion Plan Report, the state does not

intend to complete these corridor segments as originally proposed (e.g., will not be expanding from two to four lanes).

Both states have already been through at least one round of environmental review and are reexamining the corridors due to local, state, and federal pushback related to the expressed purpose and need of the projects, as well as the large-scale environmental impacts that the roads are likely to have on national forest and mountain ranges. Tennessee is in the midst of redesigning its portion and hopes to have its Draft Environmental Impact Statement (EIS) submitted for review by the winter of 2015. North Carolina's portion of the project is currently undergoing an 18-month visioning process that is intended to refine the purpose and need of the ADHS segment in light of other recent North Carolina DOT (NCDOT) studies and alternatives. This visioning process was recommended by the US Institute for Environmental Conflict Resolution after the project's merger team, which includes the North Carolina Department of Environment & Natural Resources and the US Army Corps of Engineers, reached an impasse related to the issuance of permits that would be required under NCDOT's recommendation to construct a four-lane, half-mile tunnel running underneath the Appalachian Trail.

While the Project Manager for Tennessee's Corridor K EIS attended the mediation activities for the North Carolina project, this appears to be the extent of collaboration between the corridor's two remaining projects. The remaining segments of Corridor K in both states occur roughly fifteen miles away from the North Carolina-Tennessee border, so the concern that Corridor K will bottleneck at the state line is absent in this case. However, as the ADHS intends to develop continuous corridors, a change in the design of the Tennessee segment could potentially have implications for the North Carolina segment and vice versa. Furthermore, as will be discussed below, given that Corridor K is supposed to connect to Corridor A, decisions made in Tennessee and North Carolina related to Corridor K could affect the alignment chosen by the State of Georgia for Corridor A.

A4.2 Corridor A

Corridor A, as originally proposed, would run from I-285 just north of Atlanta, Georgia and connect to Sylva, North Carolina (Corridor K) en route to its terminus at I-40 near Clyde, North Carolina. The Georgia portion of the route has 31 miles left to be completed while the North Carolina portion has 7.3 miles remaining to be constructed. Both states estimate that the project will be completed by July 2042. NCDOT has stated that while there are a few upgrades planned for the corridor, there simply is not enough anticipated demand to warrant expanding the roadway to four lanes. In response, Georgia has said that once North Carolina advances its remaining segment of Corridor A near the states' borders, then it will move forward with the 7.7-mile segment of the originally proposed corridor, which runs between the state line and Blairsville, Georgia.

However, Georgia is currently considering a substantial change to a portion of the original alignment, which could directly impact both Corridor A and Corridor K. The original alignment was proposed to run along US-76/GA-515 and move eastward through Blue Ridge and Blairsville en route to North Carolina. Due to environmental concerns associated with the original alignment, GDOT is currently conducting an economic impact study to determine the feasibility of using an alternative alignment. The new proposed routing would head north from Blue Ridge, Georgia, to meet Corridor K near Ducktown, Tennessee,

instead of continuing east through Blairsville (and the Chattahoochee National Forest) to meet a different segment of Corridor K in Sylva. Figure A-6 provides an overview of the unbuilt ADHS sections along Corridors A and K (in red), as well as the proposed routing under study (in green).

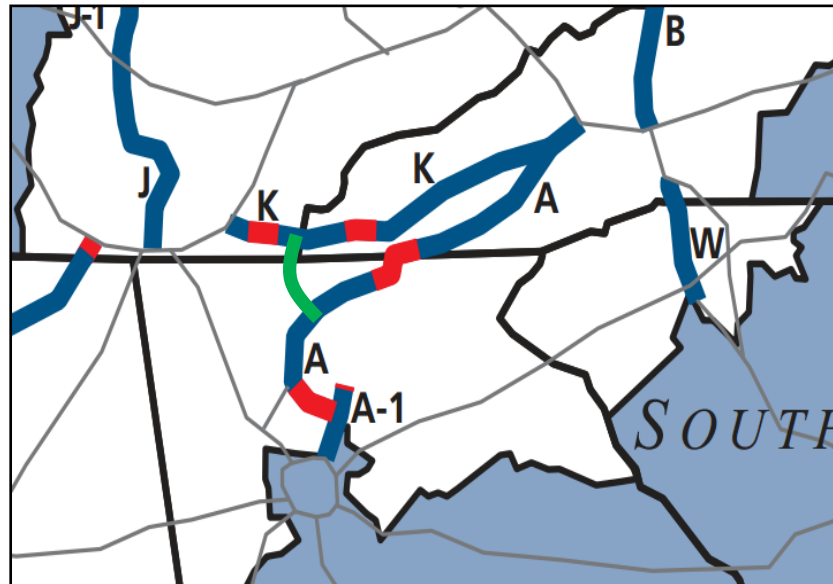


Figure A-6: Potential Alignments for Corridor A (Source: Reference 20, page 9)

Although the Georgia DOT (GDOT) is free to study alternative routes within the corridor, any changes to the originally proposed alignment require approval from the ARC Board and, due to the fact that the ADHS is an interconnected network, could potentially have significant effects on Corridor K. As the responsibility for implementing an ADHS project is essentially left to each state DOT, the future of Corridor A remains uncertain. There are potentially four scenarios that could play out in the case of this corridor. If the ARC Board denies the realignment, then GDOT can either draft another alternative alignment and take it back to the Board, continue forward with the original alignment terminating in the North Carolina portion of Corridor K, or halt construction on the project altogether and let the ADHS funds go unused.

This third scenario would obviously be detrimental to the success of Corridor K and the ADHS as a whole. However, given the uncertainty related to the implementation timeline for Corridor K in both states, GDOT will likely delay development of Corridor A until Corridor K is finalized. This approach would allow Georgia to minimize the risk associated with developing a four-lane roadway that would lead to a terminus that is currently the subject of significant environmental debate.

Of course, if the ARC Board approves the realignment, then GDOT would likely build the alternative route that terminates in the Tennessee portion of Corridor K. If this final scenario were to occur, previous analyses in both Tennessee and North Carolina would likely need updating due to changes in how traffic from Corridor A would be distributed along Corridor K. However, if Corridor A ends up using the alternate route from Georgia into Tennessee instead of North Carolina, there could be sufficient demand to warrant a four-lane expansion along Corridor K in Tennessee. Thus, future decisions made by

Georgia could impact the operational viability of decisions that are currently being made by Tennessee and North Carolina.

A4.3 Corridor H

Corridor H would stretch approximately 150 miles from I-81 in Strasburg, Virginia, to I-79 in Weston, West Virginia. Roughly 90 percent of the corridor is within West Virginia. West Virginia is interested in completing this corridor to increase its export potential. This corridor has clearly been a top priority for the state, as the project has continued to incrementally advance over the past two decades despite numerous failed environmental lawsuits against the West Virginia DOT (WVDOT) related to historic preservation and the presence of endangered species native to the Allegheny Mountains. Corridor H would establish a continuous route from West Virginia to the Inland Port multimodal center in Front Royal, Virginia, which is a major gateway to the Port of Norfolk.

Given its interests, it is no surprise that West Virginia has been hard at work on its section of the corridor, completing over 75 percent of the work within its boundaries. The Virginia DOT (VDOT) has decided to wait until West Virginia gets closer to completion to begin its work. Unfortunately for West Virginia, this decision by VDOT has had the unforeseen consequence of granting communities along the corridor in the State of Virginia enough time to unite and begin strongly advocating against completing the remaining 10 percent of Corridor H. As a result of this grassroots resistance, Virginia has tabled the project for the immediate future. Thus, West Virginia could potentially build a high-capacity roadway that terminates at a state line bottleneck because of local pushback in another state.

A4.4 Corridor N

Corridor N would travel from I-68/US-40 (Corridor E) near Grantsville, MD to US-22 (Corridor M) in Ebensburg, Pennsylvania. Maryland only has 2.5 miles left to complete and estimates that it will be done by January 2022. Pennsylvania has 18.4 miles left and has stated that it will be done with 11.7 of those miles by November 2017. Unlike many other ADHS corridors that cross state lines, the two state DOTs are working together on a joint EIS in order to properly plan the corridor.

However, similar to Tennessee, Pennsylvania's cost-to-complete the 116.2 miles along its six unfinished ADHS corridors is currently \$2.7 billion. Pennsylvania has been forthright in stating that, beyond participating in the EIS, the state does not have any current plans for completing the 6.7-mile segment that would travel from Meyersdale, Pennsylvania, connecting to the Maryland segment at the Pennsylvania – Maryland state line. Pennsylvania's dismissal of Corridor N is due to the state having 4,000 structurally deficient bridges and 9,200 miles of roadway that are considered to be in poor condition. In order to address some of its more immediate needs, the state plans to dedicate only unused ADHS-specific funds to ADHS corridor projects for the foreseeable future.

Given Pennsylvania's funding issues, Maryland has requested of Pennsylvania that it be allowed to serve as the lead in project planning activities for the entire length of the corridor. Once the planning process has been completed, Maryland is expected to move forward with designing and constructing its remaining portion of the corridor. Unless Pennsylvania can handle its infrastructure backlog and free up

funding for its portion of Corridor N or possibly locate private sector partners willing to develop infrastructure, Maryland, like West Virginia, could be planning for a corridor that may never be implemented.

A4.5 Corridor Q

Corridor Q would extend approximately 127.5 miles and run from US-23/US-119 (Corridor B) near Shelbyana, Kentucky, through Mercer County, West Virginia, and terminate at I-81 near Christiansburg, Virginia. Kentucky's remaining portion of the corridor consists of 14 miles that are expected to be built by November 2019. West Virginia has completed its short segments of the corridor. Virginia's unbuilt segments total 16.3 miles and are estimated to be completed by December 2021.

The Coalfields Expressway (CFX) is a proposed 116 mile, four-lane highway that would run from Beckley, West Virginia, to Pound, Virginia. The CFX would provide connections to I-64 and I-77 in West Virginia and improve access into Kentucky and Tennessee by way of US-23. This project is primarily intended to increase private industry access to the region's coal reserves. In Virginia, the CFX is being developed as part of a public-private partnership formed in 2002 consisting of the state DOT, an engineering and design firm, and two private sector coal companies. As Kentucky is rich in coal reserves, but will not be directly serviced by the CFX, the Coalfields Connector has been proposed as a four-lane arterial that would realign US-460 in order to provide Kentucky with access to the CFX in Virginia. As seen in Figure A-7, there is substantial overlap between ARC's Corridor Q (in orange), the Coalfields Expressway (in green running east to west), and the Coalfields Connector (the portion of the orange segment that lies north of the green segment).

The unbuilt sections of Corridor Q in both Kentucky and Virginia comprise the Coalfields Connector. In the case of most state crossings within the ADHS, the corridor is split along state lines and each state DOT is left to its own devices to move the project forward through the planning, environmental, and implementation phases. As seen in the cases above, this often results in main trunk lines being built in the interior portions of states and then a sudden reduction of capacity down to two-lanes near the state lines. However, in the case of the Corridor Q, the two state DOTs are working together and will be using the same team of designers and engineers to deliver both state's portions of the corridor. Such close collaboration between the state DOTs would likely not have occurred in the absence of a high-profile economic development project like the Coalfields Expressway.

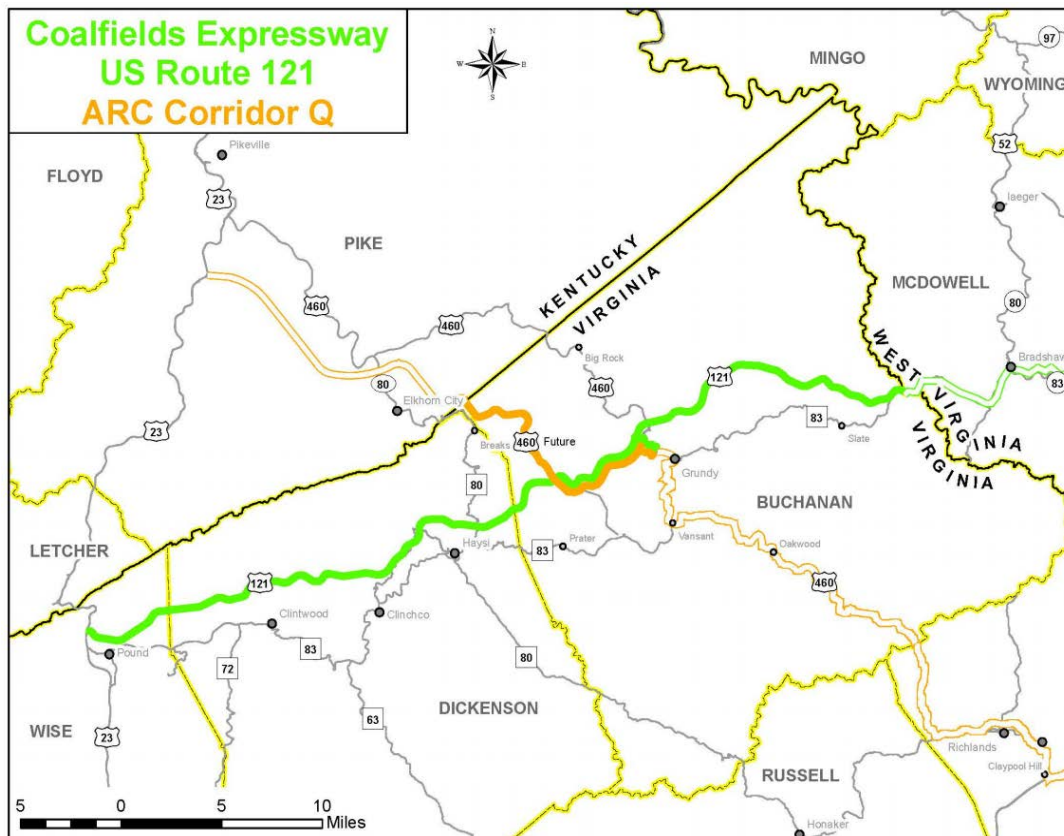


Figure A-7: Overlap between Corridor Q & Coalfields Expressway
(Source: Reference 18, Slide 3)

A.5 Barriers/Challenges Faced in Implementing the ADHS

A5.1 Lack of Project Prioritization

Given the vast scale of the ADHS network and the formidable terrain of the Appalachian area, it should come as no surprise that the ARC has encountered a number of barriers, both physical and organizational, that have hindered the organization's attempt to build out the entire ADHS. While the grassroots process behind conceiving the network should be lauded, the ARC fell short by failing to provide any sort of prioritization of the corridors and segments. As noted above, this has led to the development of an incomplete network, with all of the "low hanging fruit" segments being completed prior to the build out of the most expensive segments (e.g. bridge crossings, tunnels, etc.) which, from both an engineering and financial perspective, carry a greater share of the network's overall risk. Thus, while the network is 88 percent complete, there are still critical bottlenecks that tend to occur at either state lines or inter-corridor crossings, as seen in the cases of Corridors A, H, and Q. The costs associated with alleviating these pressure points are only going to increase.

A5.2 Funding Process Changes Due to MAP-21

Perhaps the most critical barrier to completing the ADHS network is the restructuring of the ARC highway funding process that was instituted by MAP-21. The previous funding arrangement was successful in guaranteeing two things – that there was a pool of money that could only be used on ADHS

development and that aside from identifying state funds for the 20 percent local match ADHS projects did not have to compete with other active transportation projects and programs in the Appalachian states. Despite the fact that ADHS projects no longer require a local funding match, these projects must now compete with all other roadway and transit projects throughout the state for limited STP funding.

One of the critical decision-making factors for state DOTs when prioritizing investments is a project's expected return on investment. Given the regional nature of the ADHS corridors (e.g., benefits are distributed throughout Appalachia, not concentrated in a single area) and the fact that the remaining segments are the most expensive, any given ADHS project is likely to have a low return on investment relative to an internal project with the same cost. Thus, advocates for ADHS projects will be hard-pressed to convince state DOT officials that they should move money away from high-priority projects (i.e. bridge replacements, interstate crossings, etc.) that have been promised to taxpayers for decades in favor of constructing rural highways, as demonstrated by the Pennsylvania Corridor N. Given that ADHS development is now left to the discretion of the states and that each state, as well as its DOT, has its own future plans and current priorities that compete for funding from a finite budget, the federal policy changes under MAP-21 will, at a minimum, reduce the pace of ADHS development and could potentially jeopardize a full build out of the entire ADHS network, as demonstrated by the Tennessee Corridor K.

A5.3 Increased Federal Regulations Due to Geographic Surroundings

Aside from a lack of segment prioritization and the passage of federal legislation that resulted in dramatic changes to the program's funding scheme, the ADHS has encountered obstacles related to its potential environmental impacts. While impacts to natural resources are not uncommon when implementing large-scale transportation projects, the wide variety of resource conflicts impacting the ADHS network is notable. The region is quite mountainous; contains many rivers and tributaries; and is home to several national parks, which serve as habitats for a number of endangered species. Thus, there are many federal regulations (i.e. ESA, Section 4(f), etc.) and regulatory bodies (i.e. USFWS, NPS, USACE, etc.) that are more likely to apply, or become involved with, the implementation of ADHS projects. Public opposition surrounding these projects has been more frequent, intense, and effective at delaying, project delivery as demonstrated by the West Virginia Corridor H, and even stalling projects as exhibited in the Virginia segment of the same corridor.

Furthermore, the impact of local pushback takes on an even more pronounced role in the context of a network. Most transportation projects take place along a single corridor around which system boundaries are drawn and any interactions outside of those boundaries are neglected in the analyses. Conversely, the ADHS network was intended to be built as a functional system of interconnected corridors that interact with each other. Whereas pushback in the case of a single corridor could temporarily or even permanently stymie a particular project, the same amount of pushback, when applied to a network setting, could fundamentally affect the (re)design and implementation of multiple projects due to the interdependencies of the corridors.

A5.4 Lack of Coordination between Stakeholders

Given that when a proposed corridor deviates from its original proposal (e.g., it is delayed by local opposition or canceled altogether, undergoes a change in alignment, applies different roadway

treatments than originally proposed, etc.), other corridors are likely to be impacted, and coordination among state DOTs in building the remaining segments of the ADHS network becomes even more critical. However, the ARC Board can only formally comment in instances where the state DOT is proposing a realignment or new termini for the project. As ARC lacks any governing powers, it cannot mandate any one party to take a particular action. In the case of Tennessee, Georgia, North Carolina, and Corridors A and K, each of the parties has stated that it will wait for the others to make a decision on their end and then proceed forward. Thus, it seems like a stalemate has been reached. Until the point at which one of the state DOTs commits to a decision or an outside force, such as a public-private partnership in the case of Corridor Q (Kentucky), creates enough momentum and political pressure to push the project forward, delays in construction will likely continue to plague both corridors.

A.6 Interpretation and Synthesis

This section interprets the case study findings in the context of the overall project objectives.

A6.1 Key Lessons Learned

Lessons 1-3 consist of specific observations related to the implementation of the ADHS network by state DOTs under the ARC program while lessons 4-8 are focused on more general observations related to the ARC as an organization.

Lesson 1: Influence of Changes in Federal Policy on ADHS Network Development

As discussed at length above, the passage of MAP-21 was likely to have dramatic effects on the implementation of ADHS corridors and the development of a full network. Although funding for the ARC's ADHS program came directly from congressional appropriations for nearly four decades, MAP-21 did away with the provision of earmarks for the network. The elimination of a dedicated funding source forced economic development projects, which also serve a transportation function, to compete with traditional, capacity-focused roadway projects. Even though the legislation also eliminated local matching requirements for ADHS development, state DOTs and their limited budgets were simply overwhelmed by so many needs. Thus, moving funding for the ADHS into the same pot as all other transportation projects will likely lead to state DOTs exhausting their funds on other resources that are likely to achieve a greater return on investment from the DOT's perspective (Corridor N). Therefore, the change in federal policy was likely to work against a full build out of a system that has been in development for almost 50 years.

Lesson 2: Influence of Project Delay on ADHS Network Development and Operations

The ADHS network relies on connections to interstates, as well as between ADHS corridors, and is by nature an interdependent system. In other words, decisions made regarding one corridor can fundamentally affect the potential actions that could be taken relative to unbuilt corridors, as well as current and future operations within existing corridors. As mentioned above, the ARC Board only has the power to approve or deny the realignment of a corridor or use of new termini. Regardless of the Board's decision, there is no overarching body that takes on the responsibility for coordinating operations along corridors that are impacted by the decision. Thus, when a remaining segment is delayed (for whatever

reason) the state DOTs resort to ad hoc decision-making that is based on self-interest. From a network perspective, these uncoordinated decisions often create a sub-optimal operating environment and can potentially undermine the purpose, need and viability of the existing corridors, as well as those remaining to be developed.

Lesson 3: Funding Granted in Perpetuity Can Be Inefficient

Prior to MAP-21, funding for ADHS projects was provided through Congressional earmarks. Although this mechanism contributed to extensive development of the ADHS network by limiting the use of the funds to one expressed purpose, funding for the unbuilt segments of the network was not being used as efficiently as it could in terms of transferring funds to more needed projects. North Carolina, due to local pushback, is unlikely to construct Corridor K within the next decade and does not anticipate adequate demand to warrant expanding Corridor A to four lanes. Thus, an extensive period of time will pass before the \$281 million that has been granted to NCDOT will actually be spent. The granting of ADHS funds in perpetuity can result in large sums of money going unused for decades instead of being put to immediate use in corridors that are ready to advance.

Lesson 4: Voting Rules and Board Structure Provide a System of Checks & Balances

The federal-state-local partnership model of ARC and its Board structure are effective at providing a network of oversight that serves to ensure the program and its funding pool are not abused. The federal government, through the federal co-chair, has the ultimate power of project approval and can also deny the adoption of a state's SASS and SSP if the co-chair does not believe the proposed plan or project addresses the goals and objectives as set in the ARC Strategic Plan. This serves as a federal check on state and local activities at both the planning and implementation level. As the states' co-chair casts a vote in the SASS and SSP approval process, a positive consensus among the states relative to an individual state's proposals must be reached. This serves as a state check on a state's activities at the planning level and decreases the likelihood that pork barrel programs and projects become eligible for funding. Furthermore, in the case of ADHS projects, Board approval is required for any realignments or new termini within an ADHS corridor. Thus, the states and the federal government possess a check at the design and construction level to prevent any unwarranted deviations from the ADHS network as it was originally proposed. Also, once ADHS projects are implemented by the state DOTs, the corridors become subject to oversight from FHWA.

Lesson 5: Independent Researchers Provide Unbiased Data Supporting Decision-Making

One of the more unique features of the ARC's organizational structure is the presence of support staff and researchers who are neither federal nor state employees. These employees report directly to the Executive Director who is appointed by the ARC Board. As noted above, the ARC Board, due to its two-vote structure, provides a relative balance of both federal and state interests. The Commission staff is charged with producing quantitative measures and analyses that are then used by the ARC Board and the co-chairs to assess the benefits and consequences of ARC's programs and proposals. Given that the employees are not directly governed by a party that has a particular leaning (e.g., one that is sympathetic to federal versus state interests), this structure is set up to provide unbiased estimates of a

program's value. While these objective analyses do not necessarily lead to a productive discussion among ARC Board members, they nevertheless serve as the foundation from which an informative debate could be initiated.

Lesson 6: Collaborative Visioning Promotes Positive Image and Secures Stakeholder Buy-in

The planning process used by ARC is inclusive. Input related to identifying regional issues and determining priorities, goals, objectives, and strategies for the ARC program is solicited from subject matter experts, officials across all levels of government, the ARC board members, and the public prior to drafting the Strategic Plan. While an agency could always hold additional public meetings, given the span of ARC's jurisdiction, sufficient effort was expended in conducting meetings within five different states to identify the range of needs and priorities on which the program would focus from 2011 to 2016. By involving a wide range of stakeholders, ARC successfully informs a variety of people and organizations of its purpose, including members of the public, private industry, as well as federal, state, and local government officials. Furthermore, unlike the traditional process in which an agency drafts a plan; presents it to the public; and then reactively attempts to incorporate the public's views after the comment period, the process used by ARC demonstrates that the agency is willing to be proactive and take the concerns of the community into account. By establishing two-way communication from the start and proactively seeking advice early on in the visioning process, the ARC is more likely to secure buy-in from stakeholders, especially those who could potentially suffer negative impacts resulting from ARC programs and projects.

Lesson 7: Wide Scope of Activities Leads to Innovative Strategies to Address Persistent Problems

Although the types of problems that ARC has sought to address, as well as the goals it has adopted to remedy those problems, have remained relatively constant since the organization's inception; the breadth of activities for which ARC provides funding has evolved over time. The organization began primarily as an infrastructure developer, running new water and sewer lines to rural areas and setting forth a plan to connect the region via the ADHS. As these programs began to develop, the ARC continued to pursue resolutions to the same regional problems by funding different approaches and strategies at the local level. In this way, ARC has served as a sort of policy intervention laboratory. Currently, funding provided through ARC is being used for everything from dropout prevention programs to tourism development. By broadly defining the agency's mission and avoiding a commitment to a specific list of activities and duties, the ARC has been able to develop more robust and holistic strategies to attack persistent and complex problems from multiple angles.

Lesson 8: Performance Measures Based on Need Incentivize Investment in Underserved Areas

Aside from the ADHS network development, which was previously funded at a flat rate regardless of the service area's socio-demographic characteristics, ARC promotes investment in areas that are most in need through its variable matching requirements. As noted above, ARC analysts identify areas that are lagging behind their peers in terms of economic development and then officially designate these areas as distressed, at-risk, competitive, or attainment. While the ARC lacks a prioritization system in terms of which areas and projects actually receive funding, the variable levels of matching, nevertheless,

incentivize states and LDDs to develop projects in the areas most in need by reducing the relative amount of internal capital needed to address the problem in these areas.

A6.2 Key Aspects of the Case with Respect to Research Objectives










The conceptual framework developed for this project was founded on four major elements of collaborative efforts for intercity passenger rail transportation: visioning, planning, design and construction, and operations and maintenance. This case study provides useful lessons for each of the framework's elements as shown in Table A.2.

A6.3 Degree to Which Results are Transferable




Although this case study analysis focused on the implementation of a system of rural highways by a federal-state-local partnership through state DOTs, some of the key findings should be transferrable to the development and operations of multistate passenger rail projects. By definition, intercity passenger rail involves service in more than one municipality. Thus, the task of developing a system or network of passenger rail corridors fundamentally requires collaboration and coordination between different cities in relation to planning, design, implementation, and operations. While ARC activities related to the ADHS only cover the first two components, the use of a multi-jurisdictional partnership is warranted in the development of each component within the context of intercity passenger rail. Given that any two cities served by a corridor are likely to have different interests and priorities relative to passenger rail service in their jurisdiction, an institution with an organizational structure similar to ARC (e.g. one that promotes the development of consensus between federal, state and local governments) could potentially be effective at: developing the overall vision for the intercity passenger rail network; working with the public in a collaborative manner to secure support early on; providing a system of checks and balances between the parties which promotes cost-efficiency; producing unbiased data that allows the parties to prioritize investments in, and make operational changes to, the network using the same set of forecasts, performance measures, and decision-making criteria; and determining how to proceed with network development and operations given project delays.

ARC's purpose is relatively straight-forward yet it employs a broad range of strategies and programs to meet its mission of promoting economic development. To most, operating intercity passenger rail may seem like a narrowly defined, concrete mission that simply involves upfront capital outlays for vehicles, track and signals, and operations expenses for fuel and vehicle maintenance. However, there are also a variety of other elements and activities that are not directly related to building track or running trains, such as station-area planning and design, passenger information systems (information kiosks, apps, station personnel, etc.), and connections to transit or other non-personal vehicle modes, which have an

Table A.2: Case Study Applicability to Research Issues

Research Issue	Degree to Which Objective is Applicable to ARC Case Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

Legend:

	Addresses research issue to a high degree
	Addresses research issue to a moderate degree
	Addresses research issue to a slight degree

influence on the viability and effectiveness of passenger rail operations at the customer level. In developing intercity passenger rail projects, implementing agencies will have to focus on the detailed technical elements of the system; however, expanding the scope of planning activities beyond just the right-of-way could potentially result in a better experience for passengers.

As noted throughout this study, unanticipated changes in federal transportation policy have had a dramatic effect on the development of the remaining ADHS segments. While Congressional earmarks are always subject to change, development of this large-scale transportation network nevertheless appears to have been moving at a faster rate prior to its dedicated funding source being removed. One of the primary issues that the ADHS has run into after MAP-21 was the difficulty of securing STP funding from state DOTs, primarily due to comparing rural highways to urban/suburban roads and interchanges. Given that passenger rail corridors are fundamentally different from roadways in terms of purpose and function, as well as design and operations, any discussion related to a funding mechanism or project prioritization by state DOTs for a passenger rail project should take these differences into consideration from the start.

A.7 References

1. Appalachian Regional Commission Website, ARC, Accessed from, <http://www.arc.gov/index.asp>.
2. ARC Project Guidelines, ARC, Accessed from, <http://www.arc.gov/publications/ARCProjectGuidelines.asp>.
3. County Economic Status and Distressed Areas in Appalachia, ARC, Accessed from, http://www.arc.gov/appalachian_region/CountyEconomicStatusandDistressedAreasinAppalachia.asp.
4. Appalachia: A Report by the president's Appalachian Regional Commission, President's Appalachian Regional Commission, 1964, pg. 31, Accessed from, <http://www.arc.gov/noindex/aboutarc/history/parc/PARCchp4.pdf>.
5. High Priority Corridors, Federal Highway Administration, Accessed from, http://www.fhwa.dot.gov/planning/national_highway_system/high_priority_corridors/hpcor.cfm.
6. ARC History, ARC, Accessed from, <http://www.arc.gov/about/ARCHistory.asp>.
7. ARC Members, Partners, and Staff, ARC, Accessed from, <http://www.arc.gov/about/ARCMembersPartnersandStaff.asp>.
8. ARC Projects, ARC, Accessed from, <http://www.arc.gov/about/ARCProjects.asp>.
9. Moving Appalachia Forward: Appalachian Regional Commission Strategic Plan 2011-2016, ARC, 2010, Accessed from, <http://www.arc.gov/images/newsroom/publications/sp/ARCStrategicPlan2011-2016.pdf>.
10. Funding for the ADHS, ARC, Accessed from http://www.arc.gov/program_areas/ARCFundingfortheADHS.asp.

11. A Guide to Federal-Aid Program and Projects, Federal Highway Administration, Accessed from <http://www.fhwa.dot.gov/federalaid/projects.pdf> .
12. Federal: 40U.S.C. 14101, 14301-14310, 14501 & 14523-14526, no date, Accessed from, <http://www.arc.gov/about/USCodeTitle40SubtitleIV.asp> .
13. Appalachian Development Highway System 2012 Cost-to-Complete Report, ARC, October 2012, Accessed from, http://www.arc.gov/images/programs/transp/2012_adhs_cost-to-complete/2012CostToCompleteReport.pdf .
14. Wester, Kenneth, Federal ADHS Program Manager, Appalachian Regional Commission, Personal Communication: July 8, 2014.
15. Stafford, Saralynn, ARC State Program Manager/Director of External Affairs and Rural Policy, State of Georgia Department of Community Affairs, Personal Communication: July 8, 2014.
16. Collier, Olivia, ARC State Program Manager, North Carolina Department of Commerce - Division of Community Assistance, Personal Communication: July 8, 2014.
17. Albright, Van, Finance Administrator, North Carolina Department of Transportation, Personal Communication: July 8, 2014.
18. Coalfields Expressway & ADHS Corridor Q, Mandy Cox, Virginia Department of Transportation, May 13, 2014, Accessed from, http://www.ctb.virginia.gov/resources/2014/may/pres/Presentation_Agenda_Item_3.pdf .
19. Status of Coalfields Expressway and Coalfields Connector, Virginia Department of Transportation, November 2006, Accessed from, http://www.virginiadot.org/projects/resources/Coalfields_Final_Report_-_VDOT_website.pdf .
20. Status of the Appalachian Development Highway System as of September 30, 2013, ARC, 2013, Accessed from, http://www.arc.gov/noindex/programs/transp/adhs_status_report_2013/ADHSFY2013StatusReportGeneralReport.pdf .
21. Appalachian Development Highway System Completion Plan Report 2013, ARC, September 2013, Accessed from, <http://www.arc.gov/images/programs/transp/ADHSCompletionPlanReport-9-2013.pdf> .
22. North Carolina Transportation Corridor K, A-9 Project Assessment of the Potential for Interagency Collaboration, U.S. Institute for Environmental Conflict Resolution, April 15, 2011, Accessed from, http://www.regiona.org/wp-content/uploads/2011/06/NC-Corridor-K-Summary-Assessment-Report_4-15-11-21.pdf .

CASE STUDY B: CHICAGO – DETROIT / PONTIAC CORRIDOR

Contents

B.0 Executive Summary.....	37
B.2 Description of the Chicago – Detroit / Pontiac Corridor.....	39
B.3 Chicago – Detroit / Pontiac Corridor Participants	42
B.3.1. Agency/Organization Descriptions	43
B.3.2 Description of the Project Implementation Process.....	46
B3.3 Step-by–Step Description of the Implementation Process.....	48
B.4 Barriers/Challenges Faced in Implementing the Chicago – Detroit / Pontiac Corridor.....	55
B.5 Interpretation and Synthesis	57
B5.1 Key Aspects of the Case with Respect to Research Objectives	57
B5.2 Key Lessons Learned	58
B5.3 Degree to Which Results are Transferable	61
B.6 References	63
Appendix B-1: July 2009 MOU	65

Glossary

CN	Canadian National Railway
COGFA	Commission on Government Forecasting and Accountability
CREATE	Chicago Region Environmental and Transportation Efficiency Program
CSAO	Conrail Shared Assets Operations
EIS	Environmental Impact Statement
FRA	Federal Railroad Administration
IDOT	Illinois Department of Transportation
INDOT	Indiana Department of Transportation
MnDOT	Minnesota Department of Transportation
MoDOT	Missouri Department of Transportation
MOU	Memorandum of Understanding
mph	Miles per hour
MWRRRI	Midwest Regional Rail Initiative
MWRRS	Midwest Regional Rail System
NDR	Nebraska Department of Roads
NEPA	National Environmental Protection Act
NGCEC	Next Generational Corridor Equipment Pool
NOFA	Notice of Funding Availability
NS	Norfolk Southern
PRCIP	Passenger Rail Corridor Investment Plan
ROD	Record of Decision
SDP	Service Development Plan
SOTL	South of the Lake
TSC	Technical Steering Committee
WisDOT	Wisconsin Department of Transportation

B.0 Executive Summary

Background

The Chicago – Detroit / Pontiac Corridor is part of the original Midwest Corridor, which was one of five originally proposed high speed passenger rail corridors designated by the US Department of Transportation (USDOT) in 1992. The original Midwest corridor was defined as linking Chicago, Illinois, with Detroit, Michigan; St. Louis, Missouri; and Milwaukee, Wisconsin.

The corridor extends approximately 300 miles from Union Station in downtown Chicago, east to a station terminal in Pontiac, Michigan. The area of analysis includes portions of Cook County in Illinois; Lake, Porter, and La Porte counties in Indiana; and Berrien, Van Buren, Cass, Kalamazoo, Calhoun, Jackson, Washtenaw, Wayne, and Oakland counties in Michigan. Amtrak currently operates the Wolverine passenger rail service along the corridor (see Figure B-1). The Wolverine provides three daily round trips along the corridor and serves 16 stations. The Wolverine is the most highly utilized passenger rail route in Michigan.



Figure B-8: Chicago - Detroit / Pontiac Passenger Rail Corridor

Nature of the Partnership

The Chicago – Detroit / Pontiac corridor is currently undergoing a Tier 1 Environmental Impact Statement (EIS) that is evaluating the Amtrak Wolverine route, as well as other possible route alternatives, along current and former railroad alignments for the proposed intercity passenger rail service. The states of Michigan, Indiana, and Illinois are the sponsors of the Chicago – Detroit / Pontiac corridor project. Michigan DOT (MDOT) is the lead agency for this project with Indiana DOT (INDOT) and Illinois DOT (IDOT) as major partners in this effort. MDOT maintains a direct relationship with FRA throughout the project. Norfolk Southern participates as a member of the Project Advisory Committee. Additionally, MDOT has an agreement with Amtrak for passenger rail service along the corridor. Currently, there is no institutional arrangement between IDOT and INDOT to participate in MDOT's service agreement with Amtrak for passenger rail services along the corridor.

Challenges and Barriers

- Execution of a long-term, phased implementation strategy. It is anticipated that the multi-billion dollar project may not be realized until 2035. Due to this, much coordination will be needed with state DOT partners as well as host railroads operating in the corridor.

- Addressing freight rail capacity constraints between Chicago, Illinois, and Porter, Indiana, including the area known as the South of the Lake (SOTL), one of the busiest freight rail corridors in the nation. Michigan DOT (MDOT) is currently leading the Passenger Rail Corridor Investment Planning work, yet this congested segment is outside the state. Project partners must identify ways to address this challenge through a multistate solution.

Lessons Learned

- FRA's requirements for high-speed and intercity passenger rail planning provided a critical framework and an opportunity to conduct the needed multistate planning efforts.
- Plan for additional time and effort in establishing agreements. For the corridor's various issues relating to agreements, procurement, management, professional services, etc. required review from multiple agencies, slowing progress of the project. The development of multistate agreements should take into consideration individual state's procurement and planning processes and timelines.
- Early coordination and frequent communication. The project lead, MDOT, built strong working relationships with Amtrak and other stakeholders. This helped to identify common goals and 'deal breakers' for all partners in the project, avoiding major conflicts later in the project.

Table B.1 shows how passenger rail efforts in the Chicago-Detroit/Pontiac Corridor addresses the case study focus issues identified in the Conceptual Framework for multistate organization partnerships implementing intercity passenger rail programs.

B.1 Introduction

This case study examines the collaborative process followed by the state of Michigan, in partnership with the states of Indiana and Illinois, to expand intercity passenger rail in the Chicago – Detroit / Pontiac Corridor. The Corridor is one of the original federally designated High-Speed Corridors. The Corridor currently includes one of the few segments of track outside of the Northeast Corridor (between Boston and Washington, D.C.) that has the technical ability to travel to 110 miles per hour (mph). This case study focuses on the efforts of three states and their rail partners to define a vision for the corridor with one state, Michigan, leading the planning effort. The case also highlights the role of the federal government in providing a process structure and funding as part of a national program.

Table B.3 Chicago - Detroit/ Pontiac Corridor Efforts for Planning/Visioning

Characteristic	Discussion
Phase of Project Development	Visioning/Planning
Stakeholders	✓ States of Illinois, Indiana, Michigan, FRA, Host Railroads
Institutional Relationships	✓ State Departments of Transportation of Michigan, Indiana, and Illinois signed MOU for planning work and procurement of consultant services.
Identification of Responsibilities	✓ Development of service alternatives, Tier I EIS and Service Development Plan
Role of regulatory agencies	✓ MOU requires partnering with FRA and that parties are to cooperate to the maximum extent to ensure projects are developed in full compliance with Federal and State requirements.
Political Foundation	✓ 2009 Midwest Governors' MOU was signed by the governors of each of the participating states as well as the Mayor of the City of Chicago.
Why – 'Compelling Need'?	✓ Provide improved intercity mobility by passenger rail that is competitive with auto and air travel between Chicago and Detroit.
Corridor Ownership	✓ Portions of the corridor are owned by Canadian National, Norfolk Southern, CSX and Amtrak
Lead Agencies/Groups	✓ Michigan DOT is leading the project, maintains direct relationship with FRA for project coordination.
Cost Sharing	✓ MDOT committed \$400,000, INDOT committed \$200,000 and IDOT committed \$200,000 in local matching funds to match the \$3.2 million FRA grant for the Passenger Rail Corridor Investment Plan.
Funding Sources	✓ The MOU supports participants in making applications for funding from the American Recovery and Reinvestment Act of 2009 which made \$ 8 billion available for the purpose of funding the Passenger Rail Investment Act of 2008.
Oversight	✓ USDOT and FRA
Relationship with Host Railroad or Other Providers of Service	✓ Norfolk Southern Railroad participates as a member of the Project Advisory Committee.
Liability Issues	✓ -
Contractual Arrangements	✓ Michigan DOT has contractual arrangement with consultants to conduct planning and environmental analysis.

B.2 Description of the Chicago – Detroit / Pontiac Corridor

The Chicago – Detroit / Pontiac Corridor is part of the original Midwest Corridor, which was one of five originally proposed high speed passenger rail corridors designated by the US Department of Transportation (USDOT) in 1992 as a result of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The original Midwest corridor was defined as linking Chicago, Illinois, with Detroit, Michigan; St. Louis, Missouri; and Milwaukee, Wisconsin.

Beginning in 1996, nine state transportation agencies—Illinois DOT (IDOT) Indiana DOT (INDOT), Iowa DOT, Michigan DOT (MDOT), Minnesota DOT (MNDOT), Missouri DOT (MoDOT), Nebraska Department of Roads (NDR), Ohio Rail Development Commission, and Wisconsin DOT (WisDOT)--initiated the Midwest Regional Rail Initiative (MWRRI) to help meet future regional travel needs through

improvements to the level and quality of regional passenger rail service. The MWRRI advanced from a series of service concepts, including increased operating speeds, train frequencies, system connectivity, and high service reliability, into a well-defined vision for creating a 21st century regional passenger rail system. This vision was incorporated into a transportation plan known as the Midwest Regional Rail System (MWRRS). The Corridor is one of several major branches in this hub-and-spoke passenger rail system centered on Chicago. Figure B-2 shows the hub and spoke MWRRI system centered on Chicago. Planned elements of the MWRRS are to include:

- Use of 3,000 miles of existing rail rights-of-way to connect rural, small, urban, and major metropolitan areas;
- Introduction of modern train equipment operating at speeds up to 110 mph;
- Provision of multimodal connections to improve system access; and
- Improvement in reliability and on-time performance.¹

¹ Midwest Regional Rail System: A Transportation Network for the 21st Century: Executive Report. p. 5. September, 2004.



Figure B-9: Hub and Spoke MWRRI System Centered on Chicago

Source: Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/~grtlakes/index.php/site/midwest-connections>

The Corridor extends approximately 300 miles from Union Station in downtown Chicago, east to a station terminal in Pontiac, Michigan. The area of analysis includes portions of Cook County in Illinois; Lake, Porter, and La Porte counties in Indiana; and Berrien, Van Buren, Cass, Kalamazoo, Calhoun, Jackson, Washtenaw, Wayne, and Oakland counties in Michigan.

Amtrak currently operates the Wolverine passenger rail service along the Corridor. Figure B-3 shows the current alignment for the Wolverine service provided by Amtrak and its existing stations. The Wolverine provides three daily round trips along the corridor and serves 16 stations. Trains currently take about six and a half hours to travel the corridor. The Wolverine is the most highly utilized passenger rail route in Michigan. It handled more than 477,000 riders during Amtrak's 2014 fiscal year. The 97-mile segment between Kalamazoo, Michigan; and Porter, Indiana, is currently the only corridor outside the country's Northeast Corridor (between Boston and Washington, D.C.) that is owned by Amtrak and already has the ability to operate trains at speeds of up to 110 mph.



Figure B-10: Chicago - Detroit / Pontiac Passenger Rail Corridor Map

Source: Tier 1 Draft Environmental Impact Statement, Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from <http://greatlakesrail.org/~qrtlakes/index.php/site/info-for-media>

Other Amtrak routes also operate on part of this corridor including the Blue Water (Chicago to Port Huron, Michigan), the Pere Marquette (Chicago to Grand Rapids, Michigan), the Capital Limited (Chicago-Pittsburgh-Washington, D.C.) and the Lake Shore Limited (Chicago-Cleveland-New York/Boston).

Based on interviews with MDOT and Amtrak, it is anticipated that upon project completion almost 80 percent of the entire corridor would be under public ownership either through Amtrak or MDOT. The area between Chicago Union Station and Michigan City, Indiana, known as the South of the Lake (SOTL) area, has a large, complex, array of rail lines and there are a large number of route options within that corridor section. The four Build Alternatives in the SOTL area mentioned in the Tier I Draft EIS consist of existing rail corridors, inactive rail corridors, and new rights-of-way that would require new track construction. For the remainder of the corridor between Michigan City and Pontiac, the existing passenger rail route has been determined to be the only reasonable route. This determination was based on several factors, including the majority of the existing route is already under the ownership of entities actively supportive of intercity passenger rail development (Amtrak from Michigan City to Kalamazoo; and MDOT between Kalamazoo and Dearborn), major investments have been and are continuing to be made on the Michigan City to Dearborn portion of the existing route to accommodate higher speeds and frequencies for passenger trains, agreements have been made as to liability associated with the running of operations on this line, and no existing or historical rail routes, other than the existing passenger rail route, directly connect the major population and employment centers of southern Michigan.

At the time of release of this case study, the planning-level estimated capital costs for the build alternatives, as reported in the Tier I Draft EIS, ranged from \$2.45 billion to \$2.98 billion in 2013 dollars.

B.3 Chicago – Detroit / Pontiac Corridor Participants

The Corridor is being developed to meet goals and objectives consistent with Phase 1 of MWRRI. MWRRI established an objective “to meet current and future regional travel needs through significant improvements to the level and quality of passenger rail service” within the Corridor. Building on the

initial work done by MWRRRI and the MOU signed between the Governors of the Midwest states, the MWRRRI Technical Steering Committee (TSC) assigned MDOT as the lead agency to implement intercity passenger rail service on the Corridor. More details are provided in a later section. MDOT initiated the program in partnership with INDOT and IDOT, and in association with the FRA.

In August 2011, MDOT and its partnering state agencies were selected for a \$3.2 million grant from the FRA's High Speed Interstate Passenger Rail (HSIPR) Program to develop a Passenger Rail Corridor Investment Plan (PRCIP). MDOT and its state partners provided the required 20 percent matching funds for a total study cost of \$4 million. MDOT committed \$400,000 through MDOT State Restricted Funds; INDOT committed \$200,000 through the Industrial and HSR Rail funds and IDOT committed \$200,000 for the PRCIP.

The purpose of the program is to improve intercity mobility by providing an improved passenger rail service that would be a competitive transportation alternative to automobile, bus and air service between Chicago and Detroit/Pontiac, Michigan. In June 2012, MDOT in coordination with its state partners and Norfolk Southern Railway (NS) selected a consulting team to conduct the studies for the program. The three state agencies and NS had previously signed a Memorandum of Understanding (MOU) for a planning agreement to enable the procurement of the consulting team.

Brief overviews of the different participants in the Corridor are provided below.

B.3.1. Agency/Organization Descriptions

The states of Michigan, Indiana, and Illinois are the sponsors of the Chicago – Detroit / Pontiac corridor project. Michigan's involvement in the Corridor is led by **MDOT Office of Rail**. MDOT is the lead agency overseeing the Chicago – Detroit / Pontiac Program. MDOT is responsible for Michigan's state highway system, consisting of state highways, US numbered routes, and interstates. MDOT also administers other state and federal transportation programs for aviation, intercity passenger rail and bus services, rail freight, local public transit services, the Transportation Economic Development Fund, and others.

Responsibility for Indiana's involvement in the Corridor is vested in **INDOT's** Rail Office, whose mandate is to preserve and develop freight and passenger corridors throughout the state of Indiana. This is done through financial assistance to railroads and port authorities, participation in regional planning groups, and monitoring rail industry developments. **IDOT** is the responsible agency for Illinois' involvement in the project. In Illinois, IDOT's Rail Division has statutory responsibility for the planning, construction, operation, and maintenance of Illinois' extensive transportation network, which encompasses highways and bridges, airports, public transit, rail freight, and rail passenger systems. Both INDOT and IDOT are designated as partnering state agencies for the program.

The **FRA** is the lead federal agency for National Environmental Protection Act (NEPA) activities in the Corridor. In this capacity FRA is responsible for reviewing all environmental documents prepared for improvements in the corridor and granting final NEPA approvals. Additionally, it is responsible for approving the Service Development Plan (SDP) that describes how the rail service will be implemented. The FRA is also responsible for administering federal grants for high speed rail projects. These activities

are located within FRA's Office of Passenger and Freight programs in the Environment and Systems Planning Division and the Grant Management Division.

The existing corridor is owned by several freight or passenger railroad operators including Amtrak, NS, Canadian National Railway (CN), and Conrail Shared Assets Operations (CSAO). The National Railroad Passenger Corporation, **Amtrak**, provides passenger rail services along the corridor. MDOT has an agreement with Amtrak for passenger rail services. Amtrak negotiates with the host railroads along the corridor as the operator of the service. MDOT gets involved in coordinating and establishing on-time performance metrics for passenger rail services with Amtrak and the host railroads through Service Outcomes Agreements. NS, CN, CSAO have demonstrated support for the Corridor through letters of support for the 2010 HSIPR grant application.

The project plans for physical improvements to be made on the partner railroads' network include (see Figure B-4):

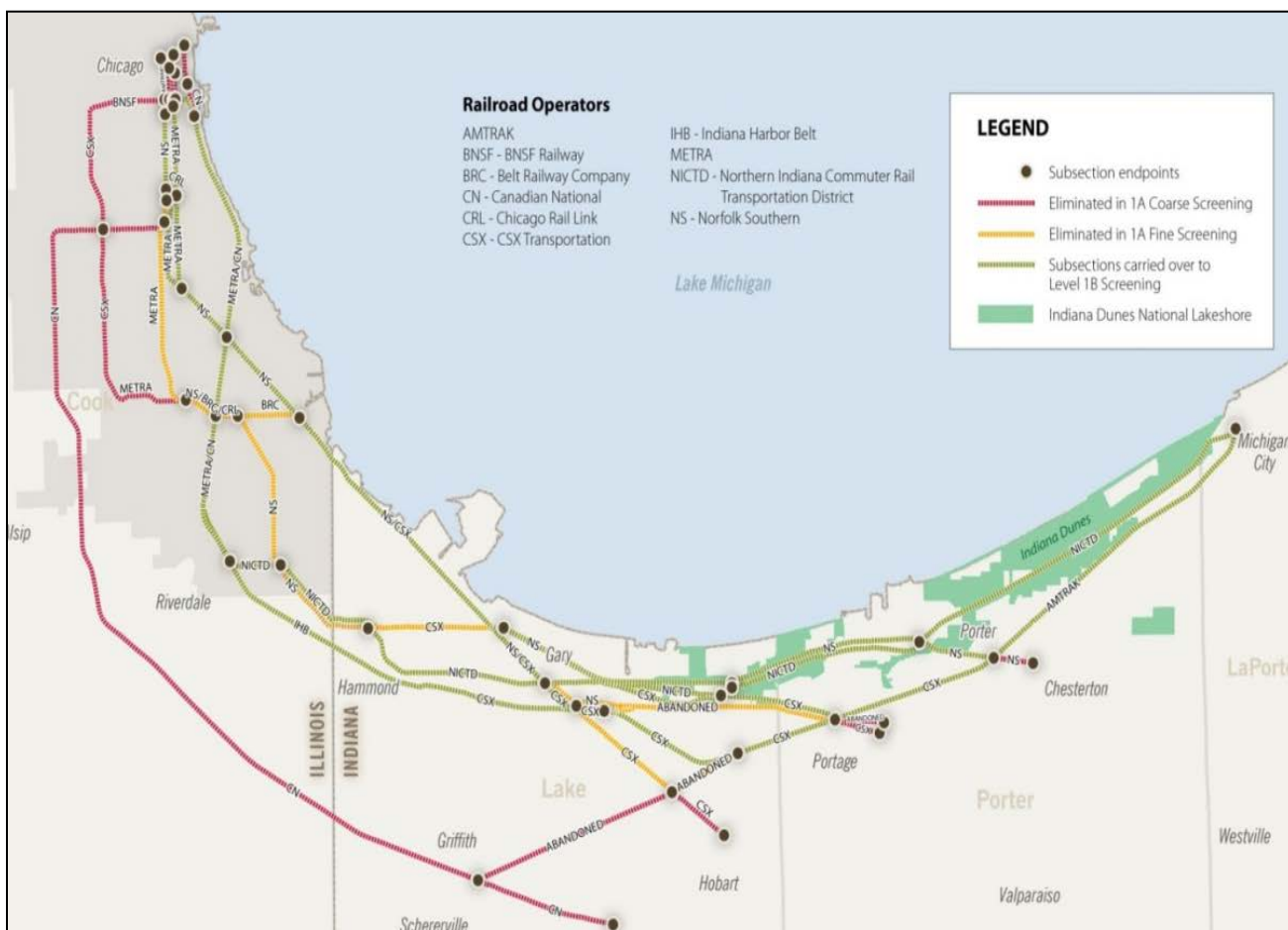


Figure B-11: Chicago - Detroit - Pontiac Alternative Alignments and Host Railroad Ownership

Source: Chicago-Detroit / Pontiac Passenger Rail Corridor Program: Tier 1 DEIS.

<http://greatlakesrail.org/~gtrlakes/documents/PublicHearings/Complete%20Tier%201%20DRAFT%20Environmental%20Impact%20Statement.pdf>

- CN between Pontiac and West Detroit Junction, Michigan;
- Conrail Shared Assets Operations (CSAO) between West Detroit Junction and Townline, Michigan;
- Norfolk Southern (NS) between Townline and Kalamazoo, Michigan;
- Amtrak between Kalamazoo and Porter, Indiana;
- Norfolk Southern (NS) between Porter and 21st Street in Chicago (if selected as the preferred alternative);
- CSX (Michigan Central) from Porter to Tolleston and Buffington Harbor, Indiana (if selected as the preferred alternative);
- Other reasonable alternatives between Porter and Tolleston as analyzed within the project; and
- Amtrak between 21st Street in Chicago and Chicago Union Station (CUS).

Due to the complex nature of passenger rail programs, projects must go through various phases of development before the new or improved service can be initiated. From start to finish, a typical passenger rail project can take several years to complete. Figure B-5 lays down the phases for the development of a passenger rail program. The Chicago – Detroit / Pontiac Corridor is currently in the planning phase. The passenger rail planning and preliminary engineering program phases highlighted below correspond to the visioning and planning stages outlined in the Conceptual Framework for Intercity Passenger Rail for this research study.



Figure B-12: Chicago - Detroit / Pontiac Corridor Program Phases

Source: Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/~grtlakes/index.php/site/program-schedule>

B.3.2 Description of the Project Implementation Process

On April 1, 2010, FRA issued a Notice of Funding Availability (NOFA) for the HSIPR Program in the Federal Register. In response, MDOT submitted an application on May 19, 2010, which the Secretary of the U.S. Department of Transportation selected to receive funding through a Cooperative Agreement to develop a PRCIP for the Corridor. Two key requirements of the PRCIP are a SDP and corridor-wide environmental documentation.

The schedule in Figure B-6 is focused on milestones surrounding the program’s planning phase components: alternatives analysis, Tier 1 EIS, and SDP. The current planning phase will not be complete until the FRA issues a Record of Decision, which will identify a preferred alternative.

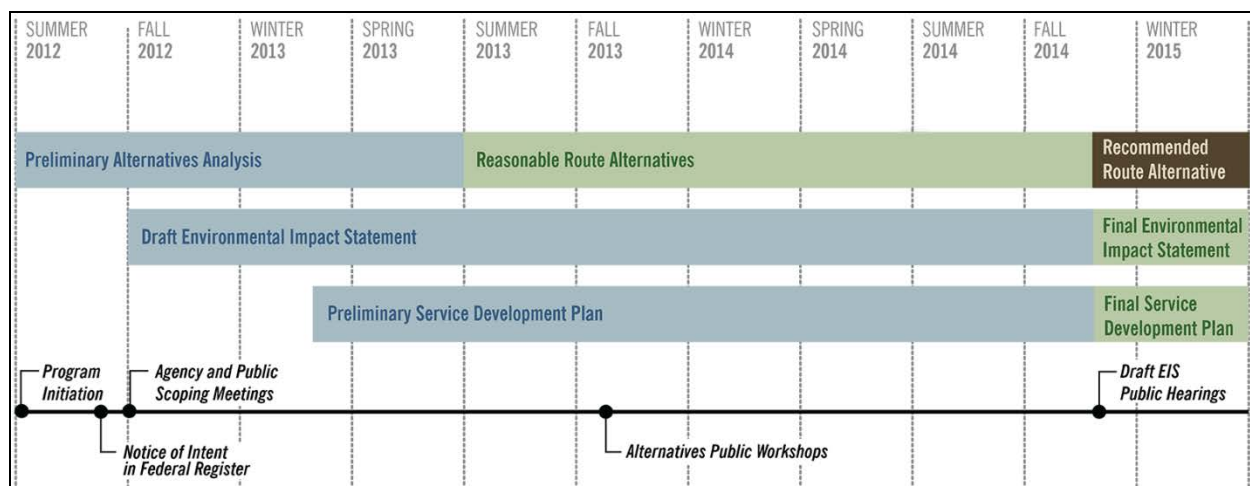


Figure B-13: Planning Phase Schedule

Source: Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/~qrtlakes/index.php/site/program-schedule>

Working together on the Chicago – Detroit / Pontiac Passenger Rail Corridor Program, the states and the FRA will prepare the following under the Organizational and Project Management structure provided in a later section:

- An evaluation of potential route and service alternatives for the corridor.
- A Tier 1 EIS that reviews the impacts and benefits of the rail service.
- A SDP that describes how the rail service will be implemented. The SDP covers proposed service characteristics for the Corridor. It identifies the different capital components of the project and describes how the intercity passenger rail project will operate. The SDP is an iterative document that becomes more detailed as work on the project advances. While the structure of the document is flexible, the following components are required:
 - Corridor Development Program Rationale
 - Service Plan
 - Capital Investment Needs Assessment
 - Financial Forecast
 - Public Benefits Assessment
 - Program Management Approach

The SDP provides the opportunity to vet the multitude of decisions involved with implementing high-speed rail programs with all project stakeholders. In that they address costs and financial results, the SDP helps facilitate decision-making on cost sharing issues.

Safe and reliable passenger rail service that offers frequent daily round trips at speeds up to 110 mph is envisioned for the Corridor. The passenger rail service should also improve freight services by providing

updated infrastructure and more capacity, which state DOT officials believe will benefit the economies of all three states.

Completion of the planning phase will allow MDOT and its state partners to prioritize improvements and apply for future federal funding to help implement the passenger rail corridor.

B3.3 Step-by-Step Description of the Implementation Process

Developing a Vision

The development of a vision for the Corridor has its roots in regional efforts. In 1995, the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin, in partnership with the Federal Railroad Administration (FRA) and Amtrak, began to evaluate the potential role of high-speed rail in the Midwest. In 1996, nine Midwest states and Amtrak formed the MWRRI. A MOU for the Conduct of the MWRRI was established.

The portion of the project area between Chicago, Illinois; to Porter, Indiana, which includes rights of way and/or tracks owned by Amtrak, NS, or CSXT is one of the heaviest freight segments in the country. These constraints inhibit the increase of frequency and speed of passenger rail service for the Chicago-Detroit, Chicago-Cleveland, and Chicago-Indianapolis/Cincinnati corridors. Without solutions to remove or mitigate these constraints, the MWRRI cannot implement intercity passenger rail service in these corridors. Due to this section's impact on the various Midwest Rail Corridors, consulting teams conducted studies in 1996 and 2004 to identify feasible rail alternatives between Chicago and Porter using existing and abandoned rail rights-of-way (ROW).

In 2004, a MWRRI Project Notebook was released which included a strategic assessment, market analysis, estimated costs, implementation plan, funding alternatives, financial analysis, economic analysis, and institutional and organizational issues for the entire Midwest rail system. In June 2009, a study commissioned by MDOT and completed by Grand Valley State University compiled the transportation and economic benefits received by communities that host stations for passenger rail service in Michigan.

On July 27, 2009, the Governors of the Midwest states and the Mayor of the City of Chicago executed an MOU. This document affirms that "all MOU Participants recognize a priority to establish the Chicago Hub to corridors consisting of Chicago-St. Louis, Chicago-Milwaukee-Madison, and Chicago-Detroit/Pontiac (MWRRI Phase I)." The link to the Midwest Governors' MOU is included as Appendix A. The MWRRI TSC, comprising of technical representatives of the states' departments of transportation, was assigned the responsibility for implementing this strategy with the initial priority the completion of Phase 1 of the Midwest Regional Rail System (MWRRS). The MWRRI TSC assigned the MDOT as the lead state to implement intercity passenger rail passenger service on the Corridor for the purpose of completing the MWRRI Phase 1 and satisfying the Midwest Governors' priority. The Midwest Governors' priority project was partially realized in 2009 through funding from the American Recovery and Reinvestment Act (ARRA). The Corridor gained greater priority in 2011 after the newly elected Governor of Wisconsin turned down federal funding to aid in the implementation of the Chicago-Milwaukee-Madison passenger rail corridor, effectively ending planning for that corridor.

A Two-Tiered Planning Process

On April 1, 2010, the FRA issued a NOFA pertaining to funding made available for planning activities under the FRA's HSIPR Program. In order to satisfy the Governors' stated priority in the MOU to complete Phase 1 of the MWRRI, MDOT (the lead state agency) was joined by the Indiana and Illinois Departments of Transportation and NS in submitting an application for funding to prepare a Service Development Plan and a Tier 1 EIS document for the Corridor. Michigan, Illinois, and Indiana are also making significant financial contribution to the 20 percent local share of that project. NS's involvement in the submission of the application stems from their initial ownership of the Dearborn to Kalamazoo portion of the Corridor, which was eventually bought by Michigan with the support of FRA funds.

Because of the complexity of service development programs, extensive preconstruction preparation is required, including service planning, environmental review and design, and conceptual engineering efforts. The first phase of this process, known as the Planning Phase, is the development of a PRCIP. A PRCIP provides sufficient information to support a future decision to fund and implement a major investment in a passenger rail corridor and is made up of two components: (1) an environmental analysis of the proposed rail service, which in the case of the Chicago-to-Detroit/Pontiac Corridor, will be in the form of a Tier 1 EIS to satisfy NEPA requirements, and (2) a SDP.

A detailed planning project work plan is by definition the demonstration of a systematic process to deliver a product that satisfies the federal and state guidelines. The MWRRI TSC and FRA discussed the use of a four step methodology to arrive at the selection of a preferred alternative and the preparation of a Service NEPA. Figure B-7 showcases the methodology.

The service-level environmental analysis will satisfy the NEPA requirements for Federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of proposed actions and reasonable alternatives to those actions. For large-scale rail service development programs, this process begins with studies and documentation that address the broad environmental effects for the entire corridor along the route of the proposed service. FRA has termed this level of environmental review as "Service" NEPA. FRA is the lead Federal agency for this environmental review and is therefore responsible for establishing the scope and approach and the class-of-action determination. To assess the environmental impact of proposed actions on the Corridor, FRA has determined that a Tier 1 EIS is required. A Tier 1 EIS will examine the various alternatives for implementing the proposed train service, including a no-action alternative; consider transportation options using other modes that could address the transportation need; identify the construction projects necessary to implement those service alternatives; and analyze the types of environmental impacts that may be associated with those projects at a general level of detail.

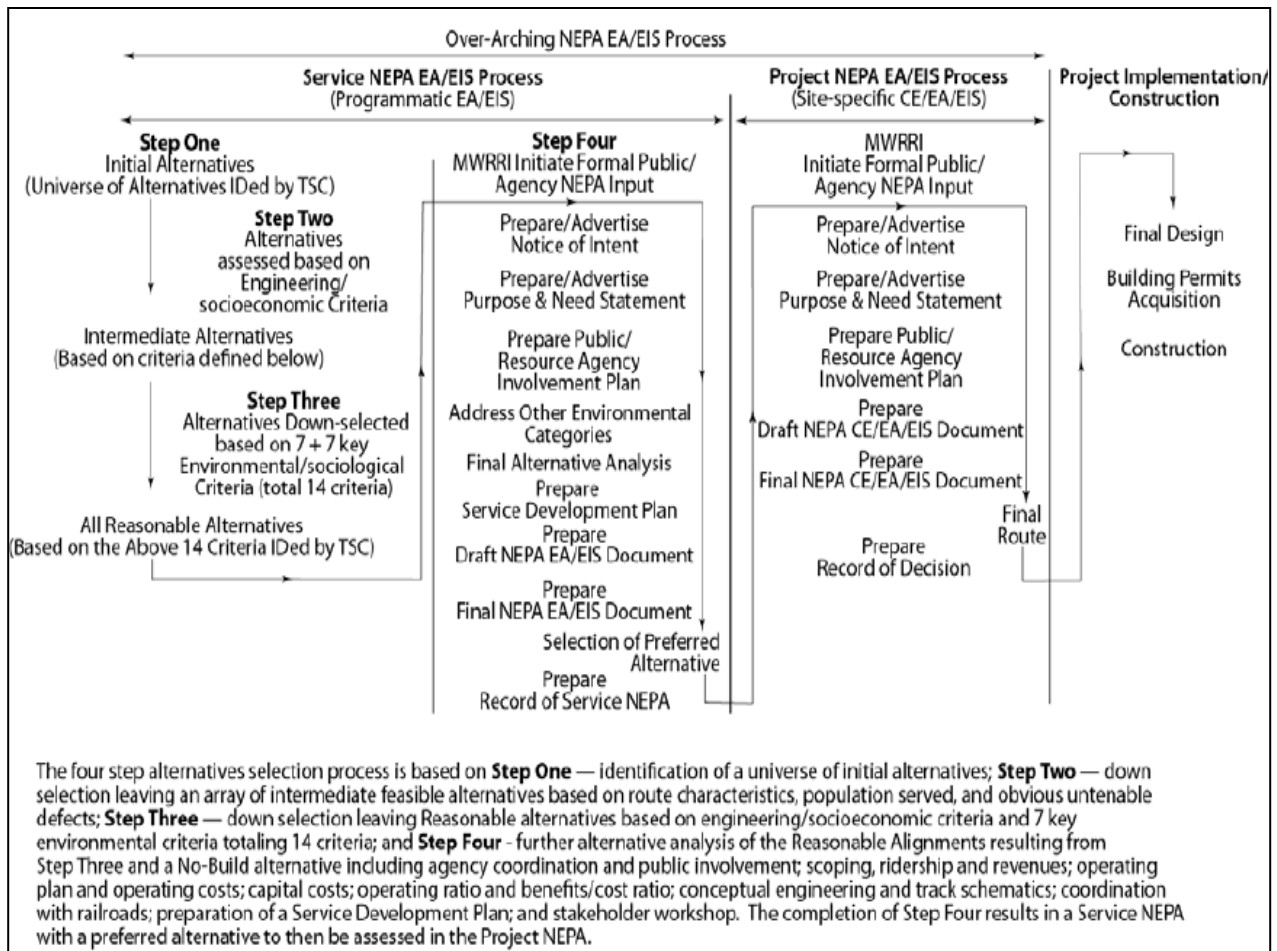


Figure B-14: Service NEPA and Project NEPA Methodology Outline for the MWRRI Four Step Process

Source: High Speed Intercity Passenger Rail Program (HSIPR) Notice of Funding Availability (NOFA): FY 2010 Multistate Planning Projects, Federal Railroad Administration, Federal Register / Vol. 75, No. 62 / Thursday, April 1, 2010 / Notices: Washington, D.C., Accessed from, <http://www.fra.dot.gov/eLib/details/L03704>

Following the Draft Tier 1 EIS and the Final Tier 1 EIS, FRA will make a decision on the Program and Route Alternative in the Record of Decision (ROD). The ROD is a document separate from, but associated with, the Tier 1 EIS that publicly and officially discloses FRA's decision as to which alternative assessed in the EIS is to be implemented. It is anticipated that once a ROD has been issued, the Program Sponsors will identify future sections of the Corridor that have independent utility. A high-level discussion will be included in the ROD that will identify Tier 2 actions on a state-by-state basis for the Selected Program Alternative. Although the Tier 1 EIS and ROD will satisfy NEPA requirements, the SDP will articulate the overall scope and approach for the proposed service, addressing the purpose and need of the service, proposed alternatives, operational and financial feasibility, and the discrete capital projects required to implement the service. Together, the Service NEPA and SDP complete the PRCIP, which would provide sufficient information to support a potential future FRA decision to fund and implement a major investment in the Corridor.

The Selected Program Alternative would be further analyzed in Tier 2 NEPA analysis on site-specific projects, prior to implementation of improved and expanded passenger rail service between Chicago and Detroit/Pontiac. This work would be done at a time when more detailed design information is available, allowing for a more quantitative analyses of impacts. At the conclusion of the Tier 2 Program, the partnering state DOTs and the FRA will have several Tier 2 NEPA clearance documents that include an analysis of environmental impacts, an analysis of independent utility for each Tier 2 action, alternatives, 30 percent preliminary designs and refined cost estimates for major infrastructure improvements such as bridges and other structures, substantial track and signal improvements outside of the existing right of way, as well as stations and maintenance facilities for the Selected Program Alternative.

MDOT-Led Implementation with Close Working Relationships with IDOT and INDOT

The major partners MDOT, IDOT, INDOT have committed, budgeted, or planned up to \$800,000 as the non-federal 20 percent match for the PRCIP. The Michigan, Indiana, and Illinois DOT's are parties to the MOU for the MWRRI. This MOU permits the MWRRI TSC to designate other states to lead multistate projects. MDOT is the lead agency for this project with INDOT and IDOT as major partners in this effort. MDOT maintains a direct relationship with FRA throughout the project. Norfolk Southern participates as a member of the Project Advisory Committee. Additionally, MDOT has an agreement with Amtrak for passenger rail service along the corridor. Currently, there is no institutional arrangement between IDOT and INDOT to participate in MDOT's service agreement with Amtrak for passenger rail services along the Corridor. As the SDP is developed and individual segmental projects are identified, work would be done on establishing such institutional arrangements.

MDOT has been funding Intercity Passenger Rail projects since 1974. From this experience, MDOT has developed a best practices strategy for the use of state appropriations for spending in passenger rail infrastructure and service expansion. Michigan is also home to one of the original six federally designated high speed rail corridors as a result of MDOT's long-standing advocacy for integrated interstate high-speed passenger rail services and its commitment to and participation in the MWRRI. The MDOT Office of High Speed Rail and Innovative Project Advancement consists of a team of experts in rail management, each with their own area of expertise. This office is responsible for promoting and developing the infrastructure needed to support intercity passenger rail, commuter rail and rail rapid transit services. This office works with contractors, provides project oversight, oversees financial aspects of program development and interacts with stakeholders to ensure the success of all rail projects. Staff members in this office are well-versed in all aspects of project management and have experience in working with rail owners and contractors, stakeholders and federal regulatory agencies.

MDOT contracts with the host railroads and draws on their expertise where applicable to construct infrastructure improvements on their ownership. Railroads are in agreement with needed improvements identified in the Michigan portion of the corridor service development plan. MDOT seeks Amtrak support for development of train schedules, projection of ridership and revenues, projection of annual operating funding requirements, station development, negotiation/coordination with host railroads, and engineering design support.

Figure B-8 presents an organizational chart that demonstrates overall coordination needed among the major partners, other railroad partners, municipalities, and the public for the PRCIP. Coordination is required to enter into contractual arrangements among the parties. The MDOT Office of the State Transportation Director has the ultimate contractual responsibility between FRA and the State. The Director is advised by the Administrator of the Office of High Speed Rail and Innovative Projects Advancement. Contractual responsibilities between the MDOT and the parties are the responsibility of Administrator of the Office of High Speed Rail and Innovative Projects Advancement. The Administrator is advised by the Team Coordinator and MDOT project manager.

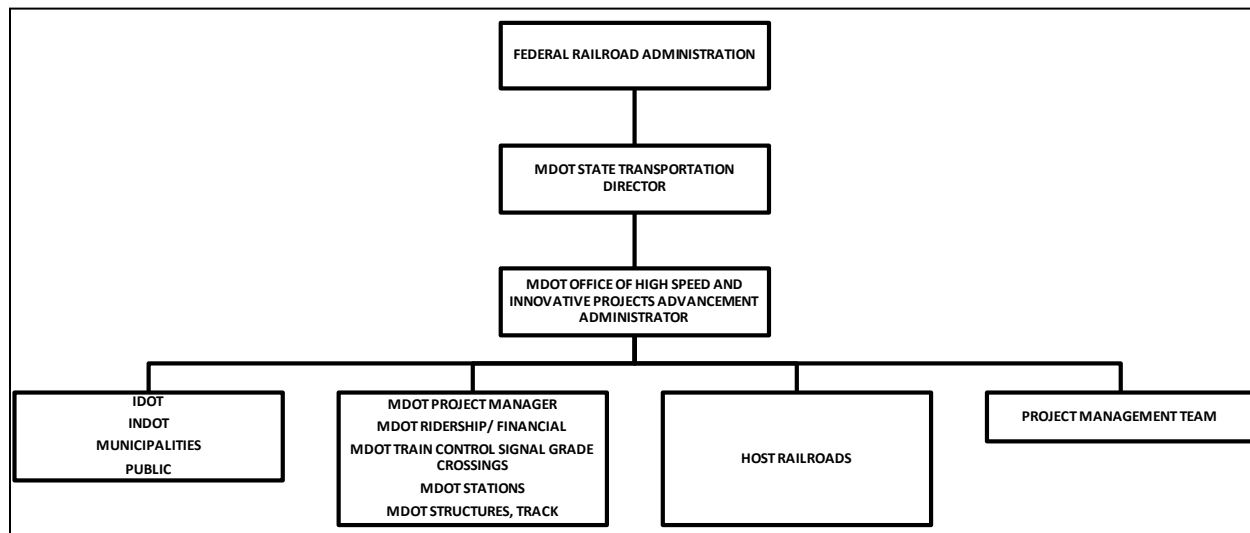


Figure B-15: Organization Chart

Source: MDOT High Speed Intercity Passenger Rail (HSIPR) Program FY2010 Application Form, Form FRA F 6180.135 (03-10), OMB No. 2130-0584, Accessed from, http://www.michigan.gov/documents/mdot/MDOT-HiSpeedChicagoDetroitApplicationForm_327158_7.pdf

The Project Management Team shown on the organization chart in Figure 8 is responsible for the implementation of the PRCIP. Figure B-9 provides a further breakdown of the Project Management Team. The MDOT Project Manager is directly responsible to the FRA Project Technical Representative on a day-to-day basis. The MDOT PM is supported by an MDOT Technical Group. This Technical Group is responsible for review of project deliverables and quality assurance of documents by ensuring that the quality control procedures of the consultant team(s) were satisfactory. The Project Advisory Committee generally functions as a Steering Committee to provide advice to the MDOT Project Manager and is the formal venue by which state partners as well as host railroads can guide study progress and inform study outputs. The Project Advisory Committee meets periodically to receive updates from the Project Team, including the status of schedule and budget.

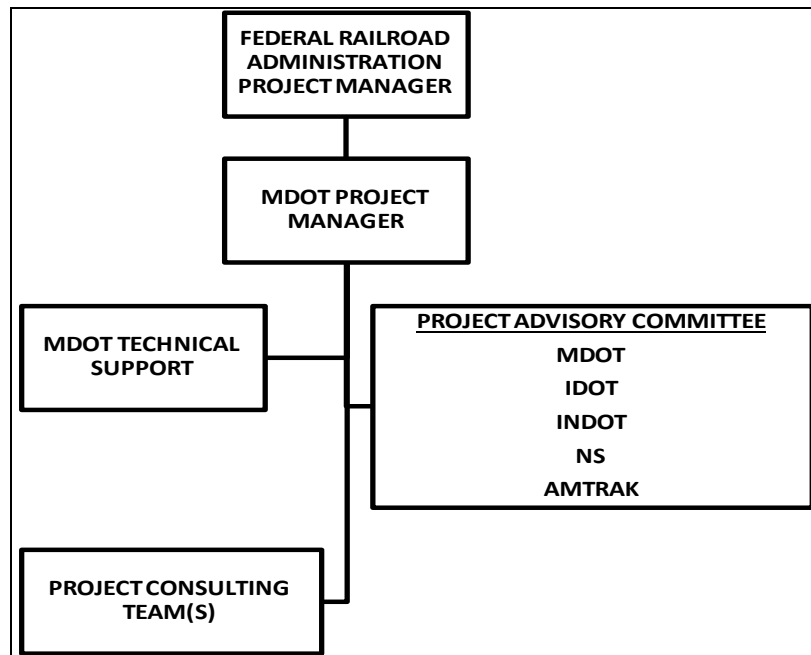


Figure B-16: Project Management Team

Source: MDOT High Speed Intercity Passenger Rail (HSIPR) Program FY2010 Application Form, Form FRA F 6180.135 (03-10), OMB No. 2130-0584, Accessed from, http://www.michigan.gov/documents/mdot/MDOT-HiSpeedChicagoDetroitApplicationForm_327158_7.pdf

Even before any major improvements are made as a part of the PCRIIP and subsequent Tier II NEPA process, Michigan, Indiana, and Illinois are already making investments to the corridor to enhance existing passenger rail services. Major investments include:

- \$384 million in federal and Michigan state funding for the Kalamazoo-Dearborn segment in Michigan to make improvements and purchase the Norfolk Southern rail line. Additionally, over \$40 million has been invested to upgrade stations in Michigan.
- Around \$71 million through a FRA HSIPR grant to relieve congestion and improve the signal system between Porter, Indiana, and the Illinois state line as part of The Indiana Gateway project.
- Implementation of the Chicago Region Environmental and Transportation Efficiency Program (CREATE), a partnership between U.S. DOT, the State of Illinois, City of Chicago, Metra, Amtrak, Association of American Railroads, Belt Railway of Chicago, BNSF Railway, Canadian Pacific Railway, Canadian National Railway, CSXT, Indiana Harbor Belt Railroad, Norfolk Southern Corporation, and Union Pacific Railroad, to improve passenger rail access into Chicago, including the \$140 million Englewood Flyover.

The majority of the Corridor will be owned and maintained by passenger rail entities including the Porter to Kalamazoo section (Amtrak) and the Kalamazoo to Dearborn, Michigan, section (State of Michigan). Ultimately this cost will be shared by other passenger and freight users of the Corridor. The operating plan for each Build Alternative assumes that new intercity passenger rail locomotives and passenger cars will be purchased for exclusive use on the Corridor. The proposed schedule for each Build Alternative includes stops at 16 stations in Illinois, Indiana, and Michigan. This includes 15 existing stations and one

new suburban station in a location to be determined in or around Gary, Indiana. Some of these stations, including Chicago Union Station, are served by multiple intercity and/or commuter routes, and only a portion of the operating and maintenance costs would be assigned to the Chicago – Detroit/Pontiac High Speed service based on the volume of passengers from this route using the station. Some stations, such as Ann Arbor and Dearborn would only be used by the Chicago – Detroit/Pontiac service and therefore full operating and maintenance (O&M) costs would be assigned to this route. Some stations (Battle Creek, for example) are shared between rail and bus services, and the O&M costs are allocated between the modes based on usage. Cost sharing of the above mentioned O&M items and various other cost elements will be analyzed in greater detail in the SDP and Tier 2.

Multistate Rolling Stock Procurement Efforts

Along with coordinated efforts in development of the Chicago – Detroit / Pontiac Draft EIS and other planning work for the corridor, both IDOT and MDOT have been highly involved in efforts to develop the next generation of passenger train rolling stock in the United States. The Passenger Rail Investment and Improvement Act of 2008 (PRIIA), Section 305 required Amtrak to establish a Next Generation Corridor Equipment Pool Committee (NGEC) comprised of representatives of Amtrak, FRA, host railroads, passenger train equipment manufacturers, interested states, and other passenger rail operators. The purpose of the committee was to design, develop specifications for, and procure standardized next-generation passenger rail equipment.² At least 13 state DOTs were involved with the NGEC, including Illinois and Michigan, in development of these standards.

IDOT has led the multistate procurement and expects the first deliveries in 2016. The engines will be built to standardized technical specifications developed by the PRIIA Section 305 NGEC and will comply with the latest Environmental Protection Agency (EPA) emission standards.³ Early capital cost estimates for this rolling stock was over \$500 million. After work was completed by the NGEC partnering with multiple states and industry leaders to develop standardized specifications for rolling stock, the final price was 36 percent lower than original estimates.⁴

The Strategic Role Played by FRA High Speed Rail Process Requirements

The process requirements put in place by FRA have provided a structure to the development of the Chicago – Detroit / Pontiac corridor. MDOT and its partnering agencies are using the development of the required Tier 1 EIS to examine the various alternatives for implementing the proposed train service, including a no-action alternative, to consider transportation options using other modes that could address the transportation need; identify the construction projects necessary to implement those service alternatives; and analyze the types of environmental impacts that may be associated with those projects at a general level of detail.

² PRIIA Section 305 Next Generation Equipment Committee Report. June 2014.
<http://s4prc.org/sites/default/files/media/PRIIA%20Section%20305%20NGEC%20Report%20-%20Equipment%20Ownership%2C%20Maintenance%2C%20and%20Management.pdf>

³ US Department of Transportation: Federal Railroad Administration. FRA Announces Multistate Request for Proposals for Next-Generation Passenger Rail Locomotives. <https://www.fra.dot.gov/eLib/details/L04729> . 8/8/13.

⁴ Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/22/14.

The Service Development Plan (SDP) – another FRA requirement – is an operative process for vetting the difficult decisions that need to be made, identifying challenges and opportunities, phasing, operational analyses, identification of infrastructure, rolling stock and facilities improvements for each discrete phase of new or improved service implementation, cost estimation, ridership and revenue forecasts, financial projections and plan, cost-sharing arrangements, multi-year capital program, public benefits assessment and program implementation strategy.

Once a final vision for the corridor has been agreed upon, the focus of the SDP will be to determine what is needed to implement it. The high speed rail corridor will be developed through a series of capital improvements, some of which will be implemented independently by the three states and some of which will be done collaboratively. There will also be multiple agreements among the states, freight/passenger railroad operators, and host railroads– some for stand-alone components of the system and others for multiple components. The SDP requires that all the corridor components are identified and show how they will coalesce and accommodate existing freight, commuter rail and passenger rail services. In so doing, the SDP will identify a strategy to synthesize the competing needs of these different stakeholders in the development of the Corridor.

The SDP must also identify the capital costs of all the different components of the Corridor as well as the anticipated funding sources. This exercise will help the identification of funding gaps and will enable the discussion regarding how they will be addressed. In order to facilitate decision making, the SDP will be shared among all the project stakeholders and will provide them with the detailed information needed to formulate their own positions on the different strategic issues. As new decisions are made, the SDP will be updated, making it a “living document” that will become increasingly detailed as work on the Corridor progresses. One of the last steps in the formulation of the SDP will be to prepare travel demand and revenue forecasts and capital cost estimates for the different phases of the project.

B.4 Barriers/Challenges Faced in Implementing the Chicago – Detroit / Pontiac Corridor

Varying Degrees of Stakeholder Support and Understanding among the Three Corridor States

The level of support and perceived need for high speed passenger rail service differs among the stakeholders within the corridor states. For example, it has been relatively clear for Illinois that passenger rail was a critical need from the outset of the Corridor efforts, stemming from Chicago’s involvement in the broader MWRRS. On the other hand, there has been a need for better understanding on the part of Indiana to have a provision to service both freight and passenger rail for this particular corridor. It is important to demonstrate that dedicated passenger rail would free up congestion and not take away from freight growth. Efforts will be made to address such issues in the SDP.

Balancing Competing Needs

While this corridor is still fairly early in the project development process, balancing the competing needs of the various passenger, freight, and commuter rail services that exist within the corridor along with planned future high speed rail services is currently and will continue to be a challenge.

Executing a Long-term, Phased Implementation Approach for a Multistate project

The scale of the corridor improvements and the multi-billion dollar capital cost necessitate a phased implementation approach. To achieve the purpose and need of the Chicago-Detroit / Pontiac Passenger Rail Corridor Program, a dedicated passenger corridor that would accommodate two continuous main tracks between Chicago Union Station and Porter, Indiana is needed.

An interim phase of six round trips by 2025, as proposed in the Tier I DEIS, provides opportunities to phase infrastructure and operational improvements. It is anticipated that a full build for 10 round trips would be accomplished by 2035. There will be much coordination with the host freight railroads for track locations and construction staging as well as funding the project on such a scale. The key to this project will be to continue developing the study in such a way to be able to receive federal funding once it is available.

Addressing Freight Rail Capacity Constraints in Illinois and Indiana within the Michigan-led Study Framework

There are various overlapping jurisdictional responsibilities especially between Chicago, Illinois, and Porter, Indiana, including the area known as the South of the Lake (SOTL). SOTL is one of the busiest freight rail corridors in the country and the existing Amtrak route in this area does not have the capacity for additional passenger trips. Though Michigan is leading the PRCIP, this segment lies in Illinois and Indiana – the SDP would need to identify ways of tackling this particular segment within multistate jurisdictional implementation. In the Tier I DEIS, published for comment in 2014, six potential route alignments are proposed in the SOTL portion of the overall alignment. The DEIS determined that a new greenfield alignment would be too costly, in terms of capital and environmental costs, to be a viable alternative. The DEIS screened out several alternatives using existing passenger and freight rail lines through the SOTL area and proposed enhancements to allow for a greater volume of passenger trains to operate through the congested area south of Chicago. More analysis will need to be conducted in the next tier of environmental analysis and review.

Coordination with Freight Railroads

As a part of the federal requirement of creating a corridor investment plan, MDOT is looking at these different needs for passenger, freight, and commuter service levels over the next 20 years. However, even with the great degree of cooperation with the freight railroads in the corridors, the host railroads are private operators and have not been willing to share assumptions on freight growth due to the competitive nature of their business. The FRA requirement of SDPs helps to formalize the coordination of passenger rail planning with freight railroads, but host railroads will need to provide greater levels of information than in the past to allow for accurate modeling of rail traffic in order to strike the appropriate balance for freight and passenger use.

Limited Funding for Rail and Transit

On the federal and state level, rail and transit teams are generally lightly funded. While the Corridor has not experienced a funding issue yet, the project team would need to apply for future funding with the selection of the SOTL route and the completion of the EIS and SDP.

B.5 Interpretation and Synthesis










This section interprets the case study findings in the context of the overall project objectives.

B5.1 Key Aspects of the Case with Respect to Research Objectives




The conceptual framework developed for this project was founded on four major elements of collaborative efforts for intercity passenger rail transportation: visioning, planning, design and construction and operations. This case study provides useful lessons for the first two elements.

The specific issues relevant to the research objectives identified in the Phase I Report and their relevance and applicability to the Chicago – Detroit/Pontiac case study are summarized in Table B.2.

Table B.4: Research Issue Applicability to Case Study

Research Issue	Degree to Which Research Objective is Applicable to Chicago – Detroit/Pontiac Case Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

Legend

	Addresses research issue to a high degree: issue has direct relevance and application to other rail corridors.
	Addresses research issue to a moderate degree: provides a reasonable amount of relevance; characteristic is present but may be of limited applicability to other rail corridors.
	Addresses research issue to a slight degree: not applicable to this rail corridor.

B5.2 Key Lessons Learned

Lesson 1: Institutional Foundation for the Vision

Since 1995, the Midwestern states have worked towards developing a vision to help meet future regional travel needs through improvements to the level and quality of regional passenger rail service. The development of the MWRRI also helped unify the states' interest to ensure that the region received a fair share of federal funding. It also laid the foundation for the Corridor to advance.

The nine states collectively formed the MWRRI Steering Committee and, with support from Amtrak and consultants, developed a 2004 plan to create an integrated Chicago Hub regional rail system that would connect the nine partner states. The Midwest Regional Rail System (MWRRS) included \$6.6 billion of infrastructure improvements along 3,000 route miles of existing ROW shared with existing freight and commuter services. The need for an integrated vision emerged from the realization that a multistate approach yields system synergies and economies of scale, including higher equipment utilization, more efficient crew and employee utilization, and a cooperative federal and state infrastructure and rolling stock procurement process. The vision also called for enhanced partnership between USDOT, FRA, and the Midwestern states for planning and providing passenger rail service.

In 2009, the Governors of eight Midwestern states-- Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin—and the City of Chicago signed a MOU to work cooperatively to secure a portion of the \$8 billion included in the ARRA for development of high-speed rail. The MOU supported implementation of the region's vision of a Chicago Hub that would connect trains traveling up to 110 mph serving cities across the region, along with connections to adjoining regional corridors. The MOU also created the Midwest High-Speed Rail Steering Group, to which each MOU signatory appointed one senior-level official as a voting representative to the group. The Steering Group coordinates and advocates on behalf of the region's collective intercity passenger rail interests and serves as the single point of contact for the region.

With a lot of the groundwork done as a part of the MWRRI process, multistate planning and proposed implementation of rail corridor improvements mostly followed a pattern wherein the state benefitting

most from the project takes the lead. For the Corridor, Michigan took the lead through a contract with Amtrak, which provides services through the corridor. As a part of the federal requirement of creating a corridor investment plan, MDOT is looking at different needs for passenger, freight and commuter service levels over the next 20 years. Once the study is completed, it would help drive future corridor phasing and development.

Lesson 2: Influence of Federal involvement and Funding Requirements

FRA's requirements for advancing HSIPR corridors provided a critical framework and opportunity for substantial funding for the Chicago – Detroit/Pontiac Corridor to conduct multistate planning efforts undertaken to date. Under the HSIPR program, FRA provides funding for the preparation of planning documents for high-speed rail corridors that cross multiple states. The grant agreement includes the 'Statement of Work' that commits all parties to what outcomes need to be achieved from the grant. It is a legally binding document that obligates funding required from FRA for the project and also obligates a local or state match. The participation in this program and resultant funding leads to the development of a PRCIP, which includes both an SDP and corridor-wide environmental documentation (Tier I EIS). The federal funding requirement has a huge role in the visioning, planning, design and construction and operations stages of the project.

The SDP is the primary vehicle for overcoming service and technical challenges. The development of the SDP requires the active participation of all the project stakeholders and will ultimately need to be approved by the FRA. As such, the SDP provides a transparent process for balancing the competing interests of the different project stakeholders.

While work on the SDP for the Chicago – Detroit / Pontiac Corridor is on-going, senior practitioners involved with the project believe that the process will be helpful in informing meaningful decision-making as the project advances. The Service Development Agreement process adds needed structure and purpose to the work of the corridor, as it will generate positions on a wide array of issues that will help guide future steps.

The SDP will also be effective in integrating the present and future work that is being performed on the various segments of the corridor. One of the important benefits of the Service Development Agreement process is that it encompasses the entire Corridor and in that capacity helps to integrate the work completed on individual segments into a larger whole. This is an important dynamic that can be expected to occur with any large high-speed rail program that extends beyond the boundaries of a single state. While the scale of these projects dictates that they be assessed and built in smaller, more manageable segments – many of which will lie within the boundaries of a single state – they will ultimately function as part of a larger, integrated system. The SDP process is helpful as it requires a holistic analysis of the entire corridor.

Additionally, FRA provided MDOT funding, which was matched by the state, to purchase 135 miles of NS railroad for the Corridor. FRA included conditions in the sales agreement to ensure that future MDOT commuter rail service plans along the line would not affect either the passenger rail or the freight rail service. Whenever there are potential congestion issues, Rail Traffic Controller (RTC) modeling system is

an industry standard used to ensure that the right balance is maintained between the competing needs of passenger, freight, and commuter rail. RTC modeling is being undertaken on this particular route. Similarly, any future implementation projects, with funding from the FRA, would require a Service Outcome Agreement which lays down service criteria for the project.

In a multistate effort, each state represents its own interest. However, what may be most beneficial to a particular state may not be in the best interest of the whole corridor. An interviewee noted that so far there has been open coordination between the states. However, for example, in the future it could be difficult for one state to provide their share of funding for capital improvements compared to another state. This often requires FRA to step in and play an active role in order to prevent harm to the corridor development.

While grants through HSIPR have been highly beneficial to the progress of several high-speed and passenger rail corridors, Congress has failed to appropriate any further funding past FY 2010. Without a consistent and reliable source of capital funding the Chicago-Detroit / Pontiac and other passenger rail corridors, may find it extremely challenging to implement planned improvements.

Lesson 3: Allow for additional time and effort

In a multistate implementation effort, the institutional arrangement would need to account for every participating state's policies and procedures. For example, Illinois needs additional review time due to the involvement of the Governor's office through the Commission on Government Forecasting and Accountability (COGFA) and Procurement Policy Board (PPB) for the procurement, management, control, disposal of supplies, services, professional and artistic services, construction of real property, and capital improvement leases procured by the State. Any institutional arrangement would need to accommodate individual state's procurement or planning schedule timelines. Also, on projects where one state takes the lead, the partnering states need to be comfortable with the lead state's processes and policies. If any policy changes need to be made, it consumes a lot of time and resources. This would generally require the involvement of a state agency's senior management and general counsel. The whole process demands a high level of effort with the involvement of experienced and knowledgeable staff.

Lesson 4: Priorities depend on jurisdiction

This case study examines the implementation of multistate, intercity rail service on existing right-of-way, primarily through the use of track upgrades and/or providing additional track. Unlike many new high speed rail services, the proposed project will not be on new right-of-way. As such, the owner of the right-of-way has a very important role in assuring project success, and in the institutional structure created to development and implement a project. The Corridor is in a unique position where nearly 80 percent of the corridor would be under public ownership through Amtrak and MDOT. However, freight does have right of way between Chicago, Illinois to Porter, Indiana which is one of the most congested routes in the country. At the same time, in public meetings in Chicago, a city which is exposed to very high numbers of passenger rail, the demand for higher speed rail is very clear. In some other places, just getting reliable access to rail is a higher priority. As noted in the case study, obtaining cooperation from

railroads will require some sense of benefit for the railroad itself (e.g., public support in upgrading track). This requires trying to marry multi-jurisdictional issues, part of which would be addressed in the SDP. While the SDP would start this process, there will be ongoing coordination and with the host railroads. This element of successful institutional arrangements for mixed use corridors will likely be one of the most important factors in implementing intercity passenger rail services.

Lesson 5: Start coordination and frequent communication early

While balancing competing needs among the different states and railroads, the best strategy is to start coordination very early. It is important to get the various stakeholders vested with the authority to make decisions face-to-face on a regular basis. When there is a sense of urgency among the stakeholders, it is easier to get them to the table. A major focus early on has to be on common goals for the project participants. At the same time, knowing the deal breakers for the various stakeholders early on is also extremely important. By communicating and having an extensive collaborative decision-making process from the start, major problems and issues can be avoided as the project progresses. While this might be time consuming early on, the process can lead to an open and trusting working relationship among the stakeholders. Based on feedback from interviews and communication with IDOT, FRA, and Amtrak, it appears that MDOT has done a very good job of coordinating initial efforts with all the partner agencies. They should also host public progress meetings throughout the process to keep public involved and updated.

Lesson 6: Role of Amtrak

MDOT has an operating agreement with Amtrak for passenger rail services. In general, working with Amtrak provides MDOT a few incentives. Firstly, under federal law, Amtrak has a statutory right to preference in the dispatching of intercity passenger trains before freight trains. Secondly, Amtrak is provided access to the host railroad only at incremental cost. Finally, private operators and commuter service cannot provide the same level of indemnification to the host railroad as Amtrak.

Amtrak also has a significant stake in this corridor. It owns the 97-mile stretch of existing route from Porter to Kalamazoo, which is the longest segment of track owned by Amtrak outside of the Northeast Corridor. This segment corresponds to almost one-third of the corridor. Coupled with MDOT's ownership of around 50 percent of the corridor, this provides Amtrak some leverage while undertaking negotiations with the various railroads along the corridor as a part of the project.

B5.3 Degree to Which Results are Transferable

Though the Corridor is in the relatively early stages of the vision and planning process, the key findings of this case study should be transferrable to other large bi- or multistate intercity passenger rail projects.

While it is generally more feasible to study and implement large multistate intercity passenger rail projects in smaller segments, states should not lose sight of the larger picture. The efforts in the Chicago-Detroit corridor to date, including previous and on-going state specific improvements,

demonstrate that state collaboration on intercity passenger rail service requires an agreement and a clear project vision early on.

This corridor also demonstrates the benefits that can result from utilizing FRA's framework for intercity passenger rail project development. The Service Development Agreement process required by the FRA provides an excellent platform for developing an end vision of how large high-speed rail projects will function and be implemented. It provides an excellent structure for developing a service plan and undertaking other basic planning analyses that are needed for high-speed rail projects but that are not necessarily included in the NEPA process. The Service Development Agreement is an iterative document that evolves and becomes more detailed over time. The experience suggests that high-speed rail practitioners in other states would benefit from initiating work on Service Development Agreements for bi- or multistate high-speed rail projects early on in the planning process in order to gain up-front buy-in on strategic issues including the service plan and required through-put for the high-speed rail system that will shape the definition of the project. The SDP process is also helpful because it identifies the other strategic planning analyses and decisions that will need to be made outside of the standard NEPA process as work on the high-speed rail project progresses. Development of the SDP can be challenging and time consuming for project sponsors. Other states and passenger rail corridors that are in the early stages of visioning, and planning need to be aware of time and effort needed to work through the SDP development process.

Finally, though the Corridor is in a unique position of having nearly 80 percent of the corridor under public ownership, it is important to ensure that institutional arrangements cater to differing jurisdictional priorities that involve and account for the various stakeholders early in the process. It is extremely important to identify common goals and deal breakers for project stakeholders early on. With various moving parts and the need for long term commitment from all stakeholders, regular communication between the projects' participants at all levels is essential.

B.6 References

1. Midwest Regional Rail System: A Transportation Network for the 21st Century: Executive Report. p. 5. September, 2004.
2. PRIIA Section 305 Next Generation Equipment Committee Report. June 2014.
<http://s4prc.org/sites/default/files/media/PRIIA%20Section%20305%20NGEC%20Report%20-%20Equipment%20Ownership%2C%20Maintenance%2C%20and%20Management.pdf>
3. US Department of Transportation: Federal Railroad Administration. FRA Announces Multistate Request for Proposals for Next-Generation Passenger Rail Locomotives. <http://www.fra.gov/eLib/details/L04729.8/8/13>.
4. Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/22/14.
5. Johnson, Al, Supervisor, Passenger & Operations Manager, Michigan Department of Transportation, Personal Communication, August 25, 2014.
6. Alghurabi, Mohammed S., Senior Project Manager, Michigan Department of Transportation, Personal Communication, August 25, 2014.
7. Oimoen, John, Deputy Director - Division of Public and Intermodal Transportation, Illinois Department of Transportation, Personal Communication, August 28, 2014.
8. Franke, Michael, Chief - State Government Contracts, Amtrak, Personal Communication, September 10, 2014.
9. Davis, Wynne, Midwest Regional Manager, Federal Railroad Administration, Personal Communication, September 16, 2014.
10. Ramos, Elliot, Passenger Rail Engineer, Illinois Department of Transportation, E-mail Communication, October 6, 2014.
11. High Speed Intercity Passenger Rail Program (HSIPR) Notice of Funding Availability (NOFA) and Interim Guidance: ARRA / FY 2009, Federal Railroad Administration, Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices: Washington, D.C. Accessed from, <https://www.fra.dot.gov/Elib/Details/L03706>
12. High-Speed Rail Timeline, Federal Railroad Administration website, Accessed from, <https://www.fra.dot.gov/Page/P0140>
13. Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/>
14. Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/~grtlakes/index.php/site/midwest-connections>
15. Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/~grtlakes/index.php/site/program-area>
16. Tier 1 Draft Environmental Impact Statement, Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/~grtlakes/index.php/site/public-hearings>
17. Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/~grtlakes/index.php/site/existing-rail-service>
18. Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, <http://greatlakesrail.org/~grtlakes/index.php/site/program-schedule>

19. High Speed Intercity Passenger Rail Program (HSIPR) Notice of Funding Availability (NOFA): FY 2010 Multi-State Planning Projects, Federal Railroad Administration, Federal Register / Vol. 75, No. 62 / Thursday, April 1, 2010 / Notices: Washington, D.C. , Accessed from, <http://www.fra.dot.gov/eLib/details/L03704>
20. Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, HSIPR Program Grant Agreement –Attachment 3: Scope of Work, Accessed from, http://www.michigan.gov/documents/mdot/MDOT_2011-08-24CorridorInvestPlanGrant_368340_7.pdf
21. MDOT High Speed Intercity Passenger Rail (HSIPR) Program FY2010 Application Form, Form FRA F 6180.135 (03-10), OMB No. 2130-0584, Accessed from, http://www.michigan.gov/documents/mdot/MDOT-HiSpeedChicagoDetroitApplicationForm_327158_7.pdf
22. Midwest Regional Rail Initiative Midwest Regional Rail Initiative Project Notebook , Accessed from http://michigan.gov/documents/mdot/MDOT_MWRRRI_Project-Notebook-Final-2004_291983_7.pdf
23. Taylor, John C.; Singh, Hari; and Isely, Paul, "Michigan Passenger Rail Station Community Benefits Study" (2009). Grant Project Reports. Paper 1., Assessed from <http://scholarworks.gvsu.edu/grantreports/1>
24. Midwest Corridor Service Development Plan, Accessed from http://www.michigan.gov/documents/mdot/Michigan_Corridor_SDP_330329_7.pdf October 2009
25. Chicago- Detroit/ Pontiac Rail Corridor Improvements, Service NEPA Environmental Assessment, Assessed from http://www.michigan.gov/documents/mdot/MDOT_ServiceNepaEA_295227_7.pdf
26. Midwest Regional Rail Initiative documents, Assessed from <http://www.michigan.gov/mdot/0,4616,7-151-11056-166461--,00.html>
27. Multi-Modal Transportation Services, Chicago – Detroit/Pontiac Passenger Rail Corridor Investment Plan Request for Proposals, Assessed from http://www.michigan.gov/documents/mdot/MDOT_RFP_SS_REQ772_posted_368496_7.pdf
28. Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, http://greatlakesrail.org/~grtlakes/documents/Frequently_Asked_Questions.pdf
29. Chicago – Detroit / Pontiac Passenger Rail Corridor Program website, Accessed from, http://greatlakesrail.org/~grtlakes/documents/Newsletter_09-10-2012.pdf
30. MDOT, FRA and Norfolk Southern announce progress in bringing more accelerated rail service to Michigan, Accessed from, <http://www.michigan.gov/mdot/0,4616,7-151-9620-291086--,00.html>

Appendix B-1 – July 2009 MOU

Memorandum of Understanding Involving State of Illinois, State of Indiana, State of Iowa, State of Michigan, State of Minnesota, State of Missouri, State of Ohio, State of Wisconsin, and City of Chicago for the Implementation of High-Speed Rail Passenger Service and Connections Involving Corridors Linking Cities in their Respective States, July 27, 2009.

Available at <http://governor.mo.gov/sites/default/files/MOU20090727.pdf>

CASE STUDY C: MIDWEST PASSENGER RAIL

Contents

C.0 Executive Summary.....	69
C.1 Introduction	78
C.2 Description of the Midwest Region	78
C.3 Midwest Region Participants	81
C.4 Description of the Project Development and Implementation Process.....	96
C.5 Multi-State Agreements in the Midwest Region	108
C.6 Challenges and Barriers in the Midwest Region	112
C.7 Interpretation and Synthesis	116
C.8 References	120
Appendix C-1 – Background on High Speed Intercity Passenger Rail Program FY 2009 Funding and Service Development Plans	123
Appendix C-2: MOU 2009 HSIPR Midwest Grant Application	125
Appendix C-3: Agreement in Principle between Iowa DOT and Illinois DOT for Chicago-Iowa City	130

Glossary

AIP	Agreement in Principle
ARRA	American Recovery and Reinvestment Act
BNSF	Burlington Northern Santa Fe Railway
EIS	Environmental Impact Statement
FRA	Federal Railroad Administration
IAIS	Iowa Interstate Railroad
IDOT	Illinois Department of Transportation
IGA	Intergovernmental Agreement
INDOT	Indiana Department of Transportation
KDOT	Kansas Department of Transportation
MDOT	Michigan Department of Transportation
MIPRC	Midwest Interstate Passenger Rail Commission
MnDOT	Minnesota Department of Transportation
MoDOT	Missouri Department of Transportation
MOU	Memorandum of Understanding
MPO	metropolitan planning organization
MWRRRI	Midwest Regional Rail Initiative
MWRRS	Midwest Regional Rail System
NDDOT	North Dakota Department of Transportation
NDOR	Nebraska Department of Roads
NEPA	National Environmental Policy Act
NGEC	Next Generation Corridor Equipment Pool Committee
NICTD	Northern Indiana Commuter Transportation District
ORDC	Ohio Rail Development Commission
PRIIA	Passenger Rail Investment and Improvement Act
ROD	Record of Decision
SDP	Service Development Plan
SOA	Service Outcome Agreement
UP	Union Pacific Railroad
USDOT	United States Department of Transportation
WisDOT	Wisconsin Department of Transportation

C.0 Executive Summary

Background

Several states have been involved in the development of the Midwest Passenger Rail System over the last two decades. This case study focuses largely on what has become known as the ‘Chicago Hub Network.’ This network would see Chicago at the center of a hub and spoke system, with lines extending to and connecting some of the largest and most densely populated cities of the Midwest (see Figure C-1).

Beginning in 1996, nine state transportation agencies—Illinois DOT, Indiana DOT, Iowa DOT, Michigan DOT, Minnesota DOT, Missouri DOT, Nebraska Department of Roads, Ohio Rail Development Commission, and Wisconsin DOT—initiated the Midwest Regional Rail Initiative (MWRRI) to help meet future regional travel needs through improvements to the level and quality of regional passenger rail service. A secondary purpose of the MWRRI was to unify the states’ interests to ensure that the region received a fair share of federal funding. The nine states collectively formed the MWRRI Steering Committee and, with support from Amtrak and consultants, developed a 2004 Plan to create an integrated Chicago Hub regional rail system that would connect the nine partner states. The Midwest Regional Rail System (MWRRS) included \$6.6 billion of infrastructure improvements along 3,000 route miles of existing rights-of-way shared with existing freight and commuter services.

The plan explored institutional arrangements to provide system-level oversight, including creating ad hoc, multistate committees, establishing committees by multistate agreements, or creating a Joint Powers Authority through legislative authority. As of the date of the case study, no consensus has been reached on a governance mechanism to provide system oversight. Still, under the vision articulated by the MWRRI, each state retains sovereignty and the ultimate implementation of the projects is the responsibility of the states.

In response to the potential for funds for high speed rail from the American Recovery and Reinvestment Act (ARRA) of 2009, eight states and the mayor of Chicago signed a memorandum of understanding (MOU) where each signee agreed to:

- Establish a high-level, multi- state steering group with a representative from each signatory to the MOU. The purpose of the Midwest Rail Steering Group will be to coordinate the region’s applications and work associated with all ARRA applications to provide guidance, leadership and a single advocacy voice in support of the region’s collective high-speed rail priorities. The Steering Group shall identify a point of contact between MOU Participants and the U.S. Department of Transportation.



Figure C-17: Proposed Midwest Regional Rail System

- Coordinate and cooperate fully in support of each MOU participant's individual state applications for high-speed and intercity rail funding.
- Coordinate and negotiate with the major railroads to sign agreements for the development of high-speed rail corridors, and the identified individual projects by stated priority.
- Be free to pursue individual memoranda of agreement or understanding among MOU participants, related to specific projects involved in support of the overall application and vision for the Midwest corridor.
- Be separately responsible for any and all work taking place within their respective state boundaries.
- Allow other Midwestern or contiguous states the opportunity to join in this MOU at any time if they are willing to support all aspects of the agreement in place.

Close to 50 studies have been completed in corridors throughout the Midwest since the development of the MWRR in 1996. To better organize and prioritize project implementation efforts for the MWRRS, a Service Development Plan was published by the Midwest Regional Rail Initiative in September 2009. The 2009 SDP proposed moving specific corridors forward in a phased approach, giving highest priority to corridors with greater ridership potential, most advanced in planning, and posed the lowest amount of risk. Phases were broken out as follows:

- Phase 1: Chicago – Madison (Wisconsin as lead state, who later withdrew), Chicago – St. Louis (Illinois as lead state), and Chicago – Detroit/Pontiac (Michigan as lead state)
- Phase 2: Chicago – Minneapolis/St. Paul (Minnesota as lead state)
- Phase 3: Chicago – Iowa City (Iowa as lead state)

Nature of the Partnership

Midwest region states wishing to partner with other states to advance passenger rail corridor projects employ various types of agreements to assign roles, responsibilities, financial commitments, procurement, and various other reasons. The instruments most commonly used by states participating in the MWRRS to formalize their agreements were the following:

Memorandum of Understanding (MOU)/Memorandum of Agreement (MOA)

MOU/MOAs specify mutually-accepted agreements between two or more people or organizations working toward a common objective. The use of MOU/MOAs is significant for two main reasons: generally they are not legally binding, and they do not involve the exchange of money. MOUs have the advantage of formally defining roles and responsibilities without creating the legal obligations of a contract.

Agreement in Principle (AIP)

Much in the same way that an MOU is not legally enforceable, an Agreement in Principle (AIP) is not legally binding. An AIP is generally used between parties to come to agreement on specific terms that could form the foundation of a future contract. The AIP serves as a way to come to a basic understanding of contentious issues, and develop a level of consensus between parties. An AIP between the State of Iowa Department of Transportation and the Illinois Department of Transportation was used to establish the two agencies' roles, responsibilities, risks and other important details of work needed to initiate the High-Speed Passenger Rail analysis between Chicago and Iowa City, IA. The AIP identifies all parties entering into the agreement, summarizes the scope of the project, and identifies a series of terms and definitions on which the parties mutually agree. In this example the AIP defines Iowa DOT as the lead agency and FRA grant recipient, defines how future equipment costs will be shared between the states, details how cost overruns are to be managed for the project, and elaborates on several other critical issues.

Intergovernmental Agreement (IGA)/Interlocal Agreement (ILA)

Intergovernmental/Interlocal Agreements, as the name implies, are agreements made exclusively between two or more governmental bodies. In the case of the MWRRS, IGAs have been used between state DOTs and communities where stations are to be located to come to agreement on construction and maintenance costs related to the community's planned passenger rail stations. (In most cases local municipalities are responsible for the maintenance and operational costs of their stations).

Service Outcome Agreement (SOA)

To help mitigate risk to grantees, FRA required long-term Service Outcome Agreements among host railroads on whose track where intercity passenger or high-speed rail projects would operate, the

grantee and the service operator (in many cases Amtrak). Service Outcome Agreements define the intended benefits of new or improved passenger rail service and demonstrate the rail owning entity's commitment to the achievement of those benefits. Specifically, they address passenger rail service frequency, schedule and trip time, and maximum delay minutes. Service Outcome Agreements are used to detail precisely what improvements will be made along the host railroad's right-of-way and how progressive phases of the passenger rail project will improve service in the project corridor.

In many cases, the development and agreement upon the SOA can be one of the more challenging agreements to reach. Differing goals between parties can make the SOA negotiations complex and difficult. In the State of Missouri's SOA with the Union Pacific Railroad, the different organizations involved besides the Union Pacific Railroad (Missouri DOT, Amtrak, and FRA) had different priorities and goals. For the FRA, travel time reduction for the total trip was paramount, while the Missouri DOT and Amtrak had their focus on increasing the on-time performance percentage to make service more reliable. These types of differing agency goals can make the agreement process more complicated and time-consuming.

Challenges and Barriers

- The Midwest currently does not have a single entity responsible for coordinating regional, ongoing, long-term technical planning or ensuring political and educational functions necessary for future regional passenger rail implementation will be coordinated. In addition, a number of issues loom on the horizon that may best be helped by a new or expanded governance entity including oversight and coordination of the Midwest's Next Generation equipment; better uniformity of Section 209 pricing; and priorities and cost-sharing for major infrastructure improvements.
- Changing political goals and priorities that occur over the long-term horizon for completion of large capital projects makes moving projects forward more difficult, especially forming and maintaining long term multistate agreements.
- Separation of political and technical bodies in development of the regional rail vision. Although a formal compact has been established between states (at the gubernatorial level) for the MIPRC with authority to oversee rail projects, the disparate development of corridor studies by separate partnerships of specific state departments of transportation limited the potential for the region to use the compact as mechanism to formalize buy-in for the regional vision.
- Several state DOTs pointed to the challenges brought by the lack of a committed, long-term, stable funding source for construction, operation and maintenance of passenger rail systems.
- Unlike the Northeast Corridor, which is owned entirely by public entities, most of the railroad network in the Midwest is owned by private freight railroads whose primary concern is preservation and expansion of their freight service and not development of a robust and expansive passenger rail network.

Lessons Learned

- Do not underestimate effort and time necessary to develop agreements. Evidence of the high volume of agreements required to implement passenger rail services is found in the detailed 234 (and growing) agreements that have been produced as part of the Chicago to St. Louis high-speed rail projects. Agreements can directly impact the critical path of project implementation. Delays caused by agreements have the potential to drastically slow projects and put projects at financial risk if not given a high level of priority.
- Early, frequent, and open communications with all partners, particularly host railroads, FRA, and Amtrak are essential to overall success.
- Take the long view as the long term nature of such large scale infrastructure projects pose challenges to project leaders to maintain momentum and to help keep their projects as priorities of their respective state's elected leadership. Several project leaders contacted for this study expressed the need to be flexible and expect change as projects evolve.
- Formal guidance on what elements are to be included in FRA Service Outcome Agreements (SOAs) and how agreements are to be structured would provide needed clarity for all parties involved. Project stakeholders found the SOA negotiation process to be a time-consuming process of trial and error in which multiple versions of agreements were rejected by other parties to the agreement.
- Involvement and consensus is essential at the very top of each state, including at the governor level, as the lack of buy-in by new administrations can undermine decades of work to build agreements and shared vision.

Conceptual Framework Characteristics

A discussion of how the various multistate arrangements in the Midwest addresses the case study focus issues identified in the Conceptual Framework for multistate organization partnerships implementing intercity passenger rail programs is presented in the following tables. Table C.1 first focuses on entities that support the Planning/Visioning phase and also focuses on one corridor level effort reviewed across the Planning/Visioning/Design & Construction phases.

Table C.5: Midwest Region Efforts for Planning/Visioning

Characteristic	Discussion		
	Midwest Interstate Passenger Rail Commission	Midwest High-Speed Rail Steering Group (2009 MOU for Implementation of High-Speed Rail Passenger Service and Connections Involving Corridors Linking Cities in Partner States)	Midwest Regional Rail Initiative Steering Committee
Phase of Project Development	Visioning/Planning	Visioning/Planning	Visioning/Planning
Stakeholders	✓ States of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin	✓ States of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin. City of Chicago	✓ States of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, Wisconsin. Amtrak. FRA
Institutional Relationships	✓ Established through Midwest Interstate Passenger Rail Compact	✓ Established through 2009 MOU entitled Implementation of High-Speed Rail Passenger Service and Connections Involving Corridors Linking Cities in Partner States (signed by 8 Midwestern states and the City of Chicago)	✓ Voluntary working group
Identification of Responsibilities	✓ Compact identifies responsibilities: to advocate for funding and authorization necessary to make passenger rail improvements a reality for Midwest; seek to develop ways states can form partnerships with rail industry and labor to implement improved passenger rail; develop long-term interstate plan for high-speed passenger rail service; and cooperate with other agencies, regions and entities to ensure Midwest adequately represented into national plans for passenger rail development	✓ MOU requires parties to cooperate to the maximum extent to ensure projects are developed in full compliance with Federal and state requirements.	✓ No formal agreement but Steering Committee, composed of key staff from each state agency and Amtrak, provided oversight and direction to the consultant team retained to conduct the study. Wisconsin DOT served as Secretariat for the Steering Committee. Amtrak provided administrative support and administered contracts.
Role of Regulatory		✓ MOU states partnering with	✓ FRA for oversight, environmental reviews,

Characteristic	Discussion		
	Midwest Interstate Passenger Rail Commission	Midwest High-Speed Rail Steering Group (2009 MOU for Implementation of High-Speed Rail Passenger Service and Connections Involving Corridors Linking Cities in Partner States)	Midwest Regional Rail Initiative Steering Committee
Agencies		FRA is key requirement	provide capital funding
Political Foundation	✓ Participation in Compact demonstrates support by state legislature	✓ Participation in MOU demonstrates support at gubernatorial level	
Why – ‘Compelling Need’?	✓ Compact formed to help the Midwest region advocate for federal funding for improved passenger rail in a unified and coordinated manner	✓ Coordinating and documenting individual applications to the FRA for funding from ARRA to develop the Chicago Hub High-Speed Rail Corridor	✓ Meet future regional travel needs though significant improvements to the level and quality of regional passenger rail service, reduction in travel times, and improve economic development in the region.
Modal Competition Strategy			✓ MWRRS envisioned a network of feeder bus routes to connect smaller communities to HSR lines in the Midwest.
Decision-making Process	✓ Commission members have equal voting rights. Commission to meet annually at minimum		✓ Steering Committee members have equal voting rights. Motions approved by 2/3 majority of Committee members.
Corridor Ownership	✓ Multiple Class I railroads	✓ Multiple Class I railroads	✓ Multiple Class I railroads
Lead Agencies/Groups	✓ The Commission annually elects from its membership a chair, vice-chair and other offices to provide leadership	✓ The Midwest Rail Steering Group is defined as the coordinating group and point of contact between MOU participants and the USDOT for ARRA applications.	✓ The Steering Committee provided direction and oversight to consultants conducting planning for the Midwest Regional Rail System Plan, 1998.
Legal Authority	✓ Authorized by U.S. Congress; enacted by state legislatures	✓ MOU was signed by the governors of each of the participating states as well as the Mayor of the City of Chicago.	

Characteristic	Discussion		
	Midwest Interstate Passenger Rail Commission	Midwest High-Speed Rail Steering Group (2009 MOU for Implementation of High-Speed Rail Passenger Service and Connections Involving Corridors Linking Cities in Partner States)	Midwest Regional Rail Initiative Steering Committee
Cost Sharing	✓ Member states of Compact split general operations cost of Commission equally		✓ Report was financed largely by Amtrak, with contributions from Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio and Wisconsin with limited funding from the FRA
Funding Sources	✓ State appropriations		✓ Largely Amtrak
Interaction with Others	✓ Commission is charged with interacting with other non-member states, local municipalities and federal agency officials; group makes assumptions for the involvement of private sector in assistance with project financing.		
Oversight	Each state has oversight authority for funds allocated to the Commission	✓ FRA	
Relationship with Host Railroad or Other Providers of Service	✓ The Steering Group expresses critical importance of working with Host Railroads for the successful implementation of the MWRRS.		
Liability Issues	✓ If a compacting state is to withdraw from this Compact, the withdrawing state is liable for any obligations which it had incurred prior to the effective date of withdrawal.		

Characteristic	Discussion		
	Midwest Interstate Passenger Rail Commission	Midwest High-Speed Rail Steering Group (2009 MOU for Implementation of High-Speed Rail Passenger Service and Connections Involving Corridors Linking Cities in Partner States)	Midwest Regional Rail Initiative Steering Committee
Procurement			✓ Procured consultant support for study; administered by Amtrak
Contractual Arrangements	✓ Legal agreement serves contract between the participating states and governing documentation for the Commission.		

C.1 Introduction

The objective of NCRRP 07-02 is to create practical models for multistate institutional arrangements for developing and providing intercity passenger rail networks and services. Different institutional models can be applied to a variety of service and infrastructure sectors, each dealing with unique challenges. This case study examines the collaborative process followed by the multiple states across the Midwest in developing an enhanced and expanded passenger rail system. Several corridors have been the subject of study and environmental assessment for many years and have been identified by the U.S. Department of Transportation (USDOT) as feasible high speed rail corridors. This case study focuses on the efforts of these states, municipalities, metropolitan planning organizations (MPOs), public stakeholders, and their rail partners to define a vision for the regional system and to identify the organizational responsibilities for making progress toward implementation of this system. The case study also highlights the role of the federal government in providing a process structure and funding as part of a national program.

C.2 Description of the Midwest Region

Several states have been involved in the development of the Midwest passenger rail system over the last two decades. For this case study, the Midwest region is comprised of 11 states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, and Wisconsin. According to the 2010 Census, these 12 states have a combined total population of nearly 67 million people.⁵ Each of these states has had varying degrees of involvement with the planning and development of a passenger rail system.

In 1991 the Intermodal Surface Transportation Efficiency Act (ISTEA) established a program to fund safety improvements at highway/rail grade crossings on corridors to be designated as high speed intercity passenger rail corridors.⁶ Since 1991 there have been a total of 11 corridors designated for the development of intercity high-speed passenger rail service. These federally designated high-speed rail (HSR) corridors are displayed in Figure C-2. This case study focuses largely on what has become known as the 'Chicago Hub Network.' This network would see Chicago at the center of a hub and spoke system, with lines extending to and connecting some of the largest and most densely populated cities of the Midwest.

The framework for the Chicago Hub Network generally follows many existing Amtrak alignments in the region. The National Railroad Passenger Corporation, **Amtrak**, operates 12 routes serving some portion of all states in the Midwest except South Dakota. Amtrak's Midwestern network is shown in Figure C-3. Nationwide, Amtrak operates both long- and short-distance routes. Short distance routes are designed to be time competitive with other modes and provide connections to Amtrak's national network at larger stations. Long distance routes are a network of routes stretching across the continental United

⁵ United States Census Bureau. <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml> . August 18, 2014.

⁶ United States Department of Transportation: Federal Railroad Administration. *Vision for High-Speed Rail in America: Strategic Plan*. April 2009.



Figure C-18: United States High-Speed Rail Corridors



Figure C-19: Amtrak Midwestern Route Network

Source: <http://www.amtrak.com/midwest-train-routes>

States. Amtrak operates 15 long distance routes, eight of which travel through the Midwest. Details of Amtrak's services in the Midwest are provided in Table C.2. Between the two types of service, Amtrak operates approximately 58 trains per day in the Midwest region, typically at speeds below 79 mph due

largely to constraints imposed on rights-of-way shared with freight rail operators. The only exceptions are an 80-mile segment of Amtrak-owned track in Michigan and Indiana and a portion of track between Dwight, Illinois and Pontiac, Illinois where 110 mph is permitted.

Table C.6: Midwest Amtrak Service Summary, 2015

Route Name	Service Type	Midwest States Served	Frequency	FY 2014 Ridership
Blue Water	Short Distance	IL, IN, MI	1 Daily	191,231
California Zephyr	Long Distance	IL, IA, NE	1 Daily	366,564
Capitol Limited	Long Distance	IL, IN, OH	1 Daily	235,926
Cardinal	Long Distance	IL, IN, OH	3 Per Week	109,154
City of New Orleans	Long Distance	IL	1 Daily	251,106
Empire Builder	Long Distance	IL, MN, ND, WI	1 Daily	450,932
Hiawatha	Short Distance	IL, WI	7 Daily	799,638
Hoosier State	Short Distance	IN	4 per Week	33,930
Illini & Saluki	Short Distance	IL	1 Daily	315,963
Illinois Zephyr & Carl Sandburg	Short Distance	IL	1 Daily	214,951
Lakeshore Limited	Long Distance	IL, IN, OH	1 Daily	373,331
Lincoln Service	Short Distance	IL, MO	2 Daily	633,531
Missouri River Runner	Short Distance	MO	1 Daily	189,402
Pere Marquette	Short Distance	IL, IN, MI	1 Daily	100,961
Southwest Chief	Long Distance	IL, IA, MO, KS	1 Daily	352,162
Texas Eagle	Long Distance	IL, MO	1 Daily	313,338
Wolverine	Short Distance	IL, IN, MI	3 Daily	477,157

Source: Amtrak, 2015

Beginning in 1996, nine state transportation agencies—Illinois DOT, Indiana DOT, Iowa DOT, Michigan DOT, Minnesota DOT, Missouri DOT, Nebraska Department of Roads, Ohio Rail Development Commission, and Wisconsin DOT—initiated the **Midwest Regional Rail Initiative (MWRRI)** to help meet future regional travel needs through improvements to the level and quality of regional passenger rail service. A secondary purpose of the MWRRI was to position the states' interests to ensure that the region received a fair share of federal funding. The nine states collectively formed the MWRRI Steering Committee and, with support from Amtrak and consultants, developed a 2004 plan to create an integrated Chicago Hub regional rail system that would connect the nine partner states.⁷ The **Midwest Regional Rail System (MWRRS)** included \$6.6 billion of infrastructure improvements along 3,000 route miles of existing rights-of-way shared with existing freight and commuter services. The MWRRS is shown in Figure C-4.

⁷ Midwest Regional Rail System: A Transportation Network for the 21st Century – Executive Report. <http://miprc.org/Portals/0/pdfs/railmidwest1.pdf>



Figure C-20: Proposed Midwest Regional Rail System

Source: <http://miprc.org/Portals/0/pdfs/railmidwest1.pdf> . p. 6

C.3 Midwest Region Participants

The major participants in the Midwest Regional Rail System plan and anticipated plan implementation include multiple state departments of transportation, the Federal Railroad Administration (FRA), Amtrak, freight railroads and the Northern Indiana Commuter Transportation District currently operating in the corridor and other advocacy and stakeholder groups. Brief overviews of the different participants in the Midwest high-speed and passenger rail corridors are provided below.

C.3.1 State Departments of Transportation

The *Illinois Department of Transportation* (IDOT) has statutory responsibility for the planning, construction, operation, and maintenance of Illinois' extensive transportation network, which encompasses highways and bridges, airports, public transit, freight rail and passenger rail systems. This vast transportation system supports the fifth largest state in the nation and more than 100 million visitors annually.⁸ IDOT is led by the Secretary of Transportation, which is appointed by the Governor of

⁸ Illinois DOT. <http://www.idot.illinois.gov/about-idot/our-story/governance/index> . 8/19/14.

Illinois. The Secretary is responsible for overseeing the nearly \$3 billion operating budget and over 5,000 IDOT employees. IDOT is organized into four divisions; Aeronautics, Highways, Public and Intermodal Transportation, and Transportation Safety. The Division of Public and Intermodal Transportation (DPIT) is responsible for passenger rail in the state of Illinois. Illinois has the second largest rail system in the nation. In all, 41 railroads provide service throughout the state, and from Illinois to every part of the nation. About 500 freight trains (totaling about 37,500 freight cars) and 700 passenger trains including commuter lines, pass through Chicago every day. Chicago is also the Midwest hub for Amtrak passenger rail service, serving as the transfer point for ten regional and transcontinental routes. Illinois provides state sponsored Amtrak services.

The **Indiana Department of Transportation** (INDOT) is responsible for the construction and maintenance of all state roads, US highways, and interstates in the state of Indiana. INDOT maintains the state highway network, including more than 6,000 bridges. Along with its construction and maintenance responsibilities for roadways, INDOT also regulates rail facilities and airports. Within Indiana, the agency regulates over 4,500 miles of rail, 110 public access airports and 560 private access airports. With more than 3,600 employees INDOT is one of the largest agencies in the state government.⁹

The INDOT Office of Rail is responsible for preserving and developing both freight and passenger rail corridors in the state. Intercity passenger rail is provided by Amtrak. Long distance commuter rail service is provided by the Northern Indiana Commuter Transportation District (NICTD), which was formed in 1977 by the Indiana General Assembly to provide commuter rail service from South Bend, Indiana to downtown Chicago. INDOT has been involved in the planning for enhanced passenger rail services in the state through the MRRI. Local communities along the *Hoosier State* Amtrak line are providing local funding to maintain the operation of the service in Indiana.

The **Iowa Department of Transportation** (Iowa DOT) oversees the growth, maintenance and betterment of the state's transportation systems. The agency is divided into six divisions, with the Highway Division being the largest. The Iowa DOT owns and maintains 9,387 miles of roadway and over 4,000 bridges.¹⁰

The Office of Rail Transportation is located within the Planning, Programming and Modal Division of Iowa DOT. Iowa's rail system consists of 3,839 miles of freight track that are operated and served by 18 railroad companies. Five of these rail carriers are major national companies operating more than 80 percent of the total route miles in Iowa. The Union Pacific Railroad (UP) is the dominant carrier in Iowa, owning or leasing 1,305 miles of track, or 34 percent of the total track miles in the state.¹¹

Passenger rail in Iowa is provided by Amtrak with two long distance, transcontinental routes, the *Southwest Chief* and the *California Zephyr*. Amtrak has an annual Iowa ridership of just less than 60,000 passengers. In recent years the Iowa DOT has been planning for enhanced passenger rail service in the

⁹ Indiana Department of Transportation. InDOT Facts. <http://www.in.gov/indot/2337> .htm. 8/19/14.

¹⁰ Iowa Department of Transportation. About the DOT: Roads, Streets and Bridges. <http://www.iowadot.gov/about/RoadsStreetsandBridges.html> . 8/19/14.

¹¹ Iowa Department of Transportation. About the DOT: Iowa's Rail System. <http://www.iowadot.gov/about/RailSystem.html> . 8/19/14.

state. Some of this work has been in close coordination with the Illinois DOT for Chicago to Dubuque, Iowa service, and Chicago to Quad Cities/Iowa City, Iowa services. Most recently Iowa DOT has studied a Chicago to Council-Bluffs/Omaha, Nebraska alignment. This analysis will develop a Service Development Plan and a Tier 1 Environmental Impact Statement (EIS). This work stems from the vision for expanded and higher speed passenger rail in the Midwest Region.

The construction, operation, and maintenance of the Kansas' highways and bridges are managed by the **Kansas Department of Transportation** (KDOT). KDOT's state highway system handles over 32 percent of travel in the state.¹² KDOT's responsibilities are divided into multiple Bureaus and Divisions. The Transportation Planning Bureau is responsible for collecting, analyzing and reporting information on the statewide transportation system. One component of this Bureau's responsibilities is freight and passenger rail oversight and planning. The freight and rail unit works on developing and coordinating state policy on multimodal freight and rail transportation issues, analyzes motor carrier and rail freight transportation in the state, and administers the State Rail Service Improvement Fund (SRSIF) that provides loans and grants to railroads, shippers, and local government for track rehabilitation and construction. Additionally, the freight and rail unit prepares and updates the State Rail Plan and Statewide Multimodal Freight Plan.¹³ Passenger rail in Kansas is operated by Amtrak, and is served by one long distance route, the *Southwest Chief* from Chicago to Los Angeles.

The Michigan state highway system includes interstate, U.S. routes, and state highways. The **Michigan Department of Transportation** (MDOT) is responsible for the construction, operation, and maintenance of the roadway network, and MDOT administers other state and federal transportation programs for aviation, intercity passenger services, rail freight, local public transit services, and others.¹⁴ Freight and passenger rail issues are managed through MDOT's Office of Rail.

Michigan is one of 15 states that contracts with Amtrak for the operation of trains that supplement the national Amtrak network, by extending the reach of passenger rail services or increasing frequencies on national routes. Amtrak offers intercity passenger rail services along three corridors and serves 22 station communities in Michigan. Statewide ridership and revenue for the Michigan intercity passenger rail services have exploded during the past five years and reached an all-time high in FY 2011 of 797,017 passengers.¹⁵

The **Minnesota Department of Transportation** (MnDOT) was created in 1976 by the legislature to assume the activities of the former Department of Aeronautics, the Department of Highways and the transportation- related sections of the State Planning Agency and of the Public Service Department. Today, MnDOT develops and implements policies, plans and programs for aeronautics, highways, motor carriers, ports, public transit and railroads. In creating MnDOT in 1976, the legislature determined that

¹² Kansas Department of Transportation. KDOT Quick Facts.

http://www.ksdot.org/Assets/wwwksdotorg/PDF_Files/QuickFacts2010.pdf . 8/19/14.

¹³ Kansas Department of Transportation. Freight and Rail. <http://ksdot1.ksdot.org/burRail/default.asp> . 8/19/14.

¹⁴ Michigan Department of Transportation. About MDOT. <http://www.michigan.gov/mdot/0,4616,7-151-9623---,00.html>. 8/19/14.

¹⁵ Michigan Department of Transportation. MDOT – A Citizen's Guide to MDOT. p. 11.

http://www.michigan.gov/documents/mdot/MDOT_CitizensGuide2011_346347_7.pdf . January 2013.

MnDOT would be the principal agency to develop, implement, administer, consolidate and coordinate state transportation policies, plans and programs.¹⁶

MnDOT responsibilities are divided into five functional areas. The Office of Passenger Rail Office is located within the Modal Planning and Program Management Division. Today the state of Minnesota is served by one Amtrak route providing intercity passenger rail service, the *Empire Builder* line between Chicago and the Pacific Northwest.

Looking towards the future, the 2010 Comprehensive Statewide Freight and Passenger Rail Plan laid out a vision for expanded passenger rail service throughout the state. Priority elements of the vision for future passenger rail are:

- Continue to participate in the Midwest Regional Rail Initiative and support the development of sustained 110 mph service for connections from the Twin Cities to Wisconsin and the Chicago Hub Network.
- Develop an intrastate intercity passenger rail network connecting the Twin Cities with viable service to major outlying regional centers.
- Connect all services eventually to both the new Minneapolis downtown terminal and St. Paul Union Depot.
- Advance corridors incrementally and simultaneously with MnDOT's support; sequencing depending on financing, right-of-way acquisition and agreements with freight railroads.
- In Phase II, rail connections should be established to additional intercity and commuter rail markets in Wisconsin and Minnesota, and to an interstate/I-35 Corridor, Red River Valley, Eastern plains, and Canada.¹⁷

Currently MnDOT is studying high speed and enhanced passenger rail in three corridors: Minneapolis/St. Paul to Milwaukee (high speed corridor), Minneapolis to Duluth/Superior Corridor Northern Lights Express, and Twin Cities to Rochester Corridor (high speed corridor). Of these studies, only the Minneapolis – Milwaukee Corridor has been identified at a national high speed rail corridor. The Northern Lights Express and Twin-Cities to Rochester corridors are separate studies within Minnesota.

The **Missouri Department of Transportation** (MoDOT) is responsible for 4,800 miles of railroad tracks, 1,379 miles of interstate, 125 public use airports and 15 ports in the State of Missouri.¹⁸ MoDOT's Multimodal Division administers the state rail program. Today there are nearly 20 different private railroads operating in the state. The State Rail Program oversees freight rail regulation, passenger rail, light rail safety regulation, highway/rail crossing safety, rail/highway construction, and railroad safety inspection and outreach.¹⁹

¹⁶ Minnesota Department of Transportation. A Brief History of MnDOT.

<http://www.dot.state.mn.us/information/history.html> . 8/19/14.

¹⁷ Minnesota Department of Transportation. Passenger Rail: Future Service.

<http://www.dot.state.mn.us/passengerrail/planning.html> . 8/19/14.

¹⁸ Missouri Department of Transportation. Celebrating a Century. <http://www.modot.org/anniversary> . 8/20/14.

¹⁹ Missouri Department of Transportation. Railroads – General Information.

<http://www.modot.org/othertransportation/rail/index.htm> . 8/20/14.

As with other states in the Midwest region, passenger rail services are provided in Missouri by Amtrak with three lines: the long distance *Southwest Chief* and *Texas Eagle*, and the state sponsored *Missouri River Runner*. Missouri provides approximately \$8 million per year to operate the *Missouri River Runner*. Amtrak ridership in Missouri has grown 46 percent in the last five years.²⁰ In the coming years several improvements are expected along the *Missouri River Runner* route, including capacity improvement to increase schedule reliability and the introduction of new locomotives and new bi-level cars to improve ride and increase passenger capacity.²¹

The **Nebraska Department of Roads** (NDOR) is responsible for the planning, development, design, construction, maintenance, and administration of the state highway system. NDOR manages the planning and oversight for freight and passenger rail through the Rail and Public Transportation Section. Some of the duties and responsibilities of the Rail Section include; administration of the State Grade Crossing Protection Fund for highway-rail grade crossing improvements, development of the State Rail Plan and updates, liaison with railroads for highway construction projects, agreements and easements with railroads, and managing payments to railroads.

Amtrak provides the only passenger rail service in Nebraska with the *California Zephyr* line that crosses the state from east to west in the southern portion of the state. The *California Zephyr* makes stops in Omaha, Lincoln, Hastings, Holdrege, and McCook before crossing into Colorado. One train in each direction is scheduled along the *California Zephyr*.

The only two Class I railroads operating in the state are the UP and the Burlington Northern Santa Fe Railway (BNSF). Within Nebraska the *California Zephyr* operates on rail lines owned by the BNSF.

The **North Dakota Department of Transportation** (NDDOT) has more miles of roadway per capita than any state in the nation with approximately 166 miles of road for every 1,000 people. The overall agency is very small; the second smallest in terms of employees in the U.S., with only Hawaii having a smaller staff.²² Similar to other state's departments of transportation, NDDOT is responsible for the planning, construction and maintenance of the highway and interstate system in the state. NDDOT also has responsibilities concerning the planning and administration and regulation of other modes of transportation in the state, including rail. The rail program is managed out of the Planning and Asset Management Division for NDDOT.

Only two Class I railroads operate today in North Dakota, the BNSF and Canadian Pacific (CPR). The only passenger rail service in North Dakota is Amtrak's *Empire Builder*, which runs from Chicago, Illinois to Seattle, Washington and Portland, Oregon. In North Dakota, the *Empire Builder* operates on the BNSF main line from Fargo to Grand Forks, then west to near Fort Buford, where it crosses into Montana. The

²⁰ Missouri Department of Transportation. Missouri State Rail Plan: Executive Summary. p.4. May, 2012.

²¹ Improving Missouri's Passenger Rail System.

<http://www.modot.org/othertransportation/rail/documents/PassengerRailTwoPagerFY14.pdf> . 8/20/14.

²² North Dakota Department of Transportation. NDDOT Facts. <http://www.dot.nd.gov/public/nddot-facts.htm> . 8/22/14.

train stops at Fargo, Grand Forks, Devils Lake, Rugby, Minot, Stanley, and Williston. Service is twice daily, with one train in each direction.²³

In the state of Ohio, all rail planning responsibility is conducted by the **Ohio Rail Development Commission** (ORDC), an independent agency of the **Ohio Department of Transportation** (Ohio DOT). The ORDC is the successor of the Ohio High Speed Rail Authority and the Division of Rail Transportation of the DOT. The ORDC was formed in 1994 by combining all of the state's non-regulatory rail programs under one agency. By statute, ORDC is an independent commission within the Ohio DOT created to develop, promote, and support safe, adequate, and efficient rail service throughout the state. ORDC is designated to deal with transportation infrastructure, but infrastructure that is normally privately owned. Its projects are usually driven by business development decisions in the state. This connection to business development is a major reason why the ORDC is so valuable as an independent commission. The ORDC members represent a cross-section of people from railroads, business and government. To meet this task the ORDC uses grants and its revolving loan program to:

- Perform a vital economic development function by assisting business locating or expanding in Ohio with rail spurs and other rail infrastructure;
- Help rehabilitate light density branch lines on small but critically important short line and regional railroads that move Ohio's economy;
- Assist in the acquisition and continued operation of branch lines;
- Address special rail problems, such as mainline congestion and assisting businesses with rail related issues, to maintain Ohio's status as one of the nation's major transportation hubs;
- Assist with the promotion of the rail related tourism industry; and
- Maintain Ohio's readiness to move toward intercity passenger rail service at both conventional and high speeds through a variety of planning initiatives.²⁴

Since 2000, the ORDC has participated in six different intercity passenger rail studies within Ohio. Many of these studies centered on the "Ohio Hub" vision for passenger rail in the region. The envisioned 1,244-mile Ohio Hub rail system and its 46 passenger stations would serve more than 22 million people in five U.S. states and southern Ontario, Canada while also connecting the Midwest to the Eastern states and to the rest of Canada. The rail corridors would connect 12 major metropolitan areas and many smaller cities and towns. Stations would be located in downtown centers, in suburban areas near interstate highways, and adjacent to major international airports. Routes for the planned Ohio Hub are shown in Figure C-5.

²³ North Dakota Department of Transportation. State Rail Plan. p. 34. December, 2007.

²⁴ Ohio Department of Transportation: Ohio State Rail Plan. p. 2-1.
<http://www.dot.state.oh.us/Divisions/Rail/Programs/StatewideRailPlan/Documents/Chapter%202%20-%20State%20Rail%20Activity%20in%20Ohio.pdf> . May 10, 2010.

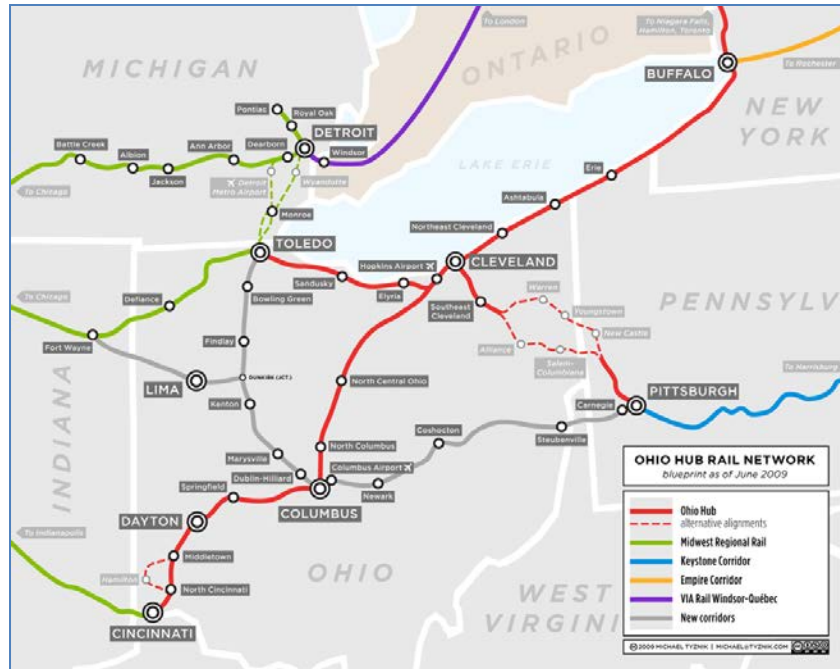


Figure C-21: Ohio Hub Passenger Rail Plan

Source: http://en.wikipedia.org/wiki/Ohio_Hub#mediaviewer/File:Ohio_Hub_Map.png

The Ohio Hub Study concluded that developing a 110 mph system would provide the best value for the state of Ohio beginning with the 3C Corridor (alignment connecting Cleveland, Columbus, and Cincinnati).

Today, Ohio passenger rail is provided only by Amtrak on three routes in the state: the *Cardinal* (Chicago – New York), *Capitol Limited* (Chicago – Washington DC), and *Lake Shore Limited* (Chicago – Boston).

The **Wisconsin Department of Transportation** (WisDOT) was established in 1967 and is responsible for supporting all modes of transportation in the state. WisDOT is responsible for planning, building, and maintaining Wisconsin's network of state highways and interstate highways. WisDOT plans, promotes, and financially supports statewide air, rail, and water transportation as well as bicycle and pedestrian facilities. WisDOT is made up of three executive offices and five divisions organized according to transportation function. The Transportation Investment Management Division conducts long range planning, multimodal planning and directs the use of state and federal funds. Within this Division is the Transit, Local Roads, Rails and Harbors Bureau, which among other responsibilities, manages all rail related matters for WisDOT.

Currently, there are 13 freight railroads operating on a system of approximately 3,330 route rail miles across Wisconsin. Passenger rail is provided by Amtrak along two lines: the long-distance Empire Builder between Chicago and the Pacific Northwest, and the state supported Hiawatha Service (in partnership

with Illinois) from Milwaukee to Chicago. The Hiawatha Service carries more than 820,000 passengers per year.²⁵

C.3.2 Passenger and Intercity Rail Providers

The National Railroad Passenger Corporation, **Amtrak**, operates intercity passenger rail service throughout the Midwest region. Amtrak was created in 1970 when Congress passed the Rail Passenger Service Act. Amtrak began service on May 1, 1971 serving 43 states with a total 21 routes. Amtrak currently operates on 21,000 miles of track and serves over 500 destinations in 46 states and three Canadian provinces. During FY 2014 Amtrak provided service to more than 30.9 million passengers throughout the U.S.²⁶ In the Midwest region Amtrak operates 17 routes, with a mix of short and long distance routes in 11 states.

The **Northern Indiana Commuter Transportation District** (NICTD) was formed in the late 1970s to operate the commuter rail service between South Bend, Indiana and downtown Chicago, called the South Shore Line (see Figure C-6). The South Shore is an approximate 90 mile alignment that operates service seven days a week and has an annual ridership of 3.6 million, or 11,600 average weekday riders.²⁷ This passenger rail line serves a critical link for the residents of northwest Indiana and the Chicago metropolitan region. The South Shore largely operates on rail lines owned by the NICTD and is an electrified rail system. The South Shore line is one of the last interurban railways operating in the U.S. This service is classified as a commuter rail service, but provides much more service than the typical peak hour/peak direction commuter service with trains operating in each direction throughout the day on weekdays, weekends, and holidays.

C.3.3 Leadership and Advocacy Groups

The **Midwest High-Speed Rail Steering Committee** was established with representatives for each member state DOT, FRA, and Amtrak to guide the development of the MWRRS. While the initial responsibility for the direction of early feasibility studies and planning coordination was led by the Steering Committee, the actual implementation of the MWRRS is the responsibility of the states. As the MWRRS moves from planning phases to operations, the Steering Committee is to assume a coordination role for project funding, satisfying grant requirements, and addressing implementation issues. The MWRRS Executive Report published in 2004 recommended that as the system became operational, participating states should look at establishing a formal organization to manage system operations, oversight, and maintenance.

²⁵ Wisconsin Department of Transportation. Travel Information. <http://www.dot.state.wi.us/modes/rail.htm> . 8/25/14.

²⁶ Illinois Department of Transportation. Illinois State Rail Plan. p. 10-4. December, 2012.

²⁷ American Public Transportation Association. Commuter Rail Ridership Report, 2013. <http://www.apta.com/resources/statistics/Documents/Ridership/2013-q4-ridership-APTA.pdf> . 2/26/14.

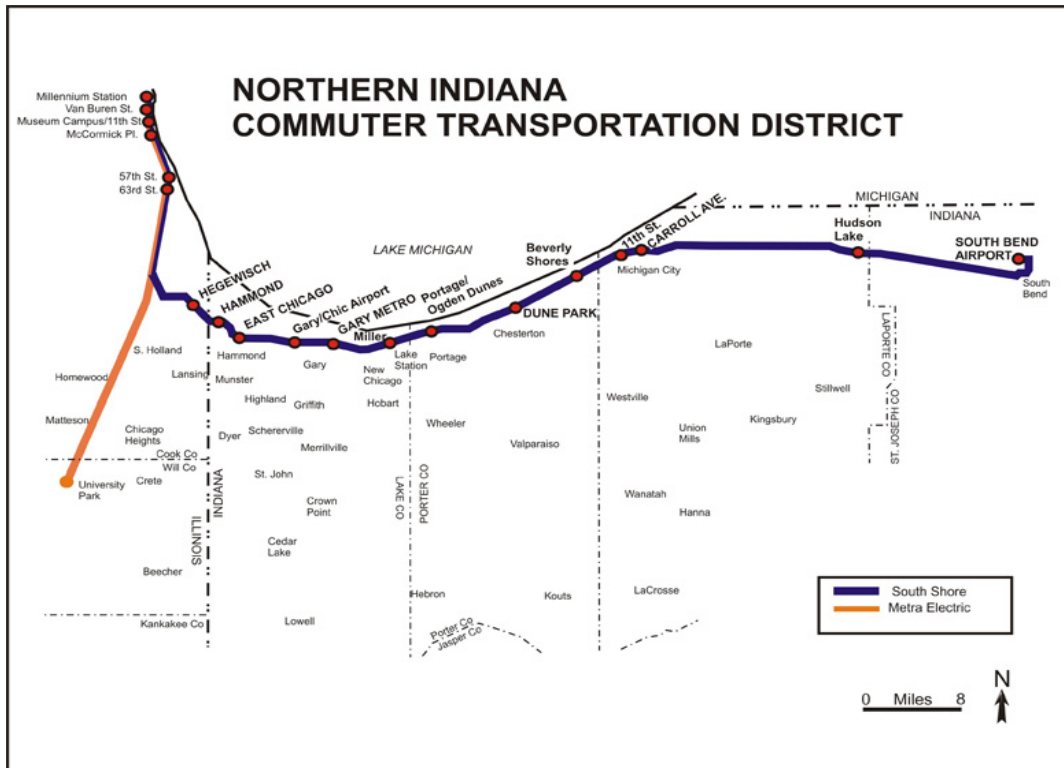


Figure C-22: Northern Indiana Commuter Transportation District Route Map

Source: http://nictd.astrahost.net/wp-content/uploads/2014/01/overall_system_map.jpg

The **Midwest Interstate Passenger Rail Commission** (MIPRC) was established in 2000 by the Midwest Interstate Passenger Rail Compact, which was drafted to promote both current improvements and long-range plans for intercity passenger rail service in the Midwest; coordinate interaction among Midwestern state officials, and between the public and private sector at all levels (federal, state and local); and support current state efforts being conducted through state DOTs. The MIPRC was charged with carrying out these provisions by advocating improved passenger rail service within the region, linking the region to other regions, planning for high-speed passenger rail service, bringing together state leaders, and supporting their state DOTs. The express duties of the Commission are to:

- Advocate for the funding and authorization necessary to make passenger rail improvements a reality for the region;
- Identify and seek to develop ways that states can form partnerships, to implement improved passenger rail in the region;
- Seek development of a long-term, interstate plan for intercity passenger rail passenger service implementation;
- Cooperate with other agencies, regions and entities to ensure that the Midwest is adequately represented and integrated into national plans for passenger rail development;
- Adopt bylaws governing the activities and procedures of the Commission and addressing, among other subjects: the powers and duties of officers; the voting rights of Commission members, voting procedures, Commission business, and any other purposes necessary to fulfill the duties of the Commission;
- Expend such funds as required to carry out the powers and duties of the Commission; and

- Report on the activities of the Commission to the legislatures and governor of the member states on an annual basis.

Four resident members from each state that has enacted the compact are appointed to the Commission. The governor of each state appoints two members and legislative leaders appoint two members. Members are not compensated by the Commission. Governor appointees can serve for two-year terms until a successor is appointed.

The MIPRC includes state legislators, governors, and their designees. To carry out its purpose, powers granted to the MIPRC include: authority to implement or provide oversight for specific rail projects; establish an office and hire a staff as necessary; contract for or provide services; assess dues, in accordance with the terms of the Compact; conduct research; and establish committees. In practice, the MIPRC has focused on garnering legislative support for intercity passenger rail and continues to advocate for federal high speed rail funding and creation of a discrete national program with 80/20 funding for projects. The group has collected nearly \$25,000 per annum from each state.

C3.4 Federal Railroad Administration

The **FRA** is the lead federal agency for the Midwest Regional Rail System corridors. In this capacity FRA is responsible for reviewing all National Environmental Policy Act (NEPA) documents prepared for improvements in the Midwest passenger rail corridors and granting final NEPA approvals. The FRA is also responsible for administering federal grants for intercity high speed rail projects. These activities are located within FRA's Office of Passenger and Freight programs in the Environment and Systems Planning Division and the Grant Management Division. The FRA enforces civil rights and accessibility regulations for stations and rolling stock as required by the American with Disabilities Act.

Beginning in 2008 the federal government placed a high priority on the improvement of the country's intercity passenger rail service network as an important future mode of the passenger transportation and source of economic stimulus. Two pieces of legislation – the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and the American Reinvestment and Recovery Act of 2009 (ARRA) – demonstrated the federal government's support of intercity passenger rail. PRIIA authorized three new federal intercity passenger rail capital programs: Intercity Passenger Rail Service Corridor Capital Assistance, High-Speed Rail Corridor Development, and Congestion Relief. ARRA provided \$8 billion for intercity passenger rail funding through the PRIIA authorized programs.²⁸

C3.5 Freight Railroads--Class I Railroads

The Burlington Northern Santa Fe Railway (BNSF) is one of the major freight railway operators in the U.S. The BNSF owns and operates a network of approximately 32,500 miles of track in 28 states and two Canadian provinces (see Figure C-7). BNSF is headquartered in Fort Worth, Texas, employing over 43,000 individuals. The BNSF operates on average 1,600 trains per day, with over 7,000 locomotives, serving 30

²⁸ Wisconsin Department of Transportation. Wisconsin Rail Plan 2030. p. 6-13. March 19, 2014.

intermodal facilities and more than 40 ports.²⁹ The BNSF hosts Amtrak services on the *California Zephyr*, *Empire Builder*, *Illinois Zephyr – Carl Sandburg*, and *Southwest Chief*. In route miles, Amtrak operates a majority of its service on BNSF-owned rail lines.



Figure C-23: Burlington Northern Santa Fe Railway Railroad Network

Source: http://www.bnsf.com/about-bnsf/pdf/fact_sheet.pdf

Canadian National Railroad (CN) is a Class I railroad that operates over 20,000 miles of track in the central U.S. and across Canada. The CN system connects major ports on the Atlantic and Pacific Oceans, Great lakes, and Gulf of Mexico. A map of the CN system is shown in Figure C-8. The Canadian National Railroad hosts passenger rail service for Amtrak's *Blue Water* route in southern Michigan, and the *Illini – Saluki* route through central and southern Illinois.

²⁹ BNSF Railway – Fact Sheet. March, 2014. http://www.bnsf.com/about-bnsf/pdf/fact_sheet.pdf.

Canadian Pacific (CP) Railroad, based out of Calgary, Alberta, is a Class I railroad operating in both Canada and the U.S. Its approximate 14,000 mile rail network stretches from ports on the Pacific Ocean with access to ports in the Atlantic Ocean. CPR's network is shown in Figure C-9. The Canadian Pacific hosts Amtrak's long distance *Empire Builder* serving Chicago, central Wisconsin, Minnesota, through



Figure C-24: Canadian National Railroad System

Source: <http://www.cn.ca/en/repository/popups/maps/cn-network-map>



Figure C-9: Canadian Pacific Route Network

Source: <http://www.cpr.ca/en/choose-rail/intermodal-shipping>

North Dakota. Along with the *Empire Builder*, CP hosts the high ridership intercity *Hiawatha* route operated by Amtrak from Milwaukee to Chicago.

The **CSX Transportation** network encompasses about 21,000 route miles of track in 23 states, the District of Columbia and the Canadian provinces of Ontario and Quebec (see Figure C-10). CSX serves major markets in the eastern United States and has access to over 70 ocean, river and lake port terminals along the Atlantic and Gulf Coasts, the Mississippi River, the Great Lakes, and the St. Lawrence

Seaway. The company also has access to Pacific ports through alliances with western railroads.³⁰ Four different Amtrak routes operate partially or wholly on lines owned and operated by CSX Transportation in the eastern half of the Midwest Region. Those routes are the *Cardinal*, *Hoosier State*, *Lakeshore Limited*, *Pere Marquette*.



Figure C-10: CSX Railroad Network

Source: <http://www.mamacva.com/images/uploads/csx-system-map.gif>

Norfolk Southern Railroad (NS) is another Class I railroad operating largely east of the Mississippi River with its headquarters located in Norfolk, VA. The NS operates approximately 20,000 route miles in 22 states and the District of Columbia, serves every major container port in the eastern U.S., and provides efficient connections to other rail carriers (see Figure C-11). NS operates the most extensive intermodal network in the East and is a major transporter of coal, automotive, and industrial products.³¹ Amtrak's *Capitol Limited* and *Lakeshore Limited* routes operate on NS lines in the eastern portion of the Midwest region.

³⁰ CSX Transportation. Company Overview. <http://www.csx.com/index.cfm/about-csx/company-overview/>. 8/25/14.

³¹ Norfolk Southern Corporation. Corporate Profile. <http://www.nscorp.com/content/nscorp/en/get-to-know-norfolk-southern/about-ns/corporate-profile.html>. 8/26/14.

The **Union Pacific Railroad (UP)**, headquartered in Omaha, Nebraska, operates in 23 states in the western two-thirds of the United States, owning over 26,000 route-miles of track and additionally operating over another 6,000 miles of trackage rights. The UP employs over 43,000 individuals, and owns approximately 8,300 locomotives.³² Like its western competitor, BNSF, UP also provides services throughout North America through the connecting railroads. The UP operates multiple lines throughout the Midwest Region as shown in Figure C-12. Amtrak provides two of its lines on rail lines owned by the UP---the *Missouri River Runner* and the *Texas Eagle*.



Figure C-25: Norfolk Southern Railroad System

Source: <http://railroadstrains.blogspot.com/2009/11/railroad-maps-of-train-tracks-usaunion.html>

³² Union Pacific Railroad. Company Overview. http://www.up.com/aboutup/corporate_info/uprover/index.htm . 9/24/14.



Figure C-12: Union Pacific Railroad Network

Source: Union Pacific Railroad

C3.6 Freight Railroads--Regional / Short Line Railroads

Iowa Interstate Railroad (IAIS) is a regional short line railroad that operates a central line from Chicago west across Illinois through central Iowa and terminating in Omaha, Nebraska. IAIS is one of the few regional railroads that connects to all major Class I railroads at multiple points along its alignment (BNSF, UP, CN, CP, KCS, NS).³³ The IAIS alignment is shown in Figure C-13. There are no intercity passenger rail services provided on the IAIS today, but plans are under development in Illinois to begin passenger service to the Quad Cities, Iowa in 2016. The alignment of the IAIS is unique in Iowa in that it connects in a direct manner several of the major population centers of the state, with a connection to Omaha.

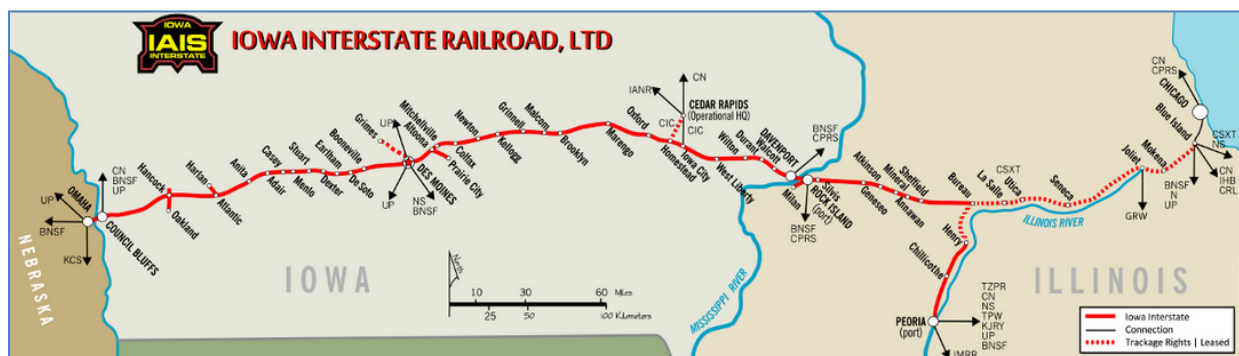


Figure C-263: Iowa Interstate Railroad Map

Source: <http://www.iaisrr.com/maps.htm>

³³ Iowa Interstate Railroad. About Us. <http://www.iaisrr.com/about.htm> . 8/26/14 M

C.4 Description of the Project Development and Implementation Process

C4.1 Developing the Vision and Planning

The vision for the Midwest regional passenger rail system of a hub and spoke network of routes emanating from Chicago's Union Station began to take shape in 1996 with the creation of the Midwest Regional Rail Initiative. The MWRRRI advanced from a series of service concepts, including increased operating speeds, train frequencies, system connectivity, and high service reliability, into a well-defined vision for creating a 21st century regional passenger rail system. This vision was incorporated into a transportation plan known as the Midwest Regional Rail System (MWRRS). The primary purpose of the MWRRS is to meet current and future regional travel needs through significant improvements to the level and quality of passenger rail service. Planned elements of the MWRRS are to include:

- Use of 3,000 miles of existing rail rights-of-way to connect rural, small, urban, and major metropolitan areas;
- Introduction of modern train equipment operating at speeds up to 110 mph;
- Provision of multimodal connections to improve system access; and
- Improvement in reliability and on-time performance.³⁴

The MWRRS outlines plans for multiple passenger rail corridors serving large metropolitan and other significant population centers across the Midwest with trains operating at varying speeds.

Operating at 110 mph:

- Chicago to Minneapolis/St. Paul, Minnesota
- Chicago to Green Bay, Wisconsin
- Chicago to St. Louis, Missouri
- Chicago to Cincinnati, Ohio
- Chicago to Cleveland, Ohio
- Chicago to Detroit, Michigan

Operating at 90 mph:

- Chicago to Carbondale, Illinois
- Chicago to Quincy, Illinois
- St. Louis to Kansas City, Missouri

Operating at 79 mph:

- Princeton, Illinois, to Omaha, Nebraska
- Lansing to Port Huron, Michigan
- Kalamazoo to Holland, Michigan

Along with the passenger rail service envisioned in the MWRRS are networks of intercity feeder bus services that would serve as connections to the system from smaller communities in the region. The full system as planned was depicted in Figure C-4.

³⁴ Midwest Regional Rail System: A Transportation Network for the 21st Century: Executive Report. p. 5. September, 2004.

The need for an integrated vision emerged from the realization that a multistate approach yields system synergies and economies of scale, including higher equipment utilization, more efficient crew and employee utilization, and a cooperative federal and state infrastructure and rolling stock procurement. The vision also called for enhanced partnership between the U.S. Department of Transportation (USDOT), the FRA, and the Midwestern states for planning and implementing improved passenger rail service.

Key elements of the 2004 plan included:

- Upgrading existing rail rights-of-way to permit frequent, reliable, high-speed passenger train operations.
- Operating a hub-and-spoke passenger rail system providing through-service and connectivity in Chicago to locations throughout the Midwest region.
- Introducing modern train equipment with improved amenities operating at speeds up to 110 mph.
- Providing of multimodal connections and feeder bus systems to improve system access.
- Introducing a contracted rail operation that will provide improvements in efficiency, reliability and on-time performance. Amtrak was envisioned to remain the operator of enhanced services.

The study included a ten year, six-step phasing program for project implementation that included financing and institutional considerations. The study assumed project funding would be comprised primarily of federal funds of up to 80 percent of the total capital project costs, including infrastructure and rolling stock. The remaining 20 percent state and local match would consist of rolling stock purchases, improvements to stations and other improvements made within state boundaries. The MWRRS combined train technologies, service characteristics, amenities, and financial factors to create a regional passenger rail system capable of generating high levels of ridership and recovering, at a minimum, its operating costs from fares and other revenues generated. In addition, states aimed to pay no more than the subsidies they pay for Amtrak service.

The study explored institutional arrangements to provide system-level oversight, including creating ad hoc multistate committees, establishing committees by multistate agreements, or creating a Joint Powers Authority through legislative authority. As of the date of the case study, no consensus has been reached on a governance mechanism to provide system oversight. Still, under the vision articulated by the MWRRS, each state retains sovereignty and the ultimate implementation of the projects is the responsibility of the states.

On April 16, 2009, President Obama announced his 'Vision for High Speed Rail.' This vision included the development of high-speed train lines across the nation, including the Midwest, with a major hub network centered in Chicago. To jumpstart the implementation of high-speed and intercity passenger rail, \$8 billion was included in the ARRA of 2009. In July 2009, Illinois Governor Quinn, Senator Durbin, and Chicago Mayor Daley hosted Midwest governors and rail executives at the Midwest High Speed Rail Summit in Chicago. As a result of the Summit, eight states' (Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin) governors and the Mayor of the City of Chicago signed an MOU for the purpose of coordinating applications for ARRA and other federal funding sources, and defining each

state's role and responsibility relating to the implementation of high-speed and passenger rail. Specifically, the MOU participants agreed to:

- Establish a high-level, multistate steering group with a representative from each signatory to the MOU. The purpose of the Midwest Rail Steering Group will be to coordinate the region's applications and work associated with all ARRA applications to provide guidance, leadership and a single advocacy voice in support of the region's collective high-speed rail priorities. The Steering Group shall identify a point of contact between MOU Participants and the U.S. Department of Transportation.
- Coordinate and cooperate fully in support of each MOU Participant's individual state applications for high-speed and intercity rail funding.
- Coordinate and negotiate with the major railroads to sign agreements for the development of intercity passenger rail corridors, and the identified individual projects by stated priority.
- Be free to pursue individual memoranda of agreement or understanding among MOU Participants, related to specific projects involved in support of the overall application and vision for the Midwest corridor.
- Be separately responsible for any and all work taking place within their respective state boundaries.
- Allow other Midwestern or contiguous states the opportunity to join in this MOU at any time if they are willing to support all aspects of the agreement in place.³⁵

Since the formation of the MWRRRI and a vision for high speed passenger rail in the region was established, a great amount of planning work has been completed. Close to 50 studies have been completed in corridors throughout the Midwest since the development of the MWRRRI in 1996. Many of these studies have been led by a single state DOT, typically the state with the greatest amount of study corridor, with the support of a partnering DOT sharing the same study corridor.

These studies worked to better define the needs of the corridors in the MWRRS and to better understand the cost and benefits of the development of system. These efforts also helped to develop a prioritized phasing strategy to advance more significant corridors in the near term.

In the 22 years since ISTEA formalized high speed passenger rail corridors, the Midwest region has made headway in better focusing that vision, promoting coordinated state action, and planning for eventual implementation of a regional passenger rail system. To accomplish this, state agencies and other groups were needed. These organizations are detailed in the following section.

The full build out cost of the planned MWRRS was estimated to be close to \$8 billion in 2002 dollars, phased over a 10-year implementation period. The funding plan consists of a mix of funding sources including federal grants and loans, state funds, and other revenue generated from system related activities, such as joint development proceeds. Federal funding would be the primary source of capital

³⁵ Midwest Regional Rail System: A Transportation Network for the 21st Century: Executive Report. p. 5. September, 2004.

funds. The MWRRS Plan assumes an 80/20 split between federal and state funding programs like those that already exist for highways, transit and airports.

C4.2 Implementation Process

Service Development Plans and Outcome Agreements

Due to the size and scope of the MRWWS it became necessary to break specific alignments out and to prioritize the scheduling of planning construction and operation across the system. The steps in the project implementation process across the Midwest Regional Rail System have typically included: early feasibility studies to determine the viability of the project, planning studies that culminate in gaining environmental clearance for the project, final design and right-of-way purchase, and construction. An important aspect that distinguishes the MWRRS from other large transportation improvements is that it must meet certain requirements established by FRA for high speed rail projects benefiting from federal funding. Key among these is the adoption of Outcome Agreements and Service Development Plans.

Outcome Agreements specify the project-related characteristics and institutional arrangements associated with high-speed rail projects. These agreements are unique to specific projects and involve agreements among all of the stakeholders involved in the project. While Outcome Agreements cover individual segments, they may involve agreements or commitments that pertain to other segments that help knit the different pieces of a high-speed rail project into a larger whole.

The ***Service Development Plan*** identifies the different capital components of the project and describes how the high-speed rail project will operate. The Service Development Plan (SDP) is an iterative document that becomes more detailed as work on the project advances. While the structure of the document is flexible, the following components are required:

- Project rationale,
- Operations plan detailing rail services,
- Capital needs,
- Operating and financial results based on travel demand and revenue forecast and operating expenses, and
- Program plan and service development program schedule for all phases of the project.

The SDP provides the opportunity to vet the multitude of decisions involved with implementing high-speed rail programs with all project stakeholders. In that they address costs and financial results, the Service Development Plan helps facilitate decision-making on cost sharing issues.

FRA guidance on the preparation of SDPs taken from the 2009 High Speed Intercity Passenger Rail Program Notice of Funding Availability and Interim Guidance Federal Register Notice is provided in the appendix.

To better organize and prioritize project implementation efforts for the MWRRS, a SDP was published by the Midwest Regional Rail Initiative in September, 2009.³⁶

The 2009 SDP proposed moving specific corridors forward in a phased approach, giving highest priority to corridors with greater ridership potential, most advanced in planning, and posed the lowest amount of risk. Phases were broken out as follows:

- **Phase 1:** Chicago – Madison (Wisconsin as lead state), Chicago – St. Louis (Illinois as lead state), and Chicago – Detroit/Pontiac (Michigan as lead state)
- **Phase 2:** Chicago – Minneapolis/St. Paul (Minnesota as lead state)
- **Phase 3:** Chicago – Iowa City (Iowa as lead state)

Today, the status of the implementation of each of these corridors varies widely from under construction to planning and environmental analysis.³⁷ The Chicago – Madison – Minneapolis corridor was set back when the State of Wisconsin pulled out of the planning and development process in 2011, even though Minnesota has chosen to move forward with their planning work. The Chicago – St. Louis line is currently in construction and some segments have been upgraded to allow for 110 mph operations.

Funding ‘Kick-Start’

In response to the major recession in the U. S. that began in 2008 the ***American Reinvestment and Recovery Act*** (ARRA) was passed in 2009 to provide funding for capital infrastructure projects across the nation. Within ARRA was \$8 billion to help kick start the development and implementation of high-speed and intercity passenger rail (HSIPR).

The MWRRRI Steering Group submitted a coordinated application for ARRA funds in 2009 and was awarded \$2.6 billion of the \$8 billion available to states across the country. States in the Midwest region that were awarded HSIPR funds were; Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, and Wisconsin. The awards included \$1.1 billion to implement 110 mph service on the Chicago-St. Louis corridor; \$810 million to initiate passenger rail service between Milwaukee and Madison, Wisconsin; and \$400 million to start up passenger rail service between Ohio's major metropolitan areas. Smaller awards included \$31 million for a number of different projects to improve safety and reliability on the St. Louis-Kansas City line; \$1 million to conduct environmental and other required analyses on the remainder of the Chicago-Twin Cities corridor (Madison-Twin Cities); and project-specific awards to significantly relieve congestion on the Chicago-Detroit corridor.

Following the awards for requested ARRA funds for high speed passenger rail implementation gubernatorial elections in Wisconsin and Ohio elected new governors that were opposed to the intercity

³⁶ Midwest Regional Rail System: Service Development Plan.
<http://www.modot.org/othertransportation/rail/documents/MWRRSSDPw-oattachments.pdf> . September 29, 2009.

³⁷ Due to proprietary information concerns, finalized SOAs were not available for inclusion in this study.

passenger rail projects in their state, and had campaigned to end the projects if elected. In Wisconsin the newly elected Governor, Scott Walker declined the \$810 million ARRA funds that had been awarded to the state for the HSIPR line between Chicago and Milwaukee/Madison effectively ending the project. Annual operating costs for the state of Wisconsin were estimated to be roughly \$7.5 million, an amount Governor Walker could not support.³⁸ In Ohio a similar situation occurred in 2010 where the newly elected Governor John Kasich declined the \$400 Million FRA grant that had been awarded to Ohio for the '3C' line between Cleveland, Columbus, and Cincinnati. The Ohio and Wisconsin funds were redirected to other states actively pursuing the development of high speed passenger rail, with the bulk of the funds going to Florida, Washington, Illinois, and New York.³⁹

In other Midwestern states, outside of Wisconsin and Ohio, there have been multiple studies, analyses, engineering, and construction along various segments of the MWRRS. Many of these are described below. These studies were largely consistent with the vision outlined in the MWRRRI.

Illinois Moving Forward with Planning and Implementation

Following the plan established in the 2009 SDP, Illinois moved forward with the development of several passenger rail corridor projects. Illinois has had supportive political leadership and as the hub of the Midwest network it was appropriate for Illinois to lead the development of the system. In many cases, IDOT has taken the role of the lead agency for planning, environmental analysis, procurement and construction management with the agreement of neighboring state DOTs.⁴⁰ To date, work in Illinois has seen the greatest progress with the funding provided through ARRA and other sources.

Chicago – St. Louis High Speed Rail Corridor

The corridor that had seen the greatest amount of progress in the Midwest region is the Chicago to St. Louis Corridor. This corridor has been planned for many years and is now under construction to allow for passenger train speeds of up to 110 mph. The overall purpose of the *Illinois High Speed Rail* project is to enhance the passenger transportation network within the Chicago to St. Louis corridor (see Figure C-14).

³⁸ Sabella, Jen. Illinois Offers to Take High-Speed Rail Money Rejected by Wisconsin's Incoming Governor Scott Walker. Huffington Post, 11/9/10. http://www.huffingtonpost.com/2010/11/09/illinois-offers-to-take-h_n_781120.html.

³⁹ Koff, Stephen. Feds to Ohio: Your high-speed rail project is officially dead (and New York thanks you). Cleveland Plain Dealer. http://www.cleveland.com/open/index.ssf/2010/12/feds_to_ohio_your_high-speed_r.html. 12/9/10.

⁴⁰ Telephone Conversation with John Oimoen – Illinois Department of Transportation, Deputy Director. 8/28/14.



Figure C-27: Illinois High-Speed Rail Alignment

Source: Illinois DOT

The current Chicago to St. Louis corridor operates on only a single track; however, the future vision for this corridor includes an additional track. An additional track was recommended in the Tier 1 Study based on technical analysis and stakeholder input. This second track project is not currently funded.⁴¹ Construction is underway in the corridor adding track at key locations, sidings, communications equipment, and improvements to grade crossings with the goal of having infrastructure improvements completed by 2017 to allow for 110 mph operation from Joliet, Illinois to East St. Louis, Illinois. Today, passenger trains between Dwight and Pontiac, Michigan are able to operate at 110 mph, and six trains per day travel the enhanced segment. By the end of 2015, 75 percent of the corridor is expected to be ready for 110 mph trains, which will shorten the current 5.5 hour trip between Chicago and St. Louis by one hour.⁴²

Another passenger rail alignment that was envisioned in the MWRRS between Chicago, Quad Cities, Iowa City, Des Moines, and Omaha has been in progress for the last several years, with the Chicago to Quad Cities portion moving closer to implementation. In 2010, the Iowa DOT received a grant from the FRA for extending passenger rail from Chicago to Iowa City, IA. Due to changing priorities, Iowa worked with Illinois to divide the corridor responsibilities for planning and implementing the service. In a cooperative agreement with FRA, Illinois was given \$177 million to develop the Illinois portion of the

⁴¹ Illinois Department of Transportation. Illinois High-Speed Rail Program. Project Overview. <http://www.idothsr.org/about/overview.aspx>. 8/26/14.

⁴² Sneider, Julie. High-speed Rail Makes Incremental Progress on Chicago-St. Louis Route. Progressive Railroading. August, 2013.

alignment.⁴³ The Chicago-Moline service is made possible by \$78 million from Governor Pat Quinn's *Illinois Jobs Now!* capital program. Agreements between IDOT and the railroads will return passenger rail to the Quad Cities for the first time since 1979. Service will begin with two daily round-trips, with stops in LaGrange, Naperville, Plano, Mendota, Princeton and Geneseo, which will have a new \$1.7 million station as part of the project. In addition to these improvements, *Illinois Jobs Now!* is providing \$5 million toward the new multimodal station in downtown Moline, a project that includes a federal contribution of \$10 million and a \$1.7 million local match.⁴⁴

This portion of the Chicago – Omaha route through Iowa had a First Tier EIS completed in 2012, and a Record of Decision (ROD) executed by FRA on August 2, 2013. Further progress on the Iowa portion of the alignment has slowed, but expects to move forward with further environmental analysis heading to a completed Tier 2 Environmental Impact Statement in 2016. A map depicting the current phasing of the passenger rail alignment between Chicago and Iowa City is shown in Figure C-15.

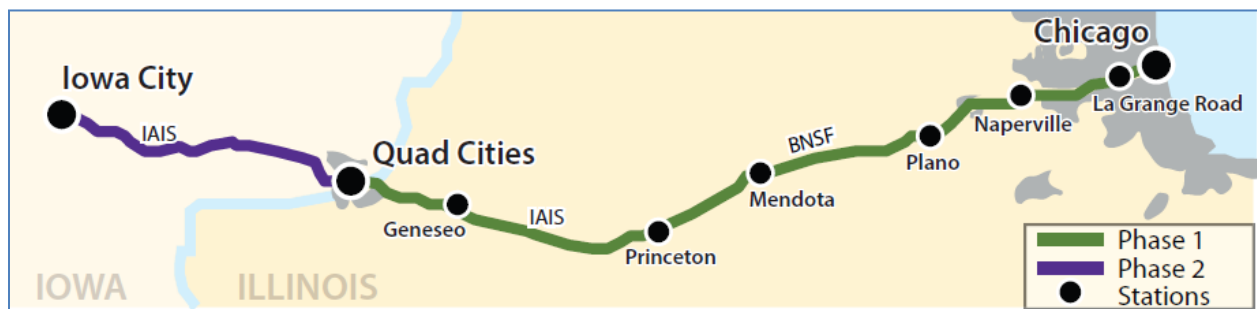


Figure C-28: Chicago to Iowa City Passenger Rail Project Phasing

Source: Iowa DOT

The State of Illinois is also moving forward with initiating Amtrak passenger rail service from Chicago to Rockford, reinstating passenger rail service to Rockford that was abandoned in 1981. Illinois is providing \$223 million in state capital funds to help initiate service by 2015. The state capital funds are being used to for track, signaling, and safety improvements. Preliminary improvements will allow for 59 mph operation by 2015, and final improvements are planned for 2016 that will allow for 79 mph speeds. The long term vision for this route will be to connect to Dubuque, Iowa.

Chicago – Madison – Milwaukee Line Status

The State of Minnesota, led by MnDOT, has been actively planning for enhanced and high-speed passenger rail for many years. In 2000, Minnesota and Wisconsin commissioned the Tri-State Study. This study showed that a Milwaukee to Twin Cities connection through Rochester, Minnesota, including a route that involved new alignment between Rochester and the Twin Cities had the best benefit/cost ratio of the alternatives studied. By 2004, the MWRRRI routes changed showing Milwaukee to the Twin Cities through Madison, not Rochester (see Figure C-16). The development of the Chicago - Milwaukee -

⁴³ Telephone Conversation with Amanda Martin, Iowa DOT Rail Division. 8/21/14.

⁴⁴ Midwest Rail. Press Releases. Key Milestone Reached on Chicago-Moline Service. <http://midwestrail.org/tag/moline/>. 8/4/14.

Madison - Twin Cities route continued through 2008 with the preparation of environmental documents.⁴⁵



Figure C-29: Chicago – Milwaukee – Twin Cities Alignment

Source: <http://www.dot.state.mn.us/passengerrail/mwrri/files/mapprefalt.pdf>

Currently, MnDOT is leading the effort for a Tier 1 EIS for the Minneapolis/St. Paul – Milwaukee – Chicago alignment. MnDOT was awarded \$600,000 in 2010 to conduct the EIS with a grant from FRA's HISIPR. To meet the local match funding requirement, MnDOT partnered with WisDOT and committed to work collaboratively in order to advance the project.

The purpose of the study was to better define the purpose and need established by the MWRRI for the corridor, evaluate train types, levels of service, and estimate ridership. The EIS was to help determine a preferred service and design alternative for the route, and assess impacts based on conceptual engineering, capital cost estimates, operating cost estimates, ridership, and an assessment of benefits.

In 2011, following a change in gubernatorial leadership in the state of Wisconsin, political support for the Minneapolis to Milwaukee project was lost. On August 31, 2011, WisDOT issued a letter to MnDOT officially confirming that WisDOT would not pursue the Twin Cities to Milwaukee Intercity Passenger Rail Study at this time. The work that WisDOT had accomplished to date was placed on hold, until

⁴⁵ Minnesota Department of Transportation. State Rail Plan. p. 2-19. February, 2010.

circumstances allow for its resurgence.⁴⁶ MnDOT has continued the study and the schedule anticipates a Final Tier 1 EIS to be completed in 2016. Currently no projects have been funded for implementation.

Chicago – Detroit / Pontiac Line Status

The 2009 MWRRI SDP listed the Chicago to Detroit / Pontiac Michigan as a Phase I project (see Figure C-17). In August, 2011, the MDOT was awarded \$3.2 million from the FRA's HISPR Program. MDOT partnered with the IDOT and the INDOT to conduct the project and provided the necessary 20 percent local matching funds for the grant, approximately \$800,000. The project team is evaluating passenger rail improvements in the nearly 300 mile corridor between Chicago and Detroit, with planned speeds of 110 mph in the corridor.



Figure C-30: Chicago - Detroit / Pontiac Alignment

Source: http://greatlakesrail.org/~grtlakes/images/layout/corridor_map.png

The project officially kicked off in June 2012 and will develop a Tier 1 EIS and SDP that will describe preferred alignments and define how the future service would be operated.

To support current passenger rail services and to set up enhanced services in the future, several major projects are underway in the corridor, including:

- The Kalamazoo-Dearborn segment in Michigan using \$384 million of federal and state funding will make improvements to and purchase the Norfolk Southern rail line. Additionally, over \$40 million has been invested to upgrade stations in Michigan.
- The Indiana Gateway project has been selected for a federal grant of over \$70 million to relieve congestion and improve the signal system between Porter, Indiana, and the Illinois state line.
- Projects are being implemented as part of the Chicago Region Environmental and Transportation Efficiency Program (CREATE) to improve passenger rail access into Chicago, including the \$140 million Englewood Flyover.⁴⁷

⁴⁶ Letter from Mark Gottlieb, Secretary of Transportation, State of Wisconsin to Tom Sorel, Commissioner, Minnesota Department of Transportation.

<http://www.dot.state.mn.us/passengerrail/mwrri/files/Appendix%20P%20-%20MN%20Twin%20cities-milw%20tr%208-31-11.pdf> . August 31, 2011.

⁴⁷ Michigan DOT Project Website. <http://greatlakesrail.org/~grtlakes/index.php/site/existing-rail-service> . 8/27/14.

The draft EIS and SDP are expected to be completed in the fall of 2014, and then begin the process of initiating the Final EIS and SDP in 2015.

Since the generation of the MWRRRI SDP in 2009 there has been some loss of project momentum and coordination region wide. The MWRRS was a significant step in advancing high speed passenger rail services in the Midwest. The vision aggregated the specific needs and interests of the states, agencies, and other interest groups in the region. However, no formal mechanism exists to foster compliance with the vision. The MWRRRI Steering Committee is still exploring creation of an oversight body for system implementation, acknowledging that management and institutional structures required for the MWRRS must be flexible and evolve over time to respond to the changing needs of the states as their corridors progress from the planning stage to revenue service.

Next Generation Rolling Stock Joint Procurement Efforts

To support and operate the enhanced 110 mph passenger train operations the State of Illinois partnered with the states of Iowa, Michigan, Missouri, Oregon, Washington and California to procure new passenger rail rolling stock. PRIIA directed Amtrak to establish the Next Generation Corridor Equipment Pool Committee (NGEC) “...to design, develop specifications for, and procure standardized next-generation corridor equipment.” PRIIA requires that equipment purchased with federal funds comply with specifications developed by the Section 305 NGEC. NGEC was composed of members of the public and private sectors, with experts from multiple states, FRA, Amtrak, equipment manufacturers and supplier companies. Details of how the NGEC was organized are displayed in Figure C-18.

The NGEC developed and adopted five specifications for next generation rail equipment. The specifications are for: bi-level cars, single-level cars, single-level trainsets, diesel-electric locomotives, and diesel multiple units (DMUs). By providing publicly available standardized specifications, the NGEC is creating a common platform from which multiple states can procure passenger rail equipment. The standardized specifications make it possible to buy equipment faster, at a lower cost, and with lower future costs relating to maintenance, rebuilding, and the purchase of additional equipment.⁴⁸

⁴⁸ Next Generation Equipment Committee. http://www.highspeed-rail.org/Documents/2014%20NGEC%20%20pager_proof%2003_06_2014.pdf . 8/26/14.

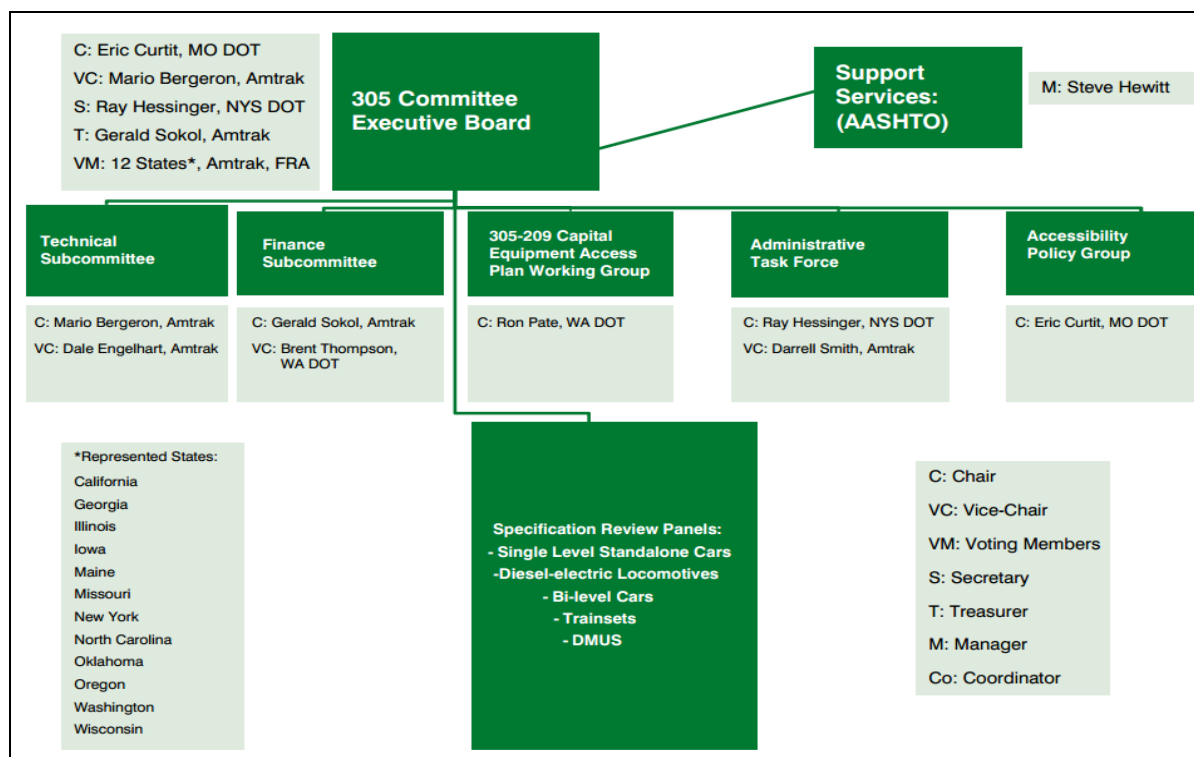


Figure C-31: NGEC Organizational Chart

Source: <http://www.s4prc.org/sites/default/files/media/2014%20NGEC%20Backgrounder.pdf>

On November 19, 2012, Governor Pat Quinn, U.S. Secretary of Transportation Ray LaHood, IDOT Secretary Ann L. Schneider, and leaders from Sumitomo Corporation of America announced that Illinois-based Nippon Sharyo was awarded a \$352 million contract from the California Department of Transportation (Caltrans). The contract will allow Nippon Sharyo, a railcar manufacturing company, to build passenger rail cars and Siemens will build 32 diesel electric locomotives that will be delivered throughout the Midwest and California starting in 2015. This next generation equipment procurement is being funded through the FRA and has met all requirements to ensure that the final assembly be prepared by American workers, with American-sourced steel, iron, and manufactured components.⁴⁹ IDOT has led the multistate procurement and expects the first deliveries in 2016. The engines will be built to standardized technical specifications developed by PRIIA Section 305 NGEC and will comply with the latest Environmental Protection Agency (EPA) emission standards.⁵⁰ Early capital cost estimates for this rolling stock was over \$500 million. After work was completed by the NGEC partnering with multiple

⁴⁹ Illinois Department of Transportation. Illinois High-Speed Rail Program. Funding and Applications. <http://www.idothsr.org/about/funding.aspx> . 8/26/14.

⁵⁰ US Department of Transportation: Federal Railroad Administration. FRA Announces Multistate Request for Proposals for Next-Generation Passenger Rail Locomotives. <https://www.fra.dot.gov/eLib/details/L04729> . 8/8/13.

states and industry leaders to develop standardized specifications for rolling stock, the final price was 36 percent lower than original estimates.⁵¹

C.5 Multistate Agreements in the Midwest Region

Throughout the Midwest region states wishing to partner with other states to advance passenger rail corridor projects employ various types of agreements to assign roles, responsibilities, financial commitments, procurement, and various other reasons. The most used instruments to formalize agreements by states participating in the MWRRS are detailed in this section. In addition to these corridor level agreements, the Midwest Interstate Passenger Rail Compact is also summarized in this section.

C.5.1 Memorandum of Understanding (MOU)

MOUs specify mutually-accepted expectations between two or more people or organizations working toward a common objective. The use of MOUs is significant for two main reasons: generally they are not legally binding, in part because neither party wants to deal with the ramifications of a binding agreement; and they do not involve the exchange of money. MOUs can have the advantage of formally defining roles and responsibilities, without the legal obligations of a contract. A contract is a written, private agreement between two parties that is legally binding and can be enforced by a judge. Contracts spell out the obligations of each party which, if breached, may have negative consequences for the entity that breaks it; and they are necessary when there is any sort of exchange of money to help to protect the interests of both parties and ensure trust. MOUs are less formal than contracts, and typically include fewer details and complexities. Ultimately, a party may opt for MOUs because they are simpler and more flexible than contracts.⁵² MOUs help to define many of the terms that can lead to the formation of formalized, legally binding contracts at a later time.

One of the key MOUs for the entire MWRRS is found in Appendix B signed by the governors of eight states and the City of Chicago agreeing to support the implementation of the HSR system envisions in by the MWRRRI, and to cooperatively pursue federal funding to study, construct and operate future service. The MOU details the efforts that participating states agree to include the establishment of a multistate steering group, coordination of grant applications and coordination of all negotiations with railroads. This agreement also outlines the general alignment of the seven major corridors of the envisioned system, with Chicago as the hub.

C.5.2 Agreement in Principle (AIP)

Much in the same way that an MOU is not legally enforceable, an Agreement in Principle (AIP) is not legally binding. An AIP is generally used between two parties to come to agreement on specific terms that could form the foundation of a future contract. The AIP serves as a way to come to a basic understanding on contentious issues, and develop a level of consensus between parties and to define specific terms. AIPs between the Iowa DOT and IDOT were used to establish the two agencies' roles,

⁵¹ Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/22/14.

⁵² Chandler, Nathan. How a Memorandum of Understanding Works.
<http://people.howstuffworks.com/memorandum-of-understanding.htm> . 8/27/14.

responsibilities, risks and other important details to initiate the HSR analysis between Chicago and Iowa City, Iowa. This document is found in Appendix C. The AIP introduces all parties entering into the agreement, summarizes the scope of the project, then lays out a series of terms and definitions which the parties mutually agree to. In this example the AIP defines Iowa DOT as the lead agency and FRA grant recipient, defines how future equipment costs will be shared between the states, details how cost overruns are to be managed for the project, and elaborates on several other critical issues. Some major items specifically outlined in this AIP between Iowa DOT and IDOT states that the two partnering organizations agree to the following terms and conditions:

- Equipment: Iowa and Illinois will share the cost of maintaining equipment based on the mileage percentage – 73 percent (158.6 miles) in Illinois and 27 percent (59.3 miles) in Iowa. However the original cost for procuring the equipment will be funded by HSIPR Program funds at a level of 80 percent deferral funding and 20 percent state funding. The 20 percent state funding will be split 73 percent Illinois and 27 percent Iowa.
- Administration of HSIPR Program Funds: Iowa is the lead state for the application for passenger rail between Chicago and Iowa City. Iowa DOT will be the responsible agency for receiving and disbursing any and all HSIPR Program funds which become available through this application. Iowa DOT will be responsible for accounting records and payments. The environmental impact analyses, track infrastructure construction and upgrading improvement, layover facility construction and station improvements shall be funded with HSIPR Program Funds.
- Cost Overruns: Cost overruns are defined as costs over and above the amount funded with HSIPR Program funds. Iowa DOT and IDOT will each be responsible for cost overruns based upon the mileage percentage within each state – 73 percent (158.6 miles) in Illinois and 27 percent (59.3 miles) in Iowa.
- Liabilities: Liability issues associated with this project will be mutually handled by Iowa DOT and IDOT.
- Sharing Risks and Benefits: The success and benefits (mobility options, fuel savings, clean air, and economic development opportunities) of passenger rail service between Chicago and Iowa City will be shared by the citizens of both states. The risks associated with this project will also be shared and mitigated by both states; this may involve, but not limited to, changing the plan to eliminate the risk or its impact to the project; changing the plan to reduce the likelihood and/or consequences of the risk; allocating the financial impact of the risk to the Agencies best able to manage it; sharing the financial impact of the risk, when appropriate; or recognizing and absorbing the risk.

AIPs are a beneficial tool for parties to begin the process of forming a formal contract in the future, but are not yet ready to make a full legal commitment.

C.5.3 Intergovernmental Agreement (IGA)

Intergovernmental Agreements, as the name implies, are agreements made exclusively between two or more governmental bodies. In the case of the MWRRS, IGAs have been used between state DOTs and communities where stations are to be located to come to agreement on construction and maintenance costs related to the community's passenger rail station. (In most cases local municipalities are responsible for the maintenance and operational costs of their station.)

Service Outcome Agreement (SOA)

To help mitigate risk to grantees, FRA required long term SOAs between host railroads on whose track intercity passenger or high-speed rail projects would operate, the grantee and the service operator (in many cases Amtrak).⁵³ SOAs define the intended benefits of new or improved passenger rail service and demonstrate the rail owning entity's commitment to the achievement of those benefits. Specifically, they address passenger rail service frequency, schedule and trip time, and maximum delay minutes.⁵⁴

SOAs are used to detail precisely what improvements will be made along the host railroad's right-of-way and how progressive phases of the passenger rail project will improve service in the project corridor. An example of a service outcome summary table is displayed in Table C.3.

Table C.7: Example Service Outcome Agreement Table

Phase	PNWRC Program tasks (as described and depicted in Exhibits 1 and 3)	Cascades Service train round trips per day permitted between Seattle and Portland*	Publicly scheduled running time of Cascades Service trains between Seattle and Portland	BNSF- Responsible Delay Minutes per one way trip between Seattle and Portland
0	Baseline – Current Service	4 total	3h 30m	19.8
1	Completion of BNSF Projects 2 & 7	4 total	3h 30m	18.6
2	Completion of Phase 1 above and BNSF Projects 1 & 3- 6	4 total	3h 30m	17.8
3	Completion of Phase 2 above and WSDOT Work items 1-3 (i.e., completion of PNWRC Program)	6 total	3h 20m	16.0

Source: State of Washington DOT, 2/25/11

FRA requires that a Service Outcomes table be prepared for all intercity passenger rail projects awarded grant funding. SOAs must provide that, upon completion of the project, the Owner (host railroad) agrees to achieve the service outcomes identified in the Service Outcomes table for the useful life of the project.⁵⁵

In many cases, the agreement on a SOA can be one of the more challenging agreements to reach. Differing goals between agencies can make the SOA negotiations complex and difficult. In the State of Missouri's SOA with the Union Pacific Railroad, the different organizations involved besides the Union Pacific Railroad (MoDOT, Amtrak, and FRA) had different priorities and goals. For the FRA, travel time reduction for the total trip was paramount, while MoDOT and Amtrak had their focus on increasing the

⁵³ Due to proprietary information concerns, finalized SOAs were not available for inclusion in this study.

⁵⁴ US DOT: Office of Inspector General Audit Report. FRA's Requirements for High-Speed Rail Stakeholder Agreements Mitigated Risk, But Delayed Some Projects' Benefits. p. 3. November 1, 2012.

⁵⁵ US DOT: Federal Railroad Administration. HSIRP Program Grantee FAQs. <https://www.fra.dot.gov/Page/P0514> . 8/29/14.

on-time performance percentage to make service more reliable. These types of differing agency goals can make the agreement process more complicated and time consuming.⁵⁶

Interstate Compact

Interstate compacts are one of the most commonly employed mechanisms for established multistate arrangements. Compacts are negotiated by states and enacted in identical forms by each state that is part of the compact. In most cases, interstate compacts must also be approved by Congress. The terms of compacts vary by institution as they are a result of the negotiation and agreement among the parties.

In 1996, the Midwestern Legislative Conference, a regional association of state legislators representing 11 Midwestern states and four Canadian provinces, convened a task force of interested legislators to discuss the furthering of intercity passenger rail development. The task force, in consultation with federal, other state, and local officials, the MWRRI Steering Committee, members of the private sector, and advocacy groups, drafted the Midwest Interstate Passenger Rail Compact to promote both current improvements and long-range plans for intercity passenger rail service in the Midwest; coordinate interaction among Midwestern state officials, and between the public and private sector at all levels (federal, state, and local); and support current state efforts being conducted through state DOTs. The stated purposes of the Midwest Interstate Passenger Rail Compact are, through joint or cooperative action, to:

- Promote development and implementation of improvements to intercity passenger rail service in the Midwest;
- Coordinate interaction among Midwestern state elected officials and their designees on passenger rail issues;
- Promote development and implementation of long-range plans for intercity passenger rail passenger service in the Midwest and among other regions of the United States;
- Work with the public and private sectors at the federal, state, and local levels to ensure coordination among the various entities having an interest in passenger rail service and to promote Midwestern interests regarding passenger rail; and
- Support efforts of transportation agencies involved in developing and implementing passenger rail service in the Midwest.

Per the compact language, at least three states needed to enact the Compact before it became operational. It took several years to recruit a majority of the Midwestern states. In 2000, the first three states to pass the compact and sign the bill into law were Indiana, Minnesota, and Missouri. Since that time several states joined, with two states passing and subsequently rescinding membership in the Compact in accordance with compact terms. Current member states include Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, and Wisconsin.

⁵⁶ Telephone Conversation with Eric Curtit – MoDOT Rail Division. 8/29/14.

C.6 Challenges and Barriers in the Midwest Region

Changing Political Goals and Priorities

Projects such as those envisioned in the MWRRS are long term planning, construction, and operating projects, much like the Interstate Highway system envisioned in the 1950s. Because of the long term horizon for completion of large capital projects, shorter term changes to political priorities makes moving projects forward more difficult, especially forming and maintaining long term multistate agreements. As was the case in Wisconsin in 2010-2011, several agreements that had committed the state to planning projects or accepting ARRA grant funds were rescinded as a new administration took office. Similar circumstances occurred in both Ohio, and to a certain extent, in Iowa where new governors' legislative priorities did not include advancement of passenger rail services. In the case of Wisconsin, all planning for high-speed passenger rail was put on hold and all work with MnDOT was terminated indefinitely. In the state of Iowa planning along the Iowa City – Chicago line continued along the Iowa portion of the route, but accelerated work toward implementation of passenger rail service was delayed. To overcome this, Iowa and Illinois agreed to divide their project funding, allowing Illinois to proceed with implementing service between Chicago and the Quad Cities. Similar situations occurred outside the Midwest region as well. In 2011, Florida Governor Rick Scott refused to accept approximately \$2.4 billion in federal funds related to that state's high speed passenger rail corridors.

Separation of Political and Technical Bodies in Vision Development

The formation of the MWRRRI Steering Committee, the MIPRC, and the Governor's Steering Group demonstrated the region's need for both technical experts and elected officials to participate in efforts to advance intercity passenger rail. Although the MWRRRI Steering Committee conducted public outreach sessions and did some coordination with the MWRRRI, much of the decisions regarding the vision were made by the technical committees separate from the political bodies. However, developing a formal mechanism that would ensure compliance to the vision among states would require legislative action beyond the scope of the technical committee. Before 2009, there was no need strong enough to engage elected officials beyond the few legislators involved in the MIPRC. However, the availability of stimulus funds, with a 100 percent federal share, spurred widespread political interest in the vision. In addition, although a formal compact has been established between states for the MIPRC with authority to oversee rail projects, the disparate development of corridor studies by separate partnerships of specific state departments of transportation limited the potential for the region to use the compact as mechanism to formalize buy-in for the regional vision.

Need for Single, Centralized Governance Entity

While the MIPRC and MWRRRI have worked fairly closely over the years to advance passenger rail in the region, as noted in the previous barrier/challenge, they are two separate entities, with no formal ties. The Midwest does not currently have a single entity responsible for coordinating regional, ongoing, long-term technical planning or ensuring political and educational functions necessary for future regional passenger rail implementation. In addition, a number of issues loom on the horizon that may best be helped by a new or expanded governance entity including oversight and coordination of the Midwest's Next Generation equipment; better uniformity of Section 209 pricing; and priorities and cost-

sharing for major infrastructure improvements.⁵⁷ In general, the issue of governance has not been addressed.

Lack of Clear Direction in Forming Agreements

FRA required SOAs for grantees prior to grants being awarded to recipients. These agreements required all parties---host railroads, Amtrak, and grantees--- to agree to the benefits and planned services that would result from the completed project. In these agreements, host railroads needed to commit to the long term service being provided and to maintain minimal levels of delay caused by freight traffic, maintaining enough capacity in their freight system to allow for passenger rail operations. SOAs were seen as an important part of the risk management strategy for FRA. Project stakeholders found the SOA negotiation process challenging, in part because FRA's guidance provided little detail on how to structure stakeholder agreements. Freight railroads and grantees found themselves engaged in a time-consuming process of trial and error in which multiple versions of agreements were rejected by other parties to the agreement.⁵⁸ This was the case in Missouri as SOA development was highly iterative and time consuming.⁵⁹ Formal guidance on what elements are to be included in SOAs and how agreements are to be structured would provide needed clarity for all parties involved.

Risk and Liability

Mitigating, limiting, or eliminating risk is a goal for all parties as they develop multistate agreements to implement passenger rail service in the Midwest. These issues can cause serious contention for all parties of an agreement. Host railroads prefer to be indemnified for any injury or loss of life should accidents occur along their right-of-way relating to passenger rail operation. Typically, private railroads wish to limit their risk in not over committing track access to passenger rail that could limit future freight capacity. States seek to limit their exposure to risk of all kinds including financial, project schedule, and personal injury, as do operators such as Amtrak.

To overcome this challenge, state DOTs in the Midwest have found it beneficial to engage with all parties (host railroads and Amtrak) early in the project development process to identify risks and begin the process of mitigation. Project leaders hold weekly meetings discussing project risk and maintain a risk register to track identified risks and assign qualified staff to be responsible for mitigation and management of the risk element.⁶⁰ Managing risk is also detailed as multistate agreements are formalized. An example of this is seen in the Agreement in Principle between the Iowa DOT and IDOT for implementing passenger rail service from Chicago to Iowa City. In relationship to sharing of risks and benefits of the project, the agreement states:

⁵⁷ Text adapted from Midwest Interstate Passenger Rail Commission, Midwest Response to Call for Statement of Interest and Qualifications for a Federally-Led Regional Rail Planning Project, <http://miprc.org/LinkClick.aspx?fileticket=2hElvzS4CDw%3d&tabid=69>

⁵⁸ US DOT: Office of Inspector General Audit Report. FRA's Requirements for High-Speed Rail Stakeholder Agreements Mitigated Risk, But Delayed Some Projects' Benefits. p. 5. November 1, 2012.

⁵⁹ Telephone Conversation with Eric Curtit – MoDOT Rail Division. 8/29/14.

⁶⁰ Telephone Conversation with John Oimoen. IDOT Deputy Director. 8/28/14.

“The success and benefits (mobility options, fuel savings, cleaner air, and economic development opportunities) of passenger rail service between Chicago and Iowa City will be shared by the citizens of both states. The risks associated with this project will also be shared and mitigated by both states; this may involve, but is not limited to, changing the plan to eliminate the risk or its impacts to the project; changing the plan to reduce the likelihood and/or consequences of the risk; allocating the financial impact of the risk to the Agencies best able to manage it; sharing the financial impact of the risk, when appropriate; or recognizing and absorbing the risk.”⁶¹

The management and assigning of specific risks in multistate agreements becomes more detailed and complex as agreements advance closer to legally binding contractual status.

Funding

At a regional and federal level there is a need to identify stable, long term capital and operating funding sources. Several state DOTs pointed to the challenges brought by the lack of a committed, long-term, stable funding source for construction, operation and maintenance of passenger rail systems. In states such as Iowa, Wisconsin, and Ohio, the long term commitment of annual operating funds was often cited by those states’ executives as a primary reason to not pursue the development of high speed or intercity passenger rail. Without a predictable funding stream, state DOTs and other leaders in the development of passenger rail systems have difficulty committing to long term plans and formalizing agreements. The vision proposed in the MWRRS based its financing plans on the development of a future federal funding program similar to long term funding programs that exist for highways, transit and other modes in the U.S. Most states in the Midwest do not have long term programs established to finance operations and maintenance of passenger rail service. For those states that do provide operating funding, the funds are provided only on an annual basis and may fluctuate from year to year. The need for adequate funding was noted in Kansas where the state does not have a long term financing program for passenger rail. In 2010, the Kansas legislature passed the Kansas Passenger Rail Development Act, which made it possible for KDOT to enter into agreements with Amtrak and other states for expanded passenger rail services. The Passenger Rail Development Act also established a revolving fund that could be used for operating and capital improvement funds. To date, the program has remained unfunded by the state legislature.⁶² At the federal level, passage of a new, long term transportation bill has been elusive in recent years.

Moving Ahead for Progress in the 21st Century was a two year transportation authorization passed in 2012. The legislation was much shorter in duration than previous transportation bills. This shorter term authorization along created challenges for states attempting to plan and implement much longer term passenger rail projects. For these types of projects to succeed, local agencies need to have confidence that federal funding will be available to support their efforts.

⁶¹ Agreement in Principle Between Iowa Department of Transportation and Illinois Department of Transportation for The Implementation of Passenger Rail Service Between Chicago and Iowa City, via the Quad Cities. Section L. 8/5/10.

⁶² Telephone Conversation with John Maddox. Kansas DOT Rail Division. 8/25/14.

Negotiating with Private Railroads

Passenger rail project sponsors in the Midwest all stated the importance of engaging with the railroads early, maintaining an open dialog and being clear about the project goals from the outset. Another key to reaching an agreement with host railroads was to discover early in the project planning stages any ‘red flags’ or ‘deal breakers’ for the railroads. This aided in avoiding unanticipated disagreements later in the project.⁶³

Negotiation with railroads has proven to be a challenge in the Midwest, as in the case along the developing passenger rail line between Chicago and Iowa City, Iowa. Portions of the preferred alignment are on lines owned by the Iowa Interstate Railroad, a regional railroad. While the ISIA has been a partner in developing passenger rail service in western Illinois and eastern Iowa, the company’s previous lack of experience with hosting passenger rail traffic, and smaller staff resources made negotiations much more time consuming.⁶⁴ Generally the smaller regional railroads lack the same levels of legal and other technical capacities that Class I railroads employ, which can slow agreement development and review.

The Midwest has also identified a potential role for the federal government to help with addressing current and future challenges on the freight network that may inhibit passenger rail service. Noting the federal government’s regulatory authority, stakeholders have suggested FRA can assist in regulating issues impacting passenger rail’s ability to provide on-time service when sharing track with freight, particularly as states do not have authority over freight rail.⁶⁵

⁶³ Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/29/14.

⁶⁴ Telephone Conversation with Amanda Martin, Iowa DOT Rail Division. 8/21/14.

⁶⁵ Text adapted from Midwest Interstate Passenger Rail Commission, Midwest Response to Call for Statement of Interest and Qualifications for a Federally-Led Regional Rail Planning Project, <http://miprc.org/LinkClick.aspx?fileticket=2hElvzS4CDw%3d&tabid=69>

C.7 Interpretation and Synthesis

This section interprets the case study findings in the context of the overall project objectives. Several significant lessons learned through the course of the case study are summarized and the transferability of the findings to other areas of the country is assessed.

C 7.1 Key Lessons Learned

Lesson 1: Developing Partnerships with Adjacent States and Assigning Lead Agency

As nearly all passenger rail lines envisioned in the Midwest region cross state lines it is imperative that states form meaningful working relationships if plans are to be implemented successfully. To date the agencies best suited to form these partnerships have been the state Departments of Transportation. As the partnerships are formed, the state with the greatest potential benefits has typically stepped forward to make grant applications, accept grant funding (if awarded), and lead the planning and development efforts for individual corridors. This has proven to be an effective partnering method across the Midwest. An example of this can be seen in Illinois, where IDOT has taken the leadership role for several of the corridors being developed, largely within the state.⁶⁶ In these instances, the lead state for a project has instituted weekly or bi-weekly teleconferences to communicate the status of the project. These regular communications have been helpful in advancing projects and working through complications.

Lesson 2: Do Not Underestimate Effort and Time Necessary to Develop All Agreements

As intercity passenger rail projects move closer to construction and implementation the number and complexity of agreements increased. State DOTs or other implementing agencies need to have an understanding of the expertise they will need to complete the project, the long term time commitment to the project, and the amount of effort that will be required to advance a project to successful implementation.⁶⁷

Experienced staff at DOTs are needed to develop, negotiate and review the numerous agreements needed for passenger rail projects. Evidence of the high volume of agreements required to implement passenger rail services is found in the detailed 234 (and growing) agreements that have been produced as part of the Chicago to St. Louis high-speed rail projects.⁶⁸ These agreements include five Grant Cooperative Agreements, a Midwest MOU for the purchase of rolling stock, an AIP between Illinois and Amtrak, nine Station Agreements, a Service Outcome Agreement, two amendments to the Service Outcome Agreement, 50 Jurisdictional Transfers, 60 Construction Maintenance agreements with the Union Pacific Railroad, 20 IGAs with local communities and two MOUs between Illinois and Missouri.

Providing time in project schedules for developing and executing the required number of agreements necessary to implement passenger rail should not be underestimated. Agreements can directly impact the critical path of project implementation. Delays caused by agreements have the potential to drastically slow projects and put projects at financial risk if not given a high level of priority. Sponsoring

⁶⁶ Telephone Conversation with John Oimoen, Illinois DOT. 8/28/14.

⁶⁷ Telephone Conversation with Amanda Martin. Iowa DOT Rail Division. 8/21/14.

⁶⁸ Federal Railroad Administration. 2014 FRA Rail Program Delivery: Chicago to St. Louis HSR. www.fra.dot.gov/Elib/Details/L05478 . p. 5. 8/4/14.

agencies should be aware of the time commitment and the necessary staff expertise needed draw up agreements and provide for sufficient legal reviews. To aid agencies in development of plans, environmental analysis and other needs private sector consultants have been used extensively. In the case of the MWRRI 2004 report Amtrak provided funding needed for consultant services to help partners develop the analysis and documentation.

Lesson 3: Early, Frequent, and Open Communication with All Partners

Several individuals working in agencies that are planning, developing, and implementing passenger rail service in the Midwest were contacted to solicit input and provide their perspective. One of the most frequent comments received when asked for critical lessons learned in the formation of multistate agreements was to have early, frequent, and honest communication with all parties involved in the project. Establishing a strong and open relationship with the host railroads was seen to be of very high importance. As host railroads own the majority of the track assumed to carry new or enhanced passenger rail services they have the ability to help projects advance or to slow projects if their goals or needs are not addressed. Engaging the railroads to determine their goals and deal breakers early in the planning stages was found to be very useful to establishing trust and a foundation for strong communication.⁶⁹ Along with private railroads, having strong relationships with regional FRA staff and Amtrak were seen as critical to the success of projects.

Lesson 4: Identify Risks As Early As Possible

The risks associated in the implementation of passenger rail services are numerous and will vary for each agency or company involved in a project. The definition of risks and assignment of responsibility of liabilities caused from risk can be one of the most difficult issues to work through as agreements are developed between state DOTs, service operators, and host railroad. At the outset of large scale infrastructure projects, like passenger rail development in the Midwest, many risks are known and can be identified, yet many are unknown and lead to uncertainty. To manage risk, states use several methods to identify risk elements and strategies to manage or mitigate these risks. Many of the most common risks are injury, project cost, project schedule, security, etc. The risk management methods include risk assessments and risk modeling. One specific method noted was the Monte Carlo risk assessment method. This tool uses mathematical probability of certain outcomes through multiple situational scenarios to predict the likelihood of that outcome actually occurring. This method was employed by the Iowa DOT in assessing cost and schedule risk. Several simulations were developed around estimated project costs and schedule timelines, in the development of a baseline risk assessment of the accuracy of project cost estimations.⁷⁰

In many cases, parties wished to be insulated from risks posed from operating passenger rail, especially host railroads. As agreements are developed throughout the planning, engineering, construction, and operating phases of a project, parties must identify risks and come to agreement on the level of risk they are all willing to accept, which may be a long and painstaking process.⁷¹ As state supported passenger rail programs expand and improve, federal considerations could be examined for methods of providing

⁶⁹ Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/29/14.

⁷⁰ Email from Amanda Martin. Iowa DOT. 8/22/14.

⁷¹ Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/29/14.

consistent, fair and affordable liability coverage for both host railroads and operators of passenger rail services.

Lesson 5: Take the Long View

The development and implementation of enhanced or high-speed passenger rail systems is a long term endeavor that can span several years, even decades. The long term nature of these large scale infrastructure projects pose challenges to project leaders to maintain momentum for their projects and to help keep their projects as priorities of their respective state's elected leadership. As long term passenger rail projects advance, shorter term political changes can shift priorities away from passenger rail development. In some instances changing political priorities have caused projects to be canceled or be delayed indefinitely. Several project leaders contacted for this study expressed the need to be flexible and expect change as projects evolve. It is very important to maintain a long term perspective of the project and understand the 20 to 50 year lifecycle of the project. As political change occurs, project leaders have had to adapt plans. In the case of the Iowa City to Chicago passenger rail project, the project was divided into a phased approach for implementation following a change in elected leadership in Iowa, which desired a slower schedule for the project in order to conduct further planning analysis. In response to this change, Illinois and Iowa established a near term phase to establish service to Moline, Illinois, and later extension into Iowa when the state was ready to move forward.⁷²

C7.2 Key Aspects of Case Study with Respect to Research Objectives

The specific issues relevant to the research objectives identified in the Phase I Report and their relevance and applicability to the Midwest Region case study are summarized in Table C.4.










C7.3 Degree to Which Results are Transferable

The findings resulting from the Midwest Regional Passenger Rail System Development case study should be transferable to other bi-state or multistate passenger/high-speed rail projects. Large scale intercity passenger rail projects require the formation of agreements whether between several states, municipalities, federal agencies, or private corporations. The experiences of project leaders in the Midwest in development of agreements to advance passenger rail projects can serve as an outline for project sponsors in other areas of the country. Many of the example agreement documents that were provided for the study can help to establish a framework for others to develop agreements for their specific project. In addition, the case study offers lessons learned for undertaking incremental approach to passenger rail planning that can evolve through the use of multiple models over time.




One of the key findings from this case study showed how important a shared vision and unified approach to planning and implementation of passenger rail systems is to achieving overall success in moving projects toward implementation and operation. Other bi-state or multistate passenger rail corridors should seek to form similar partnerships and work to develop a coordinated vision and plan for development of their specific corridor. The Midwest region and its multiple passenger rail corridors have acted as a sort of proving ground for project visioning, planning, governance, procurement, and

⁷² Telephone Conversation with John Oimoen. Illinois DOT. 8/28/14.

Table C.8: Case Study Applicability to Research Issues

Research Issue	Degree to Which Objective is Applicable to Midwest Case Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

Legend:

	Addresses research issue to a high degree
	Addresses research issue to a moderate degree
	Addresses research issue to a slight degree

implementation that can provide many lessons learned for other passenger rail projects in the United States.

C.8 References

1. United States Census Bureau. <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml> . August 18, 2014.
2. United States Department of Transportation: Federal Railroad Administration. *Vision for High-Speed Rail in America: Strategic Plan*. April 2009. Brookings Institute. <http://www.brookings.edu/research/interactives/2013/amtrakroutes> . March 1, 2013.
3. Midwest Regional Rail System: A Transportation Network for the 21st Century – Executive Report. <http://miprc.org/Portals/0/pdfs/railmidwest1.pdf> . 2004.
4. Illinois DOT. <http://www.idot.illinois.gov/about-idot/our-story/governance/index> . 8/19/14.
5. Indiana Department of Transportation. InDOT Facts. <http://www.in.gov/indot/2337.htm> . 8/19/14.
6. Iowa Department of Transportation. About the DOT: Roads, Streets and Bridges. <http://www.iowadot.gov/about/RoadsStreetsandBridges.html> . 8/19/14.
7. Iowa Department of Transportation. About the DOT: Iowa's Rail System. <http://www.iowadot.gov/about/RailSystem.html> . 8/19/14.
8. Kansas Department of Transportation. KDOT Quick Facts. http://www.ksdot.org/Assets/wwwksdotorg/PDF_Files/QuickFacts2010.pdf . 8/19/14.
9. Kansas Department of Transportation. Freight and Rail. <http://ksdot1.ksdot.org/burRail/default.asp> . 8/19/14.
10. Michigan Department of Transportation. About MDOT. <http://www.michigan.gov/mdot/0,4616,7-151-9623---,00.html> . 8/19/14.
11. Michigan Department of Transportation. MDOT – A Citizen's Guide to MDOT. p. 11. http://www.michigan.gov/documents/mdot/MDOT_CitizensGuide2011_346347_7.pdf . January 2013.
12. Minnesota Department of Transportation. A Brief History of MnDOT. <http://www.dot.state.mn.us/information/history.html> . 8/19/14.
13. Minnesota Department of Transportation. Passenger Rail: Future Service. <http://www.dot.state.mn.us/passengerrail/planning.html> . 8/19/14.
14. Missouri Department of Transportation. Celebrating a Century. <http://www.modot.org/anniversary> . 8/20/14.
15. Missouri Department of Transportation. Railroads – General Information. <http://www.modot.org/othertransportation/rail/index.htm> . 8/20/14.
16. Missouri Department of Transportation. Missouri State Rail Plan: Executive Summary. p.4. May, 2012.
17. Improving Missouri's Passenger Rail System. <http://www.modot.org/othertransportation/rail/documents/PassengerRailTwoPagerFY14.pdf> . 8/20/14.
18. Nebraska Department of Roads. Facts and Figures. <http://www.transportation.nebraska.gov/docs/facts-roads.pdf> . March, 2014.
19. North Dakota Department of Transportation. NDDTO Facts. <http://www.dot.nd.gov/public/nddot-facts.htm> . 8/22/14.
20. North Dakota Department of Transportation. State Rail Plan. p. 34. December, 2007.
21. Ohio Department of Transportation: Ohio State Rail Plan. p. 2-1. <http://www.dot.state.oh.us/Divisions/Rail/Programs/StatewideRailPlan/Documents/Chapter%20%20-%20State%20Rail%20Activity%20in%20Ohio.pdf> . May 10, 2010.

22. Wisconsin Department of Transportation. Travel Information. <http://www.dot.state.wi.us/modes/rail.htm> . 8/25/14.
23. Illinois Department of Transportation. Illinois State Rail Plan. p. 10-4. December, 2012.
24. American Public Transportation Association. Commuter Rail Ridership Report, 2013. <http://www.apta.com/resources/statistics/Documents/Ridership/2013-q4-ridership-APTA.pdf> . 2/26/14.
25. Wisconsin Department of Transportation. Wisconsin Rail Plan 2030. p. 6-13. March 19, 2014.
26. BNSF Railway – Fact Sheet. March, 2014. http://www.bnsf.com/about-bnsf/pdf/fact_sheet.pdf .
27. Union Pacific Railroad. Company Overview. http://www.up.com/aboutup/corporate_info/uprover/index.htm . 9/24/14.
28. CSX Transportation. Company Overview. <http://www.csx.com/index.cfm/about-csx/company-overview/> . 8/25/14.
29. Norfolk Southern Corporation. Corporate Profile. <http://www.nscorp.com/content/nscorp/en/get-to-know-norfolk-southern/about-us/corporate-profile.html> . 8/26/14.
30. Iowa Interstate Railroad. About Us. <http://www.iaisrr.com/about.htm> . 8/26/14.
31. Midwest Regional Rail System: A Transportation Network for the 21st Century: Executive Report. p. 5. September, 2004.
32. Midwest Regional Rail System: A Transportation Network for the 21st Century – Executive Report. p. 17. September, 2004.
33. Midwest Regional Rail System: Service Development Plan. <http://www.modot.org/othertransportation/rail/documents/MWRRSSDPw-oattachments.pdf> . September 29, 2009.
34. Due to proprietary information concerns, finalized SOAs were not available for inclusion in this study.
35. Sabella, Jen. Illinois Offers to Take High-Speed Rail Money Rejected by Wisconsin's Incoming Governor Scott Walker. Huffington Post, 11/9/10. http://www.huffingtonpost.com/2010/11/09/illinois-offers-to-take-h_n_781120.html .
36. Koff, Stephen. Feds to Ohio: Your high-speed rail project is officially dead (and New York thanks you). Cleveland Plain Dealer. http://www.cleveland.com/open/index.ssf/2010/12/feds_to_ohio_your_high-speed_r.html . 12/9/10.
37. Telephone Conversation with John Oimoen – Illinois Department of Transportation, Deputy Director. 8/28/14.
38. Illinois Department of Transportation. Illinois High-Speed Rail Program. Project Overview. <http://www.idothsr.org/about/overview.aspx> . 8/26/14.
39. Sneider, Julie. High-speed Rail Makes Incremental Progress on Chicago-St. Louis Route. Progressive Railroading. August, 2013.
40. Telephone Conversation with Amanda Martin, Iowa DOT Rail Division. 8/21/14.
41. Midwest Rail. Press Releases. Key Milestone Reached on Chicago-Moline Service. <http://midwestrail.org/tag/moline/> . 8/4/14.
42. Minnesota Department of Transportation. State Rail Plan. p. 2-19. February, 2010.
43. Letter from Mark Gottlieb, Secretary of Transportation, State of Wisconsin to Tom Sorel, Commissioner, Minnesota Department of Transportation. <http://www.dot.state.mn.us/passengerrail/mwrrri/files/Appendix%20P%20-%20MN%20Twin%20cities-milw%20tr%208-31-11.pdf> . August 31, 2011.
44. Michigan DOT Project Website. <http://greatlakesrail.org/~grtlakes/index.php/site/existing-rail-service> . 8/27/14.

45. Next Generation Equipment Committee. http://www.highspeed-rail.org/Documents/2014%20NGEC%20%20pager_proof%2003_06_2014.pdf . 8/26/14.
46. Illinois Department of Transportation. Illinois High-Speed Rail Program. Funding and Applications. <http://www.idothsr.org/about/funding.aspx> . 8/26/14.
47. US Department of Transportation: Federal Railroad Administration. FRA Announces Multistate Request for Proposals for Next-Generation Passenger Rail Locomotives. <https://www.fra.dot.gov/eLib/details/L04729> . 8/8/13.
48. Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/22/14.
49. Chandler, Nathan. How a Memorandum of Understanding Works. <http://people.howstuffworks.com/memorandum-of-understanding.htm> . 8/27/14.
50. Due to proprietary information concerns, finalized SOAs were not available for inclusion in this study.
51. US DOT: Office of Inspector General Audit Report. FRA's Requirements for High-Speed Rail Stakeholder Agreements Mitigated Risk, But Delayed Some Projects' Benefits. p. 3. November 1, 2012.
52. US DOT: Federal Railroad Administration. HSIRP Program Grantee FAQs. <https://www.fra.dot.gov/Page/P0514> . 8/29/14.
53. Telephone Conversation with Mark Curtit – MoDOT Rail Division. 8/29/14.
54. US DOT: Office of Inspector General Audit Report. FRA's Requirements for High-Speed Rail Stakeholder Agreements Mitigated Risk, But Delayed Some Projects' Benefits. p. 5. November 1, 2012.
55. Telephone Conversation with Eric Curtit – MoDOT Rail Division. 8/29/14.
56. Telephone Conversation with John Oimoen. IDOT Deputy Director. 8/28/14.
57. Agreement in Principle Between Iowa Department of Transportation and Illinois Department of Transportation for The Implementation of Passenger Rail Service Between Chicago and Iowa City, via the Quad Cities. Section L. 8/5/10.
58. Telephone Conversation with John Maddox. Kansas DOT Rail Division. 8/25/14.
59. Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/29/14.
60. Telephone Conversation with Amanda Martin. Iowa DOT Rail Division. 8/21/14.
61. Telephone Conversation with John Oimoen, Illinois DOT. 8/28/14.
62. Telephone Conversation with Amanda Martin, Iowa DOT Rail Division. 8/21/14.
63. Federal Railroad Administration. 2014 FRA Rail Program Delivery: Chicago to St. Louis HSR. www.fra.dot.gov/Elib/Details/L05478. p. 5. 8/4/14.
64. Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/29/14.
65. Email from Amanda Martin. Iowa DOT. 8/22/14.
66. Telephone Conversation with Eric Curtit. MoDOT Rail Division. 8/29/14.
67. Telephone Conversation with John Oimoen. Illinois DOT. 8/28/14.

Appendix C-1 – Background on High Speed Intercity Passenger Rail Program FY 2009 Funding and Service Development Plans

Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices

[High Speed Intercity Passenger Rail Program \(HSIPR\) Notice of Funding Availability \(NOFA\) and Interim Guidance: ARRA / FY 2009](#)

Service Development Plan (or equivalent)

A Service Development Plan (SDP) is a plan for developing High-Speed Rail/Intercity Passenger Rail service, initiating new service or improving existing service (e.g., adding train frequencies and/or reducing trip times)—typically focused on distinct phases and/or geographic sections of service improvement. A SDP or equivalent covers three general topics: (i) Rationale (including purpose and need), (ii) service/operating plan and prioritized capital plan, and (iii) implementation plan (including project management approach, stakeholder agreements and financial plan).

The completion of a SDP is a prerequisite for eligibility for applications for Track 2-Programs. FRA acknowledges the inherent complexity of the planning efforts required to develop a SDP. The precise structure of a SDP can vary at the discretion of the applicant; FRA does not pre-determine SDP form and structure. Only certain illustrative topics need to be included in a SDP—thus the applicant has the flexibility to tailor the SDP to the needs of their program.

After receiving the pre-applications for Track 2, subject to available resources, FRA will be available for a kick-off discussion with the prospective applicant that will include a review of the contents of the SDP. FRA will provide assistance to Track 2 applicants in clarifying whether the information necessary for the SDP is complete. FRA will also discuss submission requirements with prospective applicants.

A complete SDP is a planning approach that would need to address such topics as the following:

- Illustrative topics dealing with program rationale—The SDP includes a description of the corridor’s transportation challenges and opportunities based on current and forecasted travel demand and capacity conditions. Through the SDP, the applicant has the opportunity to show FRA and its constituents how the proposed HSIPR Service Development Program can cost-effectively address transportation and other needs considering system alternatives (highway, air, other, as applicable). Qualitative and quantitative assessments of the costs, benefits and impacts and risks of the alternatives will provide decision makers with sufficient information. The SDP might also explore synergies between the High-Speed Rail/Intercity Passenger Rail proposal and large-scale goals and development plans within its service region and communities.
- Illustrative topics dealing with operations—The SDP describes the train service to be provided for each phase of new or improved Intercity Passenger Rail service including: the service frequency, timetable (including time-distance “stringline” diagrams), general station locations, intermodal connections, and train consists. The SDP would describe the underlying operational

analyses, including railroad operation simulations and equipment and crew scheduling analyses, which in turn reflect such variables as travel demand and rolling stock configuration. The planning horizon should be consistent with the anticipated useful lives of the improvements to be introduced.

- Illustrative topics dealing with capital needs—The SDP describes the rail equipment and infrastructure improvements for each discrete phase of service implementation. If applicable, the SDP would prioritize improvements for each phase. The SDP presents estimated capital costs for projects and project groups, with documentation of assumptions and methods. Initial capital expenditures estimates to bring the service to its full operating capability, accommodation of future traffic growth and ongoing expenditures for replacement of system components should be included.
- Illustrative topics dealing with operating and financial results—The SDP includes operating and financial projections for each phase of the planned intercity passenger rail service. The SDP will address the methods, assumptions and outputs for travel demand forecasts, the expected revenue from the service, and all operating expenses for the train service including maintenance of way, maintenance of equipment, transportation (train movement), passenger traffic and services (marketing, reservations/information, station, and on-board services), and general/administrative expenses. Cost-sharing arrangements with infrastructure owners and rail operators should also be included.
- Illustrative topics dealing with public benefits—The SDP includes a description of user and non-user benefits and, to the extent readily quantifiable, the estimated economic value of those benefits, with particular attention to topics prominent in ARRA, i.e., job creation and retention and potential energy savings.
- Illustrative topics dealing with program implementation—The SDP presents a Service Development Program schedule for carrying out each phase; a preliminary description of the intended techniques of project management that will assure quality, cost, and budget control; and the financing and organizational plans for carrying out the proposed strategy. If the High-Speed Rail/Intercity Passenger Rail service contemplated under the SDP makes use of facilities that would be shared with freight, commuter rail, or other Intercity Passenger Rail services, the existing and future characteristics of those services—as developed cooperatively with freight, commuter, and Intercity Passenger Rail partners—would need to be integral to the High-Speed Rail/Intercity Passenger Rail SDP. In particular, the SDP needs to show how the proposed Service Development Program will protect the quality of those other services through a planning horizon year and under assumptions mutually agreed to with the other partners.

Appendix C-2 – MOU 2009 HSIPR Midwest Grant Application



MEMORANDUM OF UNDERSTANDING

Involving

State of Illinois,

State of Indiana,

State of Iowa,

State of Michigan,

State of Minnesota,

State of Missouri,

State of Ohio,

State of Wisconsin, and

City of Chicago

For

The Implementation of High-Speed Rail Passenger Service and Connections

Involving Corridors Linking Cities in their Respective States

This Memorandum of Understanding (MOU) is entered into this 27th day of July, 2009, by the Governors in eight Midwestern states, including Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio and Wisconsin, and the Mayor of the City of Chicago (MOU Participants) for the purpose of coordinating and documenting individual applications to the Federal Railroad Administration (FRA) for funding from the American Recovery and Reinvestment Act of 2009 (ARRA) to develop the Chicago Hub High-Speed Rail Corridor (Midwest corridor). The Midwest corridor will connect cities throughout the Midwest with frequent and reliable high-speed and conventional intercity rail service, and will provide service connections to adjoining regional corridors.

This MOU establishes MOU Participants' respective roles and responsibilities in implementing actions relating to the establishment of high-speed and conventional intercity rail passenger service. This rail service is to be operated along corridors established as part of the Midwest Regional Rail Initiative (MWRRRI), a collaborative effort by managers and directors of Midwestern State transportation agencies, established in 1996, to plan the rail priorities of the region. This MOU also recognizes Chicago as the hub of Midwestern rail operations, which is consistent with plans outlined in the FRA's "Vision for High-Speed Rail in America" and the regional vision for a Midwest corridor. This MOU further recognizes the importance of adjoining and complementary corridors not specifically recognized in the MWRRRI plan, for purposes of connecting and providing service to all parts of the nation.

WHEREAS, the Chicago Hub is the center of our country's rail transportation network and includes regional intercity/interstate passenger rail corridors serving the multistate Midwestern region with corridor connections to the East Coast, to the West Coast, to the Gulf Coast and to Canada.

WHEREAS, the Midwest Regional Rail Initiative (MWRRRI) and the Ohio and Lake Erie Regional Rail (Ohio Corridor), are collaborative efforts established to plan the rail priorities of the multistate Midwest region.

WHEREAS, all MOU Participants agree upon, support and understand the national and Midwest regional priority and importance of a nationwide network including a Chicago Hub that could host trains traveling up to 110 miles per hour serving major cities and mid-sized cities across the region, along with connections to adjoining regional corridors, as envisioned and outlined by President Obama and U.S. Transportation Secretary LaHood.

WHEREAS, the Congress of the United States has made available to the various states a total of \$8 billion in funds through ARRA for the purpose of funding the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) to establish and improve high-speed passenger rail service throughout the nation.

WHEREAS, all participating states, in partnership with the FRA, agree to advocate for additional appropriations through Congress, in support of these collaborative efforts.

WHEREAS, all MOU Participants agree upon and support a regional and national vision for developing a high-speed and conventional rail network across the Midwest that will provide expanded and ongoing service opportunities throughout the region, with connections to corridors across the nation.

WHEREAS, all MOU Participants recognize a priority to establish high-speed rail service from the Chicago Hub to corridors consisting of Chicago-St. Louis, Chicago to Milwaukee-Madison, and Chicago to Detroit-Pontiac, that would form a high-speed hub in the heart of the nation with high-speed and conventional passenger train service connections radiating to seven other Midwestern states and beyond:

- Connecting to the East by way of Indiana with the Ohio network and service to Toledo and the 3C Corridor: Cleveland-Columbus-Dayton-Cincinnati;
- Connecting to the Southeast to Indianapolis, Indiana and Cincinnati, Ohio;
- Connecting to the Northeast to Grand Rapids/Holland and Port Huron, Michigan;
- Connecting to the North to Green Bay, Wisconsin;
- Connecting to the Northwest to the Twin Cities of Minnesota;
- Connecting to the Southwest and West through St. Louis to Kansas City, Missouri;
- Connecting to the South to Carbondale, Illinois;
- Connecting to the West to Quad Cities, Ill.-Iowa City, Iowa-Des Moines, Iowa-Omaha, Neb.; and to Quincy, Illinois.

NOW, THEREFORE, be it resolved that the Governors and the Mayor of Chicago agree they will:

- Establish a high-level, multi-state steering group with a representative from each signatory to this MOU. The purpose of the Midwest Rail Steering Group will be to coordinate the region's applications and work associated with all ARRA application to provide guidance, leadership and a single advocacy voice in support of the region's collective high-speed rail priorities. The Steering Group shall identify a point of contact between MOU Participants and the U.S. Department of Transportation.
- Coordinate and cooperate fully in support of each MOU Participant's individual state applications for high-speed and intercity rail funding.
- Coordinate and negotiate with the major railroads to sign agreements for the development of high-speed rail corridors, and the identified individual projects by stated priority.
- Be free to pursue individual memoranda of agreement or understanding among MOU Participants, related to specific projects involved in support of the overall application and vision for the Midwest corridor.
- Be separately responsible for any and all work taking place within their respective state boundaries.
- Allow other Midwestern or contiguous states the opportunity to join in this MOU at any time if they are willing to support all aspects of the agreement in place.

BE IT FURTHER RESOLVED THAT the parties may mutually agree in writing to amend this MOU and to develop such additional provisions and procedures as they determine to be necessary in order to pursue the development of high-speed and conventional intercity passenger rail service.

AND, FINALLY, BE IT RESOLVED THAT in signing this MOU, the undersigned understand and accept the roles and responsibilities assigned to each of the parties. Each of the parties agrees to cooperate to the maximum extent possible to ensure that the project is developed in full compliance with Federal and State requirements and to ensure that there is maximum communication and minimum duplication of effort.

State of Illinois

Pat Quinn, Governor

Date _____

State of Iowa

Chet Culver, Governor

Date _____

State of Missouri



Jay Nixon, Governor

Date _____

State of Indiana



Mitch Daniels, Governor


Date _____

State of Michigan

Jennifer Granholm, Governor

Date _____

State of Minnesota



Tim Pawlenty, Governor

Date _____

State of Ohio

Ted Strickland, Governor

Date_____

City of Chicago

Richard M. Daley, Mayor

Date_____

State of Wisconsin

Jim Doyle, Governor

Date_____

Appendix C-3 – Agreement in Principle between Iowa DOT and Illinois DOT for Chicago-Iowa City

See PDF provided as a separate file.

CASE STUDY D: THE NORTHERN NEW ENGLAND PASSENGER RAIL AUTHORITY & THE AMTRAK DOWNEASTER SERVICE CORRIDOR

Contents

D.0 Executive Summary	134
D.1 Introduction	138
D.2 Description of the Amtrak Downeaster Service	138
D.3 Downeaster Corridor Participants	139
D.4 Description of the Project Development and Implementation Process.....	141
D.5 Overview of NNEPRA as an Organization	149
D.6 Notable Projects and Efforts.....	154
D.7 Barriers/Challenges Faced in Implementing the Downeaster Service	157
D.8 Interpretation and Synthesis	159
D.9 References	167

Glossary of Terms

CCL – Concord Coach Lines
CFR – Code of Federal Regulations
CMAQ – Congestion Mitigation and Air Quality Improvement
EF - Epicurean Feast
FRA – Federal Railroad Administration
FTA – Federal Transit Administration
FY – Fiscal Year
HSIPR – High Speed Intercity Passenger Rail
MaineDOT – Maine Department of Transportation
MBTA – Massachusetts Bay Transportation Authority
NNEPRA – Northern New England Passenger Rail Authority
NTD – National Transit Database
PAR – Pan Am Railways
PRIIA – Passenger Rail Investment and Improvement Act of 2008
PRSA – Passenger Rail Service Act of 1991
PTC – Portland Transportation Center
STAR – State Transportation Aviation and Rail (State of Maine)
STB – Surface Transportation Board
TNE – TrainRiders Northeast
UMTA – Urban Mass Transit Administration
USDOT – United States Department of Transportation

D.0 Executive Summary

The Northern New England Passenger Rail Authority (NNEPRA) is a quasi-public entity created by the Maine state legislature who is responsible, along with partners, for rehabilitating the rail corridor between Boston, Massachusetts, and Portland, Maine; expand service from Portland, to Brunswick, Maine; and manage Amtrak's Downeaster rail service. The passenger service operates across three states and serves twelve stops, including its termini at Boston's Massachusetts Bay Transportation Authority (MBTA) North Station and the Brunswick rail station in Maine. Massachusetts and New Hampshire are each home to three stops along the line, and the State of Maine has a total of six stops. The Downeaster is notable in that it is a reinstatement of passenger rail service that was provided between Boston and Portland for over a century, but was discontinued from the mid-1960s to 2001.

Despite the fact that service within Massachusetts and New Hampshire constitute half of the Downeaster's stops and that residents from both of these states accounted for 42 percent of all ridership in fiscal year FY2012, these states do not contribute funding to support the service. Additionally, the service does not have access to a dedicated source of funding. Since its inaugural run in December 2001, the Downeaster service has provided service to over 5 million people; operated roughly 367 million passenger miles; and generated \$64 million in ticket revenues. The service is operated by Amtrak and managed by NNEPRA.

Nature of the Partnership

Passenger rail service is facilitated through a series of cooperative agreements between NNEPRA, Amtrak, and the host railroads. No state or local governments are directly involved in the development or operation of the Downeaster. As each of the agreements is based on the execution of a specific work order, the delegation of responsibilities within the pacts vary considerably depending on the type of project being completed. As manager of the Downeaster, NNEPRA is a party to a specific agreement with the majority of the organizations that support the passenger service, but rarely contracts with any entity other than Amtrak to support operations. Some key agreements include:

Train Operations and Maintenance: NNEPRA and Amtrak signed a 20-year operating agreement in 1996. This single agreement covers the operation of passenger rail service along the entire corridor (i.e., Amtrak does not hold separate agreements with the individual states). Under this agreement, NNEPRA reimburses Amtrak for the costs incurred by the operator in all three states related to providing and maintaining train equipment, fuel, on-board staff, ticketing agents at the Portland station, and general reservations services that support the Downeaster. As part of its agreement with NNEPRA, Amtrak is responsible for maintaining all train equipment and has contracted with a company to maintain, clean, inspect, and repair all train equipment related to the Downeaster service. NNEPRA staff has a strong working relationship with Amtrak and assists the operator in its development of schedules, revenue management strategies, capital projects, and service improvement programs.

Access to Trackage: In order to access the trackage, Amtrak makes payments to the host railroads and is reimbursed by NNEPRA via the annual service fee. NNEPRA is a party to all agreements between Amtrak and the host railroads and has served as a leader in facilitating negotiations for track access within the

corridor. All trackage within the Commonwealth of Massachusetts is owned by the MBTA. NNEPRA and MBTA have reached an agreement that allows Amtrak to operate service along the MBTA commuter rail segments free of charge with two caveats –NNEPRA and Amtrak can only operate ten one-way trips per day out of the MBTA North Station and only one Downeaster train is allowed in the station at any given point in time.

Track Maintenance & Inspection: The host railroads are responsible for ensuring that the track is maintained for safe operations. Pan Am Railways (freight railroad) performs all track maintenance and inspection for the portion of the corridor within the states of Maine and New Hampshire (i.e. from the northern terminus in Brunswick, Maine to the MA-NH state line), including the last mile in Brunswick that is owned by the Maine DOT. The MBTA, at no charge to NNEPRA, handles the same tasks for its portion running from the MA-NH state line to the Downeaster’s southern terminus at MBTA’s North Station.

Station Operations, Ownership, Maintenance & Staffing: Liability insurance for all rail platforms in both Maine and New Hampshire is carried by NNEPRA. The three station communities in New Hampshire reimburse NNEPRA for their share of the annual insurance premiums. Insurance coverage for the Maine stations is included as part of NNEPRA’s annual budget. In terms of station maintenance, the majority of communities have formed an agreement with Amtrak that allows the operator to access the facilities and perform any long-term construction or maintenance work that is necessary to support operating passenger service in and out of the station. However, the approach used to provide day-to-day maintenance for the stations varies across the municipalities.

Challenges and Barriers

- Access and cost-sharing negotiations with freight railroad. Disputes between NNEPRA/Amtrak and one of the three host railroads resulted in years of delay in initiating the Downeaster service. After months of negotiations, they could not come to an agreement on distribution of liability, maintenance, capital improvement, administrative and future incremental costs. While the involvement of the STB ultimately pushed the project forward, the reliance on a third party to resolve the majority of disputes did not set a strong precedent for a collaborative working relationship.
- The Downeaster service does not receive dedicated funding source for capital improvements. The reliance on federal funding results in periods of activity for NNEPRA followed by substantial bouts of inactivity during which the agency is planning future improvements and simply waiting on the next grant cycle.
- The Downeaster service does not have dedicated operating funding and thus relies on discretionary state-level funding. Given the ever-shifting priorities of, and political maneuverings that occur within, state legislatures, the continued future of the Downeaster service is never a given.
- Rural station settings hinder “last mile” connections. Depending on the presence of local bus service and the points of interest served by the route, passengers are often forced to either take a taxi or wait on a poorly timed transfer to a community circulator bus.

Lessons Learned

- Arbitration can push projects forward. While arbitration should never be the first line of defense for a future operator, the use of a third party mediator to resolve disputes can be effective at mitigating project inertia in the early stages of corridor development and navigating later critical impasses.
- Contentious relationships can develop into partnerships with time and mutual benefits. By providing the owner of the corridor (Pan Am Railways) with free access to the capital needed to improve its infrastructure, NNEPRA finally established the trust necessary to produce a cooperative working arrangement.
- State DOT board membership promotes coordination. The Maine Commissioner of Transportation's active involvement with NNEPRA ensures that financial planning for both existing and future NNEPRA passenger operations, as well as service planning for potential Downeaster service expansions, is not done in isolation. The working arrangement between NNEPRA and MaineDOT for the planning of passenger rail services in Maine promotes concurrency and provides for the development of a consensus related to future capital improvements for passenger rail in the state.
- Regional services can provide innovation. The Downeaster service is notable in that it has served as a hotbed for innovation in the provision of passenger rail. Under NNEPRA's management, it has been the site of many firsts for an Amtrak service, including the rollout of the first on-board Wi-Fi system, point of sale cash register system, and on-board café not directly operated by Amtrak.

Table D.1 shows how the Downeaster case study fits into the conceptual framework.

Table D.9: Downeaster Efforts for Planning/Design/Construction/Operation

Characteristic		Discussion
Phase of Project Development		Planning, Design, Construction and Operation
Stakeholders	✓	NNEPRA, Maine DOT, Amtrak, Pan Am Railways, MBTA
Institutional Relationships	✓	NNEPRA established by 1995 Passenger Rail Service Act by the State of Maine Legislature; agreements between NNEPRA, Amtrak, and Pan Am Railways also govern relationships
Identification of Responsibilities	✓	NNEPRA to initiate, establish regularly scheduled passenger rail service between points within Maine and other states
Role of regulatory agencies	✓	FRA provides oversight of grant funding and reviews environmental documentation; Surface Transportation Board served as third party arbitrator between host railroad and Amtrak
Political Foundation	✓	Political and legislative support established through passage of 1991 and 1995 Passenger Rail Service Acts.
Why – ‘Compelling Need’?	✓	Need for increased economic development, improved freight service resulting from publicly funded right-of-way improvements within the operating corridor, and enhanced connections both within Maine and the New England region. Downeaster is reinstatement of passenger rail service that was provided between Boston and Portland for over a century, but was discontinued from the mid-1960s to 2001.
Corridor Ownership	✓	Segments of the Downeaster’s alignment are owned by MaineDOT, MBTA, and Pan Am Railways
Lead Agencies/Groups	✓	NNEPRA is the lead agency for passenger rail service
Legal Authority	✓	<i>1995 Passenger Rail Service Act</i>
Cost Sharing	✓	Amtrak and MaineDOT share costs for 3-state operation of passenger rail service in the corridor. To provide operation subsidies for service, MaineDOT provides funding through its State Transportation Aviation and Rail account.
Funding Sources	✓	Ticket revenue, MaineDOT, Amtrak and FRA
Interaction with Others	✓	NNEPRA interacts with Amtrak, host railroads, MBTA and local communities
Operating Standards	✓	Set by NNEPRA and Amtrak
Safety Standards	✓	Set by NNEPRA and Amtrak
Oversight	✓	Oversight provided by State of Maine’s Legislative Council and Maine Commissioner of Transportation
Relationship with Host Railroad or Other Providers of Service	✓	NNEPRA had contentious relationship initially with Pan Am Railways, requiring STB arbitration to allow for passenger rail services on its tracks. Relationship improved following joint infrastructure improvement project.
Impact of PRIIA Section 209	✓	In response to changes made by Section 209 State of Maine committed to provide \$8 million in operational funding and allow the service to use state’s debt service over the course of 25 years up to \$31.5 million.
Marketing & Customer Service	✓	NNEPRA employs two staff members to direct marketing efforts for the Downeaster
Service Standards	✓	Set by NNEPRA and Amtrak
Revenue Sharing	✓	Revenues from ticket sales, advertising and food sales support operational costs of service. Any further subsidies are provided by MaineDOT.
Branding	✓	NNEPRA Marketing manages branding
Liability Issues	✓	For station operations liability insurance for all rail platforms in both Maine and New Hampshire is carried by NNEPRA.

Characteristic		Discussion
Procurement	✓	NNEPRA is empowered to contract for professional services and with other third party services such as food service on the Downeaster.
Contractual Arrangements	✓	NNEPRA has service arrangement with Amtrak to provide passenger rail service

D.1 Introduction

This case study examines the Northern New England Passenger Rail Authority (NNEPRA), a quasi-public entity created by the Maine state legislature, and its interactions with other partners to rehabilitate the rail corridor between Boston and Portland, Maine; expand service from Portland to Brunswick, Maine; and manage Amtrak's Downeaster rail service. The Downeaster is notable in that it is a reinstatement of passenger rail service that was provided between Boston and Portland for over a century, but was discontinued from the mid-1960s to 2001. The Downeaster exhibits several important characteristics:

- It services two markets, Boston and Portland, which are not currently served by direct air flights;
- It is a state-sponsored Amtrak route;
- It operates across three states, but is only directly subsidized by one state;
- It does not have a dedicated source of funding; and
- It is directly managed by an entity formed by a single state's legislature.

This case study focuses on NNEPRA's approach to rehabilitating the initial service corridor, the process behind the service's expansion, the roles and responsibilities of various parties that have supported capital improvements and operations, and the barriers faced by the parties in reinstating passenger rail service from Boston to Portland.

D.2 Description of the Amtrak Downeaster Service

The Downeaster is one of 15 state-supported rail services that are operated by Amtrak. The passenger service operates across three states and serves 12 stops, including its termini at Boston's MBTA North Station and the Brunswick rail station in Maine (see Figure D-1). Massachusetts and New Hampshire are each home to three stops along the line, and the state of Maine has a total of six stops, including a summer seasonal stop at Old Orchard Beach. Figure 1 depicts the alignment of the current Downeaster service.

The service runs five daily round trips between Portland and Boston and two daily round trips between Boston and Brunswick. Downeaster service is operated everyday along the corridor (assuming no inclement weather) and utilizes a weekday, as well as a weekend/holiday, operating schedule. A one-way trip along the 145-mile corridor from Boston to Portland currently takes two and a half hours while a one-way trip from Boston to Brunswick takes three hours and twenty-five minutes. Regional transportation operators that provide service to Downeaster stations include the Maine Eastern Railroad, Concord Coach Lines, the Massachusetts Bay Transportation Authority (MBTA), the Massachusetts Port Authority (Massport), and Amtrak.

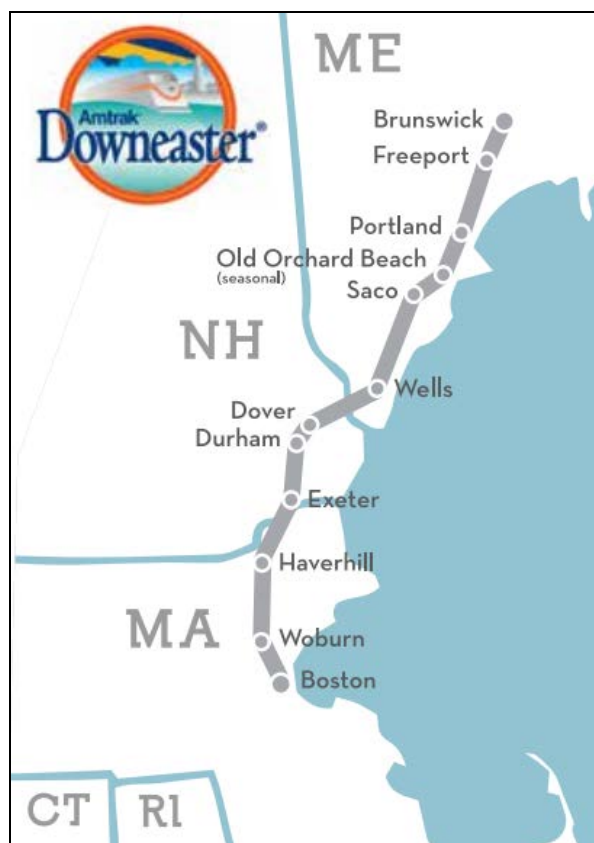


Figure D-32: Map of the Downeaster Service

Source: NNEPRA FY2014 Annual Report, page 3

Despite the fact that service within Massachusetts and New Hampshire constitutes half of the Downeaster’s stops and that residents from both of these states accounted for 42 percent of all ridership in fiscal year (FY) 2012, these states do not contribute funding to support this service. Additionally, the service does not have access to a dedicated source of funding. Since its inaugural run in December 2001, the Downeaster service has provided service to over 5 million people; operated roughly 367 million passenger miles; and generated \$64 million in ticket revenues. The service is operated by Amtrak and managed by NNEPRA.

D.3 Downeaster Corridor Participants

The establishment and operation of the Downeaster service has required extensive coordination among many parties. This section provides a brief overview of each party involved and its role in the development of passenger service within the corridor. A later section presents a detailed account of the origins and evolution of NNEPRA and the Downeaster, while the following section discusses the current agreements in-place that facilitate the operation and further development of the passenger rail service.

The **Northern New England Passenger Rail Authority** (NNEPRA) is a public transportation authority that was chartered by the Maine legislature in 1995 to develop and provide passenger rail service between

points within Maine and points outside of the state. NNEPRA effectively serves as the manager for the Downeaster service and the lead coordinating agency between the parties mentioned below.

The National Railroad Passenger Corporation, or **Amtrak**, serves as the agency responsible for operating passenger service along the corridor. Amtrak provides and maintains the equipment, train crews, and ticketing services that support the movement of passengers between Boston and Brunswick. Amtrak has contracted with **Drummac** to handle all mechanical maintenance, inspections, repairs, and cleaning needs for the Downeaster trains.

The 145-mile service from Boston to Brunswick utilizes trackage segments that are owned by three different “host railroads.” The **Massachusetts Bay Transportation Authority** (MBTA) owns the 36 miles of commuter rail track between the southernmost terminus (i.e. MBTA North Station) and the Massachusetts-New Hampshire state line. **Pan Am Railways** (PAR) owns the 108 miles of track between the Massachusetts-New Hampshire state line and the area just south of the Brunswick rail station. In addition to supporting passenger rail service, this portion of the corridor is also utilized by PAR for freight movements. The **Maine Department of Transportation** (MaineDOT) owns the literal last mile of trackage between Church Road and the Brunswick rail station.

Aside from the **Portland Transportation Center** (PTC), the local municipalities, which are often referred to as **Station Communities**, own and operate the train stations that are serviced by the Downeaster. **TrainRiders Northeast** (TNE) is a Maine-based nonprofit organization which spearheaded the initial call for reinstating passenger rail service in the state and now assists NNEPRA in coordinating volunteer train hosts who provide passenger assistance both on-board and at train stations. On-board food services are provided through a third party vendor, **Epicurean Feast** (EF), via its contract with NNEPRA.

Capital funding for improvements to the Downeaster rail corridor is provided by two organizations, the **Federal Railroad Administration** (FRA) and the MaineDOT. Through the High Speed Intercity Passenger Rail (HSIPR) Grant Program and other capital funding programs, the FRA has provided nearly \$60 million in infrastructure improvements and planning grants that have helped launch and expand passenger service along the corridor. The MaineDOT contributes the 20 percent local match required for the use of FRA grants via allocations from Maine’s State Transit, Aviation and Rail (STAR) account which is funded through a dedicated statewide sales tax on rental cars.

Aside from ticket revenues, operations funding is supported by the MaineDOT. MaineDOT is responsible for allocating federal Congestion Mitigation Air Quality (CMAQ) funds to support the Downeaster. The CMAQ program contributes roughly 80 percent of the operations funding and MaineDOT provides the remaining 20 percent local match via funding from Maine’s STAR account. The recent designation of Portland, Maine, as an urbanized area has afforded NNEPRA the ability to utilize some of the area’s transit formula funds to help subsidize the cost of operations. However, despite the legislative changes, the service is still without a dedicated source of operations funding. Although six of the Downeaster’s 12 stops occur outside of the state of Maine, Maine is the only state that provides funding to support the development and operation of the passenger rail service.

D.4 Description of the Project Development and Implementation Process

While passenger service between Boston and Portland had been provided via the Boston & Maine Railroad since the 1840s, passenger rail service between the two markets did not exist from 1965 to 2001. This section provides a detailed history of the Downeaster service from its inception to its most recent major capital expansion project. The two subsequent sections provide a review of the cooperative agreements that facilitate Downeaster operations and an overview of NNEPRA.

D.4.1 Project History

Origin of Service & Feasibility Studies

In 1989, a group of citizens from Maine united to form a nonprofit organization called TrainRiders Northeast (TNE) in order to advocate for the reinstatement of passenger rail service in Maine. The grassroots organization caught on quickly rising from 21 to over 1300 members in its initial year and, with backing from the MaineDOT, successfully lobbied the state legislature to conduct a passenger ridership study for the corridor. In 1990, MaineDOT and TNE met with Amtrak senior management to discuss the potential costs of returning passenger rail to Maine. Later that year, the state's congressional delegation initiated a formal request to have Amtrak conduct a cost estimate for the potential service. Both Amtrak and the Urban Mass Transit Administration⁷³ (UMTA) agreed that returning service was feasible and would cost around \$50 million, with \$30 million being dedicated to right-of-way improvements and \$20 million for the new equipment.

1991 Passenger Rail Service Act

TNE, along with support from the state's rail visioning committee and MaineDOT, submitted a legislative bill that was passed in 1991 as the Passenger Rail Service Act (PRSA). This first piece of legislation commanded the MaineDOT to "take all actions that are reasonably necessary to initiate, establish or reinstitute regularly scheduled passenger rail service" between points within Maine and points within Maine and other states (Maine 115th Legislature). The PRSA directed MaineDOT to seek a minimum of \$40 million in federal, state, and local funding to support the implementation of service by June 1, 1993.

Securing Initial Funding

With codified state support, officials from MaineDOT and TNE members traveled to Washington, DC, and met representatives from the UMTA, FRA, and Amtrak to seek federal assistance for the proposed service. In September 1991, the US Congress granted additional funds to Amtrak's 403-B program and, in November, Amtrak agreed to supply the \$20 million of equipment necessary to support the Downeaster service at no cost to the state of Maine.

With respect to both state and federal funding, 1992 proved to be a very productive year in the development of the Downeaster corridor. In June, citizens of Maine voted to approve the issuance of \$5.4 million in bonds to support the rail project. \$3 million in bonds was set aside as the state match for potential federal funding that would support the rehabilitation of the Boston-Portland corridor and the remaining \$2.4 million was used to improve other rail corridors owned by the State of Maine, including the rail corridor running to Rockland, Maine. After exhibiting significant state level support and nearly

⁷³ In 1991 the Urban Mass Transit Administration became known as the Federal Transit Administration (FTA).

two years of advocating at the federal level, TNE's continued efforts finally paid off when the US Congress appropriated \$25.5 million for improvements to the corridor's right-of-way in October.

By May 1993, MaineDOT's design contractor had already completed the environmental and engineering assessments of the alignment. Ready to move forward into the next phase of project development, MaineDOT submitted a Section 3 Grant application to FTA in October to support the implementation of rail services along the corridor. At the close of 1993, Congress appropriated another \$9.5 million for trackwork, bringing the total state and federal appropriations for right-of-way improvements to \$38 million.

1995 Passenger Rail Service Act

In 1995, a new political party came to power in Maine as a result of a change in the composition of the state legislature, the presence of a new governor and his appointment of a different Commissioner of Transportation. Senior state officials in the administration asserted that a new passenger rail authority would need to be created in order to sign final documents that would authorize the operation of the new passenger rail service. From January to August, TNE worked alongside the Maine Chamber of Commerce, MaineDOT, and business leaders to persuade the state legislature to create such an entity. In the fall of 1995, an updated "Passenger Rail Service Act" was passed at the state level, resulting in the creation of the Northern New England Passenger Rail Authority (NNEPRA). The enabling legislation granted NNEPRA the same set of powers and duties as was given to the MaineDOT in the 1991 version of the legislation.

Trackage Conflicts

With an official entity supporting passenger rail service in place, negotiations between NNEPRA, Amtrak and the Guilford Rail System, which later rebranded itself as Pan Am Railways in 2006 and owns the former Boston & Maine Railroad line in New Hampshire and Maine utilized by the Downeaster, began in January, 1996. However, there were a number of disagreements between the host railroad and the operating partners that could not be resolved at the negotiation table. The points of contention included: liability costs, maintenance expenses, capital expenditures, payment of on-time performance incentives, administrative costs, and future incremental costs.

After reaching a deadlock in the fall of 1996, a group of parties, which included TNE, the Governor of Maine, state and federal officials, as well as Amtrak's senior management, decided that their conflicts with Guilford should be documented in list form and submitted to the Surface Transportation Board (STB).

The STB is an independent body housed within the US Department of Transportation that has adjudicatory powers. The STB is bipartisan and is composed of three commissioners who are appointed by the President and confirmed by the US Senate for five-year terms. The STB has economic regulatory oversight of the railroad industry and fulfills its oversight role by holding formal court proceedings and issuing a determination, essentially acting as the USDOT's official judge on the majority of railroad matters. One of the STB's functions is to resolve disputes between freight railroads and Amtrak related to the terms and conditions of track access, as well as the amount of incremental costs incurred by the

railroad as a result of Amtrak's use of the corridor. Amtrak filed a formal application to the STB on March 19, 1997, requesting that the board set the terms and compensation for Amtrak's access to Guilford's facilities.

During the dispute in April 1997, Congress created a sizeable capital fund for Amtrak which resulted in the operator dedicating another \$23 million to support the operation of 79 mph service along the corridor.⁷⁴ Additionally, this allotment would allow for the extension of the service's northern termini from Portland to Freeport and then Brunswick.

An Attempt at a Resolution

On May 28, 1998, the STB issued a decision that allowed Amtrak, the state of Maine and Guilford to commence limited right-of-way improvements within the corridor. The parties maintained different views related to the proper rail weight that would be required to meet the desired train speeds. Amtrak asserted that the trains would operate at 79 mph and that the use of 115 lb. rail would suffice for this speed. Guilford maintained that safe operations at 79 mph could only be conducted by using 132 lb. rail. Thus, another impasse was reached.

As before, the conflict was submitted to the STB for resolution on August 9, 1999. On October 21, 1999, the STB formally ruled that, based on counsel from the FRA and a determination by the agency that track using 115 lb. rail was considered safe and adequate to support operations at 79 mph, 132 lb. rail was not required for the services proposed in the corridor. With the ruling, rehabilitation work along the corridor continued.

In February 2001, Guilford issued a statement asserting that the company would not allow any passenger trains to operate along the line at 60 plus mph. While Amtrak had previously been ordered to perform track modulus testing, Guilford refused to grant Amtrak access rights to the trackage in order to perform the required testing. The dispute was resolved in June 2001, when the STB declared that Amtrak must be granted access rights to Guilford's trackage to perform the required rail modulus testing. Although disputes continued, this was the last major hurdle to reestablishing the rail corridor for passenger service.

Corridor Development & Initiation of Service

Ground was officially broken on the corridor in January 1999 in a ceremony that included TNE, NNEPRA, Guilford, and Amtrak. By the close of 2000, the majority of the right-of-way improvements had been completed, with new rail infrastructure installed from the Maine – New Hampshire state line to Portland and welding work completed up to Old Orchard Beach. Capital improvements continued and, after a ceremonial run on December 14, the Downeaster officially began passenger service the morning of December 15, 2001, with its inaugural run departing from the PTC en route to Boston's MBTA North Station.

⁷⁴ As FRA regulations require the use of automatic cab signals, automatic train stop, or an automatic train control system for passenger trains operating at 80 mph or faster, passenger speeds along the Downeaster corridor were intentionally limited to 79 mph, partially to avoid the incurring the additional costs associated with these signal system components (49 CFR 236).

System Evolution

As originally implemented, the service operated four daily round trips serving a total of seven stops (Boston, Haverhill, Exeter, Durham, Dover, Wells and Portland) with a run time of two hours and forty-five minutes. Between the first run and the close of 2003, the Downeaster introduced service to four additional stations (Woburn, Massachusetts; Durham, New Hampshire; and Saco and Old Orchard Beach, Maine) that are located between the original termini.

By April 2005, the Downeaster service had witnessed significant growth in ridership due to continued track improvements that reduced the end-to-end travel time to two hours and thirty minutes, shaving fifteen minutes from the initial running time. In 2007, the maximum train velocities were increased from 60 mph to 79 mph. On August 17, 2007, the Downeaster began operating a fifth daily round trip.

2008 Joint Resolution & Change in Funding

In April 2008 the 123rd Maine State Legislature formally paid tribute to the Downeaster service by passing the “Joint Resolution in Support of the Expansion of Downeaster Rail Service in Maine.” The legislature recognized that, since the Downeaster’s initiation of service from Portland to Boston, the state of Maine had derived extensive benefits in terms of increased economic development, improved freight service resulting from publicly funded right-of-way improvements within the operating corridor, and enhanced connections both within the state and to the New England region.

The impetus for the joint resolution was three-fold. First, prior to the resolution, Maine was funding its local share of operations via a withdrawal from a decades old pool of funding that was earmarked for non-highway transportation projects. Unlike the STAR account, which is continuously replenished via sales tax revenues from rental cars, this source of funding was fixed (i.e. not replenished). By 2008, it had become apparent that this fund would be exhausted by 2010. Second, at the time of the joint resolution, the future of the federal CMAQ program was relatively uncertain. Lastly, there was a push within the state leadership to expand the Downeaster service further north to Brunswick.

Passage of the joint resolution in 2008 was important in that it secured future operations funding for the Downeaster by identifying a new, more stable source of state-level funding – the STAR account. Under the resolution, Maine committed to provide the Downeaster with up to \$8 million in annual operating subsidies from the STAR account beginning in 2010. It also allowed the Downeaster to make use of the state’s debt service over the course of 25 years for up to \$31.5 million in capital improvements to support the development of service along the corridor from Portland to Brunswick. It should be noted that the resolution did not set an expiration date on state-level operations funding commitments (i.e. funding for the Downeaster is guaranteed in perpetuity so long as the legislature does not pass a terminating resolution).

Current Aspirations

In April 2013, NNEPRA announced its intent to develop a plan for extending passenger service to Lewiston and Auburn, Maine. While a plan has not yet been formally released, it should be noted that this corridor serves as the northeastern segment of one of ten federally designated high speed rail

corridors, the Northern New England Corridor. As proposed, development of the corridor would result in 110 mph passenger operations between Boston and Auburn.

D4.2 Existing Agreements, Roles & Responsibilities Supporting the Downeaster

Despite the fact that the service traverses three different states, operation of the Downeaster is not supported by a formal Memorandum of Understanding (MOU) among the Massachusetts, New Hampshire, and Maine state governments. Instead passenger rail service is facilitated through a series of cooperative agreements between NNEPRA, Amtrak, and the host railroads. No state or local governments are directly involved in the development or operation of the Downeaster. As each of the agreements is based on the execution of a specific work order, the delegation of responsibilities can vary considerably depending on the type of project being completed. As manager of the Downeaster, NNEPRA is a party to a specific agreement with the majority of the organizations that support the passenger service, but rarely contracts with any entity other than Amtrak to support operations.

This section is organized by the elements of train service. For each element of service, an overview of the existing agreements is provided and the roles and responsibilities of each party governed by the agreements are discussed.

Train Operations and Maintenance

NNEPRA and Amtrak signed a 20-year operating agreement in 1996. This single agreement covers the operation of passenger rail service along the entire corridor (i.e. Amtrak does not hold separate agreements with the individual states). Under this agreement, NNEPRA reimburses Amtrak for the costs incurred by the operator in all three states related to providing and maintaining train equipment, fuel, on-board staff, ticketing agents at the PTC, and general reservations services that support the Downeaster. While Maine, through NNEPRA, is the only state that subsidizes the Downeaster operations, ticket revenue along the entire route, including tickets sold in Massachusetts and New Hampshire, is credited against the subsidy total that NNEPRA ultimately pays to Amtrak (i.e. ridership outside of Maine reduces the total subsidy that Maine must pay to Amtrak). In this way, Amtrak functions as the multistate entity that collects, records, and keeps revenues in those states without formal agreements, allowing multistate operations with only one sponsoring state.

Payments to Amtrak from NNEPRA come in the form of an annual service fee that is determined by Amtrak based on the Downeaster's operating plan for the upcoming service year. Ticket sales revenues in all three states are held by Amtrak and are credited against amounts owed by NNEPRA. All other sources of revenue, such as food sales, are received directly by NNEPRA. Any operating deficit not covered by ticket sales is paid by NNEPRA to Amtrak on an annual basis using revenues other than fares (e.g. food sales, parking fees at PTC), as well as operating subsidies provided by MaineDOT via allocations from the STAR account and CMAQ grants. Aside from food service, NNEPRA does not contract directly with any entity other than Amtrak to support day-to-day railway operations for the Downeaster. NNEPRA staff has a strong working relationship with Amtrak and assists the operator in its development of schedules, revenue management strategies, capital projects, and service improvement programs.

As part of its agreement with NNEPRA, Amtrak is responsible for maintaining all train equipment. As mentioned above, Amtrak has contracted with Drummac to maintain, clean, inspect and repair all train equipment related to the Downeaster service. Mechanical maintenance is performed on one of the three train sets each day in Brunswick and occurs during the middle of the day. Cleaning and fueling are done overnight in Portland.

Access to Trackage

Neither NNEPRA nor Amtrak owns any of the right-of-way in which the passenger service operates. In order to access the trackage, Amtrak makes payments to the host railroads and is reimbursed by NNEPRA via the annual service fee. NNEPRA is a party to all agreements between Amtrak and the host railroads and, as seen above, has served and still serves as a leader in facilitating negotiations for track access within the corridor.

All trackage within the state of Massachusetts is owned by MBTA. NNEPRA and MBTA reached an agreement that allows Amtrak to operate service along the MBTA commuter rail segments free of charge with two caveats – NNEPRA and Amtrak can only operate ten one-way trips per day out of the MBTA North Station and only one Downeaster train is allowed in the station at any given point in time. Given the vehicle capacity constraint at the line's southern terminus, the operating schedule for the Downeaster is heavily predicated on the availability of time slots at its southern terminus. As the operator, Amtrak interfaces regularly with MBTA regarding the ingress and egress of Downeaster trains at the congested MBTA North Station.

While it is quite rare for a host railroad to allow an Amtrak service to use its trackage free of charge, by allowing the Downeaster to utilize its trackage, the MBTA stands to realize benefits in the form of additional ridership and enhanced access to federal funding opportunities. By servicing three MBTA commuter rail stations, operation of the Downeaster results in an increase of potential MBTA patrons. Next, as a commuter rail operation, NNEPRA is required to file service statistics with the National Transit Database (NTD). As NNEPRA allocates the passenger miles traveled within the state of Massachusetts to the host commuter railroad (MBTA), a partnership with NNEPRA allows the MBTA to receive relatively more federal formula funding to support track maintenance than it would otherwise. Finally, allowing the Downeaster to operate along the MBTA trackage provides the host railroad with an additional avenue to secure substantial federal capital improvement grants. In the case of the MBTA Track Improvement project, MBTA was already planning to construct double track sections along the commuter rail corridor near the terminus of the current project. By working alongside NNEPRA to win the FRA grant, the MBTA is now poised to increase capacity along a longer stretch of railroad than it would have otherwise been able to afford on its own.

The trackage in Maine and New Hampshire is largely owned by PAR and the company utilizes this corridor primarily for freight movement. As noted above in the implementation overview, the incremental impacts on freight traffic related to establishing and operating passenger service along the corridor was a major point of contention between the host railroad and Amtrak. After years of delay, the STB ultimately had to resolve the conflict by establishing the terms and conditions of Amtrak's right to access PAR's corridor. Of the three host railroads along the corridor, PAR is the only entity that is paid by

the operator for utilizing its infrastructure. Amtrak pays the trackage access costs in Maine and New Hampshire directly to PAR and forwards these costs onto NNEPRA via the annual service fee.

MaineDOT owns the northernmost mile of trackage from just south of Brunswick station leading into the rail platforms and provides direct financial support to NNEPRA and the Downeaster. As MaineDOT has always seen the Downeaster as serving a necessary transportation function for residents of Maine, the state stands to benefit from continued operation of the passenger service. Furthermore, given that improvements along the corridor have resulted in positive benefits for Maine's freight industry, Maine DOT, like the MBTA, allows Amtrak to access its right-of-way free of charge.

Track Maintenance & Inspection

In terms of maintaining the trackage within the rail corridor, the host railroads are responsible for ensuring that the track is sufficient for safe operations. Pan Am Railways performs all track maintenance and inspection for the portion of the corridor within the states of Maine and New Hampshire (i.e. from the northern terminus in Brunswick, Maine to the Maine – New Hampshire state line), including the last mile in Brunswick that is owned by MaineDOT. It should be noted that the FRA regulations require more frequent track inspections for host railroads that carry both freight and passenger traffic than freight-only railroads. As operation of the Downeaster burdens PAR with relatively more inspection work than would otherwise be required under federal law, Amtrak, as the operator, covers the incremental cost increase associated with the additional inspections through a direct payment to the host railroad. Amtrak then recovers this expense via its annual service fee charged to NNEPRA. PAR staff performs track inspections along the Downeaster corridor at least once every ten days. The MBTA, at no charge to NNEPRA, handles the same tasks for its portion running from the Maine – New Hampshire state line to the Downeaster's southern terminus at MBTA's North Station.

Station Operations, Ownership, Maintenance & Staffing

In terms of station operations, liability insurance for all rail platforms in both Maine and New Hampshire is carried by NNEPRA. The three station communities in New Hampshire reimburse NNEPRA for their share of the annual insurance premiums. Insurance coverage for the Maine stations is included as part of NNEPRA's annual budget. Given that MBTA already had an insurance policy in place prior to the initiation of the Downeaster service, MBTA covers the liability insurance for the three Massachusetts station platforms. Although the MBTA does not directly contribute funding to the Downeaster, its allowance of overhead rights at no cost to NNEPRA should be considered a significant state contribution.

In terms of station ownership, the individual municipalities that are home to stations along the Downeaster corridor, with the exception of the PTC, own the stations and are responsible for paying the costs of developing, building, and maintaining the stations. The PTC is owned by Concord Coach Lines (CCL) bus service and NNEPRA leases space from CCL so that its trains can make a stop at the PTC. In exchange for paying roughly half of the facility's monthly operating costs, CCL allows NNEPRA to collect parking fees at the facility. NNEPRA uses these revenues to partially offset the cost of its PTC-related operating expenses.

In terms of station maintenance, the majority of communities have formed an agreement with Amtrak that allows the operator to access the facilities and perform any long-term construction or maintenance work that is necessary to support operating passenger service in and out of the station. However, the approach used to provide day-to-day maintenance for the stations varies across the municipalities. Some communities have decided to hire part-time employees while others have chosen not to provide dedicated personnel. The majority of the station communities, however, fall somewhere in the middle of this continuum and utilize station hosts that are volunteer staff coordinated at the local level or with help from TNE.

Food Service

Unlike all other Amtrak services, including those offered on each of the other 14 state-supported routes, the Downeaster is the only route that utilizes independently contracted food service. The original motivation for outsourcing food services was the relatively high costs associated with utilizing an Amtrak-run café. While independently contracting food service on an existing Amtrak passenger service would likely result in substantial pushback from the Amtrak labor union, the Downeaster was a new service and thus did not threaten any existing union food service positions.

In cooperation with Amtrak NNEPRA used a competitive bidding process to award its food services contract. NNEPRA contracted with Epicurean Feast (EF) in order to reduce costs and to give the Downeaster Café a more localized flare than a standard Amtrak café. The Downeaster Café's current net operating cost is around 21 cents per passenger as compared to over two dollars for an Amtrak café. Epicurean Feast is managed directly by NNEPRA and is responsible for purchasing all food, as well as providing and paying the non-Amtrak café staff that supports the Downeaster Café's operations.

Fares & Reservations

As the manager of the service, NNEPRA largely has the ability to determine the fare structure and set the price point for Downeaster tickets, the authority is still subject to some requirements due to its choice of operating partner. Amtrak has a policy in place that provides a 15 percent discount on any regularly priced fare to persons above the age of 61 and anyone with a disability. Thus, NNEPRA must take Amtrak's discounted fare policies into account when developing fares for the Downeaster. Whether made online, by phone, or at the station, all reservations for Downeaster tickets are made through Amtrak.

Customer Service

The Downeaster relies on four methods to solicit customer input on service: on-board personnel, station attendants, the Amtrak support hotline, and the Downeaster online customer comment form.

All on-board personnel, with the exception of those working in the Downeaster Café, are employed by Amtrak. These employees have received training in basic principles of customer service and are familiar with other Amtrak routes within the region. All station personnel are provided by the local municipalities, with the exception of the MBTA staff at the North Station and the Amtrak ticketing staff at the Portland Transportation Center. Aside from the exceptions noted, station personnel are generally volunteers.

In terms of digital methods to provide feedback, Amtrak's 1800-USA-RAIL customer support phone number is ubiquitously displayed both inside trains and on all of the operator's print materials. The call center is operated by Amtrak. The Amtrak Downeaster website contains a comment form that allows customers the ability to share their on-board experiences and other views related to the service. The comment forms are forwarded directly to the inbox of NNEPRA's Manager of Passenger Services. It should be noted that, as Amtrak retains all ticket sales revenues, NNEPRA cannot issue direct refunds to passengers. If customers wish to receive a refund, they must use the Amtrak hotline.

Marketing

Unlike most other state-supported Amtrak services, which devolve the responsibility for marketing the train routes to Amtrak, NNEPRA houses two staff positions, including a Marketing Director and a Marketing Assistant specializing in graphic design, to support marketing efforts that promote the Downeaster service to a variety of demographics. These two employees manage the design and production of all media advertisements for the Downeaster throughout the northern New England region. Given that the service's sole source of operations funding comes through Maine, Massachusetts and New Hampshire do not have any decision-making power in terms of developing marketing campaigns for the tristate service. As ridership on the service is relatively diverse, NNEPRA staff has initiated several in-house promotional campaigns that each respond to a different market segment.

To increase the use of the Downeaster for social and recreational trips taken by regional residents, as well as vacation trips taken by non-residents, NNEPRA has partnered with private firms to offer train fares as part of various package deals. The most recent marketing effort resulted in the creation of a new website called Downeaster Packages. The site affords passengers the ability to plan a vacation in northern New England with long-haul transport provided by the Downeaster. Downeaster train tickets are bundled alongside hotel reservations, attraction discounts, restaurant gift certificates, and even cruise ship tickets. This program mainly caters to tourists residing outside of New England, but also responds to citizens of the region who wish to take a day or weekend trip either into Boston or out into less urbanized areas. Aside from Downeaster Packages, the service's website also offers sporting packages that allow locals to purchase tickets to Red Sox, Celtics, and Bruins games in Boston along with their round-trip train fare in a single transaction.

D.5 Overview of NNEPRA as an Organization

Enabling Legislation & Purpose

NNEPRA is a quasi-public entity that was created in 1995 by the Maine legislature with its passage of the Passenger Rail Service Act. As stated in the legislation, the initial purpose of NNEPRA was to "take all actions that are reasonably necessary to initiate, establish or reinstate regularly scheduled passenger rail service between points within Maine and points within and outside of Maine" (Maine, Title 23, Chapter 621, Section 8003.1).

Organizational Overview

NNEPRA's current mission is to "develop and manage a quality passenger rail system that meets the transportation needs of our customers, delivers value and enhances economic development within the region we serve" (NNEPRA, General Information). In order to realize this vision, the organization has a

Board of Directors to formally make decisions that guide the long-term course of NNEPRA's programs and projects. NNEPRA also has several staff members who handle the day-to-day activities necessary to coordinate the operations of the Downeaster service. Given their high level of involvement and intimate knowledge related to the service, the staff is the primary input into the Board of Directors' decisions on which actions, programs or issues deserve the Board's consideration.

Board of Directors

The Board of Directors is composed of seven members and consists of a Chairman, a Vice Chairman, a Treasurer, and four Directors. The Chairman is appointed by the Governor of Maine and is responsible for orchestrating and managing all board meetings. Each member of the Board of Directors holds a single vote and all resolutions adopted by the board require a majority consensus. The Board of Directors holds open session public meetings on a monthly basis and all decisions made by the board occur within the open public meetings with the exception of contract discussions. The Board has the ability to elect a secretary and potentially other officers as it deems necessary.

Two of the seven seats on the Board are permanently reserved for Maine's Commissioner of Transportation and its Commissioner of Economic and Community Development. Both of these members serve as a director ex-officio and can designate up to two employees to serve in their absence. The public officials hold their seats so long as they remain in their respective positions and they are not entitled to any additional compensation as a result of their service on the NNEPRA Board of Directors.

The other five members of the Board serve five-year staggered terms and are meant to be members of the public (i.e. not state level public officials). These members are selected by the Governor of Maine and later confirmed by the state legislature. If one of these five members no longer wishes to serve on the Board, the governor then appoints a new member of the public to serve the remainder of the seat's five-year term. Unlike the two public officials, each of the five Board members is entitled to compensation for their service on the Board of Directors.

The Governor of Maine can remove any of the five Board members so long as there is a reason to do so and can also remove the other two public officials from their respective positions at will. Given that the governor can appoint and discharge Board members and that he or she selects the Board's chairman, the state executive branch exerts a strong influence on the Board in terms of its composition, the issues it hears and the nature of the resolutions it adopts.

NNEPRA Staff

In terms of internal staff, the organization currently employs seven people, none of whom serve on the Board of Directors. NNEPRA staff consists of the following positions: an Executive Director, a Marketing Director, a Manager of Passenger Services, a Manager of Budget and Administration, a Special Projects Manager, a Data Analyst, and a Marketing Assistant who also serves as the graphics specialist and web designer. The primary duties of the staff are to establish and maintain collaborative working relationships with stakeholders and station communities; promote the Downeaster service; and achieve maximum fiscal efficiency via the control of expenses.

Given that NNEPRA manages a tristate rail service that is operated by Amtrak, there is substantial coordination between the two parties. NNEPRA's Marketing Director, Manager of Passenger Services, Manager of Budget and Administration, and Special Projects Manager all interface with Amtrak on a regular basis. The Marketing Director works with Amtrak's marketing personnel to coordinate back-of-the-house promotions and also ensures that the operator's train crews and ticketing agents are informed of current NNEPRA promotions. The Manager of Passenger Services rides the trains daily to observe how the service is being operated and also performs a weekly check-in of the crew quarters. The Manager of Budget and Administration communicates frequently with Amtrak's finance personnel and ensures that NNEPRA's invoices are submitted to Amtrak in a timely fashion.

The Special Projects Manager handles all communication with Amtrak related to any on-going capital improvements within the corridor, including notifying Amtrak of the need to cancel trains when work is being performed along the corridor. Additionally, the Special Projects Manager interfaces with other parties that are involved in implementing capital improvements, such as MBTA in the case of the MBTA Track Improvement project. The Executive Director interfaces with Amtrak's senior management when necessary, but does not collaborate with Amtrak on a routine basis.

Other Entities

Aside from the Board of Directors, NNEPRA staff, and the Board Finance Committee, NNEPRA has no other formal grouping of personnel. However, in situations where the Board of Directors requires additional information in order to make an informed decision, ad hoc subcommittees are created. These subcommittees are temporary and disband once a specific study has been conducted or a specific board inquiry has been sufficiently answered.

Powers

The Maine legislature granted the body a broad array of powers that afford NNEPRA the ability to "acquire, hold, use, operate, repair, construct, reconstruct, rehabilitate, modernize, rebuild, relocate, maintain and dispose of railroad lines, railway facilities, rolling stock, machinery and equipment, trackage rights, and real and personal property of any kind" (Ibid.). The statute also permits any public agency or government to lease, lend, grant or convey any of its land holdings to NNEPRA with certain exceptions. The enabling legislation even provided NNEPRA with the power of eminent domain; however, any property owned by NNEPRA must only be used to address the purposes described above.

The authors of the statute were careful to point out that, while NNEPRA has been given the powers noted above, Maine can still acquire railroad lines for passenger service. Furthermore, the creation of NNEPRA does not preclude MaineDOT from engaging in activities that support or facilitate passenger rail operations in the state and the DOT still retains the responsibility for transportation planning and policymaking.

Activities & Duties

In terms of activities in which NNEPRA can engage, the legislation allows the authority to: sue and be sued; adopt a seal; adopt procedural bylaws; employ outside personnel (attorneys, experts, inspectors, consultants, etc.); utilize personnel and services of the MaineDOT in exchange for payment; and take

any other lawful actions required to meet its purpose. In order to fulfill its duties, the enabling legislation directed NNEPRA to perform the following functions: conduct studies; enter into contracts; acquire property both within and outside of Maine; and cooperate with government agencies to facilitate the provision of passenger rail services (Maine, Title 23, Chapter 621, Section 8004).

Requirements

There are two documents that NNEPRA must submit to state officials. First, the authority is required to submit an annual report to the Maine's Legislative Council, the Commissioner of Transportation and the state legislature's joint standing committee on transportation. The report must provide an overview of the organization's activities from the past year and detail all receipts and expenditures made by the agency during the period. Next, the organization is mandated to present next year's operating budget to the Maine Commissioner of Transportation for approval. Under section 8116.2 of the enabling legislation, NNEPRA "may only make expenditures in accordance with allocations approved by the commissioner." Thus, NNEPRA's finances are subjected to scrutiny by elected officials and the organization is barred from making use of funds that have not yet been formally approved by the state DOT.

The Board Finance Committee & Budgeting

The NNEPRA budget is initially developed at the staff level based on each employee's knowledge of the upcoming service year's operating needs and required capital improvements. Once the budget has been drafted, the line items are subjected to an initial round of internal review by the Executive Director and the Manager of Budget and Administration. After both parties have assessed the proposed expenditures and are comfortable with the contents, the Executive Director takes the budget to Maine's Commissioner of Transportation who serves on the NNEPRA Board of Directors. The commissioner reviews the budget and discusses with the Executive Director any potential changes that may be required. Once the Commissioner of Transportation has finally approved the budget, the Board of Directors formally adopts the budget.

In terms of maintaining the organization's budget, the Manager of Budget and Administration is in charge of the day-to-day monitoring of all capital and operating expenses. The manager ensures that the goals set within the budget are attained and that all expenditures by NNEPRA are compliant with all applicable state and federal regulations. The efforts of the manager are overseen by the Board Finance Committee which consists of the Treasurer of the Board of Directors and its Chairman. The committee reviews the financial numbers in detail with the manager on a monthly basis. This arrangement functions as a periodic check by the Board of Directors on NNEPRA staff and provides a degree of fiscal transparency in the delivery of passenger service.

Service Performance

Both ridership and fiscal efficiency have been improving since the initiation of the Downeaster service. FY2013 ridership was 123 percent greater than the ridership generated in FY 2005 and NNEPRA revenues over the same period covered 54.8 percent of all expenses. Total ridership in FY 2013 aboard the Downeaster was 556,347 passengers, which represented a 5 percent increase in ridership relative to FY 2012. Average daily ridership on the line was 1,524 passengers and average weekday ridership was

1,633 passengers. As seen in Figure D-2, the majority of trips aboard the Downeaster are taken for leisure purposes and just over 15 percent of trips are taken for business. Riders aboard the service traveled over 45.3 million miles on the service, which was up 6 percent from FY 2012. Around 83 percent of all Downeaster trains were considered to arrive or depart on-time, which was a 1 percent increase above the FY 2012 performance level.

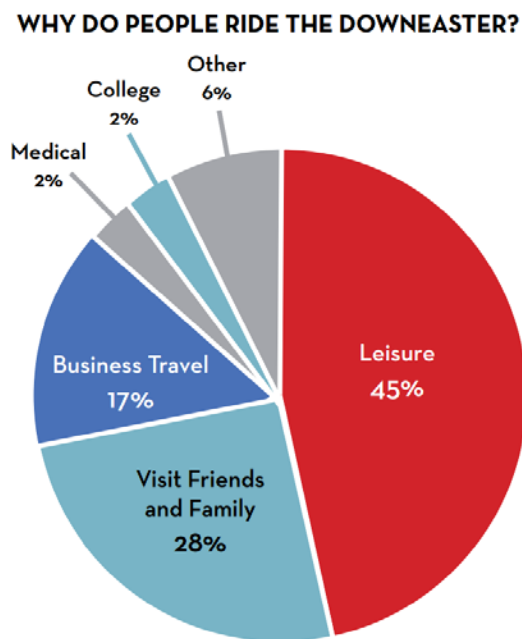


Figure D-33: Downeaster Ridership by Trip Purpose

Source: NNEPRA FY 2014 Annual Report, page 6

Financial Performance

In FY 2013, the Downeaster service recuperated 54.8 percent of its total expenses and required an additional \$7.58 million (45.2 percent of all expenses) in gap financing. Using the standard 80/20 match, CMAQ funding accounted for \$6.1 million in operating funds (i.e. 36 percent of all NNEPRA expenses) and MaineDOT provided the remaining \$1.5 million (i.e. 9 percent of all NNEPRA expenses).

Total operating expenses for the Downeaster in FY 2013 were \$16.762 million. Train operations totaled over \$14.2 million and accounted for 86 percent of all expenses, as seen in Figure D-3. FY 2013 operating revenues for the Downeaster service totaled \$9.182 million. Revenue from ticket sales increased by 9 percent over FY 2012 levels and generated over \$8.1 million, constituting roughly 87 percent of all NNEPRA revenues, as seen in Figure D-4. The “Other Revenue” category consists of advertising fees, interest, and platform insurance reimbursements paid to NNEPRA by the New Hampshire station communities.

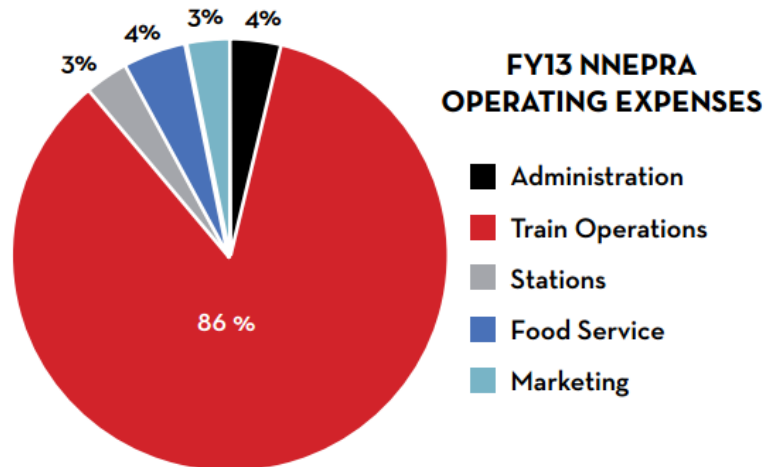


Figure D-34 NNEPRA FY 2014 Operating Expenses

Source: NNEPRA FY2014 Annual Report, page 9

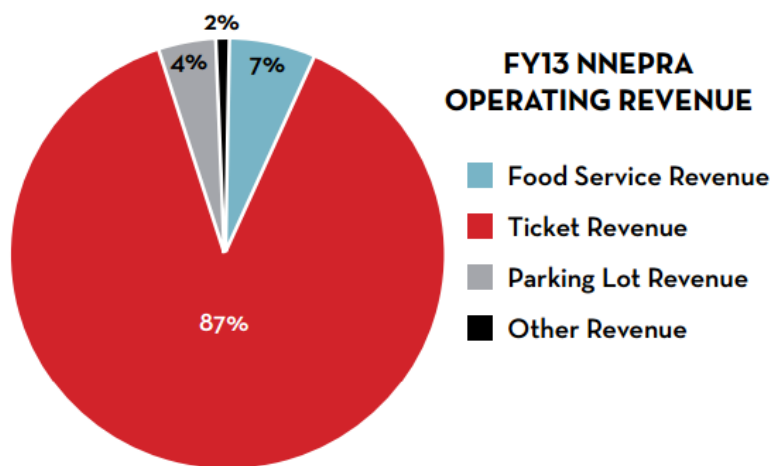


Figure D-35: NNEPRA FY 2013 Operating Revenues

Source: NNEPRA FY2014 Annual Report, page 9

D.6 Notable Projects and Efforts

For large-scale capital improvements, such as the extension of the passenger line, the addition of a bypass, or a substantial rehabilitation of existing segments within the corridor, NNEPRA generally works to secure grant funding from FRA at the federal level, which is then matched in some form by a party that stands to benefit from the work proposed. NNEPRA has provided direct management and oversight for over \$100 million in capital projects. The section describes two recent projects that demonstrate the working relationships between NNEPRA and its partners in developing a more robust corridor.

Downeaster Service Expansion Project

The Downeaster Expansion Project sought to upgrade a 28 mile rail corridor that runs northward from Portland to Brunswick, Maine. The purpose of the project was to extend the Downeaster's operation further north to Brunswick in order to increase mobility for residents of Maine and provide critical future connections to existing rail corridors, including the state-owned Rockland rail branch and the potential high speed Northern New England Corridor leading to Lewiston and Auburn.

Although initial relations between PAR and NNEPRA were anything but constructive, a change in NNEPRA's approach to communicating with PAR -along with the presence of a Governor who had both a strong working relationship with the host railroad and a long-term goal to extend passenger service northward from Portland to Brunswick-paved the way for a successful partnership. When NNEPRA began its initial negotiations with Guilford/PAR in 1996, NNEPRA simply told the host freight railroad what it planned to on PAR's trackage (i.e. add passenger rail service) and then relied on a third party (i.e. STB) to support its plans. In the initial conversations, NNEPRA did not open a discussion as to what PAR's needs were and how NNEPRA, as the imposing party, could work with PAR to help meet the needs of both parties. This time around, NNEPRA consciously changed the way it approached negotiations with Pan Am. Prior to applying for a major capital grant, NNEPRA met with PAR to discuss what could be gained by both parties if they were to work in concert to seek a federal capital grant to upgrade the PAR trackage from Portland to Brunswick. These discussions resulted in the development of the Downeaster Service Expansion Project which would benefit both NNEPRA and PAR.

In 2009, under the ARRA HSIPR Program, NNEPRA applied for a capital grant and was eventually awarded \$35 million by the FRA. Despite the substantial federal grant, the project still required roughly \$3 million in gap financing that was eventually provided by the MaineDOT. NNEPRA managed the project and contracted with an engineering firm to complete all of the design and planning work with the exception of right-of-way improvements, which were contracted to another private firm by MaineDOT. In all matters of procurement, NNEPRA utilized a public bidding process to encourage competition. The project consisted of the following elements:

- Track Improvements (\$22.1 million)
- Passenger Platforms (\$1.2 million)
- Right-of-way Improvements (\$2.2 million)
- Grade Crossings, Signals and Communications (\$12.5 million)

Aside from the right-of-way improvements, the owner of the corridor, PAR, provided the majority of the labor and construction equipment that was used to complete the project and even won a competitive bid to supply the ballast. NNEPRA's Special Projects Manager served as an internal project manager and provided oversight for PAR's activities. Construction on the project began in the summer of 2010 and was completed in the fall of 2012. NNEPRA successfully met the project's budget and completed implementation as scheduled, becoming the first ARRA-funded rail expansion project to be completed.

Implementation of the project resulted in the operation of two daily round trips between Boston and Brunswick, the provision of service to two new communities (Freeport and Brunswick), and the ability to

eventually connect with passenger services headed to both Rockland and Lewiston, Maine, along the proposed high speed rail corridor. Figure D-5 provides a stylized map of the current Downeaster service and includes the new operating segment, which is depicted in orange, made possible by the Downeaster Service Expansion Project.

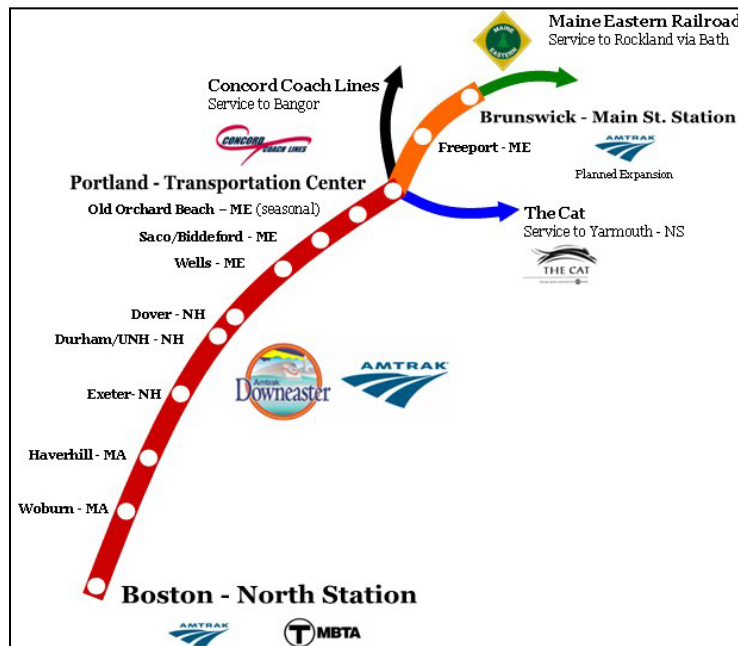


Figure D-36: Map of New Service Resulting from Expansion Project

Source: Homenewshere (Source 19)

MBTA Track Improvement Project

Notes from recent Board meetings indicate that the plan will allow for the consideration of the following two strategic objectives: increase the number of daily round trips from Portland to Boston to six or seven and reduce the travel time between the two markets to two hours and fifteen minutes. As a means to pave the way to meet these two strategic objectives, as well as to increase on-time performance, NNEPRA has partnered with the MBTA to improve trackage within the state of Massachusetts.

Currently the 38 mile MBTA-controlled rail corridor, which includes portions of the MBTA's Haverhill Line and its Wildcat Branch, handles traffic from MBTA commuter trains, PAR freight trains, and Downeaster passenger trains. Given that there is a stretch of 10.5 miles where only a single track is available, rail operations are relatively constrained within the corridor. In order to ease the congestion and increase train speeds along this segment, NNEPRA applied for an FRA grant to support the addition of a passing track, grade crossing upgrades, new crossovers, new maintenance of way track segments, upgraded signals and communications infrastructure, and the replacement of existing rail with continuous welded rail.

In 2011, NNEPRA was awarded \$20.8 million to support capital improvements within the MBTA corridor. NNEPRA is the FRA grantee and is in charge of managing the design of the track improvements. NNEPRA has already contracted with a third party to complete the signal and track design elements of the project. MBTA provided the required 20 percent local match of \$5.2 million in the form of sections of track within the project area that had already been constructed by MBTA's contractor. MBTA is serving as the primary administrator/manager for the project and will manage the construction of the remaining track improvements. MBTA will submit invoices for the new sections to NNEPRA who will then reimburse MBTA using the FRA capital grant. MBTA and NNEPRA are currently developing an agreement that will ensure that the MBTA constructs the project as specified in the FRA grant. Construction on the MBTA portion of the Downeaster corridor is tentatively scheduled to begin at the end of 2015.

Notable Initiatives & Efforts

Establishing connections to other transportation providers operating at or near Downeaster stations has been an issue due to the lack of available services at rural stations. However, the Maine Eastern Railroad, which operates excursion services from the Brunswick rail station to Rockland and Camden, and NNEPRA have recently coordinated their arrival and departure times. NNEPRA was limited in its ability to change the timing of its runs due to time slot constraints at the MBTA North Station. With that knowledge, the Maine Eastern Railroad adjusted its schedule to meet the needs of NNEPRA. Now passengers arriving to the Brunswick station can make use of a seamless, coordinated transfer on their way to Rockland.

From the beginning, NNEPRA has worked alongside MaineDOT to meet the objectives outlined in the state's comprehensive passenger transportation plan. While not formally required within the enabling legislation, thanks to its long-standing relationship with MaineDOT, NNEPRA has become actively involved in the development of Maine's Statewide Rail Plan. MaineDOT determines what level of investment is required to meet freight movement needs and takes a first pass at developing a program of improvements to support passenger rail. MaineDOT then solicits input from NNEPRA to determine any gaps in the passenger program that require additional consideration. While the DOT ultimately retains the ability to accept or reject NNEPRA's recommendations, this working relationship affords both parties an opportunity to develop a consensus related to future capital improvements to support passenger rail service in Maine. It should be noted that NNEPRA is not formally engaged in state-level passenger rail planning outside of the state of Maine.

D.7 Barriers/Challenges Faced in Implementing the Downeaster Service

Access and Cost-sharing Negotiations with Freight Railroad

Although the reestablishment of rail service along the corridor garnered ample support from the general public, as well as state and federal officials, disputes between NNEPRA/Amtrak and one of the three host railroads resulted in several years of delay in the implementation of passenger service from Boston to Portland. As owner of the private freight corridor in which a portion of the Downeaster was proposed to operate, PAR, wanted to ensure that any passenger use of the trackage would not substantially interfere with the company's ability to operate within its corridor and generate profits from freight movements. However, while PAR was protecting its own interests, the entity was simultaneously

attempting to have the passenger rail entity (i.e. NNEPRA/Amtrak) pay for track upgrades which would also benefit PAR. After months of negotiations between the parties, the owner of the corridor and the operator of potential service could not come to an agreement related to the distribution of liability, maintenance, capital improvement, administrative and future incremental costs due to the Downeaster's occupation of the PAR right-of-way.

This initial conflict was taken to the STB for resolution in 1997. After receiving a formal ruling in 1998, the two groups once again came to a standoff related to the weight of rail to be used. From 1997 to 2001 the STB issued at least one decision per year and, with each STB ruling, another series of disputes arose related to different elements of the project. While the involvement of the STB ultimately pushed the project forward, the reliance on a third party to resolve the majority of disputes did not set a strong precedent for a collaborative working relationship and slowed the establishment of passenger operations within the corridor. It should be noted that more recently the STB has increased its efforts to proactively resolve issues through mediation rather than relying on formal proceedings as was done for Pan Am and NNEPRA.

Lack of Dedicated Capital Funding

The Downeaster does not possess a dedicated funding source for capital improvements. Although this issue has had the positive effect of forcing NNEPRA to adapt into an organization whose strength lies in securing federal competitive grants, it, nevertheless, hinders the organization's ability to rapidly implement additional passenger rail service throughout northern New England. Due to the periodic nature of federal programs and grants, the reliance on federal funding results in periods of activity for NNEPRA followed by substantial bouts of inactivity during which the agency is planning future improvements and simply waiting on the next grant cycle. This type of funding structure precludes continuous corridor development and instead results in piecemeal development of the passenger line due to the need to secure a large amount of funding, which is intermittently made available, and obligate its expenditure by a given date. Without substantial capital funding from other states serviced by the Downeaster it is unlikely that NNEPRA will reliably serve as an instrument for the expansion of new passenger rail service throughout northern New England.

Lack of Dedicated Operations Funding

Although the Maine recently assured NNEPRA that it will continue to locate funding to support the Downeaster's operations, the service's reliance on discretionary state-level funding presents a constant challenge. With every new legislature comes a new opinion. As lead advocate for the service, the Executive Director must spend a substantial amount of time educating newly elected policymakers as to the service and value that NNEPRA provides to the state and its citizens while highlighting commitments that the organization has already made to its passengers. While the recent passage of Section 209 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) resulted in the development of a uniform method for allocating costs for state-supported Amtrak routes, this change in federal policy has had the effect of doubling NNEPRA's costs related to using Amtrak's rolling stock. Thus, an external change has put NNEPRA in the difficult position of having to justify an increase in state-level subsidies in the absence of a corresponding increase in service which is not an easy sell for politicians.

Rural Station Settings Hinder “Last Mile” Connections

The rural setting in which many of the Downeaster stations are situated makes the establishment and provision of connecting transportation services difficult. Although the MBTA North Station interfaces with the MBTA subway system and its commuter rail lines, passengers arriving to other stations along the corridor are generally not afforded such a wide variety of options. Some of the municipalities provide circulator bus service to the Downeaster stations while others do not. In situations where local bus service is provided, NNEPRA is open with station-area transit operators about its schedule, as well as its operating needs, and attempts to coordinate arrival times with the bus operators. However, the authority is constrained in its ability to revise the timing of train operations due to the aforementioned service and capacity limits at the MBTA North Station. Therefore, the most the agency can do is attempt to convince the other operators to shift their schedules to meet the needs of another service’s passengers. Thus, depending on the presence of local bus service and the points of interest served by the routes, passengers are often forced to either take a taxi or wait on a poorly timed transfer to a community circulator bus.

D.8 Interpretation and Synthesis

This section interprets the case study findings in the context of the overall project objectives.

D.8.1 Key Aspects of the Case with Respect to Research Objectives

As identified in the conceptual framework, the four major elements of collaborative efforts supporting intercity passing rail transportation are visioning, planning, design and construction, and operations and maintenance. Given that the vision for the Boston to Portland rail corridor was developed by a local nonprofit organization and this research is focused on developing a national system, this case study provides relevant lessons for the last three of the framework’s elements. The Specific issues relevant to the research objective identified in the Phase I Report and their relevance and applicability to the NNEPRA case study are summarized in Table D.2.










D.8.2 Key Lessons Learned

Lessons 1-4 consist of specific observations related to the working relationships that supported the initial development and implementation of the Boston to Portland service, as well as some of the later capital improvement projects. Lessons 5-7 are focused on more general observations related to NNEPRA as an organization.




Lesson 1: Arbitration Can Push Projects Forward

Freight railroad owners generally view the provision of passenger service along their corridors as a fundamental threat to their cost structure and also a potential long-term threat to their revenues. Freight railroads fear that accommodating passenger service along a corridor will require higher levels of maintenance (as required by the FRA), an increased need for dispatching services, higher liability insurance costs, traffic congestion and other negative externalities that all result in the host railroad incurring additional expenses. Therefore, they wish to ensure that an appropriate level of compensation is established in the event that passenger service results in negative incremental impacts to freight

Table D.10 Case Study Applicability to Research Issues

Research Issue	Degree to Which Objective is Applicable to NNEPRA Case Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

Legend:

	Addresses research issue to a high degree
	Addresses research issue to a moderate degree
	Addresses research issue to a slight degree

movements within the corridor. In contrast, purveyors of passenger rail service see the railroad owners as having monopoly control over a resource that they wish to use and which, under federal law, they are entitled to use. Thus, they tend to view any impact fees proposed by the owners as exorbitant and disproportionate to the level of impacts that their services will have on freight operations in the corridor.

As seen in the case of Amtrak/NNEPRA and PAR, negotiations between privately owned freight railroads and passenger rail operators can often result in multiple points of deadlock, each related to its own particular issue or set of disagreements, that delay project implementation and waste both human and fiscal resources. While arbitration should never be the first line of defense for a future operator, the use of a third party mediator (i.e. STB) to resolve disputes can be effective at mitigating project inertia in the early stages of corridor development and navigating later critical impasses.

In 2008, PRIIA identified the STB as the official mediator with regard to various passenger rail matters. However, despite the increase in responsibility, Congress has not appropriated the funding necessary to allow the STB to play its official mediator role appropriately. This lack of funding is likely to serve as a major impediment to the development of multistate passenger rail corridors in the future.

Lesson 2: Contentious Relationships Can Develop into Partnerships with Time and Mutual Benefits

Although the initial working relationship between Amtrak/NNEPRA and PAR was tenuous at best, the passage of time, coupled with a mutually beneficial capital project, allowed the ties between the parties to strengthen. For nearly a decade it seemed that the host railroad and the passenger service's operator would only talk to each other when impending impacts on construction or daily operations absolutely necessitated a conversation. However, once NNEPRA began developing the concept for the Downeaster Expansion Project, the lines of communication opened back up. When PAR heard of NNEPRA's plans to pursue a substantial federal capital grant to completely rehabilitate PAR's corridor from Portland to Brunswick, the company finally realized that the imposition of passenger service within its corridor could actually be good for business.

By providing the owner of the corridor with free access to the capital needed to improve its infrastructure, NNEPRA finally established the trust necessary to produce a cooperative working arrangement with PAR. For two years, NNEPRA and PAR worked in concert to implement a 28-mile project that eventually resulted in expanded passenger service for NNEPRA (i.e. extension of its

northern terminus to Brunswick) and reduced congestion costs for PAR freight traffic. NNEPRA, like many multistate corridor agencies, found that bringing money to the conversation is a powerful attractive force that supports constructive relations with a host freight railroad.

Lesson 3: Direct Monetary Compensation Not Always Required

When contemplating partnerships, it is important to remember that benefits need not always come in the form of a direct financial payment. In the case of the Downeaster, the service benefits from the MBTA providing highly valuable contributions at no charge, including access to its trackage in Massachusetts, access to three commuter rail stations, ticketing agents at the Downeaster's southern terminus (i.e. MBTA North Station), and platform insurance at each of the three stations. Indeed, was it not for MBTA granting the service access to a North Station in Boston, the service would need not exist. Furthermore, the revenues collected at the three Massachusetts stations help reduce the amount of total operating subsidy that Maine, through NNEPRA, must eventually pay to Amtrak for operating the service.

Whereas all other operating agreements related to the Downeaster involve a payer and a payee, the MBTA, as an established transit agency with extensive infrastructure, participates in the partnership in exchange for non-monetary benefits, such as the ability to claim the passenger miles carried over its trackage and the opportunity to generate additional ridership at the MBTA stations that are served by the Downeaster. Unlike the payments exchanged between the other members of the partnership, these benefits do not realize a direct and immediate return on MBTA's investment (i.e. its willingness to allow another entity to share trackage along its commuter rail corridor). However, over the long-term, the arrangement with NNEPRA allows the MBTA to better position itself to compete for federal capital improvement grants and operating subsidies, as seen in the partnership for the MBTA Track Improvement Project. In other words, thanks to NNEPRA's track record as a successful FRA grant applicant, MBTA's primary benefit derived from participating in the partnership is the relative decrease in budgetary pressure (i.e. negative reinforcement) related to rehabilitating and maintaining its portion of the Downeaster corridor.

Lesson 4: Incremental Delivery Can Contribute to Overall Project Success by Building Momentum

Although TNE's 1989 vision for reinstating passenger rail operations in Maine also contemplated service to Rockland, Augusta, and Bangor, the lack of a dedicated capital funding source immediately dictated a more iterative approach to upgrading the rail infrastructure within the state. Since the Downeaster first began operations in 2001, NNEPRA has continued to make incremental improvements to the service and its infrastructure which cumulatively resulted in the following: the addition of five new stations, the initiation of an additional daily round trip between Boston and Portland, a doubling of ridership, an increase in operating speeds from 60 to 79 mph, the reduction of the end-to-end running time, and an expansion of the service beyond the initial corridor's termini. This type of approach to corridor development has allowed the region to successfully demonstrate its desire for passenger rail to the federal government, even despite its lack of dedicated funding. The continued regional support and state level contributions to the service helped make the case for the FRA to designate the current Downeaster alignment as one of three branches within the Northern New England high speed rail

corridor that could potentially operate at 110 mph and run from Boston, Massachusetts through Portland and Lewiston, Maine.

Lesson 5: State DOT Board Membership Promotes Coordination

The Maine Commissioner of Transportation's active involvement with NNEPRA ensures that financial planning for both existing and future NNEPRA passenger operations, as well as service planning for potential Downeaster expansions, is not done in isolation. In terms of fiscal accountability, the state DOT, as the only non-federal source of both capital and operating funds, oversees the work of NNEPRA through several checks possessed by the commissioner. First, the Executive Director must secure approval of the proposed budget from the commissioner prior to bringing the budget before the board for adoption. Next, as codified in the 1995 enabling legislation, NNEPRA is barred from proposing expenditures beyond the funding levels that have been formally allocated by the commissioner as head of the state DOT. Finally, the commissioner, as one of seven voting members of the Board of Directors, has the ability to voice any concerns that the DOT may have related to NNEPRA's activities and its budget to the decision makers before an action is taken. Thus, through frequent interactions with NNEPRA Board of Directors and its staff, the commissioner guarantees that: NNEPRA has access to state funding; both parties are aware of how much funding is available; and NNEPRA is appropriately utilizing the taxpayer subsidies to provide a mobility benefit to citizens of Maine.

In terms of planning for future projects, the presence of a state DOT official on NNEPRA's Board of Directors greatly increases the efficiency and effectiveness of the agency. As seen throughout the development of the passenger corridor, the state DOT has served as an advocate for the corridor at the state level during critical periods of project development. During the initial stages of corridor development, the DOT propelled the project forward by lobbying the state legislature to conduct a feasibility study; allocate funding at the state level which allowed the corridor to leverage federal capital funds; and eventually pass the enabling legislation which created NNEPRA.

Within the 1995 Passenger Rail Service Act the legislature explicitly authorized NNEPRA to make use of the MaineDOT's personnel and experience when needed. Although direct utilization of DOT staff is not common, joint efforts to plan for passenger services within the state of Maine occur in the development of Maine's Statewide Rail Plan. Once the DOT has drafted its initial recommendations for passenger rail improvements, NNEPRA then reviews the list of projects; provides the agency with feedback; and submits additional projects as necessary. This process helps the two agencies to identify potential conflicts between their proposals and also identify synergies that could result in cost reductions and/or faster project implementation. The working arrangement between NNEPRA and MaineDOT for the planning of passenger rail services in Maine promotes concurrency and provides for the development of a consensus related to future capital improvements for passenger service in the state.

Lesson 6: Proactive Marketing Is Important to Long-term Viability

Two of NNEPRA's seven staff members are exclusively dedicated to continuously marketing the Downeaster service. While marketing is useful in any business pursuit, given the route's lack of dedicated funding, the promotional efforts take on an increased level of importance by allowing the service to reach new markets, thereby expanding its potential ridership base and increasing its revenue

potential. The fall 2012 “Experience More Maine” promotional campaign, which consisted of print- and web-based advertising in Greater Boston, resulted in a 30 percent increase in the number of tourists traveling to Maine aboard the Downeaster. The new Downeaster Packages website has further responded to the tourist market and will likely increase ridership among regional residents who are seeking a short weekend getaway within northern New England. While initially developed solely as a means to reduce operations costs, the Downeaster Café, with its offering of locally-sourced products made in Maine, has become a means to promote tourism and distinctly brand the service in order to effectively reach New England residents. NNEPRA has also partnered with nonprofit groups to provide those in need with discounted fares. By setting aside funds to support dedicated marketing staff, NNEPRA has ensured that the service communicates a consistent and localized message that is separate from the generic, nationwide Amtrak advertising. The marketing staff’s varied programs and advertising efforts allow the service to respond to the needs of various market segments, thereby increasing the likelihood that new customers from within Maine, as well as outside of the state, will utilize the service.

Lesson 7: Regional Services Can Provide Innovation

Despite the fact that there are 14 other state-sponsored Amtrak routes, the Downeaster is notable in that it has served as a hotbed for innovation in the provision of passenger rail services. Under NNEPRA’s management, the corridor has been the site of many firsts for an Amtrak service, including the rollout of the first on-board Wi-Fi system, point of sale cash register system, and on-board café not directly operated by Amtrak. With the majority share of its ridership coming from commuters and tourists, NNEPRA rightly identified that providing these passengers with an additional amenity in the form of internet access would increase the attractiveness of train travel, especially for those who have access to other alternatives. The point of sale system grants the managing agency an enhanced ability to monitor and effectively control food service operating costs by reviewing sales reports. By choosing to take ownership of the Downeaster Café, NNEPRA has the ability to dynamically alter the on-board menu in response to customer feedback or a decline in item sales. Additionally, the agency’s marketing staff has catered to the needs of bicycle users by making the Downeaster the first east coast train service to welcome bikes aboard the train and has also expanded the mobility options for tourists by developing a partnership to provide a bike share at the PTC. NNEPRA has consistently been willing to take a risk and try something new, frequently utilizing the Downeaster as a test subject and monitoring its response to new stimuli. In the cases of on-board Wi-Fi and point of sale systems, NNEPRA, despite its position as manager of a single regional train route, has even exerted pressure on Amtrak, a national train operator, to innovate and modernize its passenger services.

D.8.3 Degree to Which Results are Transferable

While this case study analyzed the implementation of one passenger rail service across three states by a single state entity, some of the key findings related to the Downeaster are transferrable to the development and operations of multistate passenger rail projects.

Given that the majority of the rail corridors in the United States are owned by freight companies, any organization attempting to establish, operate, or maintain passenger service will likely have to negotiate access rights with freight companies that are often reluctant. As seen in the case of the Downeaster, simply stating a request for access to the freight corridor and then relying on a legislative mandate and

the STB to enforce a determination resulted in neither a positive working relationship nor swift implementation. Given the wide variety of areas that serve as potential grounds for disagreement, such as the assignment of liability for operations and the distribution of costs related to maintenance, capital improvements, administration and incremental impacts, the potential operator of intercity passenger service would be wise to include contingency in the project schedule in order to budget for unanticipated delays in implementation related to negotiating with the host railroad.

As there are significant gaps in the nation's current offering of passenger rail services, the facilitation of intercity passenger rail service will likely require the development of new and the rehabilitation of existing rail corridors. In terms of capital improvements, the general arrangement used for the Downeaster has seen NNEPRA, as the managing entity, perform the following duties: advocate officials to secure state and federal capital grants; competitively award contract for design and/or construction; procure necessary materials; and provide project management expertise and daily oversight of contractor. The owner of the trackage generally functions to provide the matching money required to make use of the capital grants, as well as the experienced labor force necessary to perform infrastructure work. The use of the owner's labor force to develop the corridor avoids what have been shown to be contentious debates between the owner and the operator surrounding track access rights and the distribution of liability. Furthermore, this feature also provides the owner with assurance that those improving the corridor know what they are doing. NNEPRA's approach to capital improvements is notable in that it is a true partnership, as the working arrangement affords benefits to both parties (i.e. for the manager, access to a skilled labor force and the provision of new services, and, for the owner, access to state and federal subsidies, reduced congestion and/or travel times).

The state of Maine, through NNEPRA, managed to leverage innovative financial participation from the other two states served by the Downeaster, as well as the MBTA, without requiring any direct payments from these parties to support the service. Although NNEPRA is the only entity that directly reimburses Amtrak for its services as operator of the Downeaster, ticket revenues collected by Amtrak in the states of Massachusetts and New Hampshire essentially function as a form of out-of-state subsidy that helps reduce the annual service fee that NNEPRA and the State of Maine must pay to Amtrak. As noted above in Lesson #3, the MBTA provides the service with substantial contributions (e.g. access to stations, platform insurance, and customer service personnel) at no charge to NNEPRA in exchange for benefits that come at no direct cost to NNEPRA (e.g. allocating Downeaster passenger mileage within Massachusetts to the MBTA for NTD reporting, additional ridership at MBTA stations, and providing access to additional federal capital funding opportunities).

In the case of the Downeaster, the State of Maine was the only state out of the three that truly desired the reinstatement of passenger rail service along the corridor and acted as a catalyst for its inception and operation. This is similar to the experience of the Heartland Flyer which saw the reinstatement of passenger rail service between Oklahoma City, Oklahoma and Fort Worth, Texas. The Flyer operated for years without any state-level subsidy from Texas simply because Oklahoma, like the State of Maine, needed the service to get its residents to a major regional employment center (i.e. Dallas-Fort Worth). Thus, the experience of the Downeaster and Heartland Flyer demonstrate that in the absence of formal, direct subsidy from the other jurisdictions served, the implementation and operation of passenger rail

service across a multistate corridor is still financially feasible, so long as the route serves major metro areas that have a level of passenger demand sufficient to reduce the total subsidy which must be paid to the operator by the sole supporting state.

Given that intercity passenger rail service will likely require subsidies and funding across all levels of government is quite constrained, an organization in charge of managing passenger services would be wise to dedicate staff positions and operations funding in support of marketing and public relations. Persistent and relatively inexpensive marketing efforts have allowed the Downeaster to steadily increase its ridership and continue to expand its customer base by drawing new riders from Maine, the northern New England region and elsewhere. Targeted advertising campaigns and promotional partnerships, such as Experience More Maine, the Downeaster Packages website, and sports packages, have increased the relative share of choice riders who are engaging in social and recreational trips using the service. By placing emphasis on marketing and branding, a passenger service entity would be able to broaden its ridership base beyond commuters and dynamically alter its image and operations in order to response to changes in external factors which influence ridership (e.g. fuel price increase).

As intercity passenger rail corridors will interface with other transportation modes and infrastructure, state DOTs will need to be involved with the implementation and operation of these services. The stance taken by the organization relative to the project, as well as the level of assistance provided by the agency in support of the corridor, will vary with each project. In the case of the Downeaster, the nonprofit group, TNE, established a positive working relationship with the MaineDOT from the very start and this early cooperation paved the way for NNEPRA's success within the passenger corridor.

Aside from TNE's early coordination efforts, NNEPRA enabled legislation which required that the agency maintain frequent interactions with the DOT by granting the Commissioner of Transportation a seat on the board and involving the appointee in the budget process. Relative to the Downeaster Expansion Project, MaineDOT supported the rehabilitation effort because it understood both the personal mobility benefits that would result from implementation, as well as the statewide economic benefits that would be realized via reduced congestion along PAR's freight corridor. The relationship between MaineDOT and NNEPRA is further strengthened by the fact that they work cooperatively to develop concurrent passenger rail service plans for the state, which results in both parties reaching an understanding as to the current demands for service, the level of state funding available for passenger operations, and the priority corridors for future expansion. While introducing DOT representatives to the intercity passenger entity's Board of Directors may put the organization in a precarious position of having to balance the competing priorities and needs of the different DOTs along the corridor, this working arrangement would at least institutionalize participation by important parties and could potentially provide the service with additional funding from the various state governments.

D.9 References

1. NNEPRA, FY2014 Annual Report, http://www.nnepra.com/sites/default/files/2014NNEPRA_AnuualRept_web.pdf
2. Personal Interview with Brian Beeler, Manager of Passenger Service for NNEPRA, 08/20/2014.
3. Amtrak, Schedules, <http://www.amtrakdowneaster.com/schedules>
4. State of Maine 115th Legislature, Passenger Rail Service Act, 1991, http://lldc.mainelegislature.org/Open/Laws/1991/1991_PL_c587.pdf
5. Maine Legislative Code Title 23 Chapter 621, Passenger Rail Service Act, 1995, <http://www.mainelegislature.org/legis/statutes/23/title23ch621.pdf>
6. State of Maine 123rd Legislature, Joint Resolution in Support of the Expansion of Downeaster Rail Service in Maine, 2008, http://www.mainelegislature.org/legis/bills/bills_123rd/billpdfs/SP091101.pdf
7. NNEPRA, Operating Partners, <http://www.nnepra.com/partners/operating>
8. NNEPRA, Funding Partners, <http://www.nnepra.com/partners/funding>
9. TrainRiders Northeast, <http://www.trainridersne.org/index.php/goals>
10. STB, May 6, 1997, [http://www.stb.dot.gov/decisions/readingroom.nsf/UNID/D97839AEC9846AC48525654100704B52/\\$file/21738.pdf](http://www.stb.dot.gov/decisions/readingroom.nsf/UNID/D97839AEC9846AC48525654100704B52/$file/21738.pdf)
11. STB, May 28, 1998, [http://www.stb.dot.gov/boundvolumes3.nsf/38f502d6898daf3385256811004b5a12/18684a053f25f6d185256b600074ffc0/\\$FILE/Volume3-16.pdf](http://www.stb.dot.gov/boundvolumes3.nsf/38f502d6898daf3385256811004b5a12/18684a053f25f6d185256b600074ffc0/$FILE/Volume3-16.pdf)
12. STB, October 21, 1999, <http://www.stb.dot.gov/newsrels.nsf/219d1aee5889780b85256e59005edefe/e0866f62517d608085256812005193a0?OpenDocument>
13. STB, March 29, 2001, <http://www.stb.dot.gov/Decisions/readingroom.nsf/83fd59cf17adc80785256559007ba132/0cab19a9709cd18985256bb4005de2f8?OpenDocument>
14. STB, June 29, 2001, <http://www.stb.dot.gov/decisions/readingroom.nsf/83fd59cf17adc80785256559007ba132/8754b01d2ad3767e85256a720065ead5?OpenDocument>
15. Jaap, STB Ruling on Portland Service (Guilford), <http://www.trainorders.com/discussion/read.php?4,504578>
16. NNEPRA, FY2012 Year End Report, <http://www.nnepra.com/sites/default/files/Performance-Report-Q4-End-of-Year-Report.pdf>
17. NNEPRA, General Information, <http://www.nnepra.com/about>
18. Amtrak, Downeaster Expansion Project Overview, https://www.amtrakdowneaster.com/sites/default/files/DE-ExpansionHandout_0_0.pdf
19. Homenewshere, Downeaster Expands Service North, http://homenewshere.com/middlesex_east/article_87a13958-24fb-11e2-895c-0019bb2963f4.html?mode=image&photo=0

20. NNEPRA, MBTA Track Improvement Project, <http://www.nnepra.com/projects/downeaster-mbta-track-improvement-project>
21. Amtrak, eTicketing Now Available to Amtrak Downeaster Passengers, <http://www.amtrak.com/ccurl/941/369/ATK-%2011-143%20eTicketing%20Downeaster.pdf>
22. NNEPRA, Promotion Brochure, http://www.nnepra.com/sites/default/files/content/images/Promotion_NNEPRA_Brochure_2013.pdf

CASE STUDY E: NORTHEAST CORRIDOR

Contents

E.0 Executive Summary	172
E.1 Introduction	180
E.2 Description and History of the NEC	180
E.3 Northeast Corridor Passenger Rail Participants.....	183
E.4 Existing Arrangements for Multi-State Passenger Rail Service Operations	193
E.5 Existing Arrangements for Multi-State Passenger Rail Service Planning.....	196
E.6 Barriers/Challenges in the Northeast Corridor Structure	208
E.7 Strategies Used to Overcome Barriers/Challenges.....	214
E.8 Interpretation and Synthesis.....	215
E.9 Conclusions	221
E.10 References	222
Appendix E-1 – Comparison of State and Commuter Rail Service Agreements	225
Appendix E-2 - U.S. Code Title 49, Subtitle V, Part C, Chapter 249.....	Error! Bookmark not defined.
Appendix E-3 - Proposed Passenger Rail Reform and Investment Act of 2014 (PRRIA)	229

Glossary of Terms

4R Act	Railroad Revitalization and Regulatory Reform Act of 1976
ARRA	American Reinvestment and Recovery Act of 2009
CEQ	Council on Environmental Quality
CONEG	Coalition of Northeastern Governors
ConnDOT	Connecticut Department of Transportation
CSXT	CSX Transportation
DDOT	District of Columbia Department of Transportation
DOT	Department of Transportation
DTC	Delaware Transit Corporation
EIS	Environmental Impact Statement
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
LIRR	Long Island Rail Road
MARC	Maryland Area Regional Commuter
MassDOT	Massachusetts Department of Transportation
MBTA	Massachusetts Bay Transportation Authority
MDOT	Maryland Department of Transportation
MNR	Metro-North Railroad
MPO	Metropolitan Planning Organization
MTA	Maryland Transit Administration
NY MTA	New York Metropolitan Transportation Authority
NEC	Northeast Corridor
NEPA	National Environmental Policy Act
NERSA	Northeast Rail Service Act of 1981
NHHS	New Haven-Hartford-Springfield
NJDOT	New Jersey Department of Transportation
NS	Norfolk Southern Corporation
NYNH&H	New York, New Haven and Hartford Railroad
OFM	Office of Freight and Multimodalism (Maryland)
PRIIA	Passenger Rail Investment and Improvement Act of 2008
PRRIA	Passenger Rail Reform and Investment Act of 2014
RIDOT	Rhode Island Department of Transportation
RPSA	Rail Passenger Service Act of 1970
SDP	Service Development Plan
SEPTA	Southeastern Pennsylvania Transportation Authority
SHPO	State Historic Preservation Office
SLE	Shore Line East
USDOT	United States Department of Transportation
USRA	United States Railway Association
VRE	Virginia Railway Express

E.0 Executive Summary

Background

Extending across eight states (Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, and Maryland) and the District of Columbia, the Northeast Corridor (NEC) is a critical part of the transportation infrastructure in the U.S. By a wide margin, the NEC is the busiest passenger rail corridor in the U.S. serving approximately 750,000 people on more than 2,200 passenger trains daily. It is a strong economic driver, supporting more than \$50 billion annually in the nation's economy. The spine of the NEC is a fully electrified railway line owned primarily by Amtrak from Boston, via New York and Philadelphia, to Washington, D.C., with several branches. This spine, which closely parallels Interstate 95 for most of its length, is the busiest passenger rail line in the U.S. by ridership and service frequency.

Progressing from an era of two legacy owners and deeply competing interests, to the near-collapse of the private systems and passenger rail in particular, to government assuming control and the private entities stepping away, the NEC is unique in terms of its long history of providing passenger rail service and supporting regional growth in the U.S. Fragmented ownership combined with decades of insufficient investment in the Corridor's infrastructure has resulted in a large backlog of deferred capital needs that increasingly impact system reliability (see earlier discussion on the history of Amtrak). What was never resolved in this fragmented ownership and oversight was how to address conflict and share potential opportunities for improvements to intercity and commuter rail.

Nature of the Partnership

The complex structure of the NEC as it stands today is a byproduct of various legislative acts to salvage passenger rail and freight operations following the decline of the private railroad industry in the mid-20th century. The relationship among Amtrak, the states it serves in the Northeast, and the various commuter rail operators who operate on and off Amtrak track is also complex, and varies state-by-state. NEC mainline tracks are owned primarily by Amtrak, with portions also owned by the states of Massachusetts and Connecticut and the NY Metropolitan Transportation Authority (MTA).

A large number of railroads operate on the Northeast Corridor—including Amtrak, six commuter railroads, two Class I freight railroads, and one shortline railroad—resulting in high levels of activity in the corridor. On a daily basis, approximately 750,000 trips are made on the NEC - either on Amtrak or one of the commuter railroads. More than 2,100 passenger trains and 60 freight trains operate on some portion of the NEC every day. For the most part, Amtrak retains the responsibility for infrastructure maintenance and improvement. Figure E-1 shows the different operating entities along the NEC.

Throughout the history of the NEC, each railroad separately negotiated its infrastructure access and service agreements for use of NEC infrastructure with the infrastructure owner, with no standardized method for determining the pricing structure of these agreements. Over time, this has resulted in disparate arrangements throughout the corridor, and according to those interviewed is one of several factors contributing to chronic underinvestment in NEC infrastructure.

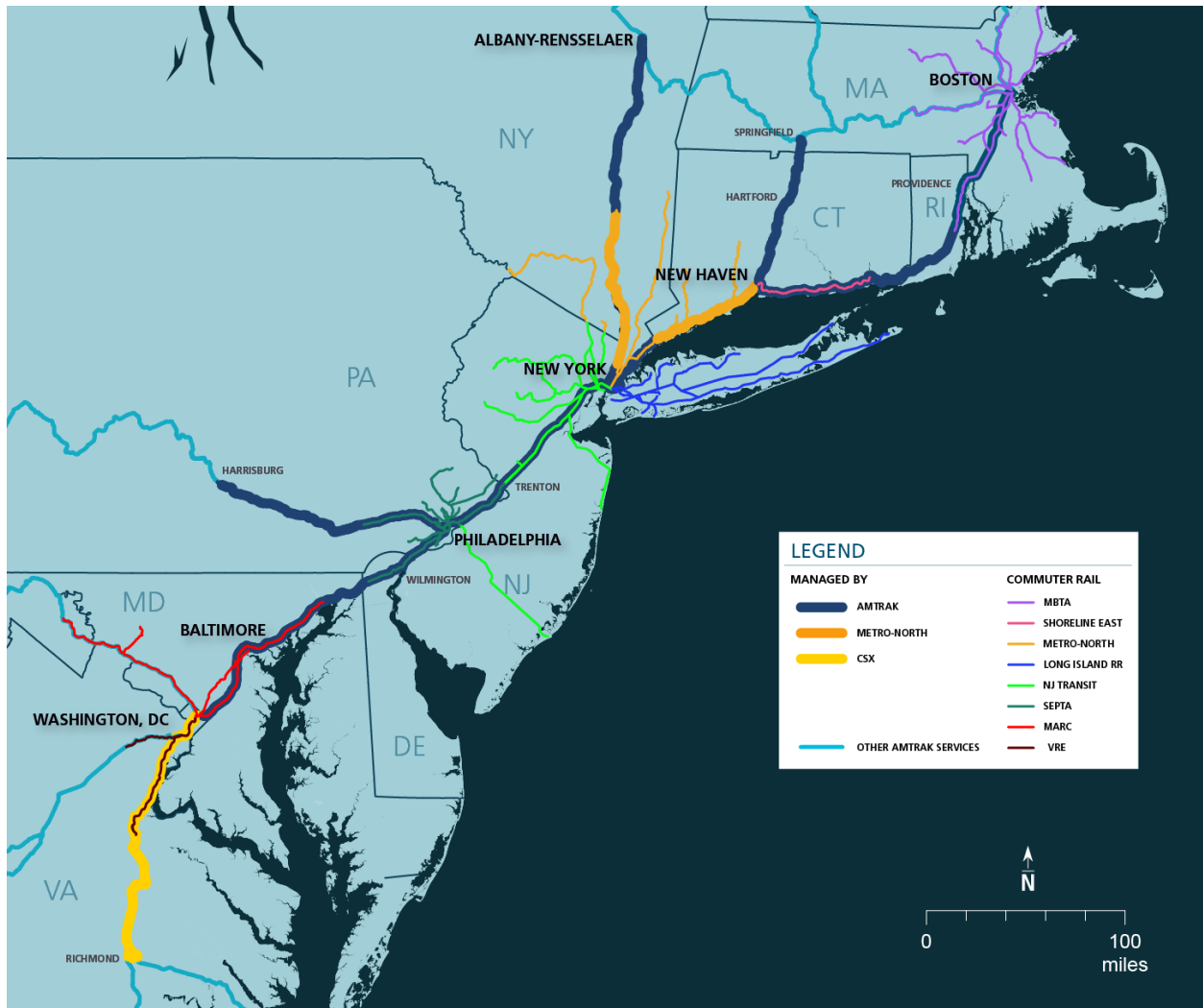


Figure E-37: Owners and Operators in the Northeast Corridor

Source: <http://nec.amtrak.com/content/nec-and-connecting-corridors-map>

The following entities have access to infrastructure agreements in place with Amtrak to support commuter rail service that crosses state lines:

- NJ TRANSIT to provide service between Trenton, NJ and Penn Station in New York, NY; and service between 30th St. in Philadelphia and Atlantic City
- SEPTA to provide service from 30th Street Station in Philadelphia, PA to Trenton, NJ (this agreement also covers SEPTA regional rail service on a portion of Amtrak's Keystone Line)
- VRE to provide service from Manassas and Fredericksburg, VA into Union Station in Washington, DC
- MARC to provide service on all three commuter lines from Perryville and Baltimore, MD and Martinsburg, WV into Union Station in Washington, D.C.

These agreements address topics such as trackage rights, operating rights and windows, services levels and expansion, control of maintenance and dispatching, liability allocation, and construction coordination. In addition to agreements between commuter rail operators and Amtrak, the arrangements between various commuter rail operators and/or states add to the intricacy of the operations on the NEC.

Challenges and Barriers

- The chronic underfunding of the NEC to maintain the current system is combined with a countervailing imperative to expand the network to respond to growing demand.
- Lack of clear direction and priorities for investment of scarce funding, leading to localized benefits from projects without consideration for corridor-wide impacts or needs.
- Competing interests given the multitude of commuter, intercity, and freight uses utilizing the NEC spine hinder stakeholder's ability to identify and reach consensus on key issues and had resulted in questions of equity and parity amongst these entities.
- Oversight relationships and requirements of various USDOT entities result in confusion and inefficiencies for NEC owners and operators, with commuter and intercity rail treated differently under federal law.
- History of the NEC ownership and operation contributes to the complexity of operations, interrelationship among the key participants, and federal reporting.
- Competing demands on the corridor as capacity constraints in many segments of the NEC limit the ability to expand all rail services and provide for equitable balance among the various passenger services, as well as between passenger and freight movements in general.
- A complicated and intricate allocation of risk between owners and operators is often based on the provisions within historic agreements. Liability and indemnity obligations are two of the most contentious issues among parties operating jointly on rail lines.

Lessons Learned

- Establish a common ground emphasizing shared interests, priorities, and vision early among stakeholders.
- Consensus requires patience and relationship-building.
- Some centralization is required to focus and facilitate decision-making.
- Independence and transparency are essential; the NEC Commission needs to be autonomous from Amtrak in order to be viewed as a truly fair broker over the longer term and to build trust for the effective investment of federal and state monies on the Corridor.
- Funds generated by increased commuter railroad and Amtrak financial contributions cannot replace existing federal funding. Rather, a new approach is needed to leverage higher levels of federal, state, local and private investment.
- Synchronize processes and requirements for advancement of projects.

Conceptual Framework Characteristics

Table E.1 shows the entities that support the Planning/Visioning phase in the Northeast Corridor; Table E.2 focuses on multistate agreements in the operations and maintenance (O&M) phase.

Table E.11: Northeast Corridor Efforts for Planning/Visioning

Characteristic	Discussion		
	Amtrak NEC Infrastructure Master Plan Working Group (no longer in place)	NEC Commission	FRA NEC FUTURE
Phase of Project Development	Visioning/Planning	Visioning/Planning	Visioning/Planning
Stakeholders	✓ Amtrak, 12 state DOTs and the District of Columbia, 7 commuter rail operators, 3 freight railroads, NNEPRA, CONEG, and FRA	✓ 8 states and the District of Columbia, USDOT, Amtrak, freight railroads, commuter rail operators	✓ FRA, NEC states and District of Columbia, Amtrak, NEC commuter and freight railroads, federal and state environmental agencies
Institutional Relationships	✓ Voluntary partnership led by Amtrak	✓ Established by the Passenger Rail Investment and Improvement Act of 2008 (PRIIA)	✓ Voluntary participation from stakeholders led by FRA
Identification of Responsibilities	✓ Not governed by any formal processes; rather, the states, stakeholders, and agencies were invited to contribute their own priorities and projects	✓ Charged under PRIIA to facilitate cooperation and integrated planning among the agencies and entities involved in intercity passenger and freight use of the NEC	✓ FRA-driven effort with coordination with other USDOT modal administrators; quarterly meetings with resource agencies in the three project regions
Role of Regulatory Agencies	✓ FRA included in stakeholder group	✓ USDOT has 5 of 18 voting members on board	✓ FRA is the lead agency for environmental study; regular meetings with involved state and federal resource and regulatory agencies
Political Foundation		✓ Established by Congress	✓ Funded through federal appropriation
Why – ‘Compelling Need’?	✓ Creation of NEC master plan that for the first time would capture relevant policy and capital plans from each of the northeast states and District of Columbia involving intercity, passenger and freight project needs in one document	✓ Established to facilitate cooperation and integrate planning among the agencies and entities involved in passenger and freight use of the NEC	✓ Led by FRA, commenced in 2012 at the request of the states in the NEC to formulate a comprehensive, long-term vision and rail investment program through 2040
Decision-making Process		✓ Meet at least 4 times per year; votes by voting members	
Corridor Ownership	✓ Majority of corridor owned by Amtrak; portions owned by New York, Connecticut, and Massachusetts	✓ Majority of corridor owned by Amtrak; portions owned by New York, Connecticut, and Massachusetts	✓ Majority of corridor owned by Amtrak; portions owned by New York, Connecticut, and Massachusetts
Lead Agencies/Groups	✓ Amtrak	✓ Board includes representation from 8 states, DC, Amtrak, USDOT, 4 freight railroads, states connecting to NEC, 6 commuter rail operators	✓ FRA; FTA cooperating agency; close coordination with NEC Commission and railroad stakeholders
Legal Authority	✓ Under Amtrak's purview	✓ US Code Title 49, Subtitle V, Part C, Chapter 249	✓ Under FRA's purview; NEPA
Cost Sharing		✓ Members serve without pay; Cost Allocation Committee developing policy	

Characteristic	Discussion		
	Amtrak NEC Infrastructure Master Plan Working Group (no longer in place)	NEC Commission	FRA NEC FUTURE
		for NEC overall	
Funding Sources	✓ Amtrak's budget	✓ Congressional appropriations	✓ Federally funded
Interaction with Others	✓ Participation and input from rail stakeholders to develop Plan document	✓ Interaction with other stakeholders as part of ongoing NEC Commission meetings	✓ Extensive interaction with NEC Commission and its members and with Federal and state resource agencies
Oversight		✓ USDOT is voting member; Congress	✓ No official advisory group; large amount of coordination already taking place with NEC Commission and other stakeholders.
Interoperability Standards			✓ Interoperability a key requirement of the Purpose & Need
Relationship with Host Railroad or Other Providers of Service	✓ Part of stakeholder group	✓ Collaborative involvement with Amtrak and other railroads with locally-owned portions of the NEC in New York, Connecticut and Massachusetts	✓ Part of stakeholder group
Revenue Sharing		✓ Cost Allocation Committee developing formula to determine allocation of revenues for activities aside from operations	
Liability Issues		✓ Cost Allocation Committee developing potential strategies.	
Procurement	✓ Amtrak procured consultant support for production of deliverable	✓ Can directly contract for consultant support as needed	✓ FRA procured consultant support
Contractual Arrangements		✓ Non-disclosure agreements are anticipated, with the cost allocation policy likely included as an amendment incorporated into existing access and service agreements.	

Table E.12: Northeast Corridor Multistate O&M Agreements

Characteristic	Discussion		
	Metro-North Railroad Service on New Haven Line	Metro-North Railroad Service West of the Hudson River	SEPTA Service to Wilmington/Newark, Delaware
Phase of Project Development	Operations & Maintenance	Operations & Maintenance	Operations & Maintenance
Stakeholders	✓ Connecticut DOT, Metropolitan Transportation Authority, and Metro-North Railroad	✓ NJ TRANSIT, Metro-North Railroad	✓ Southeastern Pennsylvania Transportation Authority, Delaware Transit Corporation
Institutional Relationships	✓ Modification of legacy agreement from historical operation prior service by Penn Central and Conrail.	✓ New agreement with renewable term superseding prior agreement between the entities to provide service on the Port Jervis and Pascack Valley Lines.	✓ Replaces prior agreements dating back to 1989
Identification of Responsibilities	<p>✓ <i>ConnDOT</i>: payment of operating deficits; acquisition of non-moveable capital assets; moveable capital assets</p> <p><i>NY MTA</i>: payment of operating deficits; management of capital improvements and capital asset projects.</p> <p><i>MNR</i>: day-to-day operation of service; fare collection; annual budget process (lead)</p> <p><i>All</i>: capital asset acquisition; amendments to service schedule, consists; allocation and payment of capital costs (depending on state in which operated)</p>	<p>✓ <i>NJ TRANSIT</i>: operation of service; provision of vehicles; maintenance and cleaning of vehicles; emergency repairs of vehicles; recommendations to MNR for major overhauls/ remanufacture of equipment; equipment and facility maintenance; station maintenance, including Suffern, NY; public address and visual information systems, ticket vending machines at NY State stations; <i>MNR</i>: requests for changes in service; maintenance of the right-of-way and facilities beyond the end of NJ TRANSIT ownership; maintenance and operation of other NY stations along the lines; fare policy.</p> <p><i>Both</i>: quarterly meetings to review operations, finances, and other matters related to service</p>	<p>✓ <i>SEPTA</i>: coordination of operating plan and operating assumptions for additional rail service; management and operation of rail service; vehicle maintenance and storage; adjustment of frequency, consists, and schedules of trains operated.</p> <p>Delaware Transit Corporation (DTC): access to and use of NEC; personal injury and property damage claims for which it is responsible; operation of at least one sales location in Delaware; coordination of bus operations to serve passenger rail stations to the extent possible</p> <p><i>Both</i>: programmed adjustments to operations south of Marcus Hook, PA; mutual agreement that SEPTA is the operator of record for train service south into DE and that SEPTA is entitled to all federal funding attributable to train service between PA and Wilmington, DE</p>
Role of Regulatory Agencies	✓ Subject to requirements of the Federal Transit Administration (FTA) for financial and technical assistance; the FRA enforces rail safety and consolidates government support for the rehabilitation of the NEC.	✓ Subject to requirements FTA for financial and technical assistance; FRA enforces rail safety and consolidates government support for the rehabilitation of the NEC.	✓ Subject to FTA requirements for financial and technical assistance; FRA enforces rail safety and consolidates government support for the rehabilitation of the NEC.
Why – ‘Compelling Need’?	✓ Agreement established after divestiture of Conrail’s service	✓ MNR assumed responsibility for operating	✓ Need to extend commuter rail service into Delaware

Characteristic	Discussion		
	Metro-North Railroad Service on New Haven Line	Metro-North Railroad Service West of the Hudson River	SEPTA Service to Wilmington/Newark, Delaware
		services west of Hudson and north of New Jersey state line following divestiture of Conrail's services but contracted services to NJ TRANSIT since was physically connected to NJ TRANSIT lines	
Decision-making Process	✓ Joint among CTDOT, NY MTA and MNR depending on topic.	✓ Joint between NJ TRANSIT and MNR depending on topic.	✓ Joint between SEPTA and DTC depending on topic.
Corridor Ownership	✓ Owned by New York (MNR) and Connecticut	✓ Norfolk Southern	✓ Amtrak
Lead Agencies/Groups	✓ State of Connecticut, NY MTA and MNR	✓ NJ TRANSIT and MNR	✓ SEPTA and DTC
Legal Authority	✓ Service Agreement dated June 21, 1985	✓ Agreement for Operation dated July 27, 2005	✓ An Agreement Between SEPTA and DTC for the Provision of Delaware Regional Rail Service, November 1, 2002
Cost Sharing	✓ Costs borne by entities in reasonable proportion to the segment or asset located in each state.	✓ Compensation paid via monthly service payment from MNR to NJ TRANSIT	✓ DTC responsible for all costs incurred in provision of service; SEPTA reimbursed by DTC for operating deficits resulting from actual services performed; DTC credited by SEPTA for the transport of passengers whose trips originate or terminate in DE.
Operating Standards	✓ Joint one-time comprehensive review of the service in an effort to improve the efficiency of the service.	✓ On-time performance.	✓ SEPTA responsible to provide service in a manner and with equipment consistent with the same general standard utilized throughout its transportation system.
Oversight	✓ FRA provides safety oversight, not specified in agreement	✓ FRA provides safety oversight, not specified in agreement	✓ FRA provides safety oversight, not specified in agreement
Relationship with Host Railroad or Other Providers of Service		✓ MNR maintains separate leasing agreement with Norfolk Southern for tracks	✓ DTC maintains an MOU with Amtrak to address access, rate structures and indemnification and approving SEPTA as DTC's operating contractor
Marketing & Customer Service	✓ Not explicitly stated in agreement but MNR's purview as operator	✓ Not explicitly stated in agreement but NJ TRANSIT's purview as operator	✓ Not explicitly stated in agreement but SEPTA's purview as operator
Service Standards		✓ Condition of train restrooms, car interior cleanliness, car heating/AC, consist management.	✓ SEPTA responsible to provide service in a manner and with equipment consistent with the same general standard utilized throughout its transportation

Characteristic	Discussion		
	Metro-North Railroad Service on New Haven Line	Metro-North Railroad Service West of the Hudson River	SEPTA Service to Wilmington/Newark, Delaware
			system.
Revenue Sharing	✓ MNR maintains chart of accounts to reflect costs and revenues; discussion of service revenues, service costs, and operating deficits.	✓ MNR payments to NJ TRANSIT for provision of service; additional contribution by MNR for capital improvements.	✓ SEPTA charges DTC for service, with rates to be examined annually and adjusted based on the Association of American Railroads Annual Indexes of Charge Out Prices and Wage Rates East; DTC credited by SEPTA for the transport of passengers whose trips originate or terminate in DE.
Liability Issues	✓ Liability of Metro-North governed by terms of agreements, if any, with the carrier, and the service shall bear its proportionate share of such liability as such costs are allocated to the service.	✓ Liability and indemnification provisions for employee liability, passenger liability, third party liability applicable to operations specified in agreement.	✓ DTC agrees to indemnify, defend and save harmless SEPTA from and against any liability, loss or expense for any loss or damage to SEPTA's property, arising out of or related to the provision of service by SEPTA as part of the agreement south of Marcus Hook PA and points within the States of DE and/or MD; SEPTA is extended the sovereign immunity of the State of DE and DTC.
Procurement	✓ CTDOT: acquisition of non-moveable capital assets; moveable capital assets.	✓ NJ Transit procures its own vehicles. Not covered in agreement.	✓ Separate agreement between SEPTA and DTC for purchase of 4 Silverliner V vehicles as part of contract option with manufacturer to provide additional service to DE, 2007.
Contractual Arrangements	✓ Specified in service agreement through effective date, term, renewal, termination rights and procedures upon termination.	✓ Specified in service agreement through effective date, term, renewal, termination rights and procedures upon termination.	✓ Specified in service agreement through effective date, term, renewal, termination rights and procedures upon termination.

Note that in addition to the stakeholders listed in the tables, two coalitions support the advancement of the NEC: I-95 Corridor Coalition, a partnership of transportation agencies and related organizations mainly located in the 16 states that I-95 traverses, along with affiliated members in adjacent Canadian provinces, and the Coalition of Northeast Governors, a non-partisan association of Governors from seven northeastern states that addresses a broad range of issues of regional importance.

E.1 Introduction

The objective of NCRRP 07-02 is to consider practical models for multistate institutional arrangements for developing and providing intercity passenger rail networks and services. Different institutional models can be applied to a variety of service and infrastructure sectors, addressing their unique characteristics and challenges. This case study examines the distinguishing aspects of the Northeast Corridor, including its long history as a multi-use rail corridor, and then focuses on the various existing arrangements to in the provision of service and longer term efforts underway to advance the Corridor - in terms of bringing the Corridor to a state of good repair and also looking ahead at what is needed to best support a high-performance rail network in the future. The roles of states, commuter rail agencies, the U.S. Department of Transportation, Amtrak and other entities and institutions are also described. The case study concludes with a discussion of a wide range of the challenges faced in improving the Corridor and how these various entities are working together to address them.

E.2 Description and History of the NEC

Extending across eight states (Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, and Maryland) and the District of Columbia, the Northeast Corridor (NEC) is a critical part of the transportation infrastructure in the U.S. By a wide margin, the NEC is the busiest passenger rail corridor in the U.S. serving approximately 11.6 million riders during FY 2014 on more than 2,000 passenger trains daily. It is a strong economic driver, supporting more than \$50 billion annually in the nation's economy.⁷⁵ The spine of the NEC is a fully electrified railway line owned primarily by Amtrak from Boston, via New York and Philadelphia, to Washington, D.C., with several branches. This spine, which closely parallels Interstate 95 for most of its length, is the busiest passenger rail line in the U.S. by ridership and service frequency.

An Era of Profitability Followed By Decline

While the current NEC rail spine was built by a number of different companies, the majority of it was owned by two companies between the 1830s and 1917: the New York, New Haven and Hartford Railroad (NYNH&H) owned the section from Boston to New York, and the Pennsylvania Railroad owned the section from New York to Washington. The Pennsylvania Railroad then merged with its former rival, the New York Central Railroad in 1968 to form the Penn Central Transportation Company. This new company was required to acquire the NYNH&H as a condition of merger approval in 1969, bringing the whole Washington-Boston corridor under control of one company. By the 1970s, profitability for both passenger and freight rail in the U.S. had been declining for over 20 years and major railroads were entering bankruptcy, including Penn Central. In response, the U.S. government passed several key pieces of legislation to salvage viable passenger and freight rail operations.

Government Intervention

The **Rail Passenger Service Act of 1970 (RPSA)** authorized creation of the National Railroad Passenger Corporation (Amtrak), a government-owned corporation, to own, manage, operate, or contract for the operation of intercity passenger rail service and to carry mail and express freight using such service. The

⁷⁵ The Northeast Corridor and the American Economy, April 2014/ Accessed from, <http://www.nec-commission.com/reports/nec-and-american-economy/>

RPSA also enabled Amtrak to conduct research and development related to its mission, and to acquire by construction, purchase, use-contract, or gift; physical facilities, equipment, and devices necessary to rail passenger operations. When it was created, Amtrak assumed the obligations of 20 private railroads to provide intercity rail passenger service in the U.S. It was anticipated that after a startup period financed by a Federal loan, the national passenger service would evolve to a state of self-sufficiency. Amtrak began operations on May 1, 1971, with the first train operating on the NEC between Philadelphia and New York.

In mid-1973, the bankrupt Penn Central threatened to liquidate and cease all operations by the end of the year if it did not receive federal aid. To avert a shutdown of Penn Central, and potentially six other unprofitable railroads across the Northeast and Midwest, the 1973 **Regional Rail Reorganization (3R Act)** to reorganize the railroads in the Northeast (and Midwest) into a system which, it was hoped, could provide adequate, efficient and profitable rail freight service. The 3R Act established the **United States Railway Association (USRA)** as a temporary government-owned nonprofit corporation tasked with settling suits involving seven bankrupt rail carriers and overseeing their subsequent consolidation into the Consolidated Rail Corporation (Conrail). Under the 3R act, there was also a 900-day option period, during which states were able to buy assets useful for commuter service operations from Amtrak and Conrail. This option was used by NJ TRANSIT to purchase several lines from Conrail and certain commuter-only station facilities on the NEC from Amtrak.⁷⁶ USRA created a Final System Plan that outlined the operational reorganization of rail service in the Northeast and the Midwest, the consolidation of the seven bankrupt railroads into Conrail, and the oversight mechanisms by the Federal Government to ensure Conrail profitability. Conrail began operations in 1976 as a for-profit corporation with heavy federal oversight and federal ownership of the majority of its stock.

The Role of States

Concurrent with action by the federal government, several states along the NEC took a direct role in preserving passenger rail service and establishing the foundation for the passenger rail services in place today. The New York Metropolitan Transportation Authority (NY MTA) and the Connecticut Department of Transportation (ConnDOT) collectively completed the purchase of the New Haven Line from New Rochelle to the Connecticut state border (NY MTA) and from the Connecticut state border to New Haven (ConnDOT) in 1971. NY MTA also purchased the entirety of the Long Island Rail Road from the Pennsylvania Railroad in 1966.⁷⁷ The Massachusetts Bay Transportation Authority (MBTA) purchased the rail line from the Massachusetts state border to Boston South Station in 1973.

Additional Federal Intervention

Three subsequent federal acts were intended to increase the general economic viability of railroads and improve the long term prospects for Conrail profitability: the **Railroad Revitalization and Regulatory Reform Act (4R Act)** of 1976, the **Staggers Rail Act of 1980**, and the **Northeast Rail Service Act of 1981**

⁷⁶ New Jersey State Rail Plan, December 2012, <http://www.state.nj.us/transportation/freight/rail/pdf/finaldraftnjstaterailplan122012.pdf> (accessed 14 Nov 2014)

⁷⁷ NYMTC Regional Freight Plan Update 2015-2040 Interim Plan, Task 2.1.2 Rail Network and Infrastructure, January 2014, http://www.nymtc.org/files/RTP_PLAN_2040_docs/Public%20Review%20Drafts/Freight%20Modal%20Reports/TM2-1-2_NYMTC_Rail%20Network_FINAL082813resptocomment.pdf (accessed 14 Nov 2014)

(NERSA). The 4R Act approved and implemented the Final System Plan for Conrail and provided transitional operating funds for Conrail following the Penn Central bankruptcy. This landmark act also authorized the sale or lease to Amtrak of all rail properties designated as part of the Final System Plan for the NEC, providing the legal basis for Amtrak to acquire the majority of the 457 miles in the NEC formerly owned by independent railroads.⁷⁸ It set into motion the Northeast Corridor Improvement Project, a five-year plan for upgrading the entire right-of-way between Washington and Boston with the goal of reducing trip times and maximizing speed. The Staggers Act significantly deregulated the American railroad industry by giving railroads more freedom to compete with trucks. NERSA transferred the burden of operating unprofitable commuter rail service from Conrail to state agencies effective January 1, 1983.⁷⁹ NERSA also required the U.S. Department of Transportation to sell Conrail if it became profitable.

The divestiture of Conrail's commuter rail services under NERSA laid the groundwork for state and local government entities to assume control of passenger rail operations. NERSA authorized commuter authorities, State, local, or regional transportation authorities to negotiate with Conrail for the transfer of commuter services operated by Conrail. Services not assumed by individual states would be transferred to Amtrak. By midsummer 1982, each state had elected to provide commuter services, and commuter service employees and, in some cases assets, for each state were transferred from Conrail to new entities: Metro-North Railroad in New York (and Connecticut), New Jersey Transit Rail Operations in New Jersey, and SEPTA's Regional Rail Division in Pennsylvania.⁸⁰ In Massachusetts, MBTA had previously purchased the commuter rail lines south and west of Boston and completed the acquisition of the Boston & Main Railroad (B&M) rail lines north and west of Boston in 1976. Conrail only operated a portion of commuter rail services in Massachusetts and following NERSA, MBTA assumed responsibility for contracting out its continued operations.

A Return to Profitability

Conrail indeed turned profitable in the 1980s; the federal government concluded its financial assistance in 1981, when Conrail reached its first year of profitability and generated a net income of \$39 million.⁸¹ In 1986, the Conrail Privatization Act was signed, authorizing a public stock offering to return Conrail to the private sector. In 1987 the federal government sold all of its shares to the public. Subsequently, Norfolk Southern Corporation (NS) and CSX Transportation (CSXT) jointly purchased Conrail assets in 1998 and restructured the corporation. Today, CSXT and NS operate approximately 70 freight trains each day on the NEC, with most freight operations relegated to the overnight hours.⁸² In addition, the Providence and Worcester Railroad operates daylight local freight service on the NEC primarily between New Haven and Central Falls (near Attleboro, MA).

⁷⁸ Amtrak Year-by-Year: 1976/Accessed from, <http://history.amtrak.com/blogs/blog/amtrak-year-by-year-1976>

⁷⁹ Federal: 45 U.S. Code Chapter 20 – Northeast Rail Service, no date, Accessed from, <http://www.law.cornell.edu/uscode/text/45/chapter-20>

⁸⁰ New Jersey State Rail Plan, December 2012,

<http://www.state.nj.us/transportation/freight/rail/pdf/finaldraftnjstaterailplan122012.pdf> (accessed 14 Nov 2014)

⁸¹ CBO Report on the Economic Viability of Conrail, 1986. <http://www.cbo.gov/ftpdocs/50xx/doc5016/doc22c.pdf>

⁸² Source: <http://www.northeastallianceforrail.org/corridor/>

Current Operations

The complex structure of the NEC as it stands today is a byproduct of these various legislative acts to salvage passenger rail and freight operations following the decline of the private railroad industry in the mid-20th century. Passenger rail services are operated by Amtrak and eight commuter railroads with overlapping routes throughout the NEC. The relationship among Amtrak, the states it serves in the Northeast, and the various commuter rail operators who operate on and off Amtrak track is also complex, and varies state-by-state. NEC mainline tracks are owned primarily by Amtrak, with portions also owned by the states of Massachusetts and Connecticut and the NY MTA. Two Class I freight railroads and one shortline railroad provide freight service.

Progressing from an era of two legacy owners and deeply competing interests, to the near-collapse of the private systems and passenger rail in particular, to government assuming control and the private entities stepping away, the NEC is unique in terms of its long history of providing passenger rail service and supporting regional growth in the U.S. This fragmented ownership combined with decades of insufficient investment in the Corridor's infrastructure has resulted in a large backlog of deferred capital needs that increasingly impact system reliability. What was never resolved in this fragmented ownership and oversight was how to address conflict and share potential opportunities for improvements to intercity and commuter rail.⁸³ This case study addresses this challenge.

The various participants in the NEC and their roles are described in the next section.

E.3 Northeast Corridor Passenger Rail Participants

Within an area as geographically large and institutionally complex as the NEC, both formal (groups enabled by legislation) and informal (voluntary) groups have been established to address critical needs for operating, maintaining and improving the infrastructure in the region as well as advancing a shared vision for the future. The key participants in corridor governance are presented in the following categories: operators, freight railroads, states and other entities that address regional multistate transportation issues in the Northeast.

It should be noted that there are other entities, such as the I-95 Coalition and the Coalition of Northeastern Governors, that provide forums for addressing regional transportation issues. More detail on these entities is provided in the Section, "Other NEC Participants".

E.3.1 Northeast Corridor Passenger Rail Operators

A large number of railroads operate on the Northeast Corridor—including Amtrak, eight commuter railroads, two Class I freight railroads, one contract local carrier, and one shortline railroad—resulting in high levels of activity in the corridor. Of the 2,000 daily passenger trains operating on the Northeast Corridor, 1,840 of them are commuter trains and the rest are intercity regional or long-distance service operated by Amtrak. For the most part, Amtrak retains the responsibility for infrastructure maintenance and improvement. Table E.3 shows the daily ridership numbers for NEC rail passengers by operator (see Figure E-1 for the different operating entities along the NEC).

⁸³ Personal conversation, Mort Downey, September 10, 2014.

Table E.13: Northeast Corridor Daily Trains and Average Daily Ridership

Railroad	Daily Trains (2012)	Daily Ridership (2012)
Amtrak	160	35,800
Massachusetts Bay Transportation Authority (MBTA)	283	86,000
Shore Line East (SLE)	27	2,200
Metro-North Railroad (MNR)	285	112,000
Long Island Railroad (LIRR)	473	230,000
NJ TRANSIT (NJT)	410	214,000
Southeastern Pennsylvania Transportation Authority (SEPTA)	241	32,000
Maryland Area Regional Commuter (MARC)	91	34,000
Virginia Railway Express (VRE)	30	4,000
Total	2,000	750,000

Source: State of the Northeast Corridor Region Transportation System Summary Report February 2014, Northeast

Amtrak

A federally-chartered corporation, Amtrak's Board is appointed by the President of the United States and confirmed by the U.S. Senate (except for the Amtrak President and CEO who is appointed by the President, but is not confirmed by the Senate). It was originally established as a nominally for-profit company and today is considered a mixed-ownership corporation incorporated under District of Columbia law.⁸⁴

As discussed earlier, Amtrak owns most of the NEC corridor mainline track. Of the 457 rail miles of the main spine, 363 of them are owned by Amtrak as well as the lines for the Harrisburg and Springfield service and segments of the Albany line (leasing portions from CSXT). The rest of the main line in the northern part of the corridor is owned by NY MTA (10 miles), ConnDOT (46 miles) and MBTA (38 miles).⁸⁵

Amtrak currently operates contract commuter service for Maryland Area Regional Commuter (MARC) services as well as with the Shore Line East in Connecticut. Amtrak also provides maintenance-of-way and dispatching for the Massachusetts Bay Transportation Authority and minor mechanical, cleaning and storage services for Virginia Railway Express and New Jersey Transit at certain terminals. Amtrak provides access for eight agencies operating on the Northeast Corridor:⁸⁶

- Long Island Rail Road

⁸⁴ Amtrak National Fact Sheet FY2013 / Accessed from, <http://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&cid=1246041980246>

⁸⁵ The Northeast Corridor Infrastructure Master Plan, 2010 / Accessed from, <http://www.amtrak.com/ccurl/870/270/Northeast-Corridor-Infrastructure-Master-Plan.pdf>

⁸⁶ Amtrak National Fact Sheet FY2013 / Accessed from, <http://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&cid=1246041980246>

- NJ TRANSIT
- Shore Line East
- Southeastern Pennsylvania Transportation Authority (SEPTA)
- Delaware Department of Transportation (operated by SEPTA)
- Massachusetts Bay Transportation Authority (MBTA)
- Rhode Island Department of Transportation (operated by MBTA)
- Virginia Railway Express

These eight commuter agencies make payments to Amtrak for use of the Northeast Corridor facilities by commuter trains. These agencies also provide other funding for the NEC, including capital funds for infrastructure and/or stations. Finally, Amtrak has agreements for access to the locally-owned portions of the NEC in New York, Connecticut and Massachusetts for the operation of Amtrak trains over these lines. Notably, Amtrak's NEC trains generate a significant operating surplus (exclusive of the cost to build and maintain the right-of-way) and provide a compelling alternative to air and automobile travel because of the density of population and the capacity constraints of both air and automobile travel in the region.⁸⁷

Massachusetts Bay Transportation Authority (MBTA)

The MBTA was formed in 1964 as a political subdivision of the Commonwealth of Massachusetts. In 2009 it was placed within the Mass Transit Division of the newly created MassDOT. MBTA retains its separate legal status as a public authority and corporate structure. MBTA and MassDOT share a seven-member, Governor-appointed board of directors.

In terms of daily ridership, the MBTA is the nation's fifth largest mass transit system. To carry out its mission, the MBTA maintains 183 bus routes, including two Bus Rapid Transit lines, three rapid transit lines, five light rail (Central Subway/Green Line) routes, four trackless trolley lines, and 13 commuter rail routes.⁸⁸ The MBTA-owned Attleboro Line supports both Boston, MA to Wickford Junction, RI commuter rail service as well as Amtrak intercity service. The tracks between Boston South Station and the Rhode Island border are owned by the MBTA, which also runs commuter service along the line. Most of these were once run under contract to Amtrak, but a private operator has succeeded to that contract. Approximately 56 Amtrak trains operate in Massachusetts daily, which includes Acela Express, Northeast Regional and New Haven-Springfield shuttles.⁸⁹

Metro-North Railroad (MNR)

Metro-North Railroad (MNR) operates commuter rail service in the New York metropolitan area as a subsidiary of NY MTA, a public benefit corporation responsible for public transportation in the New York metropolitan area governed by a 17-member board. While NY MTA receives a portion of its funding for commuter rail from NYSDOT, they have minimal influence and impact on NY MTA's operations. MNR

⁸⁷ Congressional Budget Office, The Past and Future of U.S. Passenger Rail Service, September 2003 / Accessed from, <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/45xx/doc4571/09-26-passengerrail.pdf>

⁸⁸ Massachusetts Bay Transportation Authority, About MBTA, History/ Accessed from http://www.mbta.com/about_the_mbta/history/default.asp?id=970

⁸⁹ Amtrak Fact Sheet, Fiscal Year 2013, State of Massachusetts/ Accessed from

serves 120 stations distributed in seven counties in New York State as well as two counties in the State of Connecticut. Service to New Haven, CT and points west of the Hudson River is provided through agreements with Connecticut DOT (ConnDOT) and NJ TRANSIT, respectively. The New Haven Line from New Haven to Grand Central Station is the busiest segment of the NEC. MNR carried 39 million passengers on the New Haven Line in 2012.⁹⁰

Long Island Rail Road (LIRR)

The Long Island Rail Road (LIRR) is one of the largest commuter rail providers in the U.S., operating 735 trains per day that carry on average 301,000 passengers. It is a subsidiary of the NY MTA. There are 124 stations that serve areas in Nassau, Suffolk, Queens, Brooklyn, and Manhattan with most trains terminating or originating at Penn Station in Manhattan. Similar to MNR, LIRR also receives state funding via NY MTA, with a similar absence of a relationship between the state and the operating entity. One of the current major upgrades to infrastructure is the East Side Access Project, which would allow LIRR service to have direct access to the east side of Manhattan.⁹¹ Reconfiguration of Sunnyside Yard in Queens, which is owned by Amtrak and shared with LIRR and NJ TRANSIT, is planned to help alleviate some of the congestion in the yard.⁹²

New Jersey Transit (NJ TRANSIT)

NJ TRANSIT is New Jersey's statewide public transportation agency governed by a seven- member Board of Directors appointed by the Governor with the Commissioner of the New Jersey Department of Transportation as the Chairman. It provides bus, rail and light rail service in New Jersey, as well as New York City and Philadelphia. Created by the Public Transportation Act of 1979, NJ TRANSIT, as an instrumentality of the State, was established to "acquire, operate and contract for transportation service in the public interest."

NJ TRANSIT provides nearly 223 million passenger trips each year with its fleet of 2,027 buses, 711 trains and 45 light rail vehicles.⁹³ In FY 2014, there were over 295,000 average weekday unlinked passenger trips on the NJ TRANSIT rail network.⁹⁴ Approximately 80 percent of these trips use some portion of the NEC. NJ TRANSIT utilizes Amtrak's NEC facilities through contracts to provide several of its commuter rail services. NJ TRANSIT noted that they are currently advancing the Portal Bridge project on the NEC using their own staff, and are not providing funding to Amtrak to do so.⁹⁵

Southeastern Pennsylvania Transportation Authority (SEPTA)

The Pennsylvania General Assembly established the Southeastern Pennsylvania Transportation Authority (SEPTA) in 1964 to provide public transportation services for Bucks, Chester, Delaware, Montgomery, and Philadelphia counties. SEPTA services also extend into the State of Delaware

⁹⁰ Regional Plan Association, Getting Back on Track: Unlocking the Full Potential of the New Haven Line, Jan 2014 / Accessed from, <http://library.rpa.org/pdf/RPA-Getting-Back-on-Track.pdf>

⁹¹ Long Island Rail Road, General Information, Accessed from, <http://web.mta.info/lirr/about/GeneralInformation/>

⁹² The Amtrak Vision for the Northeast Corridor, 2012 Update Report / Accessed from, <http://www.amtrak.com/ccurl/453/325/Amtrak-Vision-for-the-Northeast-Corridor.pdf>

⁹³ New Jersey Transit, About Us/Accessed from, http://www.njtransit.com/tm/tm_servlet.srv?hdnPageAction=CorpInfoTo

⁹⁴ New Jersey Transit Facts at a Glance/Accessed from, <http://www.njtransit.com/pdf/FactsAtaGlance.pdf>

⁹⁵ Personal conversation, Rich Roberts, October 8, 2014

(operated under contract for the Delaware Transit Corporation) and New Jersey on its Trenton and West Trenton Lines. Several of SEPTA's commuter lines utilize the NEC including the Trenton and the Wilmington/Newark Lines for a significant portion of their routes; the Chestnut Hill West and Airport lines run small segments of their routes on the NEC and are thus subject to interface with Amtrak operations. In addition, the Paoli/Thorndale Line runs on a portion of Amtrak's Keystone Corridor, a branch line of the NEC between Philadelphia and Harrisburg. The Paoli/Thorndale Line along with the Cynwyd Line, interface with the NEC for a very small distance at Zoo Interlocking.

Maryland Area Regional Commuter (MARC)

MARC provides the commuter rail system that serves areas in Harford County, Maryland; Baltimore City; Washington, D.C.; Brunswick, Maryland; Frederick, Maryland; and Martinsburg, West Virginia. The trains only operate during the weekdays except on the Penn Line, which also operates weekends.⁹⁶ The Penn Line runs on the NEC on tracks owned by Amtrak and these trains are Amtrak-operated. There are about 24,000 daily passenger trips on the Penn Line. There is a potential scenario in the MARC Growth and Investment Plan from 2013 for the Penn Line to extend to Elkton, Maryland near the Delaware border providing a closer commuter rail connection to SEPTA in Newark, Delaware. Currently the line ends in Perryville, Maryland and does not extend into Cecil County, Maryland.⁹⁷ MARC trains operate into Washington's Union Station, a major Amtrak destination point and which is a 501c3 nonprofit chartered organization in the District of Columbia.

Virginia Railway Express (VRE)

The Virginia Railway Express (VRE) is a joint venture of the Northern Virginia Transportation Commission and the Potomac and Rappahannock Transportation Commission providing passenger rail service in Northern Virginia on two lines. Both of the lines run to Washington D.C. Union Station providing an opportunity to connect with the main spine of the NEC. The Manassas line runs from Broad Run/Airport near the I-66 corridor, and the Fredericksburg line runs from Fredericksburg, VA along the I-95 Corridor. There are 30 trains daily that carry approximately 20,000 passengers with plans to continue to increase service and add an extension on the Manassas line to Gainesville-Haymarket.⁹⁸

E.3.2 Freight Railroads

The NEC provides access for approximately 14 million car-miles of freight per year.⁹⁹ Two Class I railroads operate on portions of the NEC through trackage rights. The **Norfolk Southern Railway (NS)** operates on the corridor generally south of Philadelphia. **CSX Transportation (CSXT)** has operating rights from New York to New Haven, on NEC tracks in Massachusetts, and in Maryland from Landover to Bowie. As a terminal and switching agent for its owners, NS and CSXT, **Conrail** operates between Philadelphia and New York in a shared asset area that encompasses North Jersey and South Jersey/Philadelphia (as well as a separate shared asset area in Detroit, MI). The **Providence and Worcester Railroad** operates local freight service from New Haven to Rhode Island and has incidental

⁹⁶ Maryland Transit Administration, MARC Train / Accessed from, <http://mta.maryland.gov/marc-train>

⁹⁷ MARC, Growth and Investment Plan Update 2013-2050, 2013/ Accessed from, http://mta.maryland.gov/sites/default/files/mgip_update_2013-09-13.pdf

⁹⁸ VRE, About/Company/Accessed from, <http://www.vre.org/about/company.html>

⁹⁹ Northeast Corridor Infrastructure and Operations Advisory Commission, State of the Northeast Corridor Region Transportation System Summary Report February 2014.

trackage rights from New Haven to New York which allow it to operate on these tracks but not serve local customers. Generally, freight trains carry a variety of commodities and general merchandise and operate during designated operating windows, often at night or with short-distance daytime runs.¹⁰⁰

Figure E-2 illustrates the freight trackage rights on the Northeast Corridor and the freight railroads interface with the surrounding region.

E.3.3 Northeast Corridor States

With eight states plus the District of Columbia served by the Northeast Corridor, there is varying, but on the whole, strong interest by the respective State Departments of Transportation to improve the quality and quantity of service on the NEC for their residents, visitors, and employees. At the same time, recent legislation makes each of the NEC commuter rail authorities (many of which are state entities) and Amtrak, when using the assets of such commuter authorities, responsible for their fully allocated share of the NEC capital and operating costs. As a result, the states, commuter rail authorities and Amtrak are

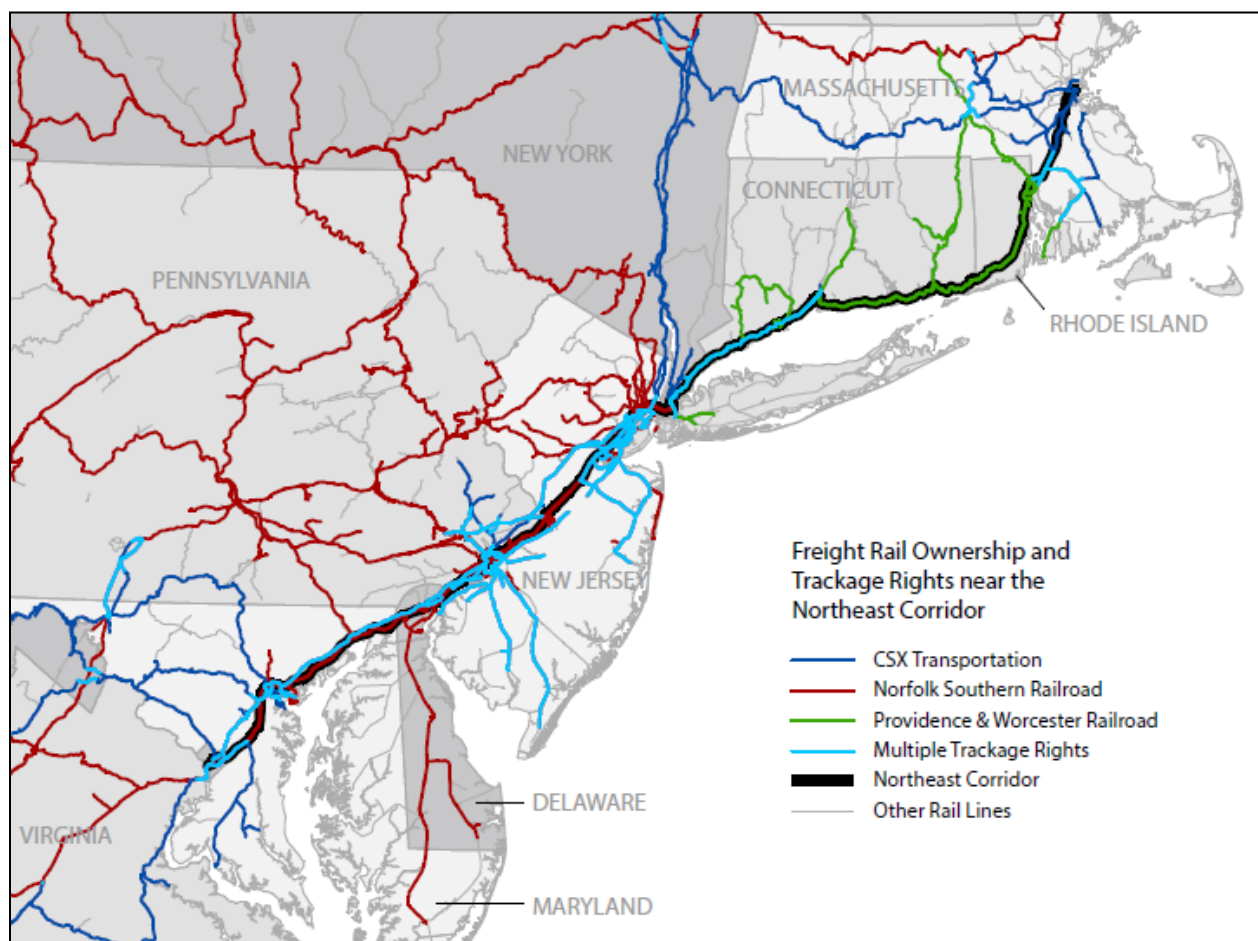


Figure E-2: Freight Rail Network and Trackage Rights on the Northeast Corridor

Source: National Transportation Atlas Database

¹⁰⁰ *ibid*

expected to become more familiar and more closely scrutinize NEC expenses and investments they must now share in funding. Additionally, each of these entities is likely to seek a greater role in the respective planning and implementation of work on the NEC. Brief overviews of these state entities and their rail functions follow.

Massachusetts Department of Transportation

The transportation system for the Commonwealth of Massachusetts is administered under the Massachusetts Department of Transportation (MassDOT). Promoting rail services that maintain economic well-being and preserving the environment are specific requirements for MassDOT under Chapter 161C of the General Laws. The Rail & Transit Division of MassDOT is responsible for all transit, freight and intercity rail initiatives and oversees the MBTA and all Regional Transit Authorities in the Commonwealth.

MassDOT has been has recently been investing in several initiatives to improve rail service in New England and provide connections to the major cities as well as smaller cities and rural areas. This includes an upgrade of the Inland Route corridor between Boston and Springfield MA, with improved connections to the Knowledge and Vermonter corridors to the north and the New Haven-Hartford-Springfield service to the south. It also is planning expansion of commuter service to the South Coast, as well as continuation of connecting service to Cape Cod, initiated in 2014.¹⁰¹

Rhode Island Department of Transportation

The Rhode Island Department of Transportation (RIDOT) designs, constructs, and maintains the state's surface transportation system. RIDOT oversees the statewide multimodal transportation network of Rhode Island which includes five rail stations.¹⁰² The Planning & Program Development division is responsible for leading RIDOT's asset management program and also operating the state's commuter rail service in partnership with the Massachusetts Bay Transportation Authority.¹⁰³

The Rhode Island State Rail Plan was completed in 2014 and brought together many agencies and organizations that have a stake in rail transportation in Rhode Island and the region to help establish the vision for the future of rail in the Rhode Island. The RIDOT has provided assistance in recent years on several projects including a new rail layover facility in Pawtucket completed in 2006 for the MBTA to help support the expansion of commuter rail service, completion of the new rail station at T.F. Green Airport in Warwick, and completion of the new Wickford Junction station, now served by the MBTA.¹⁰⁴

Connecticut Department of Transportation

The Connecticut Department of Transportation (ConnDOT) supports operation of the New Haven Main Line and three branch lines in Connecticut (New Canaan, Danbury, and Waterbury), all of which are operated under a long-term agreement Metro-North Railroad.

¹⁰¹ The Massachusetts Rail Program/ Accessed from,

¹⁰² Rhode Island Department of Transportation/About Us/Accessed from, <http://www.dot.ri.gov/about/index.php>

¹⁰³ Rhode Island Department of Transportation/ Planning and Program Development / Accessed from, <http://www.dot.ri.gov/about/who/planning.php>

¹⁰⁴ Rhode Island State Rail Plan 2014, Report 117, March 2014/ Accessed from, http://www.dot.ri.gov/about/who/intermodal_planning.php

ConnDOT also owns and funds operations of Shore Line East (SLE), a commuter rail service that runs between New London and New Haven, Connecticut on the NEC. ConnDOT contracts its daily operations to Amtrak. Service was initiated in 1990 as a temporary measure to reduce congestion during construction work on I-95 and was continued after construction ended due to its popularity. Connections to the New Haven Line and Amtrak service are available at New Haven's Union Station.¹⁰⁵

ConnDOT has made improvements to the rail system including new M8 rail cars for service on the New Haven line to New York and on Shore Line East, as well as new and upgraded train stations.¹⁰⁶ In 2011, Connecticut executed a grant from the FRA to upgrade the New Haven-Hartford-Springfield (NHHS) line. When completed in 2016, the improvements will support 18 daily round trip trains between New Haven and Hartford, with 12 continuing on to Springfield. Costs for some of the service will be shared with Massachusetts and Vermont.¹⁰⁷

New York State Department of Transportation

A group within NYSDOT's Policy and Planning Division, the Freight and Passenger Rail Bureau (FPRB), is responsible for rail matters in the State. Some of these duties include planning, program management for the movement of freight rail as well as other modes, and advancing passenger rail initiatives. There are other divisions within NYSDOT that are involved in rail planning including the Rail Projects Group, part of NYSDOT's Engineering Division. This group is responsible for the development and delivery of high speed intercity passenger rail projects statewide, including recent focus on the Empire Corridor west of Albany.¹⁰⁸ The State of New York subsidizes the operation of Amtrak's Adirondack service, which runs from Penn Station in New York City to Montreal, Canada.¹⁰⁹

NYSDOT does not have direct control of the NY MTA and its commuter line, Metro-North Railroad, but can exert influence through a joint committee that must approve NY MTA capital plans. New York State has invested in other rail efforts including transforming the 94-mile Hudson Line from Schenectady to Poughkeepsie from a CSXT-controlled line to an Amtrak-controlled line.¹¹⁰

New Jersey Department of Transportation

The New Jersey Department of Transportation (NJDOT) is the agency responsible for transportation issues and policy in New Jersey. As initially formed in 1966, NJDOT was responsible for maintaining and operating the State's highway and public road system, planning and developing transportation policy, and assisting with rail, freight, and intermodal transportation issues. In 1979, with the establishment of

¹⁰⁵ Shore East Line, FAQ/Accessed from, http://www.shorelineeast.com/riding_sle/faq/faq_gen.php

¹⁰⁶ Connecticut Department of Transportation, Office of Rail/ Accessed from, <http://www.ct.gov/dot/cwp/view.asp?a=1386&q=316722>

¹⁰⁷ CTDOT, Amtrak Announce Cost-Share Agreement, October 2013/Accessed from, <http://www.ct.gov/dot/cwp/view.asp?A=1373&Q=533678>

¹⁰⁸ New York State Department of Transportation, NYSDOT-rail Related Bureau – Freight and Passenger Rail/ Accessed from, <https://www.dot.ny.gov/divisions/operating/opdm/passenger-rail>

¹⁰⁹ NYSDOT, Passenger Rail Service in New York State/ Accessed from, <https://www.dot.ny.gov/divisions/operating/opdm/passenger-rail/passenger-rail-service/nys-amtrak>

¹¹⁰ Governor Cuomo Announces Hudson Rail Line Lease, December 2012/ Accessed from, <http://www.amtrak.com/ccurl/13/26/Amtrak-CSX-Hudson-Line-Release-ATK-12-126.pdf>

New Jersey Transit, NJDOT's rail division (which funded and supported State-sponsored passenger rail service) was folded into the new agency.

In the State of New Jersey, the planning, design, construction, equipment purchase and operation of the public transportation system is led by NJ TRANSIT. NJDOT in collaboration with NJ TRANSIT recently completed a State Rail Plan to fulfill the requirements set forth in the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). NJDOT works with Class I, regional and short line railroads to coordinate freight services in the state. There are over 1,000 freight rail miles located in New Jersey.¹¹¹ Coordination also takes place with NJ TRANSIT to ensure the state is providing adequate public transportation including rail service.¹¹²

With NEC service to Pennsylvania Station in Manhattan operating at capacity, NJ TRANSIT is working with Amtrak and FRA to provide additional capacity on the NEC between Newark and Manhattan through the Gateway Program comprised of four linked projects:

- Construction of two new two-track, high level, fixed span bridge crossing the Hackensack River replacing the existing Portal swing bridge
- Construction of two new Trans-Hudson River tunnels
- Construction of two new tracks between Newark Penn Station and the Trans-Hudson tunnels creating a four track main line between the two locations
- Expansion of New York Penn Station¹¹³

NJ TRANSIT also owns all the stations along the NEC in New Jersey except the Newark Liberty International Airport station, which is owned by the Port Authority of New York and New Jersey. Of the 14 stations owned by NJT, Amtrak stops trains at five of them.

Pennsylvania Department of Transportation

PennDOT's Bureau of Public Transportation provides statewide leadership and coordination for improvements to Pennsylvania's intercity passenger rail system. This includes goals to increase safety, speed and ridership by working with Amtrak and other owners of the rail lines in the Commonwealth.¹¹⁴

Recent legislation passed in Pennsylvania, Act 89 of 2013, established a Multimodal Deputy's position within PennDOT to oversee ports and waterways, freight rail, passenger rail, transit, aviation and bicycle and pedestrian travel in an effort to establish a cohesive, multimodal statewide transportation system. Act 89 also established a stable, predictable funding source for transportation improvements.¹¹⁵ The Keystone Corridor between Harrisburg and Philadelphia is a state-supported route, with PennDOT paying for the full operating costs of this service provided by Amtrak.

¹¹¹ New Jersey State Rail Plan, December 2012/ Accessed from, <http://www.state.nj.us/transportation/freight/rail/plan.shtm>

¹¹² New Jersey State Rail Plan, December 2012/Accessed from, <http://www.state.nj.us/transportation/freight/rail/RailPlanning.shtm>

¹¹³ New Jersey State Rail Plan, 2013/Accessed from <http://www.njtransit.com/pdf/NJStateRailPlan.pdf>

¹¹⁴ Multimodal Highlights, 2014 / Accessed from, <http://www.dot.state.pa.us/Internet/web.nsf/Multimodal?OpenFrameset>

¹¹⁵ Multimodal Highlights, 2014 / Accessed from, <http://www.dot.state.pa.us/Internet/web.nsf/Multimodal?OpenFrameset>

Delaware Department of Transportation

Public transportation in the state is provided by the Delaware Transit Corporation (DTC), an operating division of DelDOT created in 1994 to manage and operate the Delaware Authority for Regional Transit (DART) along with the Delaware Administration for Specialized Transportation, Delaware Railroad Administration, and Commuter Services Administration. DelDOT's rail responsibilities include the inspection of state-owned rail lines, implementation and monitoring of grade crossing-control devices, and development and development of the State Rail Plan. DTC's Development Department is responsible for operating the two State-owned rail lines and for monitoring regional freight service and safety issues.¹¹⁶

DTC has an operating agreement with SEPTA to provide commuter rail service in New Castle County with SEPTA's Wilmington/Newark line running entirely on Northeast Corridor track. A recent initiative for expanding regional service has been studied by the States of Delaware and Maryland. The Delmarva Intercity Rail Feasibility study examined the feasibility of reinstating passenger rail down the Delmarva Peninsula from Newark, DE to Berlin, MD or Ocean City, MD. The majority of the route would be on existing track owned by Norfolk Southern. The Newark, DE station is located along the Northeast Corridor allowing for connections to the NEC spine.¹¹⁷

Maryland Department of Transportation

The Maryland Department of Transportation's (MDOT's) Office of Freight and Multimodalism (OFM) is involved in freight planning as well as other coordination for multimodal transportation systems in the state. The OFM manages the high speed intercity passenger rail efforts for the state and works with Amtrak to improve the infrastructure on the NEC as both freight and passenger trains share these tracks with Amtrak intercity service. Some of the current projects with State involvement on the NEC include the Baltimore and Potomac Tunnel, a fourth track in the area of the BWI Airport station as well as other improvements in the area, including the Susquehanna River Bridge.¹¹⁸

The Maryland Transit Administration (MTA) is a division of MDOT, and operates one of the largest multimodal transit systems in the U.S. MTA operates local and commuter buses, light rail, metro subway, Maryland Area Regional Commuter (MARC) train service, and a comprehensive paratransit (mobility) system. Maryland is unique in that MDOT, through MTA, has direct responsibility for MARC commuter rail operations.

¹¹⁶ Delaware State Rail Plan, 2011/Accessed from, http://www.deldot.gov/information/pubs_forms/srp/srp_final_draft_041211.pdf

¹¹⁷ Delmarva intercity Rail Feasibility Study, 2013 / Accessed from, https://www.dartfirststate.com/information/programs/transportation_plans/Delmarva_Intercity_Rail_Feasibility_Study.pdf

¹¹⁸ MDOT Office of Freight and Multimodalism/Accessed from, <http://www.mdot.maryland.gov/Office%20of%20Freight%20and%20Multimodalism/Freight>

District of Columbia Department of Transportation

The District of Columbia's Department of Transportation (DDOT) manages and maintains the District's transportation infrastructure. It is also involved in coordinating the mass transit system in DC for the Metrobus and Metrorail services.¹¹⁹

DDOT was a recipient of FY2014 TIGER discretionary grant funding for the Long Bridge Environmental Analysis. This effort will help advance the project development to support the future needs of this bridge connecting Washington DC and Virginia and used by Virginia Railway Express (VRE), CSXT and Amtrak.¹²⁰

E.4 Existing Arrangements for Multistate Passenger Rail Service Operations

The long and complex history of the Northeast Corridor has evolved into a current rail network where many entities continue to work together to share a valuable transportation asset. Given that the various users of the NEC have entered into agreements with Amtrak over a relatively long period of time, the terms of individual arrangements are unique for each entity. In addition, states and commuter rail operators have agreements with each other to operate service that crosses state lines. This section introduces the different types of arrangements that are currently in place on the NEC.

Amtrak

As noted previously, Amtrak is the sole operator of intercity passenger rail service (which is distinguished from "commuter rail" by serving longer distance travel, with different types of equipment and revenue-managed ticket pricing) along the entire NEC spine. NEC commuter agencies provide varying levels of funding for the NEC, including capital funds for infrastructure and/or stations. Amtrak has agreements for access and/or maintenance where Amtrak trains operate over locally-owned portions of the NEC in New York, Connecticut, and Massachusetts.

Throughout the history of the NEC, each railroad separately negotiated its access and service agreements for use of NEC infrastructure with the infrastructure owner, with no standardized method for determining the pricing structure of these agreements. Over time, this has resulted in disparate arrangements throughout the corridor, and according to those interviewed is one of several factors contributing to chronic underinvestment in NEC infrastructure. Some of the services operated today were inherited from the former Pennsylvania Railroad's commuter rail services, such as some NEC trains operated by SEPTA and NJ TRANSIT. Through the transferring of these services, various rights to use the NEC were conveyed to successor operators.

The following entities have access agreements in place with Amtrak to support commuter rail service that crosses state lines:

- NJ TRANSIT to provide service between Trenton, NJ and Penn Station in New York, NY
- SEPTA to provide service from 30th Street Station in Philadelphia, PA to Trenton, NJ (this agreement also covers SEPTA commuter rail service on a portion of Amtrak's Keystone Line)

¹¹⁹ <http://ddot.dc.gov/page/about-ddot>

¹²⁰ <http://ddot.dc.gov/release/ddot-receives-tiger-grant-funding-long-bridge-environmental-analysis>

- DTC has a contract for access between Marcus Hook, PA, and Newark, DE
- VRE to provide service from Manassas and Fredericksburg, VA into Union Station in Washington, DC
- MARC to provide service on all three commuter lines from Perryville and Baltimore, MD and Martinsburg, WV into Union Station in Washington, DC
- MBTA has a contract for access between the Massachusetts State Line and Providence, RI

These agreements address topics such as trackage rights, operating rights and windows, services levels and expansion, control of maintenance and dispatching, liability allocation, and may also include provisions for recapitalization of infrastructure or capital improvement projects.

State and Commuter Rail Operating Arrangements

In addition to agreements between commuter rail operators and Amtrak, the arrangements between various commuter rail operators and/or states add to the intricacy of the operations on the NEC.

A description of five of these arrangements on the Northeast Corridor follows. A summary table on service agreements between several of these entities can be found in Appendix A.

Metro-North Railroad Service on New Haven Line

The New Haven Line is operated through a partnership between MNR and the State of Connecticut. Under the arrangement, ConnDOT owns the tracks and stations within Connecticut. ConnDOT also finances and performs capital improvements within Connecticut. MNR owns the tracks and stations, and handles capital improvements for such within New York State. MNR also performs routine maintenance and provides police services for the entire New Haven Line, its branches and stations. New cars and locomotives are typically purchased in a joint agreement between MNR and ConnDOT, with the agencies paying for 33.3% and 66.7% of costs, respectively. The contract between ConnDOT and MNR self-renews every five years.

Originally executed in 1985, the agreement between MNR and the State of Connecticut covers service and operation, maintenance, allocation and payment of operating deficits, classification and acquisition of capital assets, allocation and payment of capital costs, service finances and the budget process, asset ownership and management, labor, productivity reviews, arbitration, claims, duration of the agreement and other miscellaneous terms and conditions. A variety of amended and restated service agreements exist which address schedule and consist changes.

Metro-North Railroad Service west of the Hudson River

As part of the creation of Metro-North, upon the divestiture of passenger rail service by Conrail after 1981, MNR assumed responsibility for operating the former Erie Lackawanna services west of the Hudson and north of the New Jersey State line. However, since those lines are physically connected to NJ TRANSIT lines, their operations were contracted to NJ TRANSIT, with MNR subsidizing the service and supplying equipment. Two lines west of the Hudson River--the Port Jervis and the Pascack Valley--operate out of NJ TRANSIT's terminal in Hoboken, NJ, and connect with service out of Penn Station, NY via the Secaucus Transfer.

The current version of the service agreement between MNR and NJ TRANSIT is from 2006, and includes detail on the service and operation, maintenance, allocation and payment of capital costs, service finances and the budgeting process, labor, liability and insurance, settlement of disputes, duration of the agreement and other miscellaneous terms and conditions.

Metro-North Railroad Special Service from New Haven, CT to Secaucus, NJ

The Train to the Game™ began in 2009 as a tristate service bringing Jets and Giants fans to the Meadowlands Stadium via the Northeast Corridor to Secaucus, where they transfer to a shuttle bus to access the stadium. Three railroads partnered together to provide this service: Amtrak's tracks on the Hell Gate Line portion of the NEC, MNR and NJ TRANSIT crews, and NJ TRANSIT's bi-level coaches. The service is seen as a success in interagency cooperation and was initiated with a minimum of infrastructure investment.¹²¹ In the longer term, there are plans to run MNR New Haven Line trains to Penn Station every day upon completion of the East Side Access megaproject, connecting the LIRR to Grand Central Station, slated for completion in 2022.¹²²

SEPTA Service to Wilmington/Newark, Delaware

The Delaware Transit Corporation (DTC) and SEPTA have an agreement to provide commuter rail service on the portion of the SEPTA's Wilmington/Newark Line which runs along the NEC from stations in New Castle County, Delaware to Philadelphia, PA. DTC subsidizes the portion of the line that runs in the state. The agreement between SEPTA and DTC covers the service and operation, costs and payments, acquisition of capital assets, and indemnification.

DTC maintains an agreement with Amtrak to address access, rate structures and indemnification in the form of a memorandum of understanding acknowledging the allocation of risk between Amtrak and DTC's operating contractor and approving SEPTA as DTC's operating contractor under the Northeast Corridor Access and Services Agreement.

DTC and SEPTA also entered into an agreement in 2007 for DTC to purchase four rail vehicles through an option to procure additional rail vehicles as part of a larger vehicle procurement for SEPTA. When DTC received a grant under the American Recovery and Reinvestment Act of 2009, the agreement was amended in 2012 to incorporate this new funding information.

MBTA Service to Providence, Warwick and Wickford Junction, Rhode Island

The Rhode Island Department of Transportation has had an agreement with MBTA to provide commuter rail services between Providence, RI and Boston, MA since 1988. The Pilgrim Partnership Agreement has been updated since then to include additional service. Another agreement between the two entities, the South County Commuter Rail Agreement, provided extended service to T.F. Green Airport and Wickford and North Kingston in 2010.¹²³

¹²¹ <http://www.mta.info/press-release/metro-north/introducing-metro-north-service-meadowlands-football-games>

¹²² http://gothamist.com/2014/10/13/metronorth_football_train.php

¹²³ Department of Administration, Division of Planning, Rhode Island State Rail Plan 2014

E.5 Existing Arrangements for Multistate Passenger Rail Service Planning

For much of the existence of the NEC, Amtrak, the commuter authorities and states have separately planned, funded and implemented improvements to the corridor. Two federal funding initiatives – the Northeast Corridor Improvement Project from 1976-1981 and the Northend Electrification Project (1992-1999) – invested some \$4 billion into upgrades along the NEC. Through the years, each state and commuter railroad has independently made investments as required to maintain and upgrade its facilities on the NEC. While Amtrak and the operating railroads continually coordinate on safety and scheduling/dispatching issues, until recently, most planning was undertaken separately or on a bilateral basis.

While the challenges of addressing the capital needs of the NEC are daunting, the states and railroads on the NEC have now begun to plan on a corridor-wide basis, cognizant that they share a common network and system that can only serve future needs if work is planned and implemented looking at the NEC as a whole. Table E.4 summarizes many of the documents involving the collaborative efforts led by Amtrak,

Table E.14: Recent or Ongoing Northeast Corridor Initiatives

Document	Completion	Description	Lead Agency
<i>NEC Infrastructure Master Plan</i>	2010	"Foundational" basis for collaborative planning effort for NEC Corridor infrastructure needs	AMTRAK
<i>A Vision for High-Speed Rail in the Northeast Corridor</i>	2010	Infrastructure and other improvements needed to enhance high-speed rail on the NEC	AMTRAK
<i>The Amtrak Vision for the Northeast Corridor 2012 Update Report</i>	2012	Updates on recent developments related to the NEC planning efforts	AMTRAK
<i>NEC Capital Investment Program</i>	2012	Summation and refinement of previous planning work comprising of a comprehensive list of investments.	AMTRAK
<i>Critical Infrastructure Needs on the Northeast Corridor</i>	2013	This report documents the identified critical infrastructure needs with specific area as well as Corridor- Wide needs	NEC Commission
<i>Preliminary Alternatives Report</i>	2013	Summary of process which initial alternatives were refined into the Preliminary alternative and provides an overview of these alternatives	FRA
<i>State of the Northeast Corridor Region Transportation System - Summary Report and Background Report</i>	2014	Documents the current state of the NEC Region's multimodal transportation system, describes trends affecting its performance, and explores future challenges and opportunities.	NEC Commission
<i>The Northeast Corridor and the American Economy</i>	2014	This document provided information on the importance of the NEC to regional and national economy.	NEC Commission
<i>Northeast Corridor Commuter and Intercity Rail Cost Allocation policy</i>	2015	Policy document addressing decision-making, capital planning, control and governance for a standardized formula with a statutory deadline of October 16, 2014.	NEC Commission

Document	Completion	Description	Lead Agency
<i>NEC FUTURE - Passenger Rail Corridor Investment Program</i>	In Progress	Consists of the Service Development Plan and Programmatic Environmental Impact Statement to develop a long-term investment program for rail service on the NEC	FRA
<i>Gateway Program</i>	In Progress	Proposed series of strategic rail infrastructure improvements designed to preserve existing capacity, improve current services from New York and New Jersey, and create new capacity that will allow the doubling of passenger trains running under the Hudson River.	AMTRAK
<i>Service Development Plan (SDP)</i>	In Progress	Detailed plan for proposed rail service on the NEC for both existing and new services. Benefits and costs are considered.	FRA
<i>Programmatic Environmental Impact Statement</i>	In Progress	Part of NEPA requirement considering alternatives and establishing a preferred alternative	FRA

FRA, and the NEC Commission, along with several other non-governmental entities, to move toward an integrated program to improve the NEC. While these recent planning efforts for the NEC have brought some sense of optimism for improving current rail assets and planning for a future where the Northeast's rail travel needs are adequately addressed, the question of adequate financial commitments at the necessary scale continues to loom large and unresolved.

The most current and critical dynamic on the Northeast Corridor is the development of capital and operating cost allocation policy by the NEC Commission, required by PRIIA Section 212. For this effort, the NEC Commission is serving as technical resource, clearinghouse and facilitator for advancing the discussion and negotiation among the parties during the development of this policy. With cost allocation policy in place, each of the states on the NEC will be responsible for funding a portion of the NEC costs.

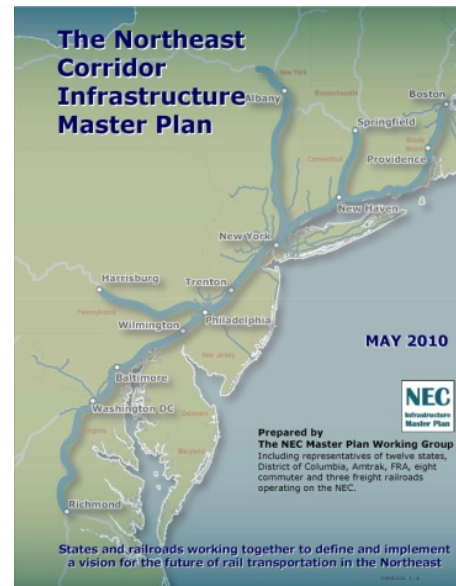
The remainder of this section further describes the NEC Commission along with other planning arrangements and forums, proposed legislation, and projects underway, and focuses on how the various entities interact with and relate to each other.

E.5.1 Amtrak Northeast Corridor Infrastructure Master Plan Working Group

The starting point for the recent collaborative planning initiatives in the northeastern U.S. began in 2007 with the development of a Northeast Corridor Infrastructure Master Plan.

The Master Plan group was a voluntary coalition/partnership and did not have a formal implementation mandate associated with the effort. It was a significant milestone as it was the first time that relevant policy and capital plans from each of the northeast states and District of Columbia involving intercity, passenger and freight project needs were assembled in one document.

The Master Plan Working Group that authored the document consisted of representatives from more than 25 entities: Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, and District of Columbia Departments of Transportation (DOTs), the Massachusetts Bay Transportation Authority, the Northern New England Passenger Rail Authority, the New York Metropolitan Transportation Authority (including Metro-North Railroad and LIRR), NJ TRANSIT, the Southeastern Pennsylvania Transportation Authority, the Maryland Transit Administration, Virginia Railway Express, the Coalition of Northeastern Governors (CONEG), FRA, Norfolk Southern, Providence and Worcester Railroad, CSXT, the Port Authority of New York & New Jersey, and Amtrak. The Working Group was not governed by any formal processes; rather, the states, stakeholders, and agencies were invited to contribute their own priorities and projects. Discussions of routes and operations eventually led to the final plan. Several documents were completed for the Master Plan group including the 2010 Master Plan as well as an update in 2012.¹²⁴



The 2010 Master Plan was developed to ensure that the NEC could remain in a state of good repair in order to meet the goals of improved reliability and service frequency on the Corridor. Developing the Master Plan was an important catalyst for commencing a rigorous dialogue on corridor needs, moving the participants toward an integrated and intermodal regional transportation system, and building a consensus for continued rail investment. Few rail planning efforts to that date had been as inclusive as the Master Plan process which combined existing plans and itemized the infrastructure needs of all users of the NEC corridor in one document.¹²⁵ The Plan stands to this day as a noteworthy example of how multiple departments and agencies were able to come together collaboratively seeking a common goal.

Also completed in 2010, Amtrak's *A Vision for High-Speed Rail in the Northeast Corridor* outlined the investments and organizational actions needed to bring enhanced High-Speed Rail to the NEC. New alignments were evaluated to provide the envisioned Next Generation "Next Gen" High-Speed rail service along the NEC to accommodate projected additional ridership along with enhanced high-speed rail service along a second spine that would not be possible on the current alignment alone.¹²⁶ Combined with the Master Plan and the Gateway Program (a specific set of infrastructure improvements

¹²⁴ The Northeast Corridor Infrastructure Master Plan, 2010 / Accessed from, <http://www.amtrak.com/ccurl/870/270/Northeast-Corridor-Infrastructure-Master-Plan.pdf>

¹²⁵ The Northeast Corridor Infrastructure Master Plan, 2010 / Accessed from, <http://www.amtrak.com/ccurl/870/270/Northeast-Corridor-Infrastructure-Master-Plan.pdf>

¹²⁶ A Vision for High-Speed Rail in the Northeast Corridor, September 2010/ Accessed from, <http://www.amtrak.com/ccurl/214/393/A-Vision-for-High-Speed-Rail-in-the-Northeast-Corridor.pdf>

from Newark NJ to Manhattan, NY) these documents were key contributors in developing the *NEC Capital Investment Program*.¹²⁷

E.5.2 Northeast Corridor Infrastructure and Operations Advisory Commission

The Northeast Corridor Infrastructure and Operations Advisory Commission (aka NEC Commission) was authorized in the Passenger Rail Investment and Improvement Act of 2008, codified at 49 U.S.C. §24905 (Section 24905). The primary charge of the Commission is to facilitate cooperation and integrated planning among the agencies and entities involved in intercity and commuter passenger rail service and freight use of the Northeast Corridor.

The NEC Commission has 18 voting members, composed of one member appointed by the Governor (typically drawn from state DOTs) of each of the eight states and the District of Columbia along the Northeast Corridor main line (Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware and Maryland); five members representing the U.S. Department of Transportation and four members representing Amtrak. It should be noted that this breakdown of USDOT and Amtrak members is not spelled out in the law. In addition, the statutory directive is that neither the states, nor Amtrak and USDOT, constitute a majority, but that the USDOT and Amtrak are viewed as a voting group.

Four freight railroads, states connecting to the Corridor and commuter rail operators not directly represented by a Commission member also sit on the Commission as non-voting members. The members of the Commission serve without pay and must meet at least four times per year. The Chairman of the Commission is elected by the members. The Commission has the power to employ staff (there were eight full-time employees in 2014).¹²⁸

Funded by through a take-down of Amtrak's capital appropriations, the Commission serves as a forum to create a collaborative vision for the NEC, and serves as an institutional means for gathering key NEC stakeholders to discuss and develop policy. Of note, the states that participate in the Commission represent 50 percent of its membership, and a unanimous vote from the states along with one member from Amtrak or USDOT could result in an affirmative action of the Commission.¹²⁹ Certain actions of the Commission require a majority vote, with formal recommendations to Congress requiring a two-thirds majority.

With legislative changes, the NEC Commission could be charged with resolving NEC planning and investment decisions. For example, the proposed Passenger Rail Reform and Investment Act of 2014 (PRRIA) would require the Commission to develop an annual capital investment plan for the NEC main line and branch lines (connecting to Harrisburg, PA; Springfield, MA; and Spuyten Duyvil, NY) and update

¹²⁷ The Amtrak Vision for the Northeast Corridor, 2012 Update Report / Accessed from, <http://www.amtrak.com/ccurl/453/325/Amtrak-Vision-for-the-Northeast-Corridor.pdf>

¹²⁸ Federal: 49 U.S.C. 24905, no date, Accessed from, <http://www.law.cornell.edu/uscode/text/49/24905>

¹²⁹ Personal conversation, Rich Brancato, October 3, 2014

an NEC Service Development Plan every ten years.¹³⁰ Further details on the September 2014 PRRIA bill are provided in Appendix D.

The Commission has extensive responsibilities to set corridor-wide policy goals and recommendations that encompass passenger rail mobility, intermodal connections to highways and airports, energy consumption, air quality improvements, and local and regional economic development in the Northeast. It also has been charged developing a standardized formula to allocate NEC capital and operating costs and is facilitating the development of an integrated five-year capital plan for the NEC.

Responsibilities set forth under Section 24905 include:

- Developing a statement of goals;
- Developing policy recommendations for the NEC that address topics ranging from short and long-term investment needs, operational improvements, and future capacity requirements;
- Developing a standardized formula to determine and allocate costs, revenues, and compensation for Northeast Corridor passenger services based on proportionate use.
- Transmitting an annual statement of goals and recommendations.¹³¹

The full language of these responsibilities is provided in Appendix B.

The NEC Commission has completed a number of activities, including the *State of the Northeast Corridor Region Transportation System* completed in 2014, which provided background information on the current status of the transportation system in the northeast and the future challenges and opportunities. PRRIA also required the NEC Commission to submit a report to Congress on the economic activity supported by the NEC.¹³² This was also completed in 2014 with the publication of *The Northeast Corridor and the American Economy*, which analyzed the role the Northeast Corridor plays in the U.S. economy in terms of productivity and livability in the region.¹³³ These reports informed Congress and other stakeholders of the importance of the NEC to the regional and national economy and the need for investment to ensure the long-term viability of the NEC.

NEC Cost Allocation Committee

PRRIA also directs the Commission to create a cost-sharing method among commuter and intercity passenger rail operators on NEC infrastructure. This cost allocation formula is to ensure that there is no cross-subsidization of commuter, intercity, and freight rail service on the NEC. A prominent undertaking of the Commission, the Policy establishes the required cost-sharing agreement, policy recommendations to support it, and a framework for establishing regional partnerships. This policy, which may be amended over time, was adopted by the Commission in December 2014.

¹³⁰ H.R. 5449 – Passenger Rail Reform and Investment Act of 2014, Accessed from, <https://www.congress.gov/bill/113th-congress/house-bill/5449>

¹³¹ Federal: 49 U.S.C. 24905, no date, Accessed from, <http://www.law.cornell.edu/uscode/text/49/24905>

¹³² Federal: 49 U.S.C. 24905, no date, Accessed from, <http://www.law.cornell.edu/uscode/text/49/24905>

¹³³ The Northeast Corridor and the American Economy, April 2014/ Accessed from, <http://www.nec-commission.com/reports/nec-and-american-economy/>

The policy's primary achievement is an agreement among commuter and intercity rail operators on consistent and transportation methods for sharing NEC operating and baseline capital costs according to relative use. The policy establishes methods for sharing approximately \$500 million in operating costs and approximately \$425 million in capital costs annually starting in federal fiscal year 2016.¹³⁴

The policy includes the specific cost allocation methods in addition to changes in business practices, planning and decision-making necessary to support successful implementation. These include processes for determining network capital investment priorities and service planning, a framework to inform the discussion of future capacity, and changes to liability arrangements.¹³⁵ A unified near term (five-year) capital plan is to be developed as part of the cost allocation task.

Recommendations for legislative action and policy changes at the federal level are also provided, including new federal investment programs and adjustments to federal regulations. In addition, the policy establishes a framework for enhanced regional collaboration with an integrated capital planning process, improved project delivery programs, and new measures to increase cross-agency transparency and reporting.¹³⁶

This policy profoundly changes decision-making on the NEC. It incentivizes the NEC stakeholders to balance the interests of the entire rail network while simultaneously serving each state's best interests. Prior to PRIIA, costs were typically allocated by having each additional user of the NEC provide for the incremental cost of their service, with Amtrak ostensibly supporting the base costs on the corridor. Addressing decision-making, control and governance, a fully allocated cost standard is intended to have all entities pay their proportional share for use of the NEC, while recognizing a funding-constrained environment.¹³⁷

A Look Ahead

While the NEC Commission was created by directed by federal statute, it is dependent on federal funding appropriations to fund its operations. Several of those interviewed indicated that this forum could continue to serve the NEC well into the future by administering the policy coming from the cost allocation tasks. The NEC Commission could serve to "fill the gaps" in planning efforts with high-value additions such as aggregating capital planning, advocating to elected officials and serving as a forum for dialogue among the stakeholders.¹³⁸ This role could take the form similar to that of a regional development authority, a metropolitan planning organization, or some similar entity with responsibility for planning and programming over a large, multistate region. It was generally agreed that the NEC Commission should not be placed in a role to assume management of the Northeast Corridor or to reform Amtrak. The role of the NEC Commission staff was also emphasized as a constant presence that

¹³⁴ Northeast Corridor Commuter and Intercity Rail Cost Allocation Policy, Accessed from, http://www.nec-commission.com/wp-content/uploads/2012/11/2015-01-26_Cost-Allocation-Policy-Info-Sheet-Reduced.pdf

¹³⁵ Northeast Corridor Infrastructure and Operations Advisory Commission/Cost Allocation/Accessed from, <http://www.nec-commission.com/resources/cost-allocation/>

¹³⁶ Northeast Corridor Commuter and Intercity Rail Cost Allocation Policy, Accessed from, http://www.nec-commission.com/wp-content/uploads/2012/11/2015-01-26_Cost-Allocation-Policy-Info-Sheet-Reduced.pdf

¹³⁷ Personal conversation, Meredith Slesinger, September 10, 2014.

¹³⁸ Personal conversation, Stephen Gardner, October 7, 2014.

can provide the continuity while members come and go and who can keep the members focused on the most important issues.

As the visibility and stature of the NEC Commission grows, so will the responsibility of the member stakeholders, and the continued success of the group would also increasingly depend on having stakeholder staff that are able to devote a significant portion of their job duties to participation on the Commission. Stakeholders involved in the NEC Commission will need to have the capacity to adequately participate and make the commitment to have the right people at the table so that decisions can be made.¹³⁹

E.5.3 Federal Railroad Administration (FRA) NEC FUTURE

(Note that during the preparation of this case study Congress was considering changes to the Northeast Corridor program of investments and required institutional arrangements. Readers are encouraged to examine the latest federal legislation to identify the most up-to-day description of the NEC planning and policy context).

The NEC FUTURE effort, led by the FRA, commenced in 2012 at the request of the states in the NEC to formulate a comprehensive, long-term vision and rail investment program through 2040. The NEC FUTURE program consists of a Service Development Plan (SDP) as well as a Tier 1 Programmatic Environmental Impact Statement. The SDP will outline how future passenger rail service is to be provided via a framework for the selection of a preferred investment program, along with a NEPA-compliant EIS. The SDP and Tier 1 EIS are being advanced in parallel, with the consideration of environmental factors informing the rail planning efforts.¹⁴⁰

Together, the SDP and Tier 1 EIS will constitute a Passenger Rail Corridor Investment Plan (PRCIP) that will guide future investments in the corridor. The PRCIP will define an integrated, comprehensive passenger rail transportation solution for the Northeast (see Figure E-4). Its stated purpose is to *“improve mobility, effectively serve travel demand due to population and job growth, support economic development, reduce growth in carbon emissions and dependence on foreign oil, and contribute to improved land utilization and investment in both urban and non-urban communities in the region.”*¹⁴¹ More details on the content of a SDP are provided in Appendix E-1.

Similar to the NEC Commission, NEC FUTURE provides an opportunity for all of the states along the Northeast Corridor to take a coordinated approach to the development of the NEC to have all the stakeholders aligned looking to 2040 and beyond.¹⁴² The goal of the NEC FUTURE program is to define a comprehensive and integrated vision for the role of rail on the NEC, and to develop the investment program for the NEC that provides the service capacity and reliability necessary to support that role over

¹³⁹ Personal conversation, Paul Nissenbaum, October 20, 2014.

¹⁴⁰ NEC FUTURE Scoping Summary, page 4, December 2012/Accessed from: http://www.necfuture.com/pdfs/scoping_summary/scoping_summary.pdf

¹⁴¹ NEC FUTURE Scoping Summary, page 3, December 2012/Accessed from: http://www.necfuture.com/pdfs/scoping_summary/scoping_summary.pdf

¹⁴² Personal communication, Rebecca Reyes-Alicea, October 20, 2014.

the coming decades. NEC FUTURE will articulate a vision, framework, and regional platform to coordinate this collaborative effort. Figure E-3 shows the NEC FUTURE study area.

As part of the program, alternatives are being developed and evaluated in several stages from preliminary to a preferred alternative with an aim to have one selected by 2016.¹⁴³ While not part of this program, subsequent Tier 2 environmental analyses would be the next step to examine the potential impacts of the site-specific projects.

The principal focus of NEC FUTURE is passenger rail on the NEC spine, which runs from Washington DC to Boston, MA as well as several connecting corridors. As part of a collaborative process, the FRA is aligning its work closely with the concurrent efforts of the NEC Commission, the NEC states and District of Columbia, Amtrak and the other passenger and freight railroads that operate on the corridor as well as federal and state environmental agencies. The SDP developed by NEC FUTURE will serve as the long-term platform for capital planning efforts by the NEC Commission and development of incremental five-year capital programs.

The NEC Commission serves as a key partner for NEC FUTURE, with FRA coordinating with the NEC Commission on several levels, including bi-weekly coordination calls with their staff, periodic discussions with their Corridor Planning Committee, updates at full NEC Commission meetings, and collaboration on research tasks that may involve both parties.

¹⁴³ Preliminary Alternatives Report, 2014 / Accessed from, http://www.necfuture.com/pdfs/prelim_alts_report.pdf

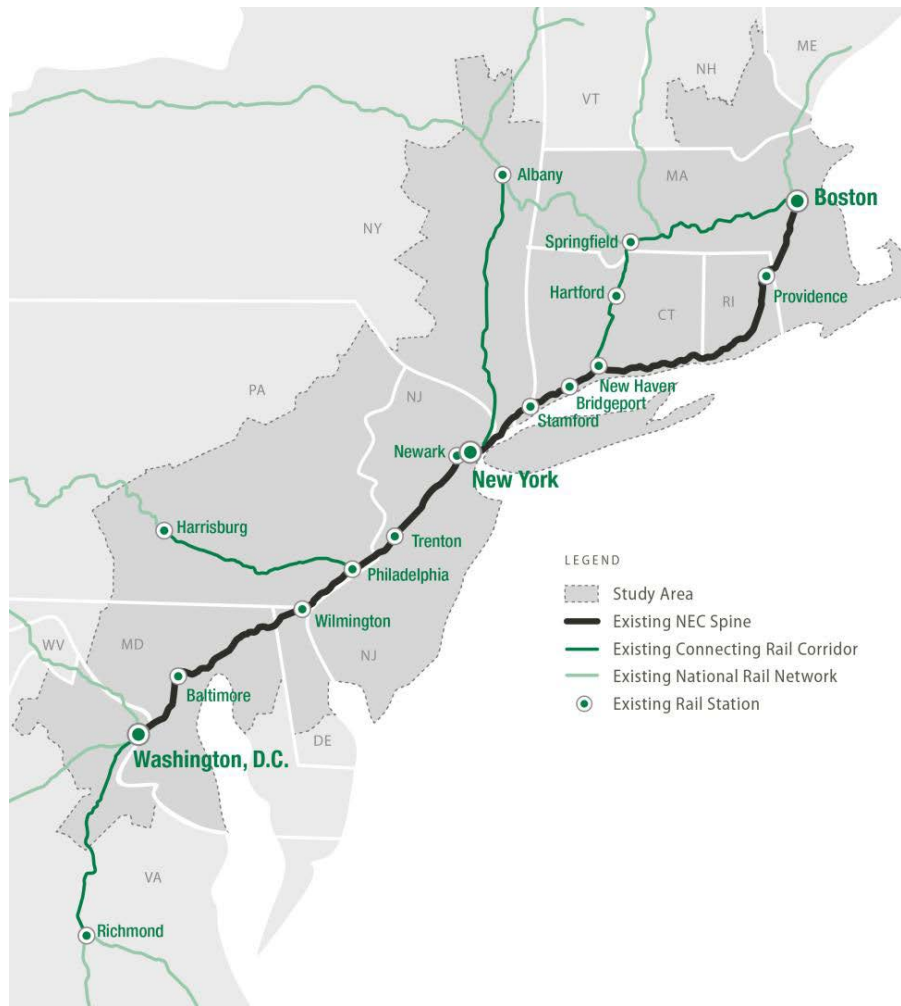


Figure E-3: NEC FUTURE Study Area

Source: NEC Future Program Overview, Summer 2014

There is no official overall advisory group for NEC FUTURE given the large amount of coordination that already takes place with the NEC Commission and other stakeholders. However, FRA coordinates with other USDOT modal administrations, and there are quarterly meetings with environmental resource and regulatory agencies in the three project “regions,” defined as north, central, and south. Technical working groups also provide input into methodology and specific analytical areas of concern. These are not official committees but have regular participants.

Of interest, as part of the planning process for NEC FUTURE, a unique partnership was established with the White House Council on Environmental Quality (CEQ). In January 2012, CEQ and FRA announced the selection of the NEC FUTURE Tier 1 Environmental Impact Statement (EIS) as a pilot project to promote early collaboration with federal and state environmental agencies for efficient environmental decision-making. The pilot was designed to help avoid the conflicts and delays often found in complex, multistate transportation projects by engaging environmental resource and regulatory agencies early in the environmental review and assessment process. As one of five pilot projects in the CEQ’s National

Environmental Policy Act (NEPA) Pilot Program, the year-long pilot project was officially completed in January 2013. During the Pilot, regional resource meetings were held in April, June and October 2012, and a corridor-wide webinar was held in January 2013; each regional meeting was also available to attend as a webinar. The meetings were informal roundtables to discuss the program status, Tier 1 EIS approach and methods for agency coordination. This process enabled FRA to engage the agencies as partners both in the NEPA process and in the structuring of the current and future agency coordination effort itself.

In order to overcome the challenge of coordinating decision-making across multiple agencies and within their respective organizations, formal points of contact were established for each of the federal and state resource and regulatory agencies at the headquarters level and, if appropriate, at the regional or field office level. State transportation and economic development representatives, as well as State Historic Preservation Offices (SHPOs), were also participants in the pilot in order to foster communication and integrate the transportation planning and environmental review processes.

Although the pilot concluded in January 2013 with the development of a Statement of Principles and a Best Practices Memo, FRA continues to meet with the involved state and federal resource and regulatory agencies on a regular basis.¹⁴⁴ The CEQ Pilot has established an effective foundation for ongoing agency coordination, with expected benefits for the duration of the NEC FUTURE program, as well as during subsequent project-level environmental reviews.

Throughout this effort, a key project partner is the Federal Transit Administration (FTA), which provides capital funding support for the commuter rail agencies. As a cooperating agency it reviews and contributes to the technical studies, alternative development and environmental impact assessments.¹⁴⁵ Along with the NEC Commission, the FRA is also coordinating with highway and aviation stakeholders including the I-95 Corridor Coalition and the Airport Cooperative Research Program in recognition of the effect that each mode has on mobility in the region.¹⁴⁶

NEC FUTURE has engaged in extensive outreach across the NEC, including NEPA-mandated scoping for the Tier 1 EIS, and frequent engagement efforts to provide robust public and stakeholder input into the alternatives development process. Those efforts will continue through the completion of the Tier 1 Final EIS, planned for 2016, and issuance of the Record of Decision.¹⁴⁷

With its focus on corridor-wide investments and a robust analytic and operational plan to satisfy projected future demand and grow ridership, NEC FUTURE will provide a holistic framework for system expansion and funding in a multistate environment. In the process, it has also broken new ground in defining a streamlined complex, multi-party, environmental process, which should result in a strong regional platform for subsequent project implementation activities. In partnership with activities of the NEC Commission, the NEC FUTURE SDP will serve as the platform for prioritizing and planning investments for decades to come.

¹⁴⁴ Source: http://necfuture.com/project_docs/agency_coordination.aspx

¹⁴⁵ Source: http://www.necfuture.com/about/project_partners.aspx

¹⁴⁶ Source: http://www.necfuture.com/about/related_initiatives.aspx

¹⁴⁷ Source: NEC FUTURE Preliminary Alternatives Report

E.5.4 Other NEC Participants

I-95 Corridor Coalition

The I-95 Corridor Coalition is a partnership of transportation agencies and related organizations mostly located in the 16 states that I-95 traverses. This includes members from Maine to Florida as well as affiliated members in adjacent Canadian provinces. Although the I-95 Corridor Coalition began with a focus on highways, Coalition members have used the organization as a vehicle to examine other multi-jurisdictional transportation issues.

Examples of I-95 Corridor Coalition projects involving the NEC include the Northeast Rail Operations Study (NEROps) and Mid-Atlantic Rail Operations Study (MAROps) which identified and analyzed the key bottlenecks and capacity issues in the rail corridors of the I-95 Corridor Coalition states with the objective to develop short-term rail investment programs for each region to eliminate these key rail bottlenecks.

Four types of memberships comprise the Coalition.

- *Full* – Have a seat on the Executive Board and representation on the Steering Committee, Program Track Committees and any other special task forces. Full members are given one vote on any matter that is voted on for the above committees. In order to be a full member, an organization must own or operate a major regional system within the Coalition's 16 states and dues must be paid as well as a transfer of funds to the FHWA Pooled Fund program for the I-95 Coalition. Current full members include DOTs, Transportation Authorities and other agencies such as Amtrak.¹⁴⁸
- *Affiliate* – Have representation on Program Track Committees and other special task forces. Affiliate members include transportation-related associations such as a Metropolitan Planning Organization (MPO).
- *Associate* – Have representation on Program Track Committees and other special task forces. An example of an associate member could be a local transportation system operator or a partner agency, such as motor vehicle agencies.
- *Friends of the I-95 Corridor Coalition* – These members are kept informed about the news and progress related to the Coalition through newsletters, publication, notices and project reports.¹⁴⁹

The Coalition examines transportation issues for all modes where there is mutual interest to undertake a project in the annual work program. The I-95 Corridor Coalition is not a legal entity, but does have procedural guidelines that provide operational policies and procedures. The procedural guidelines for the Coalition were last updated in December 2012. One of the main reasons for the revisions was to address changes in federal transportation funding policies which removed the federal earmark for the

¹⁴⁸ I-95 Corridor Coalition, Membership Types and Benefits /Accessed from, <http://www.i95coalition.org/i95/Home/Members/tabid/108/Default.aspx>

¹⁴⁹ I-95 Corridor Coalition Procedural Guideline, December 2012/ Accessed from, http://www.i95coalition.org/i95/Portals/0/Public_Files/forms-guidelines/Procedural_Guidelines_2012_1213%20Update%20Final.pdf

Coalition's annual work programs.¹⁵⁰ The Executive Board is the policy making body and provides guidance for the development of the Coalition's program as well as setting future strategies. The Board meets at least twice a year.¹⁵¹ Other committees and task forces meet as needed.

Coalition of Northeast Governors

The Coalition of Northeast Governors (CONEG) is a non-partisan association of Governors from seven Northeastern states formed in 1976 to address a broad range of issues of regional importance. The association provides a forum for intergovernmental cooperation and allows information to be shared and cooperative efforts to be worked on based on common interests. In addition to transportation, CONEG programs, policies, and initiatives address regional issues in energy, environment and economic development.

As a current focal point for CONEG's regional initiatives, rail (and transportation in general) has been a priority focus area for the group, releasing policies and principles such as Governors' Vision for Rail in the Northeast and Principles Guiding the Future of the Northeast Corridor Network. CONEG also prepares correspondence and reports related to advancement of passenger rail in member states. Recent correspondence and testimony includes CONEG Governors statement to the record on the Northeast Corridor Future: Options for High-Speed Rail Development and Opportunities for Private Sector Participation, CONEG Governors: The Northeast Rail Corridor Is a National Model for High Speed Rail, and CONEG-Northeast Governors Support States-Amtrak Projects for High-Speed Intercity Rail Funding.

The Governors of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont serve in CONEG throughout their gubernatorial term, with a Chair and Vice-Chair elected by the governors.¹⁵² Additional governors may join CONEG upon majority approval by the governing body. Participating Governors contribute for their membership in CONEG via a size-based formula. There are also approximately seven Advisory Committee members, two Directors of Programs and two administrative staff.

Program coordination is administered by the CONEG Policy Research Center, Inc., the nonprofit staff arm of CONEG. The Center's fiscal and management affairs are directed by a Board of Governors. CONEG and the CONEG Research Policy Center receive funding through member state appropriations.

An Advisory Committee that acts on behalf of member governors directs CONEG's leadership. Each Governor names a representative to serve on the Advisory Committee. As needed, the state governors administer specific programs.

¹⁵⁰ I-95 Corridor Coalition Procedural Guideline, December 2012/ Accessed from, http://www.i95coalition.org/i95/Portals/0/Public_Files/forms-guidelines/Procedural_Guidelines_2012_1213%20Update%20Final.pdf

¹⁵¹ I-95 Corridor Coalition, Accessed from, <http://www.i95coalition.org/i95/Default.aspx>

¹⁵² CONEG Collation of Northeastern Governors/ About CONEG / Accessed from, <http://www.coneg.org/about/>

CONEG's transportation and rail priorities are determined by an ad hoc Transportation Committee that includes representation from all of the states along the Northeast Corridor. In years where there is a federal transportation appropriation or authorization, CONEG submits a position paper on the topic. Formed in 1976, CONEG encourages intergovernmental cooperation in regional economic and environmental issues. Through CONEG programs, member states collaborate on issues of shared concern by monitoring regional developments, assessing the regional implications of national policies, identifying opportunities for actions by member states, adopting policy positions and advocating the region's interests. Policies adopted by CONEG are issued as public statements and communications to members of Congress.

CONEG's transportation policies and program initiatives include the following areas:

- Passenger rail – CONEG's passenger rail vision includes ensuring policies and investments for safety and network development, improving the current regional network's capacity and reliability, and supporting continued federal funding for infrastructure projects.
- Surface transportation – CONEG ensures that regional surface transportation plans are aligned with the national transportation vision through federal policy frameworks.
- Budget appropriations – Through policy development and congressional communications, CONEG supports a strong federal funding partnership for regional transportation projects. Through the transportation program, CONEG advocates for adequate and sustained funding for programs of interest.
- Regional integration of transportation networks – CONEG provides a forum for intergovernmental cooperation for regional transportation projects and existing system operational coordination.

CONEG's powers do not extend beyond policy development and advocacy for regional issues. The lack of formal authority or powers enables CONEG to serve as a more purely non-partisan discussion body to facilitate intergovernmental coordination.

E.6 Barriers/Challenges in the Northeast Corridor Structure

Reflecting on the beginnings of the modern Northeast Corridor, it is easy to see how it was possible to put this major transportation investment in place. Essentially, two railroads—the Pennsylvania and the New Haven, controlled the right of way. They operated all the service on the lines—commuter, intercity passenger and freight. Their decisions were business decisions, some good, some not so good, but when a decision was made they had the power to implement it and we are living off their legacy. The challenges facing the Northeast Corridor today are far more complex and stem from the history of public and private owners, waves of investment and disinvestment and a federal role driven (at least initially) more by necessity than intention. By now, all the parts of those two legacy railroads have been separated out and are in numerous hands.

The political and practical implications of Amtrak ownership of the NEC were cited by interviewees as a major reason for capital funding shortfalls. The current challenge is to find the best way through which several owners and many operators can integrate their distinct roles in day-to-day operations and

longer-term investments that will be of benefit to the entire corridor and its users. Combined with the age of the infrastructure and the cost to bring it to a consistent state of good repair, many of the current conversations of the organizations described in Section 6.0 center on whether the Northeast Corridor as an entity makes sense today. More specifically, these challenges essentially fall into three priority areas:

- Cost allocation – capital and operating dollars
- How to best expand and improve the capacity of the current system
- How to better address day-to-day operations¹⁵³

The following discussion drills down further into these topics.

Funding

Throughout the NEC, and indeed throughout the U.S., the single common thread unifying rail stakeholders is inadequate funding to maintain the current system, let alone provide for its growth. At least in the NEC, this chronic condition is combined with a countervailing imperative that it is critical to expand the network to respond to growing demand. A chronic underinvestment in infrastructure, rail in particular, has left the Northeast Corridor with a network that lacks any redundancy of critical infrastructure and an aged physical plant that is prone to failure. When an incident occurs that halts rail traffic at one location, it is expected that impacts will ripple throughout the entire Corridor, affecting commuter and intercity rail across multiple states. A severe incident, such as the foreseeable loss of a key tunnel or bridge would cripple service for all users, potentially for an extended period.

While limited federal funds have been made available for passenger rail projects with the passage of PRIIA and the American Reinvestment and Recovery Act of 2009 (ARRA), there remains a significant backlog of infrastructure projects after five years that need to be addressed in order to bring the NEC to a consistent state of good repair. Amtrak has estimated this backlog to exceed \$10 billion. Though these funds provide new opportunities to fund capital investments on the Corridor, the lack of needed investment in infrastructure is reflected in Amtrak's pervasive "survival mode" operations and the institutional challenges to mounting a plausible, long-term investment program. Beyond attaining an overall state of good repair, there are also numerous choke points and bottlenecks along the system that demand significant investment, many of them enormous in scale (e.g., Hudson River and Baltimore tunnels).

The "when and where" of federal responsibility, given the economic importance of these services and facilities to the region and the nation continue to be a topic of discussion among stakeholders, with state of good repair serving as a logical, but still incomplete, starting point of a sustained conversation. Consequently, new sources of rail funding and guidance continue to be needed, and elected officials and rail stakeholders continue to bring forward and advance new and additional legislation to help address the situation.

Amtrak Management of the Northeast Corridor

The long-standing institutional approach to Amtrak's operation and maintenance of the NEC is the result of a fragmented organizational structure, resulting in sub-optimizations and inefficiencies, as well as a

¹⁵³ Personal conversation, Mort Downey, September 10, 2014.

loss of opportunities and focus. The disconnect between Amtrak and the various commuter owners and operators on the NEC has also affected performance and outcomes, and ultimately has contributed to the pervasive lack of investment in the Corridor's key capital investments. The commuter operators on the NEC have further perpetuated this attitude by often viewing themselves as the primary users of Amtrak assets that should be provided to them on a marginal basis, with a complicated perspective as to maintenance obligations. While the NEC Commission's and others' efforts cannot unwind this past history, they have served to elevate stakeholder's interest and involvement in the NEC as a network of both discrete and interrelated entities which in any event, must be planned for and resourced as a whole.

Amtrak Project Delivery on the Northeast Corridor

Amtrak's ability to progress and implement projects effectively on the Corridor in partnership with other entities was frequently cited as a challenge and frustration by both rail operators and states, with "hundreds and hundreds" of project-level agreements noted, and inconsistency on the terms and investment levels.¹⁵⁴ With the states and USDOT working in partnership to fund projects on the Corridor, a multiplicity of concerns were raised with respect Amtrak's stewardship of funds, including an onerous design and labor context that impedes advancements of regional and corridor-wide improvements. Additionally, in many cases, Amtrak is forced to implement capital projects in a serial fashion, rather than as multiple projects simultaneously, due to limited outages and a shortage of qualified staff being available for construction projects. From Amtrak's perspective, their hands are often tied because operators are resistant to curtailing service to accommodate capital and maintenance work and Amtrak are not able to ramp up and train staff given the perpetual short-term focus on funding and uncertainty of longer-term funding as mentioned above. This predicament is key to the "struggle" Amtrak must deal with and will remain so as long as Amtrak's very existence is greatly subject to the uncertainty of the annual Federal appropriations cycle which funds Amtrak's capital and operating needs

Inefficiencies were also cited within specific projects, with parties holding the view that the various Amtrak disciplines work in sequence rather than concurrently, resulting in longer track outages and increased project costs for flagging protection – essentially hindering the pace of project implementation and driving up its cost. Participants believed that this production issue stems from a "silo-ing" of disciplines and an organizational structure that does not encourage communication across the various entities. However, it was also noted that due to the historic lack of sustained capital funding and other factors, Amtrak has been structured and staffed primarily to provide maintenance of the NEC, and has operated under an inviolable premise of keeping the railroad running no matter what the circumstance; hence execution and staging of construction projects has been handled as an added activity that often must rely on the presence of available capacity of the maintenance forces to progress work.¹⁵⁵ Since this maintenance capacity must be deployed first to ensure adequate maintenance and operation of the NEC, project staging and execution can be impacted when workforce and other resources must be swung between projects or otherwise allocated sub optimally.

¹⁵⁴ Personal conversation, Stephen Gardner, October 7, 2014

¹⁵⁵ Personal conversation, David Carol, October 7, 2014

Combined, Amtrak's management structure and delivery of projects gives rise to some wariness on the part of Amtrak's "tenants" and partners regarding stewardship of funds and the ability to achieve projects as planned and budgeted. While there is an appreciation of the corporate structure and formidable institutional constraints, return on investment – measured in both time and resources – is frequently cited in complaints about the value proposition of Amtrak's current role on the NEC.^{156[2]}

Need for Focus on Common Goals

The absence of defined focus on common goals is another area where fragmented ownership has hindered stakeholders' ability to identify, and then come to agreement. As the majority owner of the NEC's infrastructure, Amtrak invests the largest proportional share of capital funding on the NEC; considerable time and attention is spent by the rail stakeholders fostering this relationship with Amtrak. However, competing interests from the commuter railroads are experienced with different governance structures, asymmetrical budget cycles and approaches to project management for each state that is involved.

The perception of competing interests was heard from numerous stakeholders. The multitude of commuter, intercity and freight uses all occurring on one asset contributes to the challenge, with the states and commuter operators often centered on the management of their respective portion of the NEC vs. the needs of the Corridor as a whole, particularly those portions which lie outside their territory. Historically, what was never addressed in this fragmented ownership, and what persists to this day, is how to resolve conflict and share potential opportunities for improvements to intercity and commuter rail sharing common infrastructure.

In the context of a charter that seeks a fair and equitable distribution of costs and benefits, competing interests sometimes manifest among the Stakeholders described in Section 5 on particular initiatives or priorities. Question of equity and parity arises from time to time, both from the states' perspectives (e.g., Delaware's or Rhode Island's needs and vote compared with New York's or New Jersey's), as well as between commuter rail and Amtrak (e.g., the 1,840 daily commuter trains compared with 160 daily Amtrak trains).

Another complex area where states perceive challenges is in the assignment of impacts and benefits to a particular project, particularly those which require large capital investments. In the Northeast U.S., and specifically the Northeast Corridor, these impacts and benefits often carry across state lines. For example, the Chesapeake Connector project is located in Maryland, but would provide operational benefit to the State of Delaware, hence the State's interest in supporting this project. However, the fact that the project is located in another state raises additional questions of jurisdiction that exacerbate the difficulty in advancing a project, even though both states would be the beneficiary of a major investment. Another well-documented example of this disconnect is the tunnels from New Jersey accessing New York City. Projects to enhance tunnel capacity to New York benefit the entire corridor and certainly not just New Jersey and New York City, but current local matching fund requirements for capital projects as well as regional politics make the case to advance projects on a state-by-state basis

¹⁵⁶ Personal communication, Byron Comati, September 18, 2014.

more challenging. Meeting the challenge of forging a true partnership among the States, Amtrak and FRA – moving away from a landlord-tenant relationship into a shared investment program and partnership - will be a major determinate of the ultimate success of the Commission.

Disparate Federal Policy and Reporting

The oversight relationship and requirements of the various U.S. Department of Transportation entities (FRA and FTA notably) are another area where confusion and inefficiencies are experienced by the NEC owners and operators. Commuter and intercity rail are treated differently under federal law and thus NEC projects involving multiple operators are often subject to duplication of effort, additional reporting and cost, which can ultimately delay in their implementation.

Amtrak reports through the FRA and is thus subject to FRA's implementation of the National Environmental Policy Act (NEPA), Buy America and labor provisions, while commuter railroads operating on the same rail territory are generally subject to different requirements from the Federal Transit Administration (FTA) for the same substantive matters. Of note, FTA partners with the Federal Highway Administration to administer a national planning program that provides funding, guidance, technical support, and oversight to state and local transportation agencies.¹⁵⁷

Given these different governing agencies, the processes and requirements for NEPA triggers, federal funding programs, environmental evaluations and analysis, project development and linking planning and NEPA guidance vary between FTA and FRA. The roles of other transportation agencies, e.g. the Surface Transportation Board, may also preempt state and local law, and come into play for FRA-sponsored project. While similar in intent, Buy America requirements for FRA and FTA are not identical and also require consideration in light of both entities' provisions.¹⁵⁸

These differing requirements impact project delivery and further complicate the ability of the stakeholders to advance a comprehensive, unified series of projects for the Corridor.

Complexity of Operations and Governance

Distinct from other multi-use rail corridors in the U.S., which are typically dispatched by the host railroad (in many cases a Class I railroad), day-to-day operations on the Northeast Corridor are unique in that commuter and freight trains are handed off from one railroad to another as they maneuver from commuter railroad (non-Amtrak) track to the NEC and Amtrak control. Although Amtrak substantially controls the train movements, dispatching and construction on the NEC, the regional commuter rail operators carry far more passenger volumes. This situation adds to the complexity of reporting relationships among the various rail stakeholders, particularly the commuter railroads and a sometimes perceived lack of control.

There are operational policy and technological aspects to this situation. Current dispatching practices require decisions to be made by dispatchers based on many factors, which sometimes give priority to

¹⁵⁷ FTA office of Planning Environment/Accessed from: <http://www.fta.dot.gov/about/12347.html>

¹⁵⁸ Buy America Provisions Side by Side/Accessed from/
http://www.dot.gov/sites/dot.dev/files/docs/buy_america_provisions_side_by_side.pdf

the intercity Amtrak trains, resulting in commuter trains occasionally being held while waiting for Amtrak trains to pass. Adding to the complexity of operations is when another railroad owns a portion of the corridor, e.g., Metro-North in New York, and has responsibility for dispatching all trains through this portion of the NEC.

Furthermore, until recently, some commuter operators have not been able to access or view real-time data on their trains while on Amtrak territory and under Amtrak's dispatching. This situation is changing with a real-time data feed provided by Amtrak.

Competing Demands on the Corridor

Capacity constraints in many segments of the NEC limit the ability to expand all rail services, and provide for equitable balance among the various passenger services (each with a distinct operating profile, institutional structure and requirements), as well as between passenger and freight movements in general. The long accumulation of deferred capital needs and capacity constraints in the context of increasing demand has negatively impacted the traveling public in the Northeast with increased congestion, and ultimately will exert a negative impact on economic growth. Even with significant growth in ridership across most of the constituent systems, deferred investment has arguably impeded the NEC from achieving its potential as the nation's premier rail corridor.

The Corridor continues to currently operate productively in a pervasive atmosphere of privatization, expected to operate like a private enterprise, all the while growing as an asset that is highly influential and experiencing increasing demand. However, as expectations for its performance across operational and financial dimensions continue to grow, the NEC infrastructure is in the worst shape it has been in the past 25 years, post-Northeast Corridor Improvement Project (NECIP), which began in 1976.¹⁵⁹ This is combined with the political aspects of the corridor that currently focus on New York City as the "center of the NEC universe" from which the rest of network feeds. These structural challenges are exacerbated by a conundrum of the NEC being managed by a for-profit enterprise but operating as a nonprofit. The need for states to contribute additional funds through PRRIA causes further concern whether their funds are being used effectively as well as in a way that benefits their particular state.

Liability and Risk

Liability is another area where there exists a complicated and intricate allocation of risk between owners and operators that is often based on the provisions within historic agreements unique to the NEC. Liability and indemnity obligations are two of the most contentious issues among parties operating jointly on rail lines. Such obligations may increasingly hinder the addition of passenger rail operations on existing rail lines, as uncertainty about the relationship between federal and state laws, concerns about risk exposure from passenger rail accidents, and relatively tight capacity over some rail lines lead both freight railroads and passenger rail providers to assume more litigious and onerous negotiating positions.¹⁶⁰

¹⁵⁹ Personal conversation, Stephen Gardner, October 7, 2014.

¹⁶⁰ Surface Transportation Board letter report of liability review, June 10, 2010, Accessed from <http://www.stb.dot.gov/stb/docs/Liability%20Report%20letter%206-10.pdf>

The need to develop a Corridor-wide long-term strategy for liability is addressed in the Northeast Corridor Commuter and Intercity Rail Cost Allocation Policy. Changes to the current approach may require changes to federal and state law.¹⁶¹

E.7 Strategies Used to Overcome Barriers/Challenges

Commensurate with its size and operational complexity, there are numerous and formidable barriers and challenges facing the Northeast Corridor. At the same time, there is optimism for advancement of change and a move toward funding that goes beyond state of good repair that will attain the potential of the NEC, given the economic imperatives of the region and the commitment of its stakeholders to advance a high performance rail network. Several key themes emerged and resonated throughout this research and are described below.

Find Areas of Common Interest

By far, establishing common ground among diverse stakeholders was viewed as a key underlying theme and prerequisite to advancing the interests of the Northeast Corridor. With so many political, geographic and economic backgrounds and priorities at the table, it has been beneficial to gather a variety of viewpoints from stakeholders, and from there identify points of general and specific convergence. In the case of the Northeast Corridor, funding has served as the unifying theme for the stakeholder and entities, and from there determining the appropriate federal role for funding is the next logical step in this discussion. Embedded in the funding agreement however, are complex questions of equity within specific jurisdictions and territories---how to address needs that are critical, but more local or regional in character, while at the same time giving force to the major, catalytic improvements needed to advance the NEC as a unified entity.

It was observed by multiple respondents that having a generally similar political climate in the various states has been beneficial in terms of helping to unify voices and viewpoints – in this case related to funding. For the Northeast U.S., a majority of Democratic-leaning states serves to support the discussion on whether state and federal funds should be prioritized towards transportation. Similarly, there is a benefit to having the same political philosophy on whether a variety of funding sources, e.g., a gas tax, should be explored and applied to help support the ever-increasing demands on the region’s transportation network. With a dynamic turnover of elected officials, there is a continual need to educate and re-educate on the background and issues at-hand. Establishing and agreeing upon areas of common interest early on can minimize divisive opinions from “newcomers” later on in the process.

NEC Commission as a Unifying Force

All of the interviewees agreed (with some vigor) that the NEC Commission has an appropriate mandate, and provides an important forum and structure to facilitate decision-making and should be enabled to continue into the future. The NEC Commission’s value was noted as going well beyond the (critical) matter of cost allocation, but also bringing needed attention and analysis to the development and monitoring of capital programs, and how to make investments at both the local/regional level and corridor-wide with each investment playing by the same rules. Having an entity with a professional staff

¹⁶¹ Personal communication, Meredith Slesinger, September 10, 2014.

that can speak with objectivity on multistate projects is critical, as is making service goals known and applicable to the entire length of the Corridor.

It is expected that the NEC Commission's implementation of new cost sharing arrangements as part of its cost allocation task will be accompanied by new approaches to collaborative planning and decision-making. In essence, cost allocation "rightly" addresses the commuter rail operators paying for what they use on the Corridor and in turn as paying customers they anticipate a change in the cultural and partnering relationship between Amtrak and the carriers.¹⁶² The cost allocation policy is a living document, with the entities involved in its development coming to some initial agreement on how operating and normalized replacement costs can be apportioned, with the more challenging issues for future project planning and funding (beyond normalized replacement) tackled in subsequent discussions. The anticipated policy will include processes for establishing network capital investment priorities and service planning, a method for the allocation of future capacity, and changes to liability arrangements.¹⁶³

The September 2014 proposed PRRIA bill builds on the accomplishments of PRIIA in 2008 and focuses on areas most in need of additional reform. Under this proposal, the NEC Commission would be empowered through PRRIA to act as a true planner and convener of the states, commuter railroads and Amtrak, with an enhanced governance structure that would increase the states to voice in the management of the Corridor and will ensure that all investments are coordinated.¹⁶⁴ Roles, responsibility and decision-making will need to be viewed as part of this federal reauthorization.

Future leadership and direction for the NEC Commission will be key, with implementation to be enabled by law and not by the Commission. Initial leadership of the Commission by the USDOT Secretary was envisioned as a potential way to have an impact and force consensus on the harder decisions, further driving the implementation of the group's activities.¹⁶⁵ However, to change the current leadership scenario of a State DOT chair to a more prominent role from the USDOT would require a change in approach by the current Administration.

E.8 Interpretation and Synthesis

The NEC Commission not only serves as a forum to bring together the relevant stakeholders to create a collaborative vision for the corridor, it also has the political clout to advance the agendas of the one and the many. The NEC Commission can also serve to represent a single "backbone" of an infrastructure owner with multiple operators and beneficiaries. As such, the case study for the Northeast Corridor can be adapted in other areas of the U.S. where multiple operators and owners interact and where there is an overarching federal interest.

¹⁶² Personal communication, Byron Comati, September 18, 2014.

¹⁶³ Northeast Corridor Infrastructure and Operations Advisory Commission/Cost Allocation/Accessed from, <http://www.nec-commission.com/resources/cost-allocation/>










¹⁶⁴ Passenger Rail Reform & Investment Act of 2014, Accessed from, <http://transportation.house.gov/uploadedfiles/railpacket.pdf>

¹⁶⁵ Personal communication, Stephen Gardner, October 7, 2014

E.8.1 Key Aspects of the Case with Respect to Research Objectives




As a relatively mature passenger rail network in the U.S. and reflecting its historic role in shaping the region under various ownership and investment schemes, the Northeast Corridor is ripe with lessons learned associated with practical models for multistate institutional arrangements advancing the development and provision of intercity passenger rail networks and services.

The specific issues relevant to the research objectives identified in the Phase I Report and their relevance and applicability to the Northeast Corridor case study are presented in the table below. These ratings were assigned based on a qualitative assessment of how well a particular research issue is currently addressed in the NEC as well as the level of relevance of the NEC experience to other rail corridors in the U.S.

Research Issue	Degree to which Research Objectives Applicable to NEC Case Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery*	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

* While currently being done in the NEC, the degree of transferability to other regions is questionable.

Legend

	Addresses research issue to a high degree
	Addresses research issue to a moderate degree
	Addresses research issue to a slight degree

E.8.2 Key Lessons Learned

Throughout the research, several themes quickly emerged as key elements enabling the NEC Commission and others to effectively collaborate on intercity rail planning efforts throughout this multistate megaregion.

Lesson 1: Establish a Common Ground Early Among Corridor Stakeholders

The uphill course navigated by NEC stakeholders is underpinned by ensuring that the business community, elected leaders, community leaders and citizens see benefit from investing in rail. The benefits must be thoroughly, fairly, and accurately portrayed, and the analysis done in a manner which can withstand the scrutiny of objectors and disbelievers. With this foundation, the common ground can be established. The right information up front generates understanding which can lead to agreement and then support.¹⁶⁶

A common sentiment among our interviewees was the need to assemble the diverse voices of the NEC. There really is never too much interaction so long as it remains purposeful and directed, and inclusive rather than bilateral. Only by giving voice to stakeholder/jurisdictional view can there be movement toward meaningful agreement on which opportunities and issues on which the group should focus, and in what priority. In the case of the Northeast Corridor, with a long-established rail system in place, general agreement exists on the immediate need to bring the infrastructure on the Corridor to a state of good repair. The larger challenge identified by stakeholders then lies in how to then prioritize and fund the various improvement efforts that are needed, along with the best solution to increase capacity to accommodate growing passenger and freight demands in the future. This is what is currently underway through both the NEC Commission as well as FRA's NEC FUTURE. Related, it is critical to think about long-term issues early on in order to formulate a common vision and build positive momentum for the group's future activities. Federal policies and funding – an unknown quantity - will be critical in achieving results.

Lesson 2: Consensus Requires Patience and Relationship-building

The progress made to-date toward agreement on the cost allocation policy by the NEC Commission has largely occurred due to the work of Commission members and staff interacting and thinking through the multitude of complex issues that need to be addressed for this policy to move forward. Building the connections among these stakeholders took over a year, and as the Commission has made progress, its

¹⁶⁶ Personal communication, Rich Roberts, January 30, 2015.

members have experienced a common learning curve. This time was needed for members to become comfortable with each other to openly share their concerns and then discuss compromises – perhaps not obtaining all that was originally desire, but trusting that the other part acts in kind.

More than one observer opined that it will take at least five years to determine the effectiveness of the organization - and it has required a great deal of patience and understanding of others' perspectives. The NEC Commission is deliberately addressing its tasks in a thoughtful and sustainable manner.

This is particularly important with the states on the NEC and the local and network components of the Corridor's shared-use assets. As a majority user of the Corridor, there is a need for the commuter authorities to assume proportional financial responsibility for the assets. While it may be fundamentally difficult for the states to accept the notion of a shared interstate investment it is expected that, by building trust over time, Amtrak and the states can achieve the confidence to advance the cause for improvements as true partners.

As the role of the NEC Commission evolves and matures in the future, it will be further shaped by the national transportation landscape. This will make it even more critical for its leadership to help disparate parties join in a common agenda and decision-making process.

Lesson 3: Some Centralization is Required to Focus and Facilitate Decision-Making

A long history of fragmented management and an uneven distribution of resources in the NEC have allowed the inefficiencies of the many different owners, processes and stakeholders to proliferate and persist despite an abundance of talent and good intention. At the same time, there is renewed optimism that the NEC Commission's efforts can serve a very important role in pointing the way toward streamlining decision-making and the overall project advancement process. Bringing disparate and territory-focused entities together under the aegis of the NEC Commission is yielding some quick wins with efforts such as the *State of the Northeast Corridor Region Transportation System* and *The Northeast Corridor and the American Economy* reports, and the anticipated benefits from the cost allocation efforts anticipated in late 2014. Additional support shown towards this centralization is shown in PRRIA 2014, empowering the NEC Commission to act as a true planner and convener of the states, commuter railroads, and Amtrak.

In what is seen as a dual role, the NEC Commission is essentially taking on two major elements reflecting the complexity of the NEC:

1. Through cost allocation, the NEC Commission is addressing the relatively small issues and investments which confer the greatest local benefits, and
2. Addressing large, corridor-wide projects of regional benefit, the cost of which could never be assigned to a single host state, and which speak to federal legislation so that Amtrak can reinvest in the NEC.

The benefit to an individual state by participating in the NEC Commission relates to providing a *bona fide* "place at the planning table" when decisions are made for:

1. Infrastructure master planning – states have a vested interest that comes with investment, including procedures, oversight and governance. Shared decision-making must reflect individual entity and systemic needs
2. Shared concept thinking – providing influence and input on programmatic, incremental investments
3. Partnerships – setting priorities for capital investments and subsequent joint review.

Building on Lesson 2, some stakeholders noted the future roles of the NEC Commission and USDOT are also seen as a key element to help channel funding to NEC projects that are both large and local, yet benefit the entire Corridor. A more visible USDOT was cited as another way to centralize decision-making and advance these types of complex projects.

Lesson 4: Independence and Transparency Are Essential

Several stakeholders noted that the NEC Commission needs to be altogether autonomous from Amtrak in order to be viewed as a truly fair broker over the longer term (while still acknowledging that Amtrak has been a hands-off manager of the Commission). The administrative convenience to provide federal funding for the NEC Commission via Amtrak may or may not be a consequential matter any longer, but it has been said and should be acknowledged.

Linked, trust issues are prevalent in that there is concern that federal and state monies are being invested effectively. There is interest from stakeholders to better understand the expenditures of state and federal funds by Amtrak in order for them to gain more comfort in the value that is being obtained on these investments from other agencies.¹⁶⁷ Increased confidence in Amtrak's ability to deliver projects on schedule and within budget is another area where rail stakeholders expressed their apprehension, and as Northeast Corridor investments are incentivized through PRRIA 2014, the need to build comfort in these relationships and improve accountability with Amtrak is amplified.

Lesson 5: High-Performance Rail Requires High-Performance Infrastructure

It was heard consistently and emphatically that funds generated by increased commuter railroad and Amtrak financial contributions cannot replace existing federal funding. Rather, a new approach should leverage higher levels of federal, state, local and private investment. PRRIA 2014 is one step in this direction with several facets targeting investment in the NEC and incentivizing innovative funding solutions. These include retaining Northeast Corridor profits on the Northeast Corridor (i.e., not cross-subsidizing long-distance services); a federal-state partnership grant programming authorizing over \$600 million over four years in federal grants, contingent on the NEC states contributing an equal amount in dedicated state and local funding; and a dedicated loan fund for the NEC to accelerate large capital investment projects that would not otherwise be funded through regular appropriations.

The barriers and challenges faced in the Northeast Corridor speak to the similarities experienced by many of its stakeholders and the need for a plan to bring these sometimes competing interests together. If the NEC FUTURE SDP is accepted by all stakeholders as a near-term capital plan, this will be a major step forward. However, the states and the commuter rail operators supporting this effort will

¹⁶⁷ Personal communication, Jennie Granger, September 22, 2014.

be unwilling to take the first step towards investing more in operating support without a federal commitment to fund capital improvements to bring the NEC to a state of good repair.

Lesson 6: Synchronize Processes and Requirements for Advancement of Projects

As described in Sections 7.4 and 7.5, the history of the NEC ownership and operation also contributes to the complexity of operations, governance and federal reporting. With the significant efforts underway in the NEC Commission's development of cost allocation policy, it is anticipated that better integration with federal policy, along with governance and reporting in general, will be achieved.

In terms of train operations, the need for understandable policies, procedures and timely information for the various railroads operating on the NEC is a clear and compelling need in order to provide high-quality train performance on the Corridor. The NEC Commission's cost allocation policy starts with enhanced reporting and transparency in order to build effective strategies to address how capacity constraints on the Corridor may be addressed.

E.8.3 Degree to Which Results are Transferable

With the Northeast Corridor at the forefront of corridor planning and advancement of a high-performance rail network in the U.S., continued progress towards sustainable, adequate funding will continue to dominate the dialogue about infrastructure investment throughout the nation and for the foreseeable future. The benefit of a national rail plan was articulated by many, and the attempts to fashion one have been numerous, as is the well-established need for a long-term rail strategy that is supported by federal policy. That said, there are clearly common goals supporting the importance of rail for the nation's transportation network, and for the NEC, having the NEC Commission and the other rail stakeholders together on a common page could be a force multiplier when it comes to funding and public policy.

Given the large number of states and other jurisdictions, and service operators involved with the Northeast Corridor, there are certainly opportunities for lessons learned related to achieving consensus from a relatively large group of potentially divergent interests. States can also learn from the roles that their peers, rail operators, and Amtrak play now and will play in the future regarding the day-to-day operations and management of the Northeast Corridor.

While no one would advocate that the current situation on the NEC be replicated elsewhere in the US, there is now benefit to be gained from the Corridor's "leading edge" in terms of experiences and knowledge in dealing with infrastructure as it approaches the end of its useful life, in a corridor whose capacity is constrained while demand continues to grow to accommodate both passengers and freight. As the states evolve from a focus on multiple stand-alone initiatives to framing a single corridor vision, the relevance of the NEC experience may become more relevant for other regions.

More specifically, multistate entities can follow the advancements of the cost allocation policy development process, and examine the relevant governance topics and cost allocation methods that would be of most benefit. As federal policy changes are considered in the adoption of this policy, other regions can then examine, consider, and adopt similar methods to determine and allocate costs, revenues and compensation specific to particular rail corridors.

The relationship between the states and Amtrak may be somewhat different in the NEC as a result of the significant number of commuter operations, although the same issues in terms of overall decision-making apply with the state-supported services. Additionally, in regions of the U.S. where several states share ownership of vehicles, or multiple layers of jurisdictions are involved in high-speed rail planning and/or state-supported corridor services, the experiences of the NEC Commission model could prove valuable.

The NEC Commission will likely continue to be expected to “show the way” and implement innovative means of leveraging resources and encouraging broad participation to fund projects. With the leadership of the NEC Commission, the Corridor can be well-prepared to take advantage of relevant public-private partnerships (P3s), national state of good repair programs, and any other new or underutilized federal programs.

New federal, state, and local policy must treat the NEC as a singular, unified system, with an independent voice that is sustainable over the longer-term. How this fits in with any new national rail policy is a detail that will be of great interest to other regions and corridors.¹⁶⁸

E.9 Conclusions

As the population and employment density of the Northeast megaregion continues to grow, particularly within its urbanized regions, additional demands will be placed on an already-constrained rail network. As the U.S.’s premier high-speed rail network, the Northeast Corridor struggles to keep up with the increasing pressure to provide safe and reliable service, while at the same time laying the groundwork to serve for longer-term capacity needs and drive the economic prosperity of the region.

Fortunately, along with an acute awareness of the challenges confronting the NEC, at federal, state and local levels there is also significant attention being paid on how to best maintain the current network in the short term while providing adequate resources and funding for a robust rail network that is able to meet future needs. PRRIA 2014 could be a step in this positive direction.

The relatively large number of states and rail owners/operators on the NEC, combined with a rich multimodal transportation network, ensure that the current forums for discussion and regional decision making could continue to thrive into the future. The ongoing dialogue and efforts of the NEC Commission and FRA continue to serve as a means to get the various entities focused and aligned. Organizations such as **CONEG** and the **I-95 Corridor Coalition** further reap the benefits of partnerships and relationships not only within each organization but also across organizational boundaries. With a larger network of entities to draw upon, other state’s assets and resources can be drawn upon to address incidents and catastrophes, as well as to help each other make better decisions.¹⁶⁹

¹⁶⁸ It was suggested that this research be updated in the Spring of 2015 to incorporate progress and lessons learned on the cost allocation policy efforts.

¹⁶⁹ Personal conversation, Shailen Bhatt, September 16, 2014.

There are meaningful lessons to be learned from the front running experiences of the NEC, and opportunities for other regions to build on the successes of the NEC Commission. The future role and initiatives of the Commission will be of interest to other entities seeking a model for collaboration and cooperation over the distinct, overlapping and common challenges of managing a great intercity passenger rail network.

E.10 References

1. A Vision for High-Speed Rail in the Northeast Corridor, September 2010/ Accessed from, <http://www.amtrak.com/ccurl/214/393/A-Vision-for-High-Speed-Rail-in-the-Northeast-Corridor.pdf>
2. Amtrak Fact Sheet, Fiscal Year 2013, State of Massachusetts/ Accessed from <http://www.amtrak.com/pdf/factsheets/MASSACHUSETTS13.pdf>
3. Amtrak National Fact Sheet FY2013 / Accessed from, <http://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&cid=1246041980246>
4. Amtrak Year-by-Year: 1976 / Accessed from, <http://history.amtrak.com/blogs/blog/amtrak-year-by-year-1976>
5. Bhatt, Shailen, Delaware DOT Secretary, NASTO President, I-95 Corridor Coalition Chair, Personal Communication: September 16, 2014
6. Brancato, Rich, Coalition of Northeastern Governors, Director of Transportation Programs, Personal Communication: October 3, 2014
7. Comati, Byron, Southeastern Pennsylvania Transportation Authority (SEPTA) Director of Strategic Planning and Analysis, Personal Communication: September 18, 2014
8. CONEG Collation of Northeastern Governors/ About CONEG / Accessed from, <http://www.coneg.org/about/>
9. Connecticut Department of Transportation, About ConnDOT/ Accessed from, <http://www.ct.gov/dot/cwp/view.asp?a=1380&Q=302028>
10. Connecticut Department of Transportation, Office of Rail/ Accessed from, <http://www.ct.gov/dot/cwp/view.asp?a=1386&q=316722>
11. CTDOT, Amtrak Announce Cost-Share Agreement, October 2013/Accessed from, <http://www.ct.gov/dot/cwp/view.asp?A=1373&Q=533678>
12. Critical Infrastructure Needs on the Northeast Corridor, January 2013/ Accessed from, http://www.nec-commission.com/wp-content/uploads/2013/01/necc_cin_20130123
Delmarva intercity Rail Feasibility Study, 2013 / Accessed from, https://www.dartfirststate.com/information/programs/transportation_plans/Delmarva_Intercity_Rail_Feasibility_Study.pdf
13. Downey, Mortimer, Parsons Brinckerhoff, Personal Communication: September 10, 2014
14. Federal: 49 U.S.C. 24905, no date, Accessed from, <http://www.law.cornell.edu/uscode/text/49/24905>
15. Gardner, Stephen, Amtrak Vice President, Northeast Corridor Infrastructure and Investment Development, Personal Communication October 7, 2014
Governor Cuomo Announces Hudson Rail Line Lease, December 2012/ Accessed from, <http://www.amtrak.com/ccurl/13/26/Amtrak-CSX-Hudson-Line-Release-ATK-12-126.pdf>

16. Granger, Jennie, Director, Pennsylvania Department of Transportation (PennDOT), Personal Communication: September 22, 2014.
17. I-95 Corridor Coalition, Procedural Guideline, December 2012/ Accessed from, http://www.i95coalition.org/i95/Portals/0/Public_Files/forms-guidalines/Procedural_Guidelines_2012_1213%20Update%20Final
18. I-95 Corridor Coalition, Accessed from, <http://www.i95coalition.org/i95/Default.aspx>
19. I-95 Corridor Coalition, Membership Types and Benefits /Accessed from, <http://www.i95coalition.org/i95/Home/Members/tabid/108/Default.aspx>
20. MARC, Growth and Investment Plan Update2013-2050, 2013/ Accessed from, http://mta.maryland.gov/sites/default/files/mgip_update_2013-09-13.pdf
21. Maryland Transit Administration, MARC Train / Accessed from, <http://mta.maryland.gov/marc-train>
22. Maryland Transit Administration, MARC Train / Accessed from, <http://mta.maryland.gov/marc-train>
23. Massachusetts Bay Transportation Authority, About MBTA, History/ Accessed from http://www.mbta.com/about_the_mbta/history/default.asp?id=970
24. Metropolitan Planning Authority, About MTA, Public Transportation for the New York Region/Accessed from, <http://web.mta.info/mta/network.htm>
25. NEC FUTURE Scoping Package, June 2012/ Accessed from, http://www.necfuture.com/pdfs/scoping_package_0612.pdf
26. NEC Infrastructure & Operations Advisory Commission/ Mission / Accessed from, <http://www.nec-commission.com/the-commission/mission/>
27. NEC Planning Process, CEQ Pilot, Accessed from, http://www.necfuture.com/planning_process/ceq.aspx
28. New Jersey Transit, About Us/Accessed from, http://www.njtransit.com/tm/tm_servlet.srv?hdnPageAction=CorpInfoTo
New Jersey State Rail Plan, December 2012/ Accessed from, <http://www.state.nj.us/transportation/freight/rail/pdf/finaldraftnjstaterailplan122012.pdf>
29. New York State Department of Transportation, Mission Statement/ Accessed from, <https://www.dot.ny.gov/about-nysdot/mission>
30. New York State Department of Transportation, NYSDOT-rail Related Bureau - Freight and Passenger Rail/ Accessed from, <https://www.dot.ny.gov/divisions/operating/opdm/passenger-rail>
31. NYSDOT, Passenger Rail Service in New York State/ Accessed from, <https://www.dot.ny.gov/divisions/operating/opdm/passenger-rail/passenger-rail-service/nys-amtrak>
32. Nissenbaum, Paul, Associate Administrator for Railroad Policy and Development, Federal Railroad Administration, Personal Communication, October 20, 2014
33. Northeast Corridor Infrastructure and Operations Advisory Commission/Cost Allocation /Accessed from, <http://www.nec-commission.com/resources/cost-allocation/>
34. Preliminary Alternatives Report/ Accessed from, http://www.necfuture.com/pdfs/prelim_alts_report.pdf
35. Reyes-Alicea, Rebecca, NEC Program Manager, Federal Railroad Administration, Personal Communication, October 20, 2014
36. Regional Plan Association, Getting Back on Track: Unlocking the Full Potential of the New Haven Line, Jan 2014 / Accessed from, <http://library.rpa.org/pdf/RPA-Getting-Back-on-Track.pdf>
37. Rhode Island Department of Transportation/ Planning and Program Development / Accessed from, <http://www.dot.ri.gov/about/who/planning.php>

38. Rhode Island Department of Transportation/About Us/Accessed from,
<http://www.dot.ri.gov/about/index.php>
39. Rhode Island State Rail Plan 2014, Report 117, March 2014/ Accessed from,
http://www.dot.ri.gov/about/who/intermodal_planning.php
40. Roberts, Richard, Chief Planner, NJ TRANSIT, Persona Communication: October 8, 2014
41. Shore East Line, FAQ/Accessed from,
http://www.shorelineeast.com/riding_sle/faq/faq_gen.php
42. Slesinger, Meredith, Director Policy and Outreach at Northeast Corridor Infrastructure and Operations Advisory Commission, Personal Communication: September 10, 2014
43. State of the Northeast Corridor Region Transportation System, February 2014 / Accessed from,
<http://www.nec-commission.com/reports/transportation-report/>
44. The Amtrak Vision for the Northeast Corridor, 2012 Update Report / Accessed from,
<http://www.amtrak.com/ccurl/453/325/Amtrak-Vision-for-the-Northeast-Corridor.pdf>
45. The Massachusetts Rail Program/ Accessed from,
<http://www.massdot.state.ma.us/portals/12/docs/RailPlan/MARailProgram.pdf>
46. The Northeast Corridor and the American Economy, April 2014/ Accessed from,
<http://www.nec-commission.com/reports/nec-and-american-economy/>
47. The Northeast Corridor Infrastructure Master Plan, 2010 / Accessed from,
<http://www.amtrak.com/ccurl/870/270/Northeast-Corridor-Infrastructure-Master-Plan.pdf>

Appendix E-1 – Comparison of State and Commuter Rail Service Agreements

Agreement Parties	State of Connecticut, NY MTA and MNR	NJ TRANSIT RAIL OPERATIONS and MNR	SEPTA and Delaware Transit Corporation
Executed Year	1985	2006	2003
Location	New Haven Line	Port Jervis and Pascack Valley Lines	Wilmington/Newark Line
Definitions	X	X	X
Service and Operation	X	X	X
Access		X	X
Service	X		X
Operation of the Service	X	X	X
Fares	X	X	
Fare Increases	X	X	
Modification of the Service	X	X	X
Service Meetings	X		
Provision of Information to State and Transit Agency	X		
Provision of Equipment		X	
Maintenance	X	X	
Obligations of the Parties	X	X	
Operator Responsibilities	X	X	
Owner Responsibilities	X	X	
Station Maintenance		X	
Allocation and Payment of Operating Deficits	X		X
Main Line	X		
Branch Line	X		
Terminal Station	X		
Adjustment of Prior Payments	X		X
General Provisions as to Payments	X	X	X

Agreement Parties	State of Connecticut, NY MTA and MNR	NJ TRANSIT RAIL OPERATIONS and MNR	SEPTA and Delaware Transit Corporation
Classification and Acquisition of Capital Assets	X		X
Classification of Capital Assets	X		
Future Acquisition of Non-moveable Capital Assets	X		
Future Acquisition of Moveable Capital Assets	X		
Capital Projects	X		X
Allocation and Payment of Capital Costs	X	X	
Non-moveable Capital Assets (includes Capacity Improvements)	X	X	
Moveable Capital Assets	X		
Payment of Capital Costs (includes Annual Contribution)	X	X	
General Provisions as to Payments	X	X	
Adjustment of Prior Payments	X		
Service Finances and Budget Process	X	X	
Accounts (includes Inspection of Records)	X	X	X
Service Revenues	X	X	
Service Costs	X		
Annual Budget Process	X		
Quarterly Financial Review Meetings	X		
Capital Budget Process	X		
Prior Operating and Capital Expenses	X		
Five-year Capital Plan	X		
Excluded Costs		X	
Asset Ownership and Management	X		
Title to Assets	X		

Asset Management Review	X		
Labor	X	X	
Labor Negotiations	X		
Violation of Labor Agreements		X	
Non-Operation of Service		X	
<u>Agreement Parties</u>	State of Connecticut, NY MTA and MNR	NJ TRANSIT RAIL OPERATIONS and MNR	SEPTA and Delaware Transit Corporation
Productivity Review	X	X	
Productivity Review	X		
Resolution of Disputes Relating to the Productivity Review	X		
Liability and Insurance (Indemnification)	X	X	X
General		X	
Employee Liability		X	
Passenger Liability		X	
Third Party Liability		X	
Risk of Loss - Equipment or Facility		X	
Insurance		X	
Arbitration	X	X	
Settlement of Disputes	X	X	
Arbitration Procedure	X		
Financial Arbitration Procedure	X		
Arbitration Awards	X		
Certain Matters Not Subject to Arbitration	X		
Enforcement of Awards	X		
Claims	X	X	
Handling of Claims Prior To/Post Certain Date	X		
Certain Claims Arising Out of Incidents Involving the Service and Other Railroad Transportation	X		

Selection of Counsel for the Litigation of Claims	X		
Duration of the Agreement	X	X	X
Effective Date	X	X	X
Term	X	X	X
Renewal	X	X	X
Termination Rights	X	X	X
Procedures Upon Termination	X	X	X
Agreement Parties	State of Connecticut, NY MTA and MNR	NJ TRANSIT RAIL OPERATIONS and MNR	SEPTA and Delaware Transit Corporation
Miscellaneous	X		
Notices	X	X	X
Office Space	X		
Governmental and Court Approval	X		
Force Majeure	X	X	X
Successors and Assigns	X	X	X
Past Agreements	X		
Future Agreements	X	X	
State Express Waiver of Sovereign Immunity	X		
State Non-Discrimination Statute and Executive Orders	X		X
Interpretation	X		
Changes in Federal Law or Regulations		X	
Availability of Funds		X	
APPENDICES	X	X	
Uniform Accounting Principles for Service	X	X	
Service Schedule	X	X	X
Service Consists	X	X	
Service Fares	X	X	
Service Maps	X	X	

Appendix E-2 - Proposed Passenger Rail Reform and Investment Act of 2014 (PRRIA)

Approved on September 17, 2014 by the House Transportation and Infrastructure Committee, PRRIA, H.R. 5449, builds on the improvements accomplished by PRIIA and further strives to improve rail infrastructure, reduce costs, leverage private sector resources, create greater accountability and transparency for Amtrak, and accelerate project delivery.¹⁷⁰ While generally considered unlikely to pass during the current Congress, the measure represents a substantive and focused initiative to allocate resources in a manner that supports passenger rail in local, state and interstate contexts. Specifically, PRRIA reduces authorized Amtrak funding by approximately 40 percent (but actually authorizes as much or more than recent appropriations), requires that Amtrak eliminate losses from food and beverage service, and mandates that Amtrak carry out a business case analysis for all major procurements. Additionally and very significantly, the legislation allows for operating profits made on the NEC to be retained and reinvested in the Corridor rather than using these funds to support national intercity routes.¹⁷¹

Highlights of the act include:

Reforms Amtrak to Increase Transparency, Reduce Costs, and Operate More Like a Business

- Authorizes Amtrak at recently appropriated funding levels
- Eliminates Amtrak's losses in food and beverage service
- Mandates Amtrak to carry out a business case analysis for all major procurements
- Eliminates Amtrak's black-box accounting and requires transparent bookkeeping aligned with core service functions

Leverages Resources and Encourages Non-Federal Participation

- Creates station development opportunities for the private sector
- Opens new revenue streams through right-of-way development
- Unlocks an underutilized federal railroad loan program
- Assists with advancing large infrastructure projects through partnerships with states

Targets Investments Where There is the Greatest Potential for Success

- Retains Northeast Corridor profits on the Northeast Corridor
- Improves management of the Northeast Corridor
- Incentivizes increased Northeast Corridor investments

Empowers States to Have a Greater Role in Managing Routes

- Ensures states are equal partners in rail investments and operations, giving them a greater say in decision-making to ensure a consistent level of passenger convenience

¹⁷⁰ Passenger Rail Reform & Investment Act of 2014, Accessed from, <http://transportation.house.gov/uploadedfiles/railpacket.pdf>

¹⁷¹ Railway Age: Senate Commerce Committee passes STB reauthorization act; PRRIA passes House T&I Committee, Accessed from <http://www.rtands.com/index.php/track-maintenance/off-track-maintenance/senate-commerce-committee-passes-stb-reauthorization-act-prria-passes-house-ti-committee.html?channel=286>

- Strengthens transparency to give states and Congress greater insight into Amtrak's accounting to identify areas for improvement
- Requires Amtrak to evaluate long-distance routes, improve services, and lower costs

Streamlines Environmental Reviews and Accelerates Project Delivery

- Sets hard deadlines to reasonably limit review times
- Requires reviews to occur concurrently rather than consecutively
- Improves coordination among federal, state, and local agencies involved in the reviews

CASE STUDY F: PACIFIC NORTHWEST HIGH SPEED RAIL CORRIDOR

Contents

F.0 Executive Summary	233
F.1 Introduction	237
F.2 Description of the Passenger Rail Corridor	237
F.3 Cascades Rail Corridor Participants.....	238
F.4 Description of the Project Development and Implementation Process	239
F.5 Barriers/Challenges Faced in Implementing the Cascades Rail Corridor	246
F.6 Interpretation and Synthesis.....	247
F.7 References.....	252
Appendix F-1 - WSDOT / ODOT Pacific Northwest Rail Corridor Memorandum of Understanding	254

Glossary of Terms

BCMoTI	British Columbia Ministry of Transportation and Infrastructure
BNSF	BNSF Railway Company
EA	Environmental Assessment
EIS	Environmental Impact Statement
FRA	Federal Railroad Administration
FONSI	Finding of No Significant Impact
HSIPR	High Speed and Intercity Passenger Rail
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
MOU	Memorandum of Understanding
OEM	Original Equipment Manager
ODOT	Oregon Department of Transportation
PNWRC	Pacific Northwest High Speed Rail Corridor
PRIIA	Passenger Rail Investment and Improvement Act
TOF	Transportation Operations Fund
UPRR	Union Pacific Railroad
WSDOT	Washington State Department of Transportation

F.0 Executive Summary

Background

The Pacific Northwest High Speed Rail Corridor (PNWRC) is one of five originally proposed high speed passenger rail corridors designated by the U.S. DOT in 1992. The high speed rail program consists of a series of projects to increase service reliability in the Cascades Rail Corridor, with a goal to expand and improve Washington's Amtrak Cascades service between Eugene, Oregon and Vancouver, British Columbia. Of the 467 total miles, 300 miles reside in the state of Washington, 134 miles in Oregon, and 33 miles in British Columbia (see Figure F-1).

Nature of the Partnership

Functional partnerships have played a critical role in the successful operation of passenger rail service between Eugene, OR and Vancouver. Partnerships including public and private entities, railroads, train manufacturers, and international customs and border control agencies have occurred through continuous collaboration and regularly updated service agreements. Key participants in the corridor include Washington State DOT (WSDOT), Oregon DOT, British Columbia Ministry of Transportation and Infrastructure (BCMoTI), Federal Railroad Administration (FRA), National Railroad Passenger Corporation (Amtrak), Talgo (Original Equipment Manufacturer), and rail line owners — Union Pacific Railroad (UPRR) and BNSF Railway Company (BNSF). Although passenger service is provided almost seamlessly across three jurisdictions, the service has been managed separately by WSDOT and ODOT. As a result, separate service agreements currently exist between Amtrak and the two states. Similarly, separate maintenance agreements also exist with Talgo.

Traditionally, as service has been managed separately, so have planning efforts, albeit with coordination among the government entities with a role in passenger rail. WSDOT submitted a Tier-1 Environmental Assessment (EA) to the FRA evaluating any potential impacts of the proposed railway improvement program on the Washington state segment, stretching about 300 miles on the BNSF north-south mainline from the Columbia River to the Canadian border. For the 125-mile segment between Portland and Eugene-Springfield, Oregon (also known as the Oregon Passenger Rail Project), ODOT and FRA are now studying alternatives and preparing a Tier 1 Environmental Impact Statement (EIS) under NEPA. The region has also used state rail plans as a mechanism for coordination. The state rail plans provide a blueprint for meeting the current and future needs of passenger and freight rail in Oregon and Washington states.

WSDOT and ODOT have committed to the concept of operating the Cascades service as a single corridor by signing an MOU. Following the MOU, a Cascades Rail Corridor Management Work plan was developed and signed by the two states in January 2013. The Work plan provided an initial framework for how the two agencies would jointly manage intercity passenger rail service in the corridor and is currently being updated. Objectives for the single corridor operation include: delivering consistently on customer expectations for fast, reliable, safe, and affordable higher speed rail; building revenue to cover the cost of operations; growing ridership to and from economic centers; providing a competitive transportation option; pooling resources for increased efficiencies; reducing costs; and ensuring partners share in revenues and costs.



In order to effectively define roles and responsibilities in the development of the single corridor, a Cascades Rail Corridor team has been created with participation from the three major governmental entities--- Washington, Oregon, and British Columbia. Overall management responsibility for corridor services, however, is wholly sponsored by Oregon and Washington and the two states jointly coordinate management and service-related issues through a regular monthly corridor meeting. Further collaboration has taken place through the formation of the Washington State Rail Caucus involving representation from the state legislature to discuss issues and policy solutions, such as the forthcoming station stops policy. Oregon is considering following suit and in the future it is envisioned that a joint rail caucus will be formed with representation from both states.

Figure F-38: Pacific Northwest High Speed Rail Corridor

Challenges and Barriers

- Responding to changes from PRIIA Section 209 and creating a financially self-sustaining passenger rail service in the Cascades Corridor post PRIIA implementation has been challenging. Previously, WSDOT and ODOT jointly funded 80 percent of the Amtrak Cascades service's operating costs not covered by ticket revenue. Under the provisions of PRIIA, WSDOT and ODOT must absorb the additional 20 percent of operating costs that had previously been paid by Amtrak.
- Although the rail service is wholly sponsored by WSDOT and ODOT, there is a desire to bring British Columbia on as an active funding partner in the future. Cross-country border service provides additional complexities with respect to customs, security, and operations.

Lessons Learned

- The MOU and Work plan as well as application of applying good program management skills have helped implement the vision and the established communication platforms and procedures have played a key role in developing joint resolution when issues have arisen.
- Budget appropriations for the states as well as the Federal government are not currently aligned, which complicates operational planning.
- Understanding the important role of railroads, and of the underlying infrastructure owner, can help to facilitate balancing of freight and passenger rail to meet service needs.
- Incremental approach to corridor improvements has worked well and has kept the corridor team committed to achieving the long-term goals laid out, while also demonstrating visible improvements and benefits to passengers as shown through the increase in ridership over the years.

Table F.1 presents the characteristics of the institutional relationships represented in this case study.

Table F.15 Pacific Northwest High-speed Rail Efforts for Planning/Operations and Maintenance

Characteristic	Discussion	
	WSDOT- ODOT Memorandum of Understanding	Cascades Rail Corridor Management Work plan
Phase of Project Development	Planning	Planning / Operations & Maintenance
Stakeholders	✓ Washington State DOT, Oregon DOT	✓ Washington State DOT, Oregon DOT, BNSF, Union Pacific Railroad, Amtrak, Sound Transit, and Province of British Columbia
Institutional Relationships	✓ Established through MOU	✓ Established through Work plan
Identification of Responsibilities	✓ States agreed jointly fund and oversee the improvement and expansion of passenger rail service in the PNWRC and develop a Corridor Management Plan to detail funding, planning, equipment, performance measurement and other key issues.	✓ Work plan defines how ODOT and WSDOT will work together as joint managers of service the corridor, along with milestones and an interim dispute resolution procedure. Outlines activities that will be explored collaboratively versus those that will be coordinated on but managed separately for five-year period.
Role of regulatory agencies		✓ Work plan acknowledges FRA's role in oversight of freight and passenger rail service
Why – ‘Compelling Need’?	WSDOT and ODOT recognized need to establish agreement to govern development of their joint five-year Work plan	While the region had been able to advance some planning of corridor improvements, WSDOT and ODOT recognized the need for a more structured partnership to establish joint funding and oversight responsibilities to move towards implementation of improvements, particularly in light of substantial ridership growth
Decision-making Process		✓ The Work plan includes procedures such as dispute resolution and calls for highly structured meetings and correspondence to address any negotiations-, operations-, or service-related issues. Also outlines clear organizational chart
Corridor Ownership	✓ BNSF and UP	✓ BNSF and UP
Lead Agencies/Groups	✓ ODOT and WSDOT are joint leads	✓ ODOT and WSDOT are joint leads
Legal Authority	✓ The Revised Code of Washington and the Oregon Revised Statute provided each state legal authority to enter MOU.	
Cost Sharing	✓ MOU called for creation of Corridor Director position to be funded 80% by WSDOT and 20% from ODOT.	✓ Partners agreed to continue executing separate agreements with Amtrak for operation of the Cascades route. Cost shares are allocated based on estimated total route train miles traveled within the ODOT and

Characteristic	Discussion	
		WSDOT service areas.
Funding Sources	✓ Funds from each partner state	✓ Funds from each partner state
Interaction with Others	✓ Partner agencies agreed in the MOU to work with host railroads, ports, transit agencies, and local governments in development of the Corridor Management Plan	✓ Communications Group plans and executes public information programs. Agreement Group responsible for negotiating and executing agreements.
Oversight	✓ Oversight for the Corridor Management Plan development to be provided by ODOT and WSDOT.	✓ WSDOT/ODOT Staff Leadership Team consisting of managers from ODOT's Rail Division and WSDOT's Rail Office
Relationship with Host Railroad or Other Providers of Service	✓ BNSF and UPRR are recognized in the MOU	✓ BNSF and UPRR were important partners in development of the Corridor Management Plan. Separate service agreements currently exist between Amtrak and the two states. Similarly, separate maintenance agreements also exist with Talgo
Impact of PRIIA Section 209	✓ Major impetus for formalizing relationship	✓ Increased operating costs for WSDOT and ODOT but also allows for stronger, more active role in management of service to control costs and increase revenue.
Marketing & Customer Service		✓ Work plan assigns responsibility to interagency Communications Group.
Service Standards		✓ Work plan does not explicitly address service standards but does establish functional working group responsible for Data Analysis and Reporting.
Revenue Sharing		✓ To be developed in the Corridor Management Plan.
Branding		✓ Work plan does not explicitly address branding but could fall under purview of Communications group if changes are explored.
Liability Issues	✓ The MOU establishes that both Partners will indemnify and hold harmless each other from any and all claims, suits and liabilities which may occur in the collective effort	
Procurement	✓ Not explicitly addressed in MOU	
Contractual Arrangements	✓ MOU served as contract between the two states for development of Work plan (MOU expired on September 30, 2013)	✓ Work plan serves as agreement governing corridor activities through 2017.

F.1 Introduction

The states of Washington and Oregon, and the province of British Columbia have a long history of collaboration in providing intercity passenger rail service in the Pacific Northwest Region, known as the Cascades Rail Corridor (Eugene, Oregon to Seattle, Washington, and to Vancouver, British Columbia). This case study examines the formalization of the joint relationship between Washington State Department of Transportation (WSDOT) and Oregon State Department of Transportation (ODOT), and related agreements, to provide shared operations as a single corridor upon implementation of the Passenger Rail Investment and Improvement Act (PRIIA) Section 209 by October 1, 2013. PRIIA Section 209 directs the states and Amtrak to “develop and implement a single, nationwide standardized methodology for establishing and allocating the operating and capital costs among the States and Amtrak” related to trains that operate on corridors of 750 miles or less. The intent of Section 209 is to ensure that Amtrak treats all states equally and to allocate to each route a proportionate set of costs that reflect the routes’ relative use.¹⁷² This case study also highlights shared functional roles and responsibilities across multiple agencies through the development of a corridor management team and incremental approach to meet their shared vision for the corridor.

F.2 Description of the Passenger Rail Corridor

The Pacific Northwest High Speed Rail Corridor (PNWRC) is one of five originally proposed high speed passenger rail corridors designated by the United States Department of Transportation (USDOT) in 1992 as a result of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The high speed rail program consists of a series of projects to increase service reliability in the Cascades Rail Corridor, with a goal to expand and improve Washington’s Amtrak Cascades service between Portland, Oregon and Vancouver, British Columbia. Of the 467 total miles, 300 miles reside in the state of Washington, 134 miles in Oregon, and 33 miles in British Columbia (see Figure F-2).

The Amtrak Cascades service has grown significantly since its operations began in 1994. Geographic reach extends from Eugene, Oregon to Vancouver, British Columbia and now operates 4,015 trains annually with 11 trains operating daily with stops in 18 cities. Annual ridership has grown from 180,209 in 1994 to nearly 782,500 in FY 2014. This service includes four daily round trips between Seattle and Portland; two daily round trips between Seattle and



Figure F-39: Pacific Northwest High Speed Rail Corridor

¹⁷² AASHTO. Establishing Standard Pricing Policies Annual Operating Costs and Capital Charges: Issue Brief- PRIIA Section 209 Intercity Passenger Rail Service. <http://www.highspeed-rail.org/Documents/S209%20Issue%20Brief%20061011.pdf>. P.1 June 10, 2011.

Vancouver, British Columbia; and two daily round trips between Portland and Eugene, Oregon. The trip between Seattle and Portland takes about 3 hours and 30 minutes one way. Enhanced intercity passenger rail service through the PRIIA investments would provide maximum speeds of 79 mph, shared track with freight trains, and two additional round trips between Seattle, Washington and Portland, Oregon by 2017, totaling six daily round trips between the two major economic centers. With about \$800 million in rail improvement projects, the program is expected to shorten travel times, and improve on-time performance and schedule reliability.

F.3 Cascades Rail Corridor Participants

Functional partnerships have played a critical role in the successful operation of passenger rail service between Eugene, OR and Vancouver, British Columbia. Partnerships including public and private entities, railroads, train manufacturers, and international customs and border control agencies have been managed through continuous collaboration and regularly updated service agreements. Key participants in the corridor include WSDOT, ODOT, British Columbia Ministry of Transportation and Infrastructure (BCMoTI), Federal Railroad Administration (FRA), National Railroad Passenger Corporation (Amtrak), Talgo (Original Equipment Manufacturer), and rail line owners — Union Pacific Railroad (UPRR) and BNSF Railway Company (BNSF).

Although passenger service is provided almost seamlessly across three jurisdictions, the service has been managed separately by WSDOT and ODOT. As a result, separate service agreements currently exist between Amtrak and the two states. Similarly, separate maintenance agreements also exist with Talgo.

Brief overviews of the various multi-agency agreements and key participants in the corridor are provided below.

The Cascades Rail Corridor is primarily funded by Washington and Oregon. **ODOT and WSDOT** are responsible for administering the operation of Amtrak Cascades service; budgeting; performance tracking; construction project management and reporting; local, regional, state and national program coordination; and public outreach and marketing activities.

WSDOT owns and manages three trainsets, owns one station, and is responsible for the completion of strategic state investment projects supported with approximately \$800 million in federal funding (PRIIA). Planning and management of passenger rail in the state of Washington is conducted through WSDOT's Rail Division. The Rail Division is also responsible for the implementation of planned service enhancements to passenger rail services. Federal funding supports 20 projects, together, aimed to build additional rail line capacity and upgrading tracks, utilities, roadway signals, passenger stations, new train equipment, and advanced warning systems. Further, the funding provides for the corridor to be realigned and shortened in the Tacoma area, moving off of the BNSF right of way and onto the old Tacoma Rail line, now owned by Sound Transit. When this bypass takes place, a new agreement will be needed with Sound Transit.

ODOT owns and manages two trainsets, three cab cars, and one station. ODOT's Rail Division is developing and managing a state rail plan, oversees improvement projects, is responsible for completion

of projects supported with federal high-speed rail funds, and is responsible for the safety of the state's rail system.

Amtrak operates intercity passenger rail service in the corridor. Amtrak holds separate agreements with ODOT and WSDOT in their respective states, but will eventually evolve into one tri-party agreement anticipated in 2016 between ODOT, WSDOT, and Amtrak to service the individual state segments as a single corridor. Separately, Amtrak also maintains agreements with BNSF (for Vancouver, British Columbia to Portland segments) and UPRR (for Portland to Eugene segment) to address track usage, train dispatching, maintenance of track and structures, on-time performance, locomotive fuel, and supply of spare locomotives.

BNSF owns the rail lines Amtrak uses between Portland, Oregon and Vancouver, British Columbia. By federal law, BNSF is required to provide for incremental cost to Amtrak in exchange for being relieved of its common carrier obligations to carry passengers. Though the 2000s BNSF worked with states in the Pacific Northwest corridor to improve tracks and reduce choke points, helping to improve capacity, and on-time performance for passenger rail operations.¹⁷³

UPRR owns the rail lines Amtrak uses between Eugene and Portland, Oregon. Similar to BNSF, UPRR is also required by federal law to provide for incremental cost to Amtrak in exchange for being relieved of common carrier obligations to carry passengers.

Talgo is the Original Equipment Manufacturer (OEM) responsible for providing maintenance for the train cars used in the Amtrak Cascades service. Talgo currently has separate maintenance contracts with each of the following equipment owners: WSDOT (three trainsets), Amtrak (two trainsets), and ODOT (two trainsets). The WSDOT and Amtrak maintenance contracts with Talgo last 20 years and will expire in 2019. The Oregon maintenance contract with Talgo is an interim contract and a longer-term contract is being negotiated between these two parties.

The Talgo trainsets were selected for service in the Pacific Northwest corridor because they differ from typical passenger train in that the train sets are articulated. This increases stability, improves safety and smoothness of ride, and allows trains to travel more quickly around curves. This ability to negotiate tight curves was well suited to the Pacific Northwest Corridor and saved significant capital dollars by not needing to straighten track curves. Talgo train car bodies are built in Spain, then shipped to Seattle where final assembly is completed, to comply with federal Buy America provisions.¹⁷⁴

F.4 Description of the Project Development and Implementation Process

Cascades Rail Corridor improvement planning dates back to 1992 when WSDOT published its High Speed Ground Transportation Study and FRA designated the Pacific Northwest Rail Corridor as one of the five original high speed rail corridors. As noted previously, the approach to advancing high speed rail was to build upon the existing Amtrak Cascades Rail Corridor service. This section briefly describes the project

¹⁷³ BNSF. Passenger Trains on Freight Railroads. <http://www.bnsfmedia.com/go/doc/7090/2443570/>. p.5. October 19, 2009.

¹⁷⁴ WSDOT. Amtrak Cascades Train Equipment. <http://www.wsdot.wa.gov/Rail/TrainEquipment.htm> . 2015.

development process to date, focusing initially on efforts led by the individual states and then transitioning into more recent efforts to establish a more formal and structured framework for collaboration among these partners.

F.4.1 Major State-led Planning Efforts

Traditionally, as service has been managed separately, so have planning efforts, albeit with coordination among the government entities with a role in passenger rail. Under the 1993 5-year high speed rail initiative, it was determined that project specific environmental documentation pursuant to SEPA and/or NEPA could take the place of a programmatic EIS, due to the nature of the corridor service plan, which was developed in coordination with the FRA and the Federal Highway Administration. The corridor service plan demonstrated how WSDOT and its partners would follow an incremental approach over a 20-year timeframe that would ultimately result in 13 daily round trips between Seattle and Portland and four daily round trips between Seattle and Vancouver, British Columbia. Eligibility for federal grant funding under the 2009 High Speed Intercity Passenger Rail (HSIPR) grant program, however, required that NEPA documentation be completed for proposed corridor projects. As a result, WSDOT submitted a Tier-1 Environmental Assessment (EA) to the FRA on September 30, 2009, evaluating any potential impacts of the proposed railway improvement program on the Washington state segment, stretching about 300 miles on the BNSF north-south mainline from the Columbia River to the Canadian border. WSDOT and ODOT submitted separate but coordinated grant applications for the Cascades Corridor. Ahead of submitting the applications they discussed plans for the corridor with the Government of British Columbia. WSDOT and ODOT submitted applications covering projects within their respective states. For Washington, this coordination, along with meetings with Washington Public Ports Association, Council of Governments, BNSF, Amtrak, Talgo and others, informed a list of projects included in the applications to FRA.¹⁷⁵

The program of improvement projects were split into three service blocks, each adding incremental benefits to the corridor. Improvements included new bypass tracks to add capacity, upgrades to warning signal systems, safety-related improvements, station upgrades, eight new locomotives, and various upgrades to existing track throughout the state. In November 2010, the FRA issued a Finding of No Significant Impact (FONSI). Release of future construction funding for individual projects, however, require site-specific Tier-2 environmental documentation. Tier-2 environmental documentation for projects within Service Blocks 1, 2, and 3 were completed by WSDOT between 2000 and 2009.

For the 125-mile segment between Portland and Eugene-Springfield, Oregon (also known as the Oregon Passenger Rail Project), ODOT and FRA are now studying alternatives and preparing a Tier 1 Environmental Impact Statement (EIS) under NEPA. The Draft Tier 1 EIS is anticipated to be completed in 2015 with a Final EIS and Record of Decision in 2017.

¹⁷⁵ Washington State Department of Transportation. WSDOT Summary of Track 1 Projects: High Speed Intercity Passenger Rail Program Funding Application. P. 3. http://www.wsdot.wa.gov/NR/rdonlyres/3936E083-54E0-4486-8183-07A9BE03FE56/0/WSDOTSummaryTrack1Projects_Summary.pdf. August 2009.

F.4.2 Coordination through State Rail Plans

The region has also used state rail plans as a mechanism for coordination. The state rail plans provide a blueprint for meeting the current and future needs of passenger and freight rail in Oregon and Washington states. Although state rail plans are developed for the individual states, plans are coordinated between the two jurisdictions to ensure consistency and the ability to improve mobility in the region.

WSDOT's current state rail plan covers the years 2013 to 2018 with a horizon year of 2035. On September 18, 2014, the Oregon State Rail Plan was adopted. ODOT worked with its counterparts at WSDOT to coordinate planning efforts particularly for the Amtrak Cascades Corridor. The Transportation Director in Oregon and Secretary in Washington signed an MOU to coordinate management and planning for the corridor. This MOU can be viewed in Appendix F-1. ODOT and WSDOT coordinated through project-specific conference calls and corridor meeting between staff, sharing Draft State Rail Plan materials, and joint project updates to agency leadership.¹⁷⁶

Action items have been identified for WSDOT, other state agencies, and rail stakeholders. Action items specific to the Cascades Rail Corridor include:

- Deliver Amtrak Cascades capital program and implement service improvements. The present capital program entails an investment of nearly \$800 million in rail improvements supported by federal funding (through the ARRA and HSIPR grant program). These will result in travel time savings, improved on-time performance, and two additional round trips between Seattle and Portland.
- Complete an Amtrak Cascades Service Development Plan and Fleet Management Plan to identify priority efficiency improvements, determine capital needs, and quantify funding requirements for capital projects and operations. Continue coordination with Oregon and British Columbia.
- Continue incremental implementation of the vision established by previous rail plans for Amtrak Cascades: Seattle to Portland, 13 round trips per day; Seattle to Vancouver, British Columbia, four round trips per day.
- Establish a policy for adding, changing and removing station stops on Amtrak Cascades.

The Oregon State Rail Plan detailed similar action items when its plan was adopted in September 2014. Specific action items related to the Pacific Northwest Corridor include:

- Assist work underway for the Corridor Investment Plan Tier 1 Environmental Impact Statement and Service Development Plan along the Willamette Valley portion of the Amtrak Cascades corridor.
- Assist the High Speed Rail Vision Group developing a conceptual corridor assessment and high-level costs for the possibility of long-term high speed rail in the Willamette Valley. Assess and impacts or needs for amendment to the SRP based on the outcomes of this work.

¹⁷⁶ Oregon Department of Transportation. Oregon State Rail Plan. p. 5-4. September 18, 2014.

- Continue to work with Washington State, and other states as applicable, to improve the effectiveness and efficiency of passenger rail services for Oregon.¹⁷⁷

WSDOT's policy for adding, changing, and removing station stops in the corridor is underway. With both ODOT's and WDOT's budgets being very constrained and WSDOT's operating budget for Amtrak Cascades cut by \$1 million in 2013-2015, the agencies are working together to reduce station costs and implement other cost saving alternatives. Interim guidance for station stops states that:

- WSDOT and ODOT will evaluate proposals to add station stops based on benefits and disadvantages for the entire service. Evaluation criteria include: consistent with state rail plan; operational feasibility; customer demand; station suitability; interconnectivity benefits; and fiscal viability.
- The addition of a station stop should not degrade service or add cost for WSDOT, ODOT, Sound Transit, BNSF, UPRR, Amtrak or other partners in intercity passenger rail service.
- Rail planning budgets at WSDOT and ODOT are not sufficient to complete new stop studies without additional funds. Proponents should provide funding for new stop evaluation studies.
- Major service changes will not be implemented until after 2017, due to construction and service outcome agreement commitments.
- WSDOT will continue working on these criteria in cooperation with Oregon, British Columbia and other corridor partners to ensure a fair, objective process for considering requests for new stops.

While the region had been able to advance some planning of corridor improvements, the government entities most responsible for intercity passenger rail recognized the need for a more structured partnership to establish joint funding and oversight responsibilities to move towards implementation of improvements. The initial step for this enhanced collaboration was development of a MOU between WSDOT and ODOT.

F.4.3 Cascades Rail Corridor Management Workplan

WSDOT and ODOT have committed to the concept of operating the Cascades service as a single corridor by signing a MOU on March 7, 2012. This joined effort will help the two agencies manage the changes resulting from the October 2013 implementation of PRIIA Section 209 in addition to achieving efficiencies that result in faster, better connected and more reliable service. The MOU outlined the responsibilities of both WSDOT and ODOT in efforts to better coordinate and manage passenger rail service in the Pacific Northwest Rail Corridor.(see Appendix A). Following the MOU, a Cascades Rail Corridor Management Workplan ("Workplan") was developed and signed by the two states in January 2013. The Workplan provided an initial framework for how the two agencies would jointly manage intercity passenger rail service in the corridor and is currently being updated.

The Workplan does not set any new policy and assumes that work will be conducted within the context of existing Oregon and Washington state rail plans. The initial Workplan defines the vision, goals, and

¹⁷⁷ Oregon Department of Transportation. Oregon State Rail Plan. p. 5-7. September 18, 2014.

objectives of the Cascades Rail Corridor, how ODOT and WSDOT will work together, along with milestones and an interim dispute resolution procedure. The vision, goals, and objectives reflect the common interests of Oregon and Washington, and will be refined when the states, together with British Columbia, develop a joint strategic plan.

Oregon and Washington's shared goals are to achieve:

- Economic sustainability;
- Schedule reliability;
- Responsiveness;
- Intermodal connectivity;
- Environmental sustainability; and
- Safety and security.

Objectives for the single corridor operation include:

- Delivering consistently on customer expectations for fast, reliable, safe, and affordable higher speed rail;
- Building revenue to cover the cost of operations; growing ridership to and from economic centers;
- Providing a competitive transportation option;
- Pooling resources for increased efficiencies;
- Reducing costs; and
- Ensuring partners share in revenues and costs.

In order to effectively define roles and responsibilities in the development of the single corridor, the Cascades Rail Corridor team (see Figure F=3) has been developed to include participation by the three major governmental entities of Washington, Oregon, and British Columbia. Overall management responsibility for corridor services, however, is wholly sponsored by Oregon and Washington and the two states jointly coordinate management and service-related issues through a regular monthly corridor meeting. Further collaboration has taken place through the formation of the Washington State Rail Caucus involving representation from the state legislature to discuss issues and policy solutions, such as the forthcoming station stops policy. Oregon is considering following suit and in the future it is envisioned that a joint rail caucus will be formed with representation from both states.

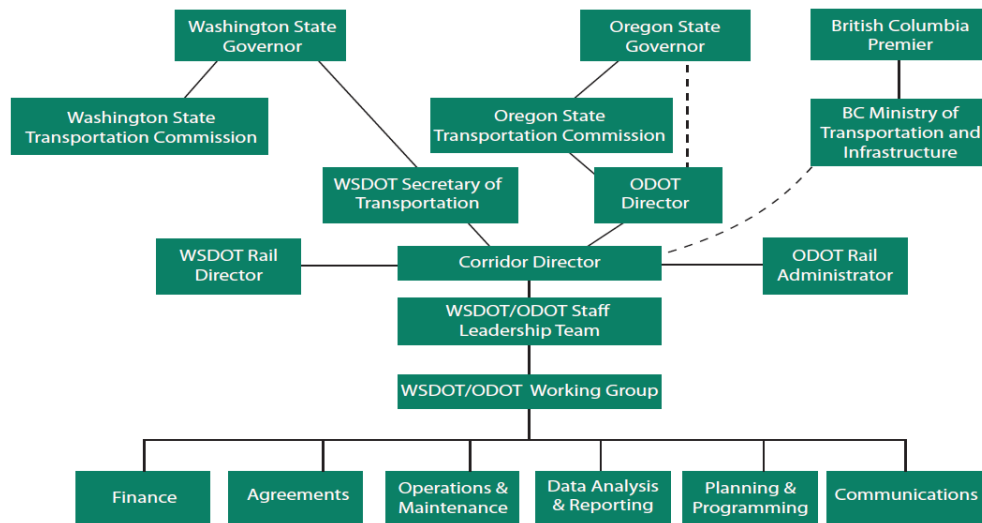


Figure F-40: Cascades Rail Corridor Team

Source: Workplan <http://www.wsdot.wa.gov/NR/rdonlyres/A5B68628-65A8-49C3-B98B-5AD1E557AD0E/0/EndorsedCRCWorkplan13113.pdf>

Joint activities that ODOT and WSDOT are exploring or will explore performing together include:

- Fleet management planning;
- Entering into and managing contracts and leases;
- Developing financial plans;
- Schedule management;
- Fare management;
- Managing equipment;
- Measuring and reporting performance;
- Paying bills;
- Answering requests for public information;
- Providing promotional materials to customers;
- Issuing press releases;
- Monitoring regulations, policies and funding opportunities that impact the service;
- Reviewing proposed plans and offering comments on proposed plans and actions; and
- Testifying on legislative proposals.

Activities that ODOT and WSDOT will continue to coordinate on, but manage separately, include developing and updating of state rail and service development plans; submitting budgets to separate legislatures; and delivering capital projects and other duties specific to each respective state agency. Project prioritization and delivery currently takes place within each state. For example, WSDOT is responsible for delivering approximately \$800 million worth of projects supported by federal high speed rail funds. WSDOT also works with BNSF and Sound Transit to build project priorities. In the future, the

two states will explore joint corridor planning activities, including project programming, grant proposals and funding.

Procurement of locomotives, however, is led through the state of Illinois and costs are divided following PRIIA Section 209 methodology. WSDOT joined other state partners including California, Michigan, and Missouri to develop specifications for new rail equipment for its Amtrak Cascades service. Eight new Siemens Charger locomotives will be designed, constructed, and delivered by 2017 for WSDOT. With the addition of these eight new locomotives, two additional round trips will be accommodated between Seattle and Portland. This “next generation” of rail equipment will also offer better fuel efficiency and lower emission rates, enhanced passenger comfort, onboard positive train control, and other safety and reliability upgrades.

The Workplan provides an interim structure and scope of work for the Cascades Rail Corridor team primarily for the first year, but outlines a 5-year work program (see Figure F-4). The 5-year work program describes the primary activities, deliverables, and level of effort from 2013 to 2017, although it is subject to change with an updated Workplan currently under development and anticipated for release in 2015.

	Activities	Deliverables	Level of effort
2013	Prepare for PRIIA implementation: initiate cooperative operation of the service; negotiate agreements	WSDOT/ODOT interagency agreement WSDOT/ODOT/Amtrak tri-party agreement WSDOT/ODOT/Talgo tri-party agreement	Staff driven, within existing resources, and adding of additional project staff when needed.
2014	PRIIA implementation: refine roles and responsibilities; identify near-term program priorities	Updated WSDOT/ODOT interagency agreement Updated corridor workplan Preliminary corridor business plan	Staff driven, within existing resources, and adding of additional project staff when needed.
2015	Address institutional structure: explore options for governance and partner engagement	Recommended governance structure Recommended funding/revenue strategies	Consultant effort/Staff Estimated cost: \$500,000 - \$750,000 UNFUNDED
2016	Develop corridor strategy: vision, goals and objectives; needs and opportunities; improvement strategies	Corridor long-range plan	Consultant effort/Staff Estimated cost \$350,000 - \$600,000 UNFUNDED
2017	Corridor business planning: near- and mid-term program priorities	Corridor capital and Business plan aligning with the State Rail Plan	Consultant effort/Staff UNFUNDED

Figure F-41: Cascades Rail Corridor 5-Year Work Program

Source: Workplan (add formal citation-same as previous figure) <http://www.wsdot.wa.gov/NR/rdonlyres/A5B68628-65A8-49C3-B98B-5AD1E557AD0E/0/EndorsedCRCWorkplan13113.pdf>

Issues the Cascades Rail Corridor team has identified and intends to address in the future include, but are not limited to:

- How do we move towards a service that is financially self-sustaining?
- Is it the goal for Amtrak Cascades to be financially self-sustaining? What is the target level for public subsidy?
- What is the role of regions and local communities in funding the service?
- What is our strategy for moving towards high speed rail?
- What is the role of the corridor in promoting intermodal connectivity?
- What governance structure would be most effective in guiding development and operation of the corridor?
- How can stakeholders and potential champions be included in the process of developing a vision for the Cascades Corridor?
- What are viable options for long-term funding of the Cascades Corridor?

F.5 Barriers/Challenges Faced in Implementing the Cascades Rail Corridor

Responding to Changes from PRIIA Section 209

With the implementation of PRIIA Section 209, changes must be made both at the state and national level. As a national corporation, Amtrak has had to adjust their business model to accommodate changes in federal policy. As a result of shifting models in some parts of their business, it has posed challenges to some degree in annual agreement negotiations with WSDOT by the effective date of October 1, 2013.

As stated earlier the federal government shifted responsibility for funding any losses associated with operation of the Amtrak Cascades services to the states, in accordance with the Passenger Rail Investment and Improvement Act of 2008 (PRIIA Section 209). This shift in funding responsibility increased operating costs for states, including Washington and Oregon. Previously, WSDOT and ODOT jointly funded 80 percent of the Amtrak Cascades' operating costs not covered by ticket revenue. Under the provisions of PRIIA Section 209, WSDOT and ODOT must absorb the additional 20 percent of operating costs that had previously been paid by Amtrak. This means the states incur additional costs, but it also allows the states to take a stronger, more active role in management of the service to control costs and increase revenues. Both Oregon and Washington have responded to changes enacted through PRIIA Section 209 and have heightened the collaborative efforts in planning and operating passenger rail services in the Pacific Northwest corridor.

Financing the Cascades Passenger Rail Service

Creating a financially self-sustaining passenger rail service in the Cascades Corridor, post PRIIA Section 209 implementation, is a challenge the states continue to work together to address. Currently, WSDOT and ODOT pay Amtrak separately for running service in their respective areas. The cost shares are allocated based on estimated total route train miles traveled within the ODOT and WSDOT service areas. Washington pays Amtrak approximately \$15 million per year and Oregon pays Amtrak approximately \$7 million per year for passenger rail service. Additionally, WSDOT pays Talgo for maintenance of Talgo

equipment at a cost of about \$4 million per year. Starting in 2017, WSDOT will pay for track infrastructure maintenance costs of about \$5.8 million per year for 20 years.

Currently, Amtrak Cascades' ticket revenues support about 60 percent of operating costs and the remaining costs are provided through public subsidy. These subsidies are provided by Washington and Oregon. Washington sponsors seven daily trips; Oregon sponsors one daily trip (between Portland and Eugene); and the two states jointly sponsor three daily trips. One of the funding challenges is that new revenue service cannot be offered until additional trips between Seattle and Portland begin in 2017. Until then, the agencies will need to identify additional cost saving measures or revenue sources to minimize public subsidies required to operate the service.

Following legislative direction, WSDOT and ODOT have collaborated on a Request for Information (RFI) from passenger service vendors to explore additional cost and service efficiency improvements to the Cascades Intercity Passenger Rail Service. This RFI was announced in April 2014. Together, WSDOT and ODOT interviewed the respondents and are currently looking at findings and action items stemming from this RFI.

Bi-state and International Coordination

Although the rail service is wholly sponsored by WSDOT and ODOT, there is a desire to bring British Columbia on as an active funding partner in the future. Not only are there challenges working with two different state legislatures with different laws and policies, but cross-country border service provides additional complexities with respect to customs, security, and operations. Effective coordination and communication between WSDOT and ODOT, focused specifically on the corridor and service improvements, has been essential in continuing to simultaneously meet the needs of both states. Examples include the Rail Caucus (a statewide, bicameral and bipartisan group that is dedicated to improving rail transportation in the state of Washington in partnership with other Northwest states) and monthly corridor management meetings, which have been essential in developing joint resolutions across state boundaries.

F.6 Interpretation and Synthesis










This section interprets the case study findings in the context of the overall project objectives.

F.6.1 Key Aspects of the Case with Respect to Research Objectives




The conceptual framework developed for this project was founded on four major elements of collaborative efforts for intercity passenger rail transportation: visioning, planning, design and construction and operations. This case study provides useful lessons primarily for the first two elements.

The specific issues relevant to the research objectives identified in the Phase I Report and their relevance and applicability to the Pacific Northwest Corridor case study are summarized in Table F.2.

Table F.16: Case Study Applicability to Research Issues

Research Issue	Degree to Which Objective is Applicable to Pacific Northwest Corridor Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

Legend

	Addresses research issue to a high degree
	Addresses research issue to a moderate degree
	Addresses research issue to a slight degree

F.6.2 Key Lessons Learned

Lesson 1: Developing a Corridor Team, Effective Workplan, and Applying Good Program Management Skills Helps Implement the Vision

In 2013, Washington and Oregon established the Cascades Rail Corridor Workplan outlining an initial framework for the states to jointly operate the single corridor. Not only did the team outline the vision, goals, objectives, and actions, but roles and responsibilities were also detailed for the various parties and illustrated how they worked together in the corridor management team structure. In addition to constant communications, procedures such as dispute resolution and highly structured meetings and correspondence were also developed to address any negotiations, operations, or service-related issues. After agreements are in place, for example, weekly meetings take place to review projects status and separate bi-weekly meetings take place to discuss equipment and on-time performance. Monthly meetings are held to discuss corridor management, issues resolution, and engineering review. In addition to monthly corridor management meetings, ODOT, WSDOT, Amtrak and Talgo also meet monthly to resolve any outstanding issues. Quarterly meetings involving Sound Transit, state DOTs, FRA, Amtrak and the railroads take place as well to discuss any major issues, scope changes, budget, and schedule. In fact, coordination even takes place between railroads, in this case, BNSF Railway and Union Pacific, to ensure no issues as the corridor service passes through both lines. Further coordination and collaboration occurs between the state legislature, with the creation of state rail caucuses involving department leadership and legislative representatives to ensure that the appropriate tools and policies are in place to implement the vision. Corridor participants share common goals to grow and improve the service and ensure that the service runs on time. In situations when issues have arisen, these communication platforms and procedures have played a key role in developing joint resolution.

Lesson 2: Defining Clear and Transparent Roles and Responsibilities Is Essential in Implementing a Capital Investment and Operational Program

Implementing intercity passenger rail programs is a complex process involving multiple partners and multiple agreements. Agreements are needed between federal agencies, rail service providers (in this case Amtrak), and the states in addition to agreements with private railroads, to name just a few. As a result, understanding each party's needs, objectives or requirements, and clearly defining roles and responsibilities of all parties involved is critical to moving forward. This understanding and transparency helps build the trust needed to successfully implement a multi-agency arrangement and defines how each partner plays an important role in the scope, schedule, and budget of program implementation. Having clear roles and responsibilities in place also helps build accountability in the program, develop performance measures, and ensure a level of commitment to the schedule.

Lesson 3: Understanding the Important Role of Railroads Can Facilitate Balancing of Freight and Passenger Rail to Meet Service Needs

Unlike many new high speed rail services, the single Cascades Rail Corridor will not be on new right-of-way. As such, owners of the right-of-way, in this case private railroads, have a very important role in assuring project success, and in the institutional structure created to develop and implement projects. BNSF plays such a role in the Washington state portion of the corridor and UPRR plays such a role in the Oregon portion of the corridor. BNSF owns much of the right of way and has been a key partner with

WSDOT and Amtrak, who provides the passenger rail service. WSDOT works with both BNSF and Sound Transit to develop project priorities and WSDOT and BNSF have committed to a service outcome agreement. Similarly, ODOT also works with UPRR to develop project priorities. Obtaining cooperation from railroads will require some sense of benefit for the railroad itself (e.g., public support in upgrading track). This includes agreements on liability where the operator agrees to accept liability of actions that are their responsibility. This element of successful institutional arrangements for mixed use corridors will likely be one of the most important factors in implementing more high speed intercity passenger rail service.

Lesson 4: Timing of Allocation of Budgets Between State and Federal Partners Can Complicate Operational Planning

The state of Washington benefits from about 81 percent of total route miles serviced and thus covers a majority of the costs to operate passenger rail service in the corridor. Washington appropriates budgets every biennium, beginning on July 1 of each odd-numbered year. WSDOT is responsible for developing budget estimates and submitting budget proposals to the governor. The governor must propose a biennial budget in December, a month before the Legislature convenes in regular session. Once the budget is enacted by the legislature and approved by the governor, WSDOT implements approved policies and programs within the permitted budgetary limits. Changes to the original appropriations during any legislative session are referred to as supplemental budgets. The timing of Washington's budget process is important to coordinate funding agreements and ensure that adequate budget is allotted for passenger service provided by Amtrak. ODOT has paid for Oregon's portion of the Amtrak Cascades service through the revenues generated by custom license plate fees, which the Oregon Legislature dedicated toward train service. In addition, ODOT uses money from the Transportation Operations Fund (TOF), which consists of fuels taxes generated from non-motor vehicle use, such as lawnmowers. Shortfalls in Oregon's passenger rail budget have been covered through additional funding methods. Timing of budget preparations are not currently aligned between the states, Amtrak, and the federal government, but the goal is to better coordinate these cycles and share costs with all partners to support more sustainable operations in the corridor. Given the challenges caused by having multiple agreements with Amtrak, further assessment of a single corridor-wide agreement could be conducted.

Lesson 5: Incremental Corridor Improvements Can Facilitate Increased Ridership and Make a Future High Speed Rail System Viable

Service improvements for the Cascades Rail Corridor have incrementally taken place since the early 1990s. More recently, the corridor program was divided into three service blocks or groupings of specific projects that together provide incremental benefits, such as increased number of trips between Seattle and Portland and reduced travel time. This planning approach has worked well and has kept the corridor team committed to achieving the long-term goals laid out, while also demonstrating visible improvements and benefits to passengers as shown through the increase in ridership over the years. Evidence of this growth trend can be seen in Figure F-5 below.

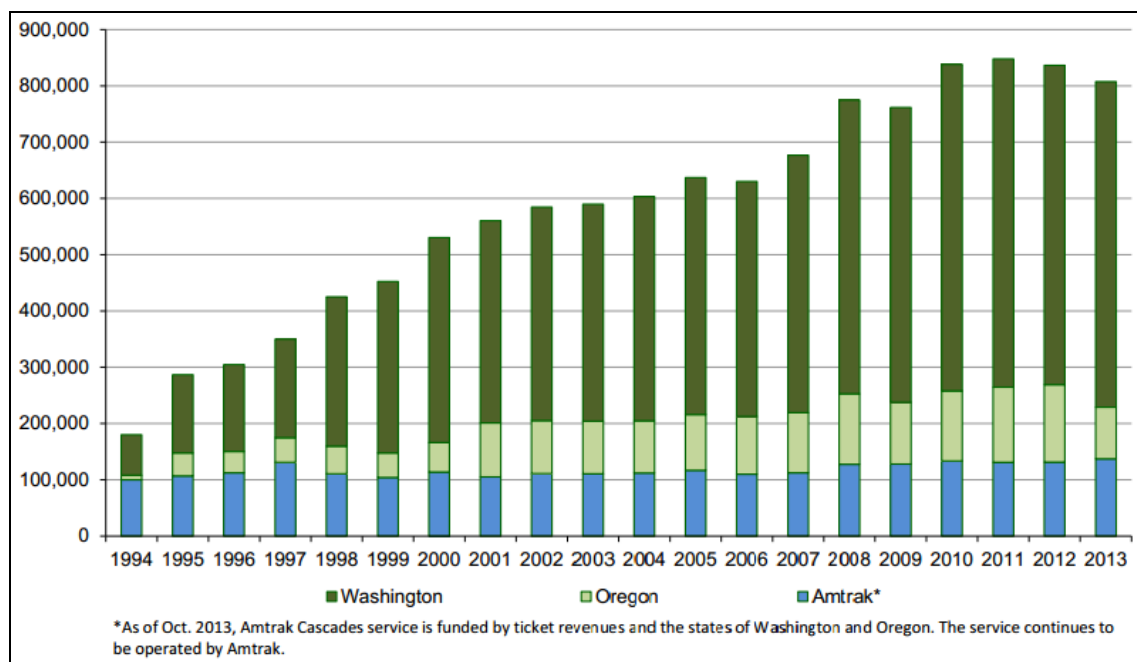


Figure F-42: Cascades Ridership Trend 1994 - 2013

Source: Amtrak Cascades: 2013 Performance Data Report. WSDOT Rail Division. June, 2014.

F.6.3 Degree to Which Results Are Transferable

Key findings of the Cascades Rail Corridor case study should be transferrable to other large bi- or multistate high speed rail projects. With PRIIA Section 209 implementation, multistate institutions can benefit from strong functional collaboration to share resources and reduce costs. The Cascades Rail Corridor Workplan provides an excellent example of how two states can develop a framework to make initial steps in jointly operating a corridor service by identifying roles and responsibilities for all parties involved, how they will work together, interim actions, and what goals and objectives the corridor team will strive towards. The Workplan also outlines the deliverables needed over the first five years and documents potential issues that the parties involved may need to discuss and resolve to be successful.

The Cascades Rail Corridor provides positive examples of strong coordination between multiple agencies needed to successfully plan, manage, and enhance passenger rail operations. By clearly defining how and when coordination will be conducted, project partners are better able to review plans, express concerns, and communicate more effectively. This practice of strong coordination and collaboration established in the Workplan may be of interest for other passenger rail corridors where more than one host railroad needs to be engaged in the planning and implementation process.

Negotiations for WSDOT's and ODOT's last two operating agreements with Amtrak occurred in tandem (as opposed to two separate agreements being negotiated independent of each other). Limiting the number of separate agreements between parties (i.e., in this case, moving from separate agreements between Amtrak and WSDOT and Amtrak and Oregon to one single tri-party agreement) can also reduce administrative burden by reducing the number of agreements that need to be re-negotiated annually

and will ensure consistent messaging and understanding across the states, further supporting the vision to operate as a single corridor. By incrementally implementing service improvements and moving towards full partnership on a benefits basis, all parties involved in the corridor can participate fully and work together to ensure improvements occur along the entire stretch from Oregon to Vancouver, British Columbia.

F.7 References

1. AASHTO. Establishing Standard Pricing Policies Annual Operating Costs and Capital Charges: Issue Brief- PRIIA Section 209 Intercity Passenger Rail Service. <http://www.highspeed-rail.org/Documents/S209%20Issue%20Brief%20061011.pdf>. P.1 June 10, 2011.
2. BNSF. Passenger Trains on Freight Railroads. http://www.bnsf.com/media/speeches/pdf/passenger_freight.pdf. p.5. October 19, 2009.
3. WSDOT. Amtrak Cascades Train Equipment. <http://www.wsdot.wa.gov/Rail/TrainEquipment.htm>. 2015 .
4. Agreement for the Provision of Rail Passenger Service, National Railroad Passenger Corporation and the State of Washington, October 1, 2013.
5. Amtrak Cascades Website, accessed from, www.amtrakcascades.com/About.htm
6. Biggs, Jason, Cascades Rail Corridor Operations Manager, Jason Beloso, and Teresa Graham, Washington State Department of Transportation, Personal Communication, October 13, 2014.
7. Finding of No Significant Impact, Pacific Northwest Rail Corridor Washington State Segment – Columbia River to the Canadian Border, US Department of Transportation Federal Railroad Administration and Washington State Department of Transportation, November 2010.
8. Hammond, Paula, Senior Vice President, Parsons Brinckerhoff, Personal Communication, August 29, 2014.
9. Mitchell, DJ, BNSF Railway Company, Personal Communication, October 10, 2014.
10. Oregon Passenger Rail, Eugene-Portland, Fact Sheet, Accessed from, <http://www.oregonpassengerrail.org/files/library/documents/fact-sheet-summer2014.1.pdf> .
11. Oregon Passenger Rail, Eugene-Portland Website, Accessed from, <http://www.oregonpassengerrail.org/> .
12. Oregon Passenger Rail Project, Accessed from, http://www.oregonpassengerrail.org/files/library/documents/4_rail_oregon-passenger-rail_jan13.pdf .
13. Oregon State Rail Plan, Oregon Transportation Commission Final Draft, Oregon Department of Transportation, September 18, 2014.
14. Oregon State Rail Plan Update, Accessed from, <http://www.oregon.gov/odot/td/tp/pages/railplan.aspx> .
15. Pate, Ron, Cascades Rail Corridor Director, Washington State Department of Transportation, Personal Communication, September 10, 2014.

16. Program Environmental Assessment, Pacific Northwest Rail Corridor, Washington State Segment – Columbia River to the Canadian Border, Washington State Department of Transportation, September 2009.
17. Sellers, Jennifer, Northwest Rail Corridor Project Manager, Oregon Department of Transportation, Personal Communication, October 13, 2014.
18. Washington State Department of Transportation and Oregon Department of Transportation, Cascades Rail Corridor Management Workplan, January 2013.
19. Washington State Rail Plan, Washington State Department of Transportation, March 2014.
20. Washington State Department of Transportation High-Speed Rail Program, Accessed from, <http://www.wsdot.wa.gov/rail/highspeedrail.htm> .

Appendix F-1 – WSDOT / ODOT Pacific Northwest Rail Corridor Memorandum of Understanding

Available at http://www.oregonpassengerrail.org/files/meetings/mou_orwa_2012.pdf

CASE STUDY G: SOUTH CENTRAL HIGH-SPEED RAIL CORRIDOR

Contents

G.0 Executive Summary	258
G.1 Introduction.....	261
G.2 Description of the South Central High-Speed Rail Corridor	261
G.3 SCHSR Corridor Participants	265
G.4 Description of the Planning and Implementation Process.....	269
G.5 Barriers/Challenges Faced in Planning and Implementing the SCHSRC.....	276
G.6 Interpretation and Synthesis	279
G.7 References	283
Appendix G-1 Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices.....	285
Appendix G-2 – Texas-Oklahoma Service Development Plan Agreement.....	286

Glossary of Terms

AHTD	Arkansas Highway and Transportation Department
BNSF	Burlington Northern Santa Fe Railway
EIS	Environmental Impact Statement
FTA	Federal Transit Administration
HSR	High Speed Rail
MoDOT	Missouri Department of Transportation
MOU	Memorandum of Understanding
MWRRI	Midwest Regional Rail Initiative
NCTCOG	North Central Texas Council of Governments
NEPA	National Environmental Policy Act
ODOT-	Oklahoma Department of Transportation
P3	Public- Private Partnership
PRIIA	Passenger Rail Investment and Improvement Act of 2008
RRD	Texas Department of Transportation Rail Division
SCHSRC	South Central High-Speed Rail Corridor
SDP	Service Development Plan
TEA-21	Transportation Equity Act for the 21st Century
THSRA	Texas High Speed Rail Act
TOPRS	Texas- Oklahoma Passenger Rail Study
TxDOT	Texas Department of Transportation
UP	Union Pacific
USDOT	United States Department of Transportation

G.0 Executive Summary

Background

In 2000, the South Central High-Speed Rail Corridor (SCHSRC) was officially designated as a feasible corridor for high speed passenger rail under the Transportation Equity Act for the 21st Century (TEA-21). The SCHSRC is a nearly 900-mile network in Oklahoma, Arkansas, and Texas. This high speed rail (HSR)



Figure G-43: Heartland Flyer Route

Corridor would connect Tulsa and Oklahoma City, Oklahoma; Dallas/Ft. Worth, Texas; Little Rock, Arkansas; and Austin and San Antonio, Texas. The most studied portion of the SCHSRC is the 322 miles that currently comprises Amtrak's Heartland Flyer route between Oklahoma City, Oklahoma and Fort Worth, Texas (see Figure G-1). This portion of the corridor has been analyzed by the Kansas Department of Transportation, Oklahoma Department of Transportation and the Texas Department of Transportation (TxDOT) in various arrangements and in different studies. Currently TxDOT in partnership with the Oklahoma Department of Transportation is conducting the Texas-Oklahoma Passenger Rail Study (TOPRS) to further assess the needs and costs associated with increased and enhanced passenger rail service in this corridor. Currently Amtrak operates intercity passenger rail service in the SCHSR corridor with the Heartland Flyer and Texas Eagle routes.

The other Amtrak route in the SCHSRC is the Texas Eagle, which provides service three days a week from Chicago, Illinois through Missouri, Arkansas, Texas, New Mexico, Arizona, with its terminus in Los Angeles, California. The full route is approximately 1,305 miles in length. The Texas Eagle operates on rails owned by the Canadian National, Union Pacific and BNSF railroads.

Nature of the Partnership

The major participants in the development of the SCHSR corridor include the Oklahoma and Texas Departments of Transportation, the Arkansas Highways and Transportation Department, the Federal Railroad Administration (FRA), Amtrak and the freight railroads currently operating in the region. Currently there is no singular coordinated effort to analyze the entire SCHSR as a cohesive HSR passenger network integrated across Oklahoma, Texas, and Arkansas. Various portions of the SCHSR have been studied, or are presently under some level of evaluation for enhanced passenger rail alternatives.

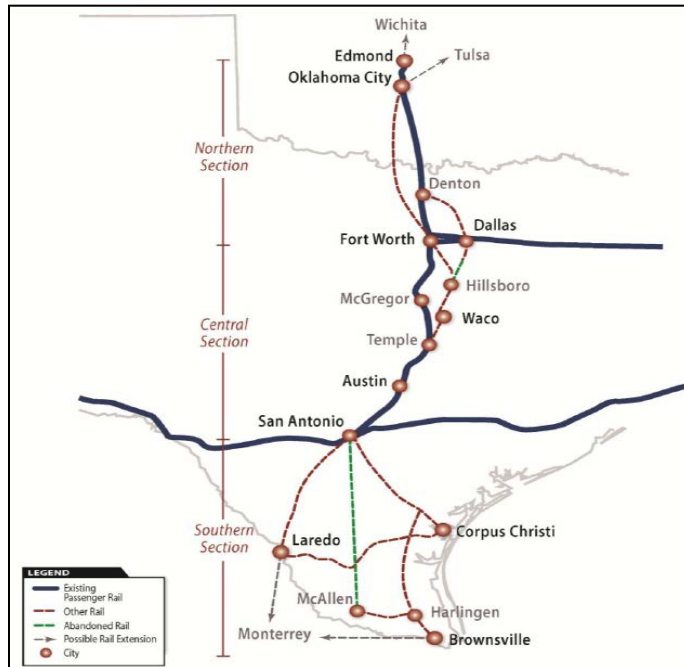


Figure G-44: TOPRS Study Area

Different segments that make up the SCHSR corridor have been under consideration or studied since the 1980's. Most recently in 2013, TxDOT in partnership with the Oklahoma DOT initiated the Texas-Oklahoma Passenger Rail Study (TOPRS). Because much of the study area is within the State of Texas, and Texas supplied the matching funds, it was agreed that TxDOT would lead the TOPRS and manage consultant contracts, with ODOT as a partnering agency. A map of the TOPRS study area is illustrated in Figure G-2. The TOPRS will develop multiple alignments, service alternatives for each of the three sections of the 850-mile long study area then compare all alternatives to a no-build scenario. This information will inform the development of a Service – Level Environmental Impact Statement (EIS).

Supplementing the analysis underway in the Texas – Oklahoma Passenger Rail Study, a Corridor Investment Plan is under development for the portion of the SCHSR alignment between Oklahoma City and Tulsa. A Tier 1 environmental assessment had been completed in 2009 for this corridor. In 2010 ODOT received \$2.4 million from the FRA to complete the environmental process. Technical teams working for both the TORP Study and the Tulsa – Oklahoma City Corridor study are coordinating their efforts to seek ways to best integrate both planned services in the Oklahoma City area.

Challenges and Barriers

- Lack of cooperation by the host railroad in Arkansas has led to delays in work and increases in project cost for the Arkansas portion of the project.
- Garnering support for the project from public and elected officials has been challenging as many view the project as unrealistic due to its high capital costs.
- As a result, there is currently no political or business community champion for SCHSRC project development to offer direction and/or lobby for the project at the state, federal or local levels.
- There is a need to identify stable, long term capital and operating funding sources for implementation of higher speed passenger rail service.
- States appropriate funds on different cycles, making coordination of investments especially challenging.

Lessons Learned

- Absent a common vision and set of objectives as well as single coordinating body, individual segments of the overall SCHSRC have advanced in a fragmented and uneven manner.
- As seen in Arkansas, lack of a strong working relationship with the host railroad can impede progress in planning and analysis. Well established relationships in Texas and Oklahoma have allowed for greater progress in project visioning and planning.

Table G.1 shows how the SCHSRC efforts fit into the conceptual framework.

Table G.17: South Central High-Speed Rail Corridor Effort for Planning/Visioning

Characteristic	Discussion
Phase of Project Development	Visioning/Planning
Stakeholders	✓ TxDOT, ODOT. Arkansas not included in formal agreement but AHTD has recently initiated independent efforts.
Institutional Relationships	✓ Established through agreement between State of Texas and State of Oklahoma to develop a service development plan across state boundary lines
Identification of Responsibilities	✓ TxDOT: Project management and oversight, provide regular monthly updates and draft reports to ODOT; ODOT: review of draft reports, provision of data; AHTD conducting independent study
Role of Regulatory Agencies	✓ FRA review and approval of SDP and EIS analysis (not specified in TX/OK agreement)
Corridor Ownership	✓ It is assumed at this early stage that BNSF and UP will maintain ownership of corridor for any planned projects.
Lead Agencies/Groups	✓ State of Texas established as lead for study.
Legal Authority	✓ <i>State of Texas:</i> State Transportation Code §91.036 (authority to conduct rail planning studies); Texas Transportation Commission Minute Order Number 1125123 (authorized Texas to enter into agreements necessary to use FRA funds for corridor study) <i>State of Oklahoma:</i> Title 66 OS §304 (authority to conduct rail planning studies); Title 69 OS §317 (authority to enter cooperative agreements with adjoining states)
Cost Sharing	✓ Costs borne by states in reasonable proportion to the segment located in each state.
Funding Sources	✓ TxDOT: FRA grant and Texas State funds, all public meetings and materials (in coordination with ODOT for Oklahoma meetings); ODOT: in-kind services and data for portion of project in Oklahoma as outlined in attachment to agreement.
Oversight	✓ FRA lead federal agency for NEPA
Relationship with Host Railroad or Other Providers of Service	✓ Within the Texas/Oklahoma portion of the SCHSRC strong working relationship exists with host railroad. Weak relationship in Arkansas is slowing planning progress.
Liability Issues	✓ Agreement establishes each state as subject to the provisions of their respective Government Tort Claims Act and liable for any issues arising as a result of their respective employees, agents, or contractors.
Procurement	✓ State of Texas secured consultant, as per agreement
Contractual Arrangements	✓ Legal agreement serves contract between the two states for study, effective as long as project utilizing transportation development tool for benefit of the states. Can only be terminated upon written mutual consent of both states.

G.1 Introduction

This case study examines the efforts of the State of Texas, the State of Oklahoma, and the State of Arkansas to expand intercity passenger rail in the Texas/South Central High-Speed Rail Corridor. This corridor has been the subject of study and environmental assessments (EAs) for many years and has been identified by the U.S. Department of Transportation (USDOT) as a feasible high speed rail (HSR) corridor. This case study focuses on the efforts of three states, municipalities, metropolitan planning organizations (MPOs), public stakeholders, and their freight rail partners to define a vision for the corridor and to identify the organizational responsibilities for making progress toward multistate intercity rail service.

G.2 Description of the South Central High-Speed Rail Corridor

In 2000, the South Central High-Speed Rail Corridor (SCHSRC) was officially designated as a feasible corridor for HSR under the Transportation Equity Act for the 21st Century (TEA-21). The SCHSRC is a nearly 90- mile network spanning Oklahoma, Arkansas, and Texas. This HSR Corridor would connect Tulsa and Oklahoma City, Oklahoma; Little Rock, Arkansas; Dallas/Ft. Worth, Austin, and San Antonio, Texas.

The most studied portion of the SCHSRC is the 322 miles that currently comprise Amtrak's *Heartland Flyer* route between Oklahoma City and Fort Worth (see Figure G-3). This portion of the corridor has been analyzed by the Kansas Department of Transportation (KDOT), Oklahoma Department of Transportation (ODOT), and Texas Department of Transportation (TxDOT) in various arrangements and studies. Currently TxDOT, in partnership with the ODOT, is conducting the *Texas-Oklahoma Passenger Rail Study* (TOPRS) to further assess the needs and costs associated with increased and enhanced passenger rail service in this corridor. Details of this ongoing analysis are discussed in greater detail in a later section. Once fully developed, the enhanced rail connection will provide maximum speeds of 110 miles per hour (mph) as part of a plan to extend HSR service between central Oklahoma, central Arkansas, central Texas, and potentially areas further south into Mexico.

Currently the National Railroad Passenger Corporation, **Amtrak**, operates intercity passenger rail service in the SCHSR corridor with the *Heartland Flyer* and *Texas Eagle* routes. In June 1999, the state of Oklahoma, assisted by a grant from the Federal 1997 Taxpayer Relief Fund, provided funding to restart passenger rail service in the state that had been dormant since the late 1970s. The return of the *Heartland Flyer* largely came about through the advocacy of the Oklahoma City Chamber of Commerce working with Amtrak and elected officials.¹⁷⁸ Today the *Heartland Flyer* provides passenger rail service



Figure G-3: Heartland Flyer Alignment and Host Railroad

Source: www.Amtrak.com

¹⁷⁸ Sutter, Ellie. Chamber Hears Amtrak Whistle Comin' Down Line. <http://newsok.com/chamber-hears-amtrak-whistle-comin-down-line/article/2355293>. April 28, 1991.

between Oklahoma City and Fort Worth. The *Heartland Flyer* travels south from Oklahoma City in the morning and returns to Oklahoma City in the evening, with a mid-day layover in Fort Worth using rails owned by the BNSF Railroad. Overall, the *Heartland Flyer* ridership has shown steady growth since the start of service.

In FY 2014 the *Heartland Flyer's* annual ridership was reported to be 77,861, a decrease from the 84,000 riders in FY 2011.¹⁷⁹ Since the *Heartland Flyer's* first full year of operation in FY 2000 until FY 2014, ridership has increased by 9 percent.

Pursuant to Section 209 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), both Oklahoma and Texas have agreements in place with Amtrak to cover the operating and capital costs associated with intercity rail service on routes under 750 miles. Following an agreement between Texas and Oklahoma in 2006, both states committed to fund the operation of the *Heartland Flyer*. Prior to 2006, Oklahoma had solely funded the *Heartland Flyer* until temporary federal funding ran out, at which time Texas provided the funding needed to maintain the service. Texas and Oklahoma split the operational cost of the *Heartland Flyer*, plus 50 percent of fuel cost and BNSF track usage fees.¹⁸⁰ Texas's annual contribution was capped at \$2.3 million while Oklahoma's annual contribution was capped at \$1.1 million.

Operating speeds vary along the *Heartland Flyer* alignment. Maximum passenger train speed in Oklahoma is 79 mph; in Texas, the speed limit is 55 mph. Texas has received a federal America Recovery and Reinvestment Act (ARRA) grant of \$4 million to make improvements to grade-crossing signal timing in order to permit higher speeds over the line. When completed, increased speeds of the Texas portion of the *Heartland Flyer* could result in a 17 minute reduction in run time. Currently the line is also subject to "heat slow orders." Between 95 degrees and 109 degrees, trains are restricted to 60 mph; at 110 degrees or higher, the limit is limited to 40 mph. These restrictions are due to the heightened possibility of heat kinks forming in the track. These kinks form from high compressive stress in the rails due to heat expansion, and pose serious derailment risks.¹⁸¹

Currently the *Heartland Flyer* takes approximately four hours and 15 minutes to travel from Oklahoma City to Fort Worth, about 45 minutes longer than the same trip by car.¹⁸²

The other Amtrak route in the SCHSRC is the *Texas Eagle*, which provides service three days a week from Chicago, Illinois, through Missouri, Arkansas, Texas, New Mexico, and Arizona, with its terminus in Los Angeles, California. Daily service between Chicago and San Antonio is also provided. The full route is approximately 1,305 miles in length. Travel time between Chicago and Los Angeles is over 65 hours, due

¹⁷⁹ Amtrak Sets New Ridership Record, Amtrak, <http://www.amtrak.com/ccurl/636/294/Amtrak-Sets-New-Ridership-Record-FY2012-ATK-12-092.pdf>, March 1, 2013.

¹⁸⁰ Kansas Legislature. Special Committee on Transportation. October 29, 2012. http://www.kslegislature.org/li/2012/b2011_12/committees/misc/ctte_spc_2012_special_committee_on_transportation_1_20131029_20_other.pdf

¹⁸¹ Oklahoma Statewide Freight and Passenger Rail Plan. May, 2012. P. 11-17.

¹⁸² Texas Department of Transportation. Texas Rail Plan. May 12, 2014. P. 4-14.

largely to a seven to nine and a half hour layover in San Antonio. The *Texas Eagle* operates on rails owned by the Canadian Northern, Union Pacific, and BNSF railroads, as shown in Figure G-4.



Figure G-4: Texas Eagle Alignment and Host Railroads

Source: Amtrak.com

Passenger rail in Arkansas is operated by Amtrak on the *Texas Eagle* route (see Figure G-5). In the state, the *Texas Eagle* operates on tracks owned by the Union Pacific Railroad. Only the portion of the *Texas Eagle* alignment from Little Rock, Arkansas, to Texarkana, Texas, is included in the proposed SCHSRC.

Ridership on the *Texas Eagle* has also seen significant increases. Between 1997 and 2014, annual ridership on the *Texas Eagle* rose from 95,000 to 313,338, an increase of over 230 percent.¹⁸³

The schedule of the *Heartland Flyer* facilitates a connection in Ft. Worth with both the eastbound and westbound sections of Amtrak's *Texas Eagle*, operating between Chicago and San Antonio.¹⁸⁴ The Amtrak network of western long distance routes is presented in Figure G-6. The federally designated SCHSR network overlaps the alignments of the *Texas Eagle* and the *Heartland*

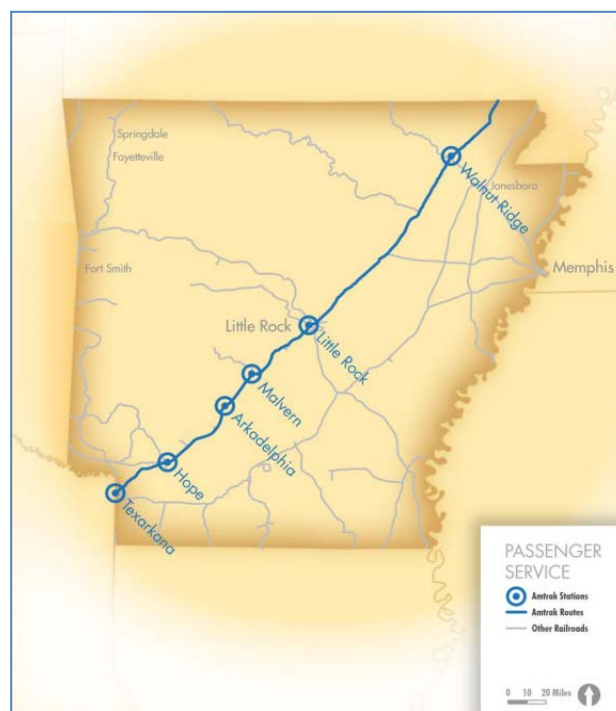


Figure G-5: Texas Eagle Alignment in Arkansas

Source: AHTD.com

¹⁸³ Puentes, Tomer & Kane. A New Alignment: Strengthening America's Commitment to Passenger Rail. Brookings Institute. March, 2013. p. 21.

¹⁸⁴ Kansas Department of Transportation. Kansas City-Wichita-Oklahoma City-Fort Worth Corridor Passenger Rail Service Development Plan. November, 2011.



Figure G-6: Western Amtrak Long Distance Routes

Source: http://juckins.net/misc_au/amtrak_western_routes.gif

Flyer from Oklahoma City to Dallas/Ft. Worth and from Little Rock to Dallas/Ft. Worth through to San Antonio.

One common concern for many communities along the SCHSRC is inconsistent levels of public transportation services that are available for passengers to come to stations or provide access to passengers' final destination. Local transit systems are critical to the success of a statewide passenger rail system. The system must facilitate the entire trip in order to meet the expectations of the users.¹⁸⁵ The Dallas/Ft. Worth area has the most robust public transit system of all communities in the SCHSRC, with bus, light rail, bus rapid transit, and commuter rail modes provided. Oklahoma City does have public transit service provided, but does not provide the same modes or levels of service as the Dallas/Ft. Worth area. Oklahoma City is moving forward with plans to construct a downtown streetcar circulator service as well and investigating options to expand and improve upon bus transit service in the area. In other smaller cities and municipalities along the passenger rail line with more limited public transit options, more coordination will be needed to develop services to provide the 'last mile' connections for passenger rail users.

¹⁸⁵ Texas Department of Transportation. Texas Rail Plan. May 12, 2014. P. ES-19.

More work remains to be done in terms of infrastructure upgrades in the SCHSRC as well as for operating agreements with host railroads to increase the speed of passenger trains, lower minutes of delay, and improve overall service reliability. Until travel times via passenger rail are made more competitive with automobiles, ridership levels (although increasing) will remain only a fraction of the overall mode share for travels in the corridor. Alternatives will need to be explored to better balance freight traffic needs with the movement of passenger trains in the same corridors. While lessening overall travel time for intercity passenger rail service is important to be competitive with other transportation modes, on-time performance and schedule reliability may be even more critical for passengers. Potential future users of the service need to have confidence that they will get to their destinations on time to be a useful and attractive transportation option.¹⁸⁶

G.3 SCHSR Corridor Participants

The major participants in the development of the SCHSRC include ODOT, TxDOT, the Arkansas Highways and Transportation Department, the Federal Railroad Administration (FRA), Amtrak, and the freight railroads currently operating in the region. Brief overviews of the different participants in the SCHSR corridor are provided below.

G.3.1 Agency/Organization Descriptions

The State of Oklahoma and the State of Texas are the sponsors of one of the current efforts to bring enhanced and expanded passenger rail service in one segment of the SCHSRC. Oklahoma's involvement in the SCHSR corridor is led by the **ODOT's Rail Programs Division**. The Rail Programs Division was established in 1989 to oversee the state's interests in 3,599 miles of rail, of which 428 miles were owned by the state at the time. The Division is responsible for acquiring and administering federal and state funds used to support operation of the *Heartland Flyer* passenger rail service, highway construction projects affecting railroad property, railroad crossing safety improvements, and maintenance of the state-owned rail lines. The Rail Programs Division is comprised of five sections – State-owned Rail Line Management, Safety, Rail Passenger, Construction, and Federal Programs.¹⁸⁷

The State of Texas' involvement in the SCHSR is overseen by the **TxDOT Rail Division (RRD)**. The RRD was established on December 1, 2009, to manage all statewide rail planning along with many other functions including;

- Performing infrastructure and operational analysis of both state and privately owned rail facilities to develop needs assessment as part of the project development process;
- Developing and planning for high-speed rail and intercity passenger rail;
- Monitoring potential rail line abandonments in Texas as well as coordinating the state's involvement and response to abandonment filings;
- Administering lease and operating agreements on state-owned facilities and managing construction contracts of state, or federally-funded projects on those facilities, as well as private facilities;

¹⁸⁶ Telephone Conversation with Johnson Bridgewater – former ODOT Passenger Rail Manager. July 17, 2014.

¹⁸⁷ Oklahoma Statewide Freight and Passenger Rail Plan. May, 2012. P. ES-2.

- Implementing rail improvements by entering into public-private partnership agreements to provide investment in freight rail relocation projects, rail facility improvements, rail line consolidations or new passenger rail developments;
- Administering the state rail safety inspection program in conjunction with the Federal Railroad Administration, including accident and complaint investigations. Also provides the state safety oversight function as required by the Federal Transit Administration (FTA);
- Improving highway-rail grade crossings to reduce accidents;
- Analyzing local, state, and national railroad/multimodal trends, policies, and legislation;
- Performing research to develop more efficient utilization of Texas rail freight systems, and;
- Acting as the departmental liaison to railroad companies, intermodal interests, FRA, local governments, and the public with regards to rail planning and project development in Texas.¹⁸⁸

The **Arkansas Highways and Transportation Department (AHTD)** is responsible for the state and US highways within the state of Arkansas.¹⁸⁹ Planning for expanded passenger rail services in Arkansas is managed by the Planning and Research Division of AHTD. There are approximately 2,750 miles of rail in Arkansas, 1,900 miles of which are operated by Class I Railroads. Three Class I railroads operate in Arkansas today: BNSF, Kansas City Southern, and Union Pacific (UP). UP by far owns the greatest track mileage in the state (1,327 miles).¹⁹⁰

The **FRA** is the lead federal agency for National Environmental Policy Act (NEPA) activities in the SCHSRC. In this capacity FRA is responsible for reviewing all environmental documents prepared for improvements in the SCHSRC and granting final NEPA approvals. The FRA is also responsible for administering federal grants for HSR projects. These activities are located within FRA's Office of Passenger and Freight programs in the Environment and Systems Planning Division and the Grant Management Division.

Amtrak is currently the only provider of intercity passenger rail service in the SCHSRC. Amtrak was formed by Congress in 1970 to take over passenger rail services previously required to be operated by private railroad companies in the United States. During FY 2014 Amtrak had a total ridership near 31 million passengers. Amtrak operates a nationwide rail network, serving more than 500 destinations in 46 states, the District of Columbia, and three Canadian provinces on more than 21,300 miles of routes.¹⁹¹ Amtrak's organizing statute renders it the only passenger rail carrier in the United States with the right to operate over privately held freight rail lines. Given that many states, such as those in the SCHSRC, are looking to add higher speed service on or along existing rail lines, corridor service is likely to

¹⁸⁸ Texas Department of Transportation. Texas Rail Plan. May 12, 2014. P. ES-2.

¹⁸⁹ Arkansas Highways and Transportation Department. FAQ. <http://www.arkansashighways.com/faq.aspx#How many miles are on the State Highway System?> . 9/4/14.

¹⁹⁰ Arkansas State Highway and Transportation Department. Planning and Research Division. State Rail Plan Presentation. <http://nebula.wsimg.com/e0fdefb02bbb8ddb3cf75013da815f3f?AccessKeyId=5A6F0AE766B3924FACC1&disposition=0&alloworigin=1> . May, 2013.

¹⁹¹ Amtrak: National Fact Sheet – 2013. <http://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&cid=1246041980246> .

involve both Amtrak's operating rights along the freight rail network, as well as its operating expertise.¹⁹²

The Burlington Northern Santa Fe Railway (BNSF) is one of the major freight railway operators in the United States. The BNSF owns and operates a network of approximately 32,500 miles of track in 28 states and two Canadian provinces (see Figure G-7). BNSF is headquartered in Fort Worth, Texas, employing over 43,000 individuals. The BNSF operates 1,600 average trains per day, with over 7,000 locomotives, serving 30 intermodal facilities and more than 40 ports.¹⁹³ The SCHSRC could operate on or parallel to lines owned by the BNSF for significant portions of the alignment. Portions of the proposed HSR alignment are on heavily trafficked north-south freight lines for the BNSF. In this high traffic density environment, certain capital infrastructure improvements to the track structure would be required to maintain the flow of freight traffic and protect the on-time performance of proposed passenger services.¹⁹⁴

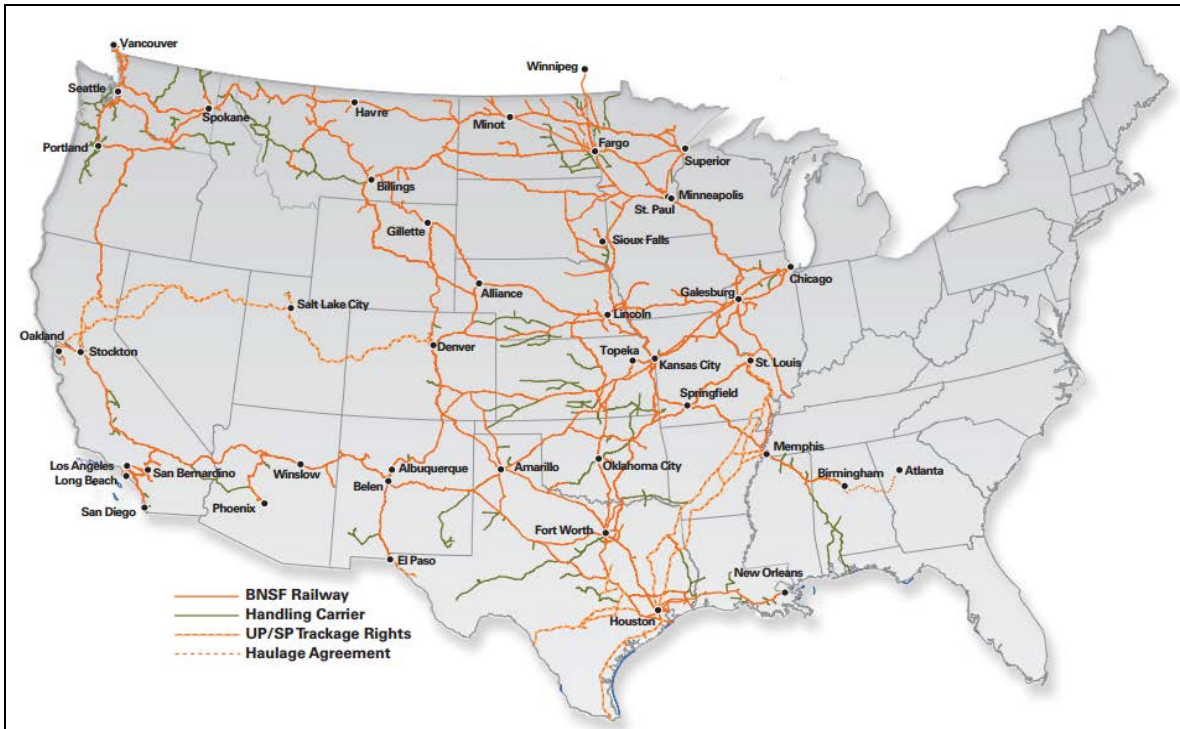
The Union Pacific (UP) Railroad is the other Class 1 railroad operating in the SCHSRC and is headquartered in Omaha, Nebraska. Currently portions of the *Texas Eagle* Amtrak line run on lines owned by the UP in Arkansas and eastern Texas. UP operates in 23 states in the western two-thirds of the United States, owning over 26,000 route-miles of track. The UP employs over 43,000 individuals, and owns approximately 8,300 locomotives.¹⁹⁵ Like its western competitor, BNSF, UP also provides services throughout North America through the connecting railroads. The UP operates several lines in Texas, Arkansas, and Oklahoma as shown in Figure G-8.

¹⁹² High-Speed Rail: A National Perspective, High-Speed Rail Experience in the United States. National Railroad Passenger Corporation. December, 2008. P. 1-2.

¹⁹³ BNSF Railway – Fact Sheet. March, 2014. http://www.bnsf.com/about-bnsf/pdf/fact_sheet.pdf.

¹⁹⁴ Kansas Department of Transportation. Kansas City-Wichita-Oklahoma City-Fort Worth Corridor Passenger Rail Service Development Plan. November, 2011. P. vii.

¹⁹⁵ Union Pacific Railroad. Company Overview. http://www.up.com/aboutup/corporate_info/uprover/index.htm. 9/24/14.



Source: http://www.bnsf.com/about-bnsf/pdf/fact_sheet.pdf

Figure G-7: BNSF Railroad Network



Source: Union Pacific Railroad

Figure G-8: Union Pacific Railroad Network

G.4 Description of the Project Development and Implementation Process

The steps in the project development process in the SCHSRC have included: (1) early feasibility studies, (2) planning studies, (3) environmental analyses, (4) public involvement, and (5) stakeholder outreach. While these steps are similar to initial stages for most large infrastructure projects, several aspects distinguish the development and implementation of the SCHSRC from typical transportation improvements. The first is the scale of the project, which extends over 800 miles through three states, involving multiple state agencies, local municipalities, MPOs, federal agencies, host railroads, and local stakeholders along the alignments. This wide range of stakeholders increases the level of complexity and required cooperation among all the parties. Even though the SCHSRC reaches across three states, the majority of planning and analysis to date has occurred along the Texas/Oklahoma portion of the envisioned alignment. AHTD is currently in the initial phase of an analysis to improve passenger rail transportation in Arkansas and expects the project to be completed in 2016. This planning analysis will examine the feasibility of connecting Little Rock to the SCHSRC.

The second aspect that distinguishes the SCHSRC from other large transportation improvements is that it must meet certain requirements established by FRA for high-speed rail projects benefiting from federal funding. Key among these is the adoption of Outcome Agreements and Service Development Plans (SDP). Outcome Agreements specify the project-related characteristics and institutional arrangements associated with intercity passenger rail projects. These agreements are unique to specific projects and involve agreements among all of the stakeholders involved in the project. While Outcome Agreements cover individual segments, they may involve agreements or commitments that pertain to other segments that help knit the different pieces of a intercity passenger rail project into a larger whole.

The SDP identifies the different capital components of the project and describes how the intercity passenger rail project will operate. The SDP is an iterative document that becomes more detailed as work on the project advances. While the structure of the document is flexible, the following components are required:

- Project rationale;
- Operations plan detailing rail services;
- Capital needs;
- Operating and financial results based on travel demand and revenue forecast and operating expenses; and
- Program plan and service development program schedule for all phases of the project.

The SDP provides the opportunity to vet the multitude of decisions involved with implementing intercity passenger rail programs with all project stakeholders. In that they address costs and financial results, the SDP helps facilitate decision-making on cost sharing issues.

FRA guidance on the preparation of Service Development Plans taken from the 2009 High Speed Intercity Passenger Rail Program Notice of Funding Availability and Interim Guidance Federal Register Notice is provided in Appendix G-1.

Currently there is no single, coordinated effort to analyze the entire SCHSRC as a cohesive HSR corridor integrated across Oklahoma, Texas, and Arkansas. Various portions of the SCHSRC have been studied, or are presently under some level of evaluation for enhanced passenger rail alternatives.

G.4.1 Texas and Oklahoma Efforts

Different segments that make up the SCHSRC have been under consideration or studied since the 1980s. In 1989, the Texas State Legislature passed the *Texas High-Speed Rail Act*, which created the Texas High-Speed Rail Authority (THSRA). The THSRA was given a mandate to award contracts with private sector companies to construct, operate, and maintain a HSR network connecting San Antonio, Houston, and Dallas/Fort Worth – or ‘The Texas Triangle’. During the mid-1990s, a private consortium was awarded a franchise to build and operate high speed rail in the state. Although demand appeared to support the development of high speed rail, lack of funding and other obstacles prevented the project from moving forward. In 1995, the Texas Legislature abolished the THSRA after franchise agreements with private consortiums failed to attain financial support. Since then, other proposals for high speed passenger rail in Texas have been submitted to the FRA, with each proposal showing revenues that exceeded operating expenses, but each requiring some amount of funding to construct.¹⁹⁶

Northern portions of the SCHSRC have also seen growing interest in high speed passenger rail development. In the late 2000s and early 2010s, KDOT in partnership with ODOT, TxDOT, and the Missouri Department of Transportation (MoDOT) began planning for expanded passenger rail services extending from Oklahoma City north to Kansas City, Missouri. This planning effort culminated in 2011 with a SDP for an alignment from Kansas City to Fort Worth. Potential alignment alternatives are presented in Figure G-9.

¹⁹⁶ Texas-Oklahoma Passenger Rail Study: Overview. July, 2014. <http://www.txdot.gov/inside-txdot/projects/studies/statewide/texas-oklahoma-rail/history.html> .



Figure 45 Kansas City - Oklahoma City - Ft. Worth SDP Alignments

Source: Kansas City-Wichita-Oklahoma City-Fort Worth SDP, 2011

The **Kansas City – Wichita – Oklahoma City – Fort Worth Corridor Passenger Rail Service Development Plan** provided various operational alternatives, capital and operating costs, alternatives for management of the service, and projected annual ridership. Service alternatives developed were estimated to have operational costs that ranged from \$6.47 million to \$32.7 million. Ridership estimates ranged from 111,300 annual riders to 368,000 annual riders. Capital costs ranged from \$132.5 million to \$430 million. Rolling stock costs were estimated between \$4 million and \$72 million depending on alignment and operational variations.

More recently in 2013, TxDOT in partnership with ODOT initiated the **Texas-Oklahoma Passenger Rail Study (TOPRS)** after being awarded approximately \$5.6 million from FRA. Texas had requested \$14 million from FRA. This grant award was initially to assess the portion of the study area from Oklahoma City to the Dallas/ Fort Worth metro area for enhanced or high speed passenger rail alternatives, environmental analysis, and SDP. Through agreements for 'in kind services' with ODOT and the North Central Texas Council of Governments (NCTCOG) to develop mapping, ridership, public outreach and other related efforts, the project area was extended further south to the Mexican border. The required

local matching funds for FRA grants was provided by the State of Texas in the amount of \$2.8 million from general revenues.¹⁹⁷

Because much of the study area is within Texas, and the state supplied the matching funds, it was agreed that TxDOT would lead the TOPRS and manage consultant contracts, with ODOT as a partnering agency.¹⁹⁸ The Intergovernmental Agreement establishing the roles and responsibilities for TxDOT and ODOT are presented in Appendix G-2. Along with work conducted by TxDOT and ODOT, BNSF has been an engaged partner in the development of the TOPRS study. Throughout the study, BNSF has been consulted with on an as-needed basis. The relationship with the host railroad has been very strong and beneficial. The BNSF has been supportive and has assisted in producing capital costs estimates for infrastructure improvements and supplying other information needed.¹⁹⁹

The TOPRS was initiated in the winter of 2013, and when completed will outline the costs, benefits, impacts, and risks of potential passenger rail service between Oklahoma City and the Mexican border. A map of the TOPRS study area is illustrated in Figure G-10. The TOPRS will develop multiple alignments and service alternatives for each of the three sections of the 850 mile long study area then compare all alternatives to a no-build scenario. This information will inform the development of a Service Level Tier 1 Environmental Impact Statement (EIS). This early feasibility stage assesses alignments and communities to be served by passenger rail services, but does not get into the specific details of exact

¹⁹⁷ Texas Department of Transportation. Texas-Oklahoma Passenger Rail Study: Frequently Asked Questions. 4/4/14. <http://www.txdot.gov/inside-txdot/projects/studies/statewide/texas-oklahoma-rail/meeting-materials.html>

¹⁹⁸ Telephone Conversation with Mark Werner – TxDOT Project Manager for TOPRS. 8/19/14.

¹⁹⁹ Telephone Conversation with John Dougherty – ODOT Assistant Rail Division Manager. 7/15/14.

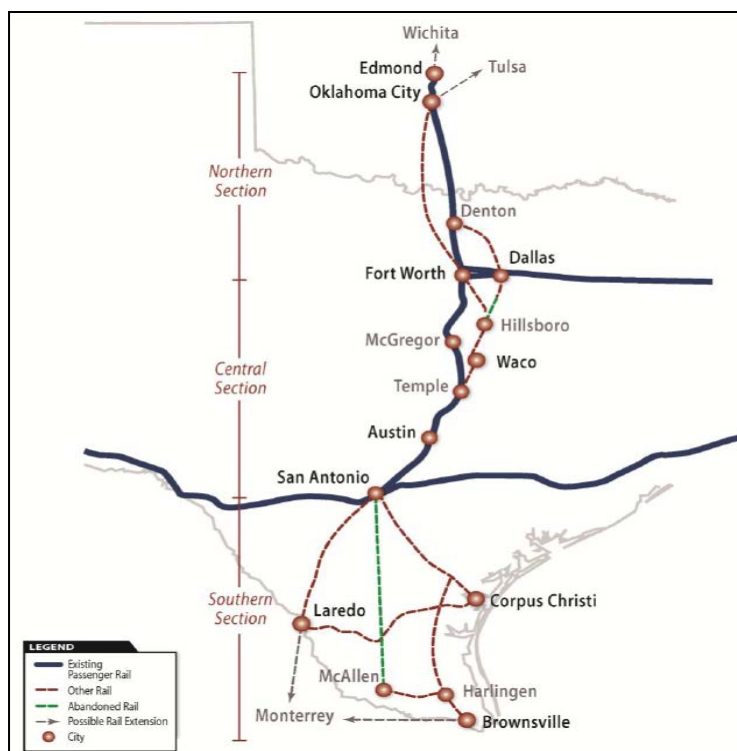


Figure G-10:46 Texas-Oklahoma Passenger Rail Study Project Area

Source: Texas Department of Transportation, 2014

station locations and impacts to individual properties. Should the project receive approvals and funding to advance, future studies would begin to address such issues in detail.

Along with multiple alignment alternatives being assessed in the TOPRS, several operating models are being examined as well. These include: Conventional Rail using existing freight tracks and operating at speeds at or below 79 mph, Higher Speed Rail with some dedicated track and operating at top speeds of 110-125 mph, and High Speed Rail with fully dedicated tracks and maximum speeds between 165-220 mph.

To provide a greater level of analysis the full study corridor was divided into three discrete portions:

- Northern: Oklahoma City to Dallas/Ft. Worth
- Central: Dallas/Ft. Worth to San Antonio
- South: San Antonio to Rio Grande Valley/Corpus Christi/Laredo

Early results from the study assessing capital cost, operating cost, and projected ridership have indicated that the northern portion of the study would be best suited for more conventional levels of passenger rail service along with the southern section. The central portion appears to be a viable candidate for High-Speed Rail service on a dedicated alignment between Dallas/Ft. Worth and San Antonio. Ridership

and revenue projections show that this portion of the alignment could be self-sustaining and require no State subsidy for operation of the service.²⁰⁰

In early 2014, officials from TxDOT, US Representative Henry Cuellar, and Mexican officials met with U.S. Transportation Secretary Anthony Foxx to offer a joint plan to extend a high-speed rail line from San Antonio to Monterey, Mexico. Following the presentation of the joint plan, TxDOT requested an additional \$400,000 from Secretary Foxx to study the expanded HSR plan into Mexico.²⁰¹ Congressman Cuellar has been seeking funding to study these international passenger rail alternatives, but has not yet been able to secure the necessary funding to proceed with the analysis.

Currently, the TOPRS has an alternative developed and has held a series of public and stakeholder meetings throughout the study's corridor. Input from the public and interested stakeholders has been assessed and included in revised alternatives. The study team anticipates the development of a preferred alternative for the study in the fall of 2014, followed by another round of public meetings and comment. The study is scheduled to be completed in early 2015 and seeks to have a Record of Decision (ROD) from the FRA later in 2015.²⁰²

Supplementing the analysis underway in the Texas–Oklahoma Passenger Rail Study, a Corridor Investment Plan is under development for the portion of the SCHSRC alignment between Oklahoma City and Tulsa (see Figure G-11). A Tier 1 EA was completed in 2009 for this corridor. In 2010, ODOT received \$2.4 million from the FRA to complete the environmental process. The **Tulsa-Oklahoma City Corridor Investment Plan** will create a framework for the future investments needed to provide passenger rail capacity and service through 2040. Technical work includes an analysis of market conditions in the corridor, development of reasonable program alternatives and an evaluation of the environmental impacts of those alternatives, and a recommended approach that balances the needs of various users of the corridor - whether commuters, intercity rail passengers, or freight rail - in a manner that ensures safe, efficient travel.²⁰³ Technical teams working for both the TOPRS and the Tulsa–Oklahoma City Corridor study are coordinating their efforts to seek ways to best integrate both planned services in the Oklahoma City area.

The Corridor Investment Plan will develop an SDP that lays out a preferred service alternative and addresses the specific costs and benefits for passenger services and freight rail traffic. Secondly, the Corridor Investment Plan will generate an EIS that examines a wide range of effects on the natural and built environment along the established project corridor. A map detailing the Tulsa – Oklahoma City Corridor Investment Plan study area is provided below.

²⁰⁰ Telephone Conversation with Mark Werner – TxDOT Project Manager for TOPRS. 8/19/14

²⁰¹ Batheja, Aman. Official Discussing Texas-Mexico High-Speed Rail Line. January 16, 2014. The Texas Tribune. <http://www.texastribune.org/2014/01/16/officials-discussing-texas-mexico-high-speed-rail/>

²⁰² Telephone Conversation with Mark Werner – TxDOT Project Manager for TOPRS. 8/19/14

²⁰³ Tulsa-Oklahoma City Corridor Investment Plan. <http://www.tulsaokcraillcorridor.com/about/>. July, 2014.

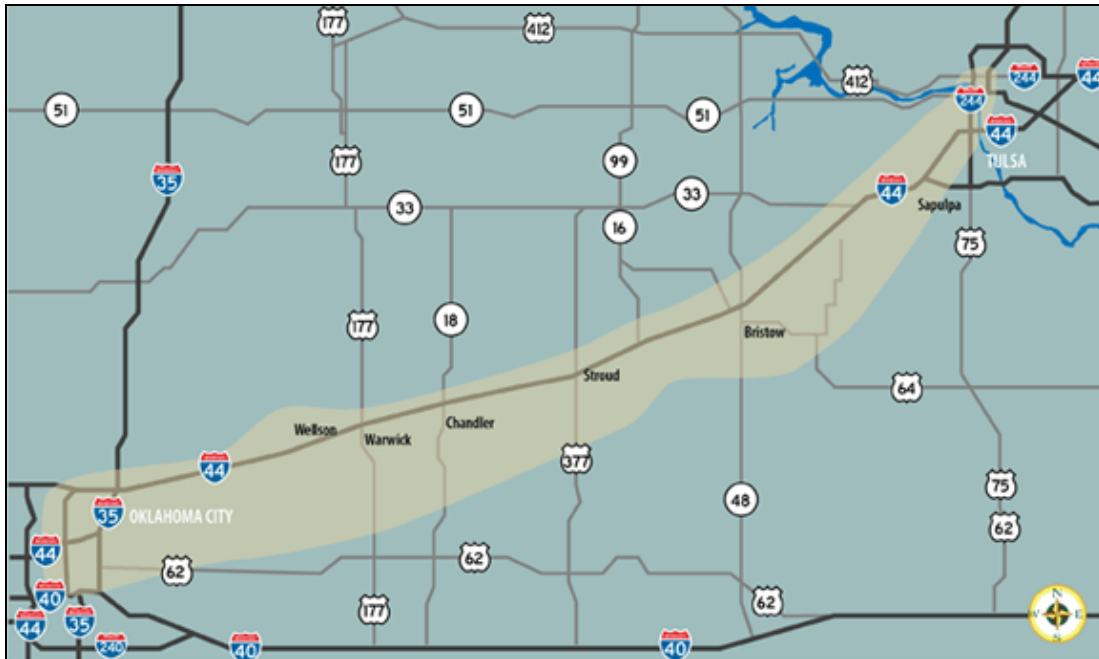


Figure G-11: Tulsa - Oklahoma City Corridor Investment plan Study Area

Source: http://www.tulsaokcraillcorridor.com/planning_process/

The Corridor Investment Plan kicked off in March 2013, with an initial phase collecting data and generating multiple alternatives for alignment and rail service type. A second phase is in progress and will narrow alternatives and create the draft EIS and SDP. The third and final phase of the analysis intends to conclude with a Final EIS, SDP, and a ROD approved by the FRA. The overall project is scheduled to be completed in the summer of 2015.

The Oklahoma State Legislature directed the creation of the Eastern Flyer Passenger Rail Development Task Force in 2011 to develop a plan for the initiation of passenger rail service between Tulsa and Oklahoma City. The Task Force released its final report in December 2012, focusing largely on outlining policy issues and available alternatives.²⁰⁴

G.4.2 Efforts Underway in Arkansas

Very recently the Arkansas Highway and Transportation Department initiated a study to assess the potential for passenger rail improvements in the state and connections the SCHSRC (see Figure G-12). The project consists of three planning studies:

1. An evaluation of the feasibility of extending the SCHSRC to Memphis and Service Development Plan
2. Service Development Plan for services between Little Rock and Texarkana
3. A highway impact study assessing effects to state highway system from passenger rail service upgrades.²⁰⁵

²⁰⁴ High Speed Rail: US System Summary: Texas/South Central. <http://www.texascentral.com/>

²⁰⁵ Telephone Conversation with Virginia Porta. AHTD-Transportation and Policy Division. 8/22/14.

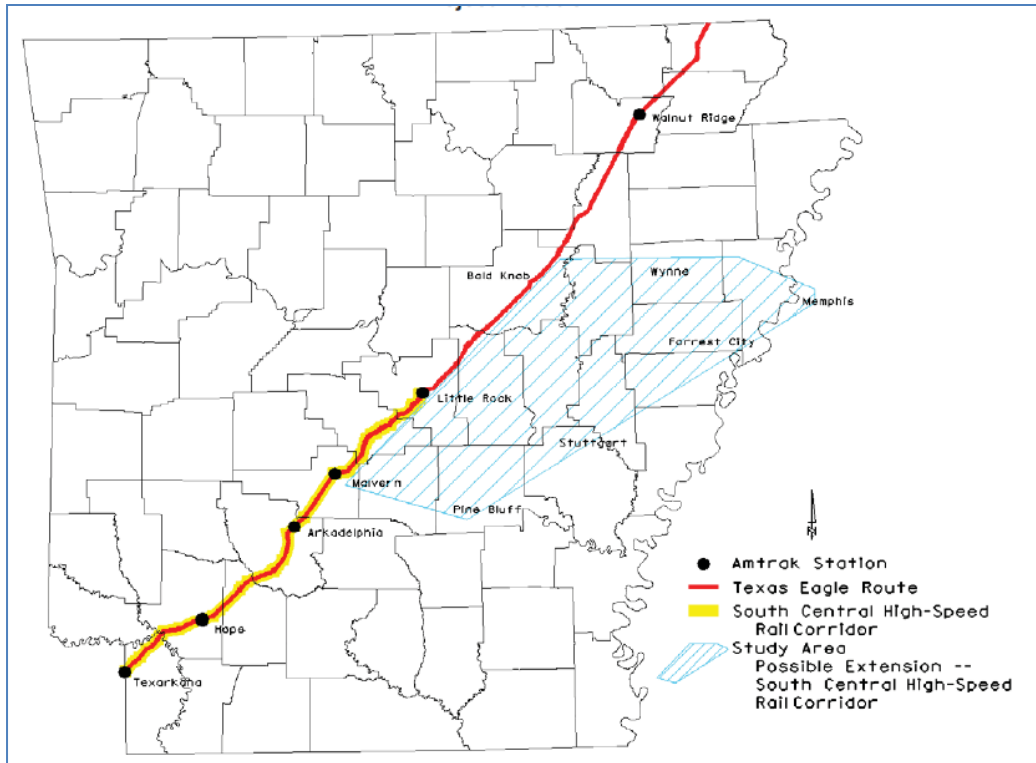


Figure G-12: Arkansas Passenger Rail Analysis Study Area

Source: AHTD

These planning efforts will assess potential routing alternatives, but will likely run on existing freight rail lines due to high capital costs of new build alignments. The study is being funded through an FRA grant of \$396,800, matched by the state of Arkansas with \$496,800 and \$100,000 from the Arkansas Economic Development Commission. The Memphis SDP is expected to be complete in late 2015 with the other elements of the project completed in the spring of 2016. While this work will develop SDPs for particular segments of future lines, it will only include cursory level environmental analysis. Once the feasibility of a potential passenger rail line has been established, a more robust EA would be conducted.²⁰⁶ Currently, this study is in progress and data collection efforts are underway. Coordination of study efforts with Texas has not been initiated at the early stage of analysis. AHTD intends to coordinate with TxDOT once feasibility for alignments has been established.

With the long history of multiple passenger rail planning efforts in what is now designated as the SCHSRC, it has been difficult for all three states to join together for a joint effort to form a singular vision for the creation of the SCHSRC. The most recent effort led by TxDOT and supported by ODOT is the most coordinated effort yet to develop a comprehensive vision and plan to develop and implement high speed passenger rail in the corridor.

G.5 Barriers/Challenges Faced in Planning and Implementing the SCHSRC

As can be expected with a project of the scale and complexity of the SCHSR corridor, there have been a number of barriers and challenges involved in the development project.

²⁰⁶ Ibid.

Interactions with Host Railroads

Successful passenger rail service implementation requires the cooperation and commitment of the host railroads where the service will be provided. Because most passenger rail service in the SCHSRC is expected to be provided on privately owned rails, it is imperative that a strong partnership and working relationship exists with partner railroads for a successful service.²⁰⁷ Private railroad companies' primary goal is generally to move freight efficiently to maximize profitability. These goals can be at odds with state agencies who desire to safely, quickly, and reliably move passengers between cities. These differing and competing goals make negotiating with the railroads inherently complex.

The SCHSRC has two host railroads with differing levels of support and involvement in multistate passenger rail efforts. In the TOPRS corridor, the members of the study team contacted for this case study reported a strong working relationship with BNSF, which owns a majority of the rail lines on which the planned service would operate in the future. This has not been the case in the newly initiated passenger rail planning analysis underway in Arkansas. UP owns and operates the rail corridors that are being assessed in the Arkansas study area. UP has not been willing to participate in the analysis, and has been unwilling to provide any data on current freight volumes or other critical information needed to advance the planning work. Due to this lack of cooperation, the Arkansas passenger rail study's schedule was set back nearly a year while data analysis was conducted by field observation paid for from the study, costing the project time and critical funding.²⁰⁸

Risk and Liability

Co-mingling passenger trains in a freight environment carries many inherent risks. Private freight carriers' priority is to move freight efficiently to generate profits, while at the same time minimizing the liability and risks. Issues involving liability allocation and costs have thwarted, or delayed, a number of projects involving new or enhanced passenger rail services and have required passenger rail operators to bear significant liability insurance costs.²⁰⁹ Amtrak's enabling legislation allows it access to privately held rail lines for the operation of passenger rail services at an incremental cost. Along with this, Amtrak indemnifies the host railroad from all liabilities stemming from the operation of passenger rail service on freight lines.²¹⁰ Freight railroads in the SCHSRC also wish to limit risks to their freight operations by not over committing to passenger rail services that may constrain future freight capacity needs. This can make formalizing agreements between state DOTs, passenger rail operators, and host railroads difficult.²¹¹ This has been of concern to freight providers in the SCHSR, especially BNSF in the Texas-Oklahoma corridor.²¹² Strong coordination with host freight railroads is critical for any future higher speed passenger rail operations to succeed.

²⁰⁷ Telephone Conversation with Johnson Bridgewater—former ODOT Passenger Rail Manager. July 17, 2014.

²⁰⁸ Telephone Conversation with Virginia Porta. AHTD-Transportation and Policy Division. 8/22/14.

²⁰⁹ High-Speed Rail: A National Perspective, High-Speed Rail Experience in the United States. National Railroad Passenger Corporation. December, 2008. P. 5-5.

²¹⁰ Telephone Conversation with Mike Frankee. Amtrak Assistant Vice President. 9/10/14.

²¹¹ Telephone Conversation with John Dougherty. ODOT Assistant Rail Program Division Manager. 7/15/14.

²¹² Telephone Conversation with John Dougherty. ODOT Assistant Rail Program Division Manager. 7/15/14.

Need for Strong Political or Business Community Champion

There is currently no political champion for the SCHSRC project development. A political champion would offer direction for the project, or promote and lobby for the project at the state, federal, or local level. In public comments submitted in the TOPRS, there has been interest and support for continued development of enhanced passenger rail services, but there has been no political figure to call for implementation or to secure funding to further planning, or engineering analyses needed to move the project forward. For mega-projects such as the SCHSRC, political and/or business champions are critical to move projects from the planning phase through implementation, and to attain the necessary capital investments. Research conducted by Alan Altshuler and David Luberoff found that for large scale projects, project champions generally had to mount intense campaigns – in both Congress and the executive branch -- to obtain federal funds. They also had to satisfy a myriad of environmental, housing, historic preservation, and citizen participation rules, while demonstrating (because federal decision makers usually insisted on it) that project opponents were very few. In their research, Altshuler and Luberoff also found no example of mega-projects that went forward in the face of business community opposition.²¹³ In Arkansas there does seem to be some initial support from the state legislature and business community to investigate improved passenger rail services. To fund the current AHTD study the state legislature appropriated nearly \$500,000 and the business community showed its support by committing \$100,000 from the Arkansas Economic Development Commission.

High Capital Costs

True high speed rail will require massive investment in new rail infrastructure that may be challenging to weigh against benefits for the project. Many infrastructure needs drive up costs for operation of high speed rail. Specific safety features required by FRA alone represent a large escalation in overall price for operations at about 79 mph. Service over 80 mph requires installation of positive train control systems that help in avoidance of collisions. It also requires sealed corridors for public crossings, and special safety features at private crossings, within rural areas in particular, are quite numerous. Above 110 mph, highway grade crossings are not allowed and all at-grade road crossings would have to be grade separated. Over 125 mph, a higher level of rolling stock safety features are mandated, and over 150 mph special system specific safety requirements must be negotiated and accepted by the FRA.²¹⁴

Early results from the TOPRS indicate that the segment of the alignment that will financially support rail at or above 110 mph without ongoing state subsidies was the section between Dallas and San Antonio. Currently there are no funds identified to cover the cost to construct and operate this portion, or any others in the TOPRS area. Ridership and financial estimates indicate that the Dallas to San Antonio segment could attract private funding sources to build and operate the high speed service.²¹⁵ The high capital cost estimated for the project has made the project seemingly unrealistic, in turn reducing support from public and elected officials. Currently there is no designated funding to continue the study

²¹³ Altshuler, Alan and Luberoff, David. *Mega Projects: The Changing Politic of Urban Public Investment*. Brookings Institute Press. Washington D.C. 2003. P. 222.

²¹⁴ Kansas Department of Transportation. *Kansas City-Wichita-Oklahoma City-Fort Worth Corridor Passenger Rail Service Development Plan*. November, 2011. P. 5.

²¹⁵ Telephone Conversation with Mark Warner- TOPRS Project Manager, TxDOT. 8/19/14.

efforts past the conclusion on the TOPRS. Capital and other project costs have yet to be determined at present for the Arkansas study. The ATHD passenger rail analysis is scoped to estimate capital and operating costs, and to determine user and non-user benefits with the project is completed in 2016.

Funding

At a regional level, there is a need to identify stable, long term capital and operating funding sources for implementation of higher speed passenger rail service. In addition, the states of Texas, Oklahoma, and Arkansas currently maintain different approaches for funding intercity passenger rail which makes coordinating investments a challenge. Texas appropriates funding for passenger rail on a bi-annual basis. Because of this, there is no way to confidently plan for future expansion of service or invest in capital improvements. Amtrak contracts are annual and operating costs increase year to year. Since the Texas Legislature sets a budget every two years, it becomes difficult for Texas to cover the Amtrak cost increases in the second year of the Texas budget cycle as they were not allocated at the time of the budget adoption. Oklahoma Legislature established payments for operation of Amtrak service for several years into the future, allowing for more stability in planning. Both states supporting operation of the *Heartland Flyer* Amtrak service appropriated funds from general revenue. There is no dedicated source of funding in the same way other modes of transportation are funded. Operational funding for the *Heartland Flyer* is currently split 50/50 between Oklahoma and Texas. As alternatives develop out of the both the TOPRS and planning work in Arkansas the states will need to address how capital and operational funding should be divided to allow for equity among participating states.

Regional Coordination

In the SCHSRC, there is no singular coordinating group organizing the planning and visioning efforts of the three states involved in developing enhanced passenger rail service. Without a common vision and set of objectives, individual segments of the overall SCHSRC have advanced in a fragmented and uneven manner. This lack of coordination has put the SCHSRC at a competitive disadvantage to other better organized regions when applying for competitive federal funding opportunities. Without a multistate leadership group directing and coordinating the passenger rail development efforts in the SCHSRC the advancement of enhanced passenger rail systems in the region is being hindered.²¹⁶

G.6 Interpretation and Synthesis










This section interprets the case study findings in the context of the overall project objectives.

G.6.1 Key Aspects of the Case with Respect to Research Objectives




The conceptual framework developed for this project was founded on four major elements of collaborative efforts for intercity passenger rail transportation: visioning, planning, design and construction, and operations. This case study provides useful lessons for the first two elements. The specific issues relevant to the research objectives identified in the Phase I Report and their relevance and applicability to the SCHSRC case study are summarized in the table below.

²¹⁶ Telephone Conversation with Catherine Dobbs. Federal Railroad Administration – Regional Manager. 9/13/14.

Table G.18: Case Study Applicability to Research Items

Research Issue	Degree to Which Objective is Applicable to SCHSRC Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

Legend

	Addresses research issue to a high degree
	Addresses research issue to a moderate degree
	Addresses research issue to a slight degree

G.6.2 Key Lessons Learned

Lesson 1: Develop Partnerships with Adjacent States

Passenger rail studies conducted over the last decade have helped to foster new partnerships between states within the SCHSRC. Through these efforts, initial limited agreements have been developed for project-specific issues between multiple state DOTs (Appendix B), and more recently, agreements between Texas and Oklahoma to provide operational funds for Amtrak's *Heartland Flyer* service, with each state agreeing to cover half of the operational expenses. The three states of Texas, Oklahoma, and Arkansas seek to build off the momentum generated by this work and develop more formalized multistate agreements to aid in the planning and development of expanded passenger rail options in the SCHSRC. Today no formalized corridor-wide agreements are in place to define a vision and a path forward in the development of high speed rail. More open and frequent communication could aid the states, host railroads, and Amtrak to bring about positive changes and improve efficiency of operations.

Lesson 2: Seek All Funding Opportunities

The lack of a consistent, dedicated funding source for planning, engineering, construction and operation of passenger rail service was noted by several interviewees as a critical barrier to continued advancement of enhanced passenger rail in the SCHSR. Presently there does not appear to be any significant effort in the states of Texas, Arkansas, or Oklahoma to introduce a new funding mechanism for passenger rail services. This is the case as well at the federal level where passenger rail projects do not have the same capital programs available as do other modes of transportation. To overcome these challenges, project sponsors are exploring and assessing all avenues to fund passenger rail projects where feasible.²¹⁷ The opportunity to develop public-private partnerships (P3) should be investigated to determine if private sector funding can be a viable source of project funding. Texas is currently working to determine if a P3 scenario is a viable alternative in developing a greenfield high speed rail alignment between Dallas/Ft. Worth and San Antonio. P3 legislation is currently only enacted in Texas and Arkansas along the corridor. Until Oklahoma passes legislation allowing the model, only segments of the corridor can consider the P3 option. Further analysis related to project funding sources will assess feasible alternative funding sources outside of strictly federal sources. Each of the three states involved in the SCHSR could benefit from exploring joint funding opportunities.

Lesson 3: Role of Railroads

This case study examines the implementation of multistate, intercity rail service on existing right-of-way, primarily through the use of track upgrades and/or providing additional track. Proposed projects will likely not be on new right-of-way. As such, the owner of the right-of-way, in this case private railroads, have a very important role in project success and in the institutional structure created to development and implement a project. BNSF is the owner of significant portions of the right-of-way in which the SCHSRC is designated. In addition, through its rail operations control, it determines the number of train slots that can access particular destinations. As noted in the case study, obtaining cooperation from railroads will require some proposal of benefits for the railroad itself (e.g., public support in upgrading track). This element of successful institutional arrangements for mixed use corridors will likely be one of

²¹⁷ Telephone Conversation with Catherine Dobbs. Federal Railroad Administration – Regional Manager. 9/13/14.

the most important factors in implementing intercity passenger rail services. BNSF is participating in current planning efforts in the corridor. Information provided through interviews stated that strong working relationships have developed between the Departments of Transportation and BNSF. These relationships have been critical in providing passenger rail in the corridor. Current planning efforts provide the counterexample to coordination with BNSF. In Arkansas, coordination with UP has not been forthcoming, and has been detrimental to the project. Early communication with host railroads and development of strong relationships are highly important for the overall successful passenger rail project outcome.

Lesson 4: Role of a “Champion”

The case study noted that a key challenge in this corridor project is not having a political champion for the project. This is a key lesson from other case studies as well. Those projects that seem to have made the most progress had political and usually business support. This support was not only necessary to secure local funding for needed investments, but the support was also useful in defending the project when political forces targeted the project for termination. A champion is also useful in shepherding a project through the many phases of the project development process.

G.6.3 Degree to Which Results are Transferable

While the SCHSRC is still early in project development, findings of this case can be transferrable to other large bi- or multistate intercity passenger rail projects, particularly for states at similar planning stages.

Today a coordinated vision and planning effort has not been agreed upon by Oklahoma, Texas, and Arkansas. Partially due to this lack of coordination, the planning and assessment of the passenger rail corridors within the SCHSR have progressed in a segmented fashion. States should work closely to develop a unified vision for the intercity passenger rail corridors they seek to develop. While it is only possible to study and implement large multistate intercity passenger rail projects in smaller segments, states should not lose sight of the larger picture. In order to work in a coordinated way towards a collective goal, they need to be in agreement and share a clear vision of what the final deliverable will be.

The case study also demonstrates that the Service Development Agreement process required by the FRA provides an excellent platform for developing an end vision of how large intercity passenger rail projects will function and be implemented. This includes developing a service plan and undertaking other basic planning analyses that are needed for intercity passenger rail projects but that are not necessarily included in the NEPA process. The SDP process is also helpful as it identifies the other strategic planning analyses and decisions that will need to be made outside of the standard NEPA process throughout the progression of the project.

Lastly, early coordination with host railroads cannot be bypassed. Host railroads have the ability to aid or slow progress to develop passenger rail services that use their facilities. Project leaders need to be forthright with their goals and objectives for the project with host railroads and seek to identify major red flags in the project that may affect freight rail operations in order to reach a mutually beneficial agreement.

G.7 References

1. Sutter, Ellie. Chamber Hears Amtrak Whistle Comin' Down Line. <http://newsok.com/chamber-hears-amtrak-whistle-comin-down-line/article/2355293.4/28/91> .
2. Brookings Institute. <http://www.brookings.edu/research/interactives/2013/amtrakroutes> . March 1, 2013.
3. Kansas Legislature. Special Committee on Transportation. October 29, 2012. http://www.kslegislature.org/li_2012/b2011_12/committees/misc/ctte_spc_2012_special_committee_on_transportation_1_20131029_20_other.pdf
4. Oklahoma Statewide Freight and Passenger Rail Plan. May, 2012. P11-17.
5. Texas Department of Transportation. Texas Rail Plan. May 12, 2014. P. 4-14.
6. Puentes, Tomer & Kane. A New Alignment: Strengthening America's Commitment to Passenger Rail. Brookings Institute. March, 2013. P. 21.
7. Kansas Department of Transportation. Kansas City-Wichita-Oklahoma City-Fort Worth Corridor Passenger Rail Service Development Plan. November, 2011. P. v.
8. Texas Department of Transportation. Texas Rail Plan. May 12, 2014. P. ES-19.
9. Telephone Conversation with Johnson Bridgewater – former ODOT Passenger Rail Manager. July 17, 2014.
10. Oklahoma Statewide Freight and Passenger Rail Plan. May, 2012. P. ES-2.
11. Texas Department of Transportation. Texas Rail Plan. May 12, 2014. P. ES-2.
12. Arkansas Highways and Transportation Department. FAQ. <http://www.arkansashighways.com> . 9/4/14.
13. Arkansas State Highway and Transportation Department. Planning and Research Division. State Rail Plan Presentation. <http://nebula.wsimg.com/e0fdefb02bbb8ddb3cf75013da815f3f?AccessKeyId=5A6F0AE766B3924FACC1&disposition=0&alloworigin=1> . May, 2013.
14. Amtrak: National Fact Sheet – 2013. <http://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&cid=1246041980246> .
15. High-Speed Rail: A National Perspective, High-Speed Rail Experience in the United States. National Railroad Passenger Corporation. December, 2008. P. 1-2.
16. BNSF Railway – Fact Sheet. March, 2014. http://www.bnsf.com/about-bnsf/pdf/fact_sheet.pdf .
17. Kansas Department of Transportation. Kansas City-Wichita-Oklahoma City-Fort Worth Corridor Passenger Rail Service Development Plan. November, 2011. P. vii.
18. Union Pacific Railroad. Company Overview. http://www.up.com/aboutup/corporate_info/uprover/index.htm . 9/24/14.
19. Texas-Oklahoma Passenger Rail Study: Overview. July, 2014. <http://www.txdot.gov/inside-txdot/projects/studies/statewide/texas-oklahoma-rail/history.html> .
20. Texas Department of Transportation. Texas-Oklahoma Passenger Rail Study: Frequently Asked Questions. 4/4/14. <http://www.txdot.gov/inside-txdot/projects/studies/statewide/texas-oklahoma-rail/meeting-materials.html>
21. Telephone Conversation with Mark Werner – TxDOT Project Manager for TOPRS. 8/19/14.
22. Telephone Conversation with John Dougherty – ODOT Assistant Rail Division Manager. 7/15/14.
23. Telephone Conversation with Mark Werner – TxDOT Project Manager for TOPRS. 8/19/14.
24. Batheja, Aman. Official Discussing Texas-Mexico High-Speed Rail Line. January 16, 2014. The Texas Tribune. <http://www.texastribune.org/2014/01/16/officials-discussing-texas-mexico-high-speed-rail/>
25. Telephone Conversation with Mark Werner – TxDOT Project Manager for TOPRS. 8/19/14

26. Tulsa-Oklahoma City Corridor Investment Plan. <http://www.tulsaokcraillcorridor.com/about/> . July, 2014.
27. High Speed Rail: US System Summary: Texas/South Central. Texashsr.org.
28. Telephone Conversation with Virginia Porta. AHTD-Transportation and Policy Division. 8/22/14.
29. Telephone Conversation with Virginia Porta. AHTD-Transportation and Policy Division. 8/22/14.
30. Telephone Conversation with Johnson Bridgewater– former ODOT Passenger Rail Manager. July 17, 2014.
31. Telephone Conversation with Virginia Porta. AHTD-Transportation and Policy Division. 8/22/14.
32. High-Speed Rail: A National Perspective, High-Speed Rail Experience in the United States. National Railroad Passenger Corporation. December, 2008. P. 5-5.
33. Telephone Conversation with Mike Frankee. Amtrak Assistant Vice President. 9/10/14.
34. Telephone Conversation with John Dougherty. ODOT Assistant Rail Program Division Manager. 7/15/14.
35. Telephone Conversation with John Dougherty. ODOT Assistant Rail Program Division Manager. 7/15/14.
36. Altshuler, Alan and Luberoff, David. Mega Projects: The Changing Politic of Urban Public Investment. Brookings Institute Press. Washington D.C. 2003. P. 222.
37. Kansas Department of Transportation. Kansas City-Wichita-Oklahoma City-Fort Worth Corridor Passenger Rail Service Development Plan. November, 2011. P. 5.
38. Telephone Conversation with Mark Warner- TOPRS Project Manager, TxDOT. 8/19/14.
39. Telephone Conversation with Catherine Dobbs. Federal Railroad Administration – Regional Manager. 9/13/14.
40. Telephone Conversation with Catherine Dobbs. Federal Railroad Administration – Regional Manager. 9/13/14.

Appendix G-1

Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices

[High Speed Intercity Passenger Rail Program \(HSIPR\) Notice of Funding Availability \(NOFA\) and Interim Guidance: ARRA / FY 2009](#)

Appendix G-2 – Texas-Oklahoma Service Development Plan Agreement

THE STATE OF TEXAS §
THE COUNTY OF TRAVIS §

AGREEMENT BETWEEN STATES FOR THE DEVELOPMENT OF A SERVICE DEVELOPMENT PLAN FOR A RAIL CORRIDOR ACROSS STATE BOUNDARY LINES

THIS AGREEMENT ("Agreement"), dated as of the last date set forth on the signature page attached hereto, is made by the State of Texas, acting by and through the Texas Department of Transportation, 125 East 11th Street, Austin, Texas 78701-2483, hereinafter called the "State of Texas," and the State of Oklahoma, acting by and through the Oklahoma Department of Transportation, 200 NE 21st St., Oklahoma City, OK 73105-3204 hereinafter called the "State of Oklahoma."

WITNESSETH

WHEREAS, the State of Texas and the State of Oklahoma (individually, a "State," and collectively, the "States") have identified the need to develop a feasibility study, Service Development Plan and environmental review work from Oklahoma City, Oklahoma to South Texas for passenger rail service in this corridor, hereinafter identified as the "Project", a corridor which crosses state borders; and

WHEREAS, the Project (as defined hereinabove) is necessary for the health, safety, and welfare of the people of the States and for the effective improvement and operation of the States' transportation systems; and

WHEREAS, the Project is an extension or continuation of a segment of the States' transportation systems; and

WHEREAS, the States desire to participate in the Project to be financed, designed, and constructed as provided herein; and

WHEREAS, the State of Texas, by statutory authority under Transportation Code §91.036 may conduct rail planning studies to determine the viability of rail systems for rail transportation; and

WHEREAS, the State of Oklahoma is authorized and empowered to receive, accept and expend funds from the state, any federal agency, or from private sources, for rail planning and rail projects pursuant to Title 66 OS §304 and is authorized to enter into cooperative agreements with adjoining States pursuant to Title 69 OS §317; and

WHEREAS, on December 16, 2010, the Texas Transportation Commission passed Commission Minute Order Number 112513 authorizing the State of Texas to enter into any necessary agreements to complete a feasibility study, service development plan and environmental review work on the corridor between Oklahoma City, Oklahoma and South Texas; and

WHEREAS, the States have secured, or will secure, the necessary funding from their respective Legislatures for financial participation in the Project.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties, it is agreed as follows:

AGREEMENT

Article 1. Financing. The States shall make all necessary arrangements for financing their respective portion of the Project.

Article 2. Scope of Project. The Project shall include a feasibility study, service development plan and environmental review work to complete the project from the Project's point of beginning to the endpoint.

Article 3. Costs. The cost of all work associated with the Project as outlined in this Agreement shall be borne by the States, in reasonable proportion to the segment located in each State.

Article 4. Outside Costs. The cost of any work in State of Texas outside the limits of the Project shall be borne by the State of Texas. The costs of any work in the State of Oklahoma outside the limits of the Project shall be borne by the State of Oklahoma.

Article 5. Consultant Contract. The State of Texas has secured a consultant to perform the study.

Article 6. Project Cost Share. Financing of the Project shall be as follows:

- a. The State of Texas shall fund the full cost of the study using Federal Railroad Administration (FRA) grant funds and other funds available for the purpose of the Project as outlined in Exhibit A.
- b. The State of Oklahoma shall provide in kind services and data for the portion of the study corridor that lies within the State of Oklahoma.

Article 7. Project Responsibilities. The State of Texas will transmit to the State of Oklahoma requests for data and in kind services as needed throughout the study. The types of services and data to be supplied are listed in Attachment A. Data will be transmitted in a format useable by the State of Texas and its consultants.

Article 8. Project Development. The contract to be entered into between the State of Texas and the consultant shall be for the development of a Corridor Investment Plan consisting of a Service Development Plan and Tier 1 Environmental Document for the corridor between Oklahoma City, Oklahoma and South Texas.

Article 9. Project Management. The State of Texas shall be responsible for the management and oversight of the project and will provide regular monthly updates on the progress of the project and provide draft reports for review and comment to the State of Oklahoma.

Article 10. Responsibilities of the Parties. The States acknowledge that they are not an agent, servant, or employee of the other State, and are responsible for their own acts and deeds and for their agents or employees during the performance of contract work.

Article 11. Assignment. The States shall not assign or otherwise transfer their rights and obligations under this Agreement except with prior written consent of the other party.

Article 12. Purpose of Project. It is agreed by the parties hereto that the Project provided for in this Agreement shall be used for the benefit of each State to further development of passenger rail transportation between the States.

Article 13. Amendment. This Agreement may be amended only by a written amendment signed by both parties to this Agreement.

Article 14. Legal Construction. In case any one or more of the provisions contained in this Agreement shall for any reason, be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

Article 15. Sole Agreement. This Agreement constitutes the sole and only agreement of the parties hereto and supersedes any prior understandings or written or oral agreements between the parties respecting the within subject matter.

Article 16. Sovereign Rights. Texas and Oklahoma enter into this agreement as sovereign states. Nothing herein shall be construed as consent by the State of Texas to suit in the courts of the State of Oklahoma or a waiver of Texas' sovereign immunity or rights under the Eleventh Amendment to the Constitution of the United States. Nothing herein shall be construed as consent by the State of Oklahoma to suit in courts of the State of Texas or a waiver of Oklahoma's sovereign immunity or rights under the Eleventh Amendment to the Constitution of the United States. This agreement does not grant any rights to any party except Texas and Oklahoma. Nothing in this agreement shall be deemed to create or give rise to any right of action or any liability to any third party claiming to have suffered a loss, damage or injury by virtue of any alleged failure by either party hereto to comply with the terms of this agreement.

Article 17. Term of Contract. This Agreement becomes effective upon final execution and the responsibilities established herein shall remain in effect as long as the Project is utilized as a transportation development tool for the benefit of the States of Texas and Oklahoma.

Article 18. Contract Termination. This contract may only be terminated upon written mutual consent of the States of Texas and Oklahoma.

Article 19. Dispute Resolution. In the event of any dispute, claim, question, or disagreement arising out of or relating to this contract or the breach thereof, the States hereto shall use their best efforts to settle such disputes, claims, questions or disagreement. To this effect, the States shall consult and negotiate with each other in good faith and, recognizing their mutual interests, attempt to reach a just and equitable solution satisfactory to both sides.

Article 20. Limitation of Liability. The States mutually recognize that each party is a sovereign State subject to the provisions of the respective Governmental Tort Claims Acts (Oklahoma at Title 51 OS §151 et seq., and Texas at Civil Practice & Remedies Code §101.001 et seq.). The States hereby mutually agree that each is and may be held severally liable for any and all claims, demands, and suits in law or equity, of any nature whatsoever, paying for damages or otherwise, arising from any negligent act or omission of any of their respective employees, agents or contractors which may occur during the prosecution or performance of this Agreement to the extent provided in the Governmental Tort Claims Act. Each party agrees to severally bear all costs of investigation and defense of claims arising under the respective Governmental Tort Claims Act and any judgments which may be rendered in such cause to the limits provided by law. Nothing in this section shall be interpreted or construed to waive any legal defense which may be available to a party or any exemption, limitation or exception which may be provided by the respective Governmental Tort Claims Act.

Article 21. Effective Date. This Agreement becomes effective upon final execution and the responsibilities established herein shall remain in effect until the Project is completed.

Article 22. Notices. Any notices under this Agreement shall be mailed or hand delivered to the following respective addresses:

State of Texas: Texas Department of Transportation Rail Division 125 E 11 th Street Austin, TX 78701	State of Oklahoma: Oklahoma Department of Transportation Rail Programs Division 200 NE 21 st Street, Room 3D6 Oklahoma City, Oklahoma
--	---

Article 23. State Audit. The state auditor may conduct an audit or investigation of any entity receiving funds from the state directly under the contract or indirectly through a subcontract under the contract. Acceptance of funds directly under the contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

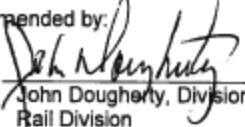
Article 24. Warranty. Each signatory warrants that the signatory has necessary authority to execute this agreement on behalf of the entity represented.

IN WITNESS WHEREOF, the authorized signatories for the States have executed duplicate counterparts.

STATE OF OKLAHOMA

Recommended by:

By:



John Dougherty, Division Manager
Rail Division
Oklahoma Department of Transportation

Dated:

8-16-12

Approved as to form and legality:

By:



David Allen Miley, Assistant General Counsel
Office of the General Counsel

Dated:

8/17/12

Executed for the State of Oklahoma, ex rel,
Oklahoma Department of Transportation

By:


Gary Pridemore, Director
Oklahoma Department of Transportation


Dated:

8/23/12

STATE OF TEXAS

Recommended by:

By:

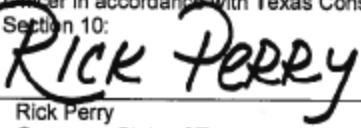

Phil Wilson
Executive Director
Texas Department of Transportation

Dated:

9-13-12

Executed for the State of Texas by the State's Chief
Executive Officer in accordance with Texas Constitution,
Article IV, Section 10:

By:


Rick Perry
Governor, State of Texas

Dated:

10-12-12

EXHIBIT A
AGREEMENT BETWEEN STATES FOR
THE DEVELOPMENT OF A SERVICE DEVELOPMENT PLAN
FOR A RAIL CORRIDOR ACROSS STATE BOUNDARY LINES
SERVICES TO BE PROVIDED BY THE STATE OF OKLAHOMA

I. INFRASTRUCTURE DATA

In order to analyze the existing infrastructure within the corridor, the State of Oklahoma shall provide the following data:

- A. DGN (design) Computer Aided Design (CAD), SDW files and digital elevation model data with three (3) to five (5) meter post spacing for the following counties; Carter, Cleveland, Garvin, Love, McClain and Oklahoma Counties and geo-referencing information for CAD data provided.
- B. Survey data for the Interstate Highway 35 (I-35) corridor counties including aeriels and digital survey data.
- C. Right of Way data for the I-35 from Oklahoma City to the Oklahoma State Line.
- D. State of Oklahoma's ODOT Planning Division shall provide vertical clearances for the I-35 Corridor from the Oklahoma-Texas state line to Oklahoma City.
- E. State of Oklahoma's ODOT Rail Programs Division shall provide grade crossing database for Carter, Cleveland, Garvin, Love, McClain and Oklahoma Counties.

II. ENVIRONMENTAL DATA

In order to analyze potential alignment alternatives and their potential environmental impacts, the State of Oklahoma shall provide the following information within the corridor from the Oklahoma-Texas state line to Oklahoma City:

- A. List of Indian tribes for coordination.
- B. Agency solicitation list and assist with consultation with Oklahoma State Agencies.
- C. Assembly, Collection and Review of Additional Environmental Data
 - 1. The State of Oklahoma shall collect, assemble and review for the study area relevant existing and best available data from appropriate sources, including federal, state, regional and local governmental entities, and private companies, utilities and railroads to determine the additional data to be gathered to support the development of the National Environmental Policy Act (NEPA) document/Service Development Plan. The study area will be the I-35 Corridor from Oklahoma City, Oklahoma to the Oklahoma Texas border and includes Carter, Cleveland, Love, McClain, Murray and Oklahoma Counties. The determination of data requirements, availability, and sources shall be coordinated with State of Texas.
 - 2. The work shall include the following activities:
 - a) Collection of the latest available Graphic Information System (GIS) data. Data shall include basemap layers (such as streets, political boundaries, conservation lands) and layers that map the distribution of environmental features (e.g., land cover, wetlands, soils, floodplains, listed species element occurrences);
 - b) Collection of non-digital data (e.g. National Wetland Inventory (NWI) and Federal Emergency Management Agency (FEMA) maps) in hardcopy format suitable for digitizing; and
 - c) Assembly of the collected data into layers for use in ESRI ArcGIS 10.x.
 - 1. Vector data shall be delivered as ESRI 10.x, compatible with geodatabases in the Texas Statewide Mapping System, NAD83.
 - 2. Raster data shall be delivered in their native format and projection.
 - 3. Metadata which describes the data source, creation date, projection, attribute field characteristics and attribute values shall be provided for each data layer in accordance with State of Texas data and metadata deliverable standards.

- D. Environmental, Social, and Economic Data to be collected shall include, but not limited to:
1. Cultural resources – Archeological sites/districts, historic sites/districts, and properties listed on the National Register of Historic Places;
 2. Parklands/conservation areas – local, state, and federal parks, wildlife management areas, and wilderness areas;
 3. Demographic – census and local population census – All demographic geography data for the counties in the study area including Census Tracts, Block Groups, Blocks and Urban Areas. Obtain the census data including income, race, employment, income level, poverty level, etc;
 4. Threatened and endangered species – Site occurrence data from State sources or United States Fish and Wildlife Service and data on wildlife habitat/migration patterns;
 5. Hazardous waste – Contamination and hazardous material sites;
 6. Air Quality – Attainment status;
 7. Noise and vibration – Standards/thresholds;
 8. Administrative – Federal land, military bases, prisons, schools, places of worship, and cemeteries;
 9. Land Cover – United States Geological Survey (USGS) National Land Cover Data and any local coverage of existing land cover;
 10. Land Use – existing and future local jurisdictional zoning and land use data;
 11. Transmission lines and pipelines – Major existing and proposed electric, water and petrochemical lines;
 12. Power stations – Existing and proposed power stations (e.g., hydro, coal); and
 13. Planned improvements for state facilities within the project study area and information regarding other facilities from local governments, and/or local governing/permitting bodies.
- E. Physiography and Topography
1. Digital Elevation Model data – USGS, local topographic data including contour lines, Light Detection and Ranging (LIDAR) (if available);
 2. Topographic maps – Digital Raster Graphics 1:24,000;
 3. Existing Mine and Quarry locations;
 4. Soils – National Resource Conservation Service (NRCS) Soils Survey Geographic (SSURGO) database;
 5. Prime Farmland – Developed from SSURGO database; and
 6. Geology – Geologic Atlas of Oklahoma.
- F. Transportation
1. Railroads – Class 1 and 3 railroads and passenger stations, including grade crossing information;
 2. Future railroad lines proposed;
 3. Abandoned railroad lines;
 4. Intermodal facilities - Existing and planned (announced);
 5. Airports and air travel;
 6. Other ports (water and inland);
 7. Roadways – On system roads, plus local roadway layers available from counties and cities, including the following attributes, if available in digital format: Existing speeds (posted, measure), traffic data (including traffic volumes, vehicle mix (truck percentages) and peak period characteristics where available), number of lanes, traffic congestion (Volume/Capacity ratios), and truck route designation, if any; and
 8. Bus stations and bus ridership.

- G. Water Resources
1. Floodplains – FEMA flood prone areas (Q3 data), and any local data on flood prone areas;
 2. Wetlands – National Wetland Inventory (NWI) data and other wetlands data collected at the state, county, or municipal level. Perform heads-up digitizing of wetlands in areas missing digital NWI coverage using hardcopy NWI and hydrography, NRCS soils, National Land Cover Database (NLCD) land Cover and other available data as a guideline, as appropriate;
 3. Wetland Reserve Program areas; and
 4. Water features – National Hydrography Dataset or larger scale.
- H. Aerial Imagery
1. Best available aerial photography - At minimum, USGS Orthophoto Quarter Quadrangle imagery, or best available imagery from state or local governments.
- I. Metadata, Data, technical reports, and Maps for final package
- The State of Oklahoma shall prepare and provide:
1. Electronic deliverables of the data, metadata, and constraint maps. Two sets of electronic deliverables will be package on DVDs.
 2. The constraint maps shall be developed using aerial photography or topographic map with the proposed data collection area superimposed. Mapping shall be developed to the following scales:
 - Overview Maps (1;500,000 to 1;1,000,000)
 - Regional Maps (1;100,000 to 1;250,000)
 - Constraints Map series (1;48,000)
 3. Technical report that documents the data collection methodology and provides a description a of features located in the data collection area.
 4. Deliverables
 - Packaged Electronic Data, Metadata
 - Constraints Maps
 - Final Technical Report

III. ADDITIONAL SUPPORT DATA

- A. Ridership and Travel Demand:
1. For the purpose of analyzing the ridership and travel demand for the subject corridor, the State of Oklahoma's ODOT Rail Programs Division in conjunction with Association of Central Oklahoma Governments (ACOG) shall provide the Intermodal Hub Study completed by the ACOG. Included with this should be background or working files used to develop the final model as requested by the State of Texas.
- B. Deliverables
1. ACOG Intermodal Hub Study

IV. PUBLIC INVOLVEMENT ACTIVITIES

- A. The State of Texas shall provide:
1. All public meeting and public hearing materials.
 2. The State of Texas shall coordinate meeting locations, times and dates with State of Oklahoma's ODOT Public Involvement Branch. Advance notice and coordination of at least two (2) months shall be needed for any public outreach efforts within the State of Oklahoma.

CASE STUDY H: SOUTHEAST HIGH-SPEED RAIL CORRIDOR

Contents

H.0 Executive Summary	296
H.1 Introduction.....	302
H.2 Description of the Southeast High-Speed Rail Corridor	302
H.3 SEHSR Corridor Participants	303
H.4 Description of the Project Implementation Process	306
H.5 Barriers/Challenges Faced in Implementing the SEHSR Corridor.....	313
H.6 Interpretation and Synthesis	314
H.7 References	319
Appendix H-1 - Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices.....	320

Glossary of Terms

ARRA	American Recovery and Reinvestment Act of 2008
CE	Categorical Exclusion
DRPT	Virginia Department of Rail and Public Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
MOU	Memorandum of Understanding
NCDOT	North Carolina Department of Transportation
NCRR	North Carolina Railroad Company
NEPA	National Environmental Policy Act
PRIIA	Passenger Reinvestment and Improvement Act of 2008
ROD	Record of Decision
SEHSR	Southeast High Speed Rail
USDOT	U.S. Department of Transportation
VRE	Virginia Railway Express

H.0 Executive Summary

Background

The Southeast High Speed Rail Corridor (SEHSR) links Washington, D.C. south to Richmond and Petersburg, Virginia, and then southwest to Raleigh and Charlotte in North Carolina. The enhanced rail connection would provide maximum speeds of 110 mph as part of a plan to extend high speed rail service on the Northeast Corridor between Boston and Washington to further points in the Southeast. As shown in Figure H-1, extensions have since been added to the SEHSR corridor, including a segment linking Richmond with Hampton Roads in Virginia. An additional extension is also envisioned from Charlotte to Atlanta, by way of Spartanburg and Greenville, South Carolina, with onward connections to Macon and Savannah, Georgia and ending in Jacksonville, Florida. A third extension would continue from Raleigh to Columbia, South Carolina and then on to Savannah and Jacksonville.

The 500-mile segment from Washington, D.C. to Charlotte, North Carolina is the most advanced, having been the subject of cooperative work between respective state agencies in Virginia and North Carolina. Both states collaborated on a Tier 1 Environmental Impact Statement (EIS) for this section of the SEHSR corridor. Further work on this section is being approached in segments as shown in Figure H-2. The two states together are completing a Tier 2 EIS on the bi-state segment from Richmond to Raleigh. Virginia is leading the work to advance the Washington to Richmond and Richmond to Hampton Roads segments, and North Carolina is advancing work on the Raleigh to Charlotte segment.

While the responsibilities for developing portions of the Washington to Charlotte corridor have been assigned according to the work that falls within a particular state, there are important operational aspects of the proposed service that apply to all of the segments and that thus require close coordination for the implementation of the SEHSR corridor within each state's borders.

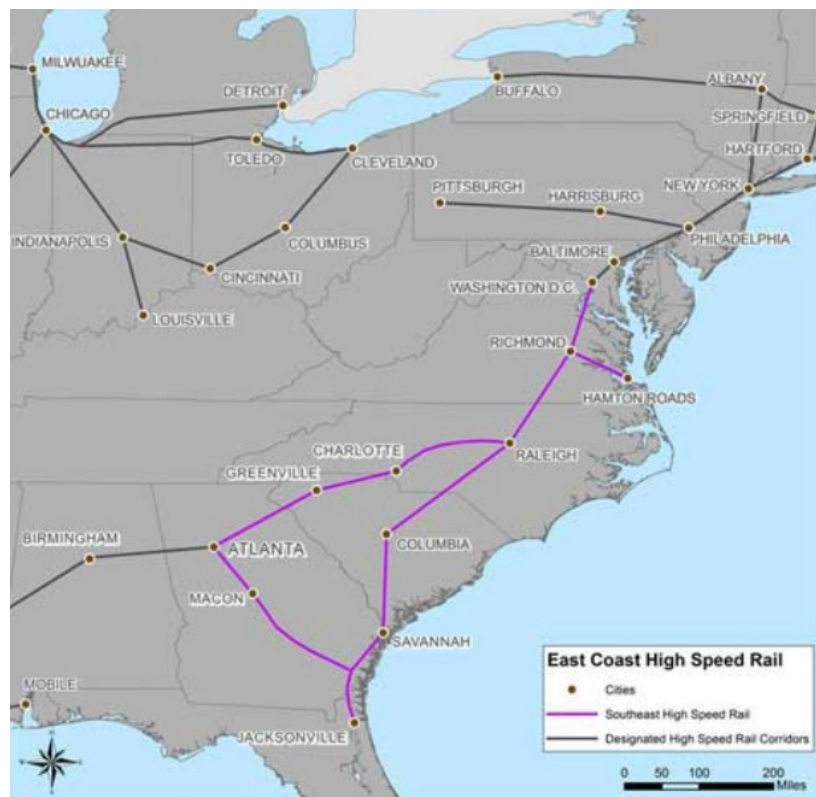


Figure H-47: East Coast High Speed Rail Network

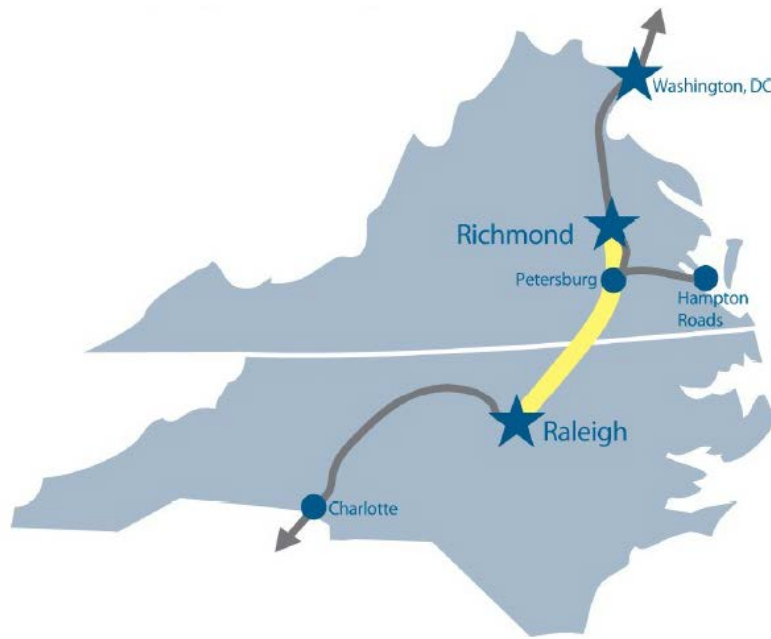


Figure H-48: Richmond to Raleigh Bi-State Segment of the SEHSR Network

The impetus for establishing the Compact came from key legislators and Executive Branch staff in both states who understood that having lawmakers from both states in leadership positions would enhance the ability of the Compact to raise funds and show high state level legislative support in the event that federal funds were pursued. The bi-state Compact was authorized by Congress under Section 410 of Title 49, which grants consent for the two states to finance and develop the corridor project. The primary result of the legislation was the creation of the Virginia-North Carolina High-Speed Rail Compact Commission which was “established as a regional instrumentality and a common agency of each signatory party.” (N.C. General Statutes).

As stated directly in Chapter 136, Article 18, Section 221 of the State of North Carolina statutes, the Compact Commission is charged with carrying out the four functions listed below.

1. Study, develop and promote a plan for the design, construction, financing and operation of interstate high-speed rail service through and between points in the Commonwealth of Virginia and the State of North Carolina, and adjacent states.
2. Coordinate efforts to establish high-speed rail service at the federal, state, and local governmental levels.
3. Advocate for federal funding to support the establishment of high-speed interstate rail service within and through Virginia and North Carolina and to receive federal funds made available for rail development.
4. Provide funding and resources to the Virginia-North Carolina High-Speed Rail Compact Commission from funds that are, or may become, available and are appropriated for that purpose.

The commission consists of ten total members and each of the two states has equal representation with five seats. The body is headed by a chair which serves a one year term and is selected by a majority vote of the Commission. In order to promote equity between the states, the chairman position is alternately held by each state.

While the states are equally represented on the commission, the manner in which each state appoints its members varies. In Virginia, three members from the House of Delegates are appointed to the commission by the Speaker of the House of Delegates and two members from the Senate are appointed by the Senate Committee on Rules. In North Carolina, two members from the Senate are appointed to the commission by the General Assembly, with recommendation from the President Pro Tempore of the Senate, two members from the House of Representatives are appointed by the General Assembly, with recommendation from the Speaker of the House of Representatives, and the fifth seat is directly appointed by the governor. Although both states appoint two members from their Senate and two from their House of Representatives, the fifth commission member from North Carolina is not legally required to hold a public office while the fifth member from Virginia must come from the House of Delegates. Aside from the difference in origins, the key difference between the two states' representation models is the level of confirmation required to finalize an appointment. All Virginia seats simply require a nomination to be appointed while four out of the five North Carolina seats are appointed but require confirmation from the General Assembly to finalize the appointment.

The compact allows for the commission to make use of primary staff from both the Virginia Department of Rail and Public Transportation (DRPT) and the North Carolina DOT. To facilitate an information exchange between the states, the commission is required to meet at least twice per year. In order to strengthen participation from both states and avoid geographic bias, the commission must hold, at minimum, one meeting in each state in any given year. As a means to inform those outside the commission of its progress, the group is mandated to issue at least one report each year summarizing the body's activities. Despite being required to convene on a semi-annual basis, the commission was inactive from its establishment in 2004 until 2010. During that time, members were appointed, but the Compact itself did not convene. The Compact has held regular meetings since 2010, but to date these have been informational in nature, with staff from DRPT, the NCDOT Rail Division, Amtrak and other organizations making presentations on different aspects of the planning and construction work underway in the SEHSR corridor. The Compact has yet to make policy decisions on actual implementation activities.

The SEHSR corridor has been under consideration or study for 22 years. The visioning process intensified in 1994 when the Departments of Transportation (DOTs) from Virginia, North Carolina, South Carolina, Georgia and Florida entered into a memorandum of understanding (MOU) to fund a study of the market potential of high speed rail in the region. The intent was to inform future planning and investment decisions that might lead to the provision of high speed rail service in the Southeast. This initial study was administered by the North Carolina Department of Transportation (NCDOT) on behalf of all of its partners. South Carolina and Virginia agreed to provide \$50,000 in funding each, while Georgia and North Carolina provided \$60,000. Florida contributed services in kind. When the scope of the project was extended to include a connection to Hampton Roads at the request of Virginia, the MOU

was modified to have Virginia provide an additional \$45,000 to support the work that continued to be administered by NCDOT.

The planning process for the SEHSR corridor began in 1998 when DRPT, the NCDOT Rail Division, FHWA and FRA signed an MOU to develop environmental documentation for the SEHSR in Virginia and North Carolina. This MOU established cost sharing parameters and guided the two states' collaboration from 1999 through 2002.

Delays in gaining environmental clearance for the bi-state segment of the SEHSR were caused in part by the ARRA HSR program, which required that states compete for funding and caused both North Carolina and Virginia to submit proposals for their own state proposals. This was further exacerbated by Section 209 of the Passenger Rail Investment and Improvement Act of 2008, which removed federal subsidies for intercity Amtrak services of less than 750 miles. This change meant that both North Carolina and Virginia needed to identify funding to pay for the operating costs and capital charges associated with existing Amtrak services in the two states; each state negotiated separate agreements with Amtrak.

As they have advanced the SEHSR corridor over the past decade, DRPT and the NCDOT Rail Division have developed a close working relationship. This has occurred as they have worked together on the Tier I and Tier II EIS documents and as they have advanced their own independent improvements along the SEHSR corridor as cooperating partners within their own geographic boundaries. Recognizing the need to coordinate, particularly on challenging issues such as cost sharing, senior staff from DRPT and the NCDOT Rail Division have held regular "summits."

Challenges and Barriers

- *Balancing the Priorities of Virginia and North Carolina.* Train service between Richmond and Washington is at capacity currently and new slots can only be created by new investment in this section of the alignment. Virginia and Washington, DC are competing for these slots as access would expand services to Washington, DC and points north for Amtrak services in both of their states. However, neither state is well-positioned to fund the improvements as North Carolina is investing in the North Carolina portion of their service and Virginia ostensibly itself has relatively little to gain from investing in this section of the alignment to build capacity for trains from south of its border, if viewed from a state-oriented perspective.
- *Coordinating with Host Railroads.* CSX owns the rail corridor between Washington, DC and Selma, NC, and decides whether Virginia and North Carolina are granted new train slots. This can only be expected to happen if the states help to fund capacity improvements on CSX's tracks. In addition, CSX currently owns the abandoned S-line that Virginia and North Carolina plan to purchase together. South/west of Selma, the railroad is owned by the North Carolina Railroad (NCRR), all of the stock of which is owned by the state of North Carolina. Norfolk Southern operates the NECC under agreement with the owner.
- *As a megaproject with a current cost in excess of \$4.0 billion supporting 13 new train services, the SEHSR represents a significant financial risk.* Initial financial forecasts indicate that the project should generate adequate revenues to cover operating costs, with little excess revenue

beyond that. However, there is a risk that these forecasts could be overly optimistic and that the project may not be able to recover its operating costs.

Lessons Learned

- Establish agreement principles early on and stick to them. It is also essential to “get out ahead of yourself” and envision what the end product will be. Doing so forced both states to agree on the outcome of their joint effort. Once that occurred, then they were able to identify the many steps that will need to be taken to arrive at this end vision.
- Obtaining cooperation from the underlying infrastructure owners/railroads is essential, as they largely control the nature and extent of improvements on their infrastructure and the ultimate ability of the states to achieve their vision for passenger rail.
- State compacts can be useful instruments in institutionalizing shared vision and working relationships, but they must have “teeth” if they are to play a role in defining and requiring implementation of the vision.

Table H.1 shows how the Southeast High Speed Rail Corridor efforts fit into the conceptual framework of the overall study.

Table H.19: Southeast High Speed Rail Corridor Efforts for Planning/Visioning

Characteristic	Discussion
Phase of Project Development	Visioning/Planning
Stakeholders	✓ Commonwealth of Virginia; State of North Carolina
Institutional Relationships	✓ Established through bi-state compact between Commonwealth of Virginia and State of North Carolina
Identification of Responsibilities	✓ Virginia and North Carolina agree to: study, develop, promote a plan to design construct, finance and operate a high-speed rail service through points in Virginia and North Carolina. The partners will advocate for federal funding and coordinate efforts to establish a high-speed passenger rail service in the SEHSR.
Role of regulatory agencies	✓ FRA review and approval of SDP and EIS analysis
Political Foundation	✓ Key legislators and Executive branch leadership in both Virginia and North Carolina enacted the bi-state HRS Compact to show the high level of support in each state.
Why – ‘Compelling Need’?	✓ Development of SEHSR would connect major cities in the southeast U.S. as well as link with the highly utilized NE Rail Corridor at Washington DC.
Decision-making Process	✓ The Virginia-North Carolina Interstate High-Speed Rail Compact Commission is composed of ten members, five from each state, and use simple majority votes to make decisions; for the EIS, NCDOT makes all decision in close coordination with Virginia DRPT
Corridor Ownership	✓ CSX Transportation owns the right of way north of Selma and in the “shared” portion of the NC-VA segment of the SEHSR.
Lead Agencies/Groups	✓ Commonwealth of Virginia; State of North Carolina (NCDOT is official project sponsor for Tier II EIS)
Legal Authority	✓ Authorized by U.S. Congress, Interstate Compacts.
Cost Sharing	✓ Funding for the Tier II EIS was agreed upon in face-to-face meetings between DRPT

Characteristic	Discussion
	and the NCDOT Rail Division, with Virginia covering approximately 70 percent of the local match and North Carolina the remaining 30 percent.
Funding Sources	✓ The Compact Commission is authorized to use for its operation and expenses funds appropriated by the legislatures of Virginia and North Carolina, or from federal sources.
Interaction with Others	✓ Compact Commission to work with adjacent states such as South Carolina and Georgia to plan and develop high-speed passenger rail service.
Oversight	✓ FRA lead federal agency for NEPA and SDP review
Relationship with Host Railroad or Other Providers of Service	✓ Virginia and North Carolina negotiate separate service agreements with Amtrak
Procurement	✓ The North Carolina DOT Rail Division and Virginia Department of Rail and Public Transportation directing study and environmental efforts have authority to procure professional services.
Contractual Arrangements	✓ Legal agreement serves contract between the two states for study, effective as long as project utilizing transportation development tool for benefit of the states.

H.1 Introduction

This case study examines the collaborative process followed by the Commonwealth of Virginia and the state of North Carolina to expand intercity passenger rail in the Southeast High Speed Rail Corridor. This corridor has been the subject of study and environmental assessments for over 20 years, and has been identified by the U.S. Department of Transportation (USDOT) as one of most feasible high-speed rail corridors in the United States. This case study focuses on the efforts of two states and their rail partners to define a vision for the corridor and to identify the organizational responsibilities for making progress toward multistate intercity rail service. The case also highlights the role of the federal government in providing a process structure and funding as part of a national program.

H.2 Description of the Southeast High-Speed Rail Corridor

The Southeast High Speed Rail Corridor (SEHSR) is one of five originally proposed high speed passenger rail corridors designated by the US Department of Transportation (USDOT) in 1992 as a result of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The corridor was defined as linking Washington, D.C., south to Richmond and Petersburg, Virginia, and then southwest to Raleigh and Charlotte in North Carolina. The enhanced rail connection would provide maximum speeds of 110 mph as part of a plan to extend intercity passenger rail service on the Northeast Corridor between Boston, and Washington, D.C., to further points in the Southeast.

As shown in Figure H-3, extensions have since been added to the SEHSR corridor, including a segment linking Richmond with Hampton Roads in Virginia. An additional extension is also envisioned from Charlotte to Atlanta, by way of Spartanburg and Greenville, South Carolina, with onward connections to Macon and Savannah, Georgia, and ending in Jacksonville, Florida. A third extension would continue from Raleigh to Columbia, South Carolina, and then on to Savannah and Jacksonville.

The 500 mile segment from Washington, D.C., to Charlotte, North Carolina, is the most advanced, having been the subject of cooperative work between respective state agencies in Virginia and North Carolina. Both states collaborated on a Tier 1 Environmental Impact Statement

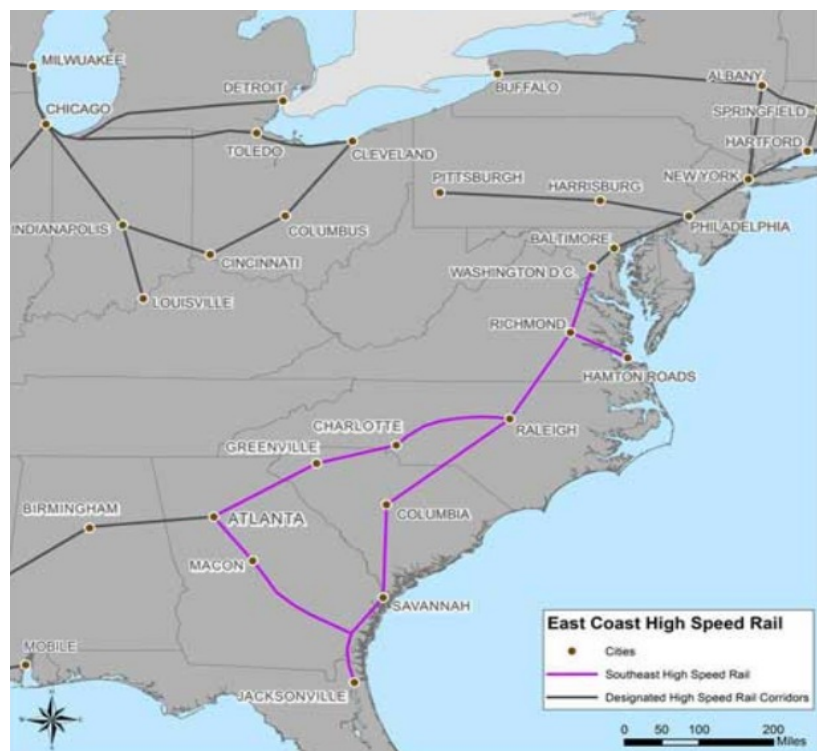


Figure H-49: East Coast High Speed Rail Network

(EIS) for this section of the SEHSR corridor. Further work on this section is being approached in segments as shown in Figure 4. The two states together are completing a Tier 2 EIS on the bi-state segment from Richmond to Raleigh. Virginia is leading the work to advance the Washington to Richmond and Richmond to Hampton Roads segments, and North Carolina is advancing work on the Raleigh to Charlotte segment. While the responsibilities for developing portions of the Washington, D.C., to Charlotte corridor have been assigned according to the work that falls within a particular state, there are important operational aspects of the proposed service that apply to all of the segments that require close coordination.



Figure H-50: Richmond to Raleigh Bi-State Segment of the SEHSR Network

H.3 SEHSR Corridor Participants

The major participants in the development of the SEHSR corridor in North Carolina and Virginia include the two state rail agencies, the Federal Railroad Administration (FRA), and the passenger and freight railroads currently operating services in the corridor. Virginia and North Carolina have also established a Virginia-North Carolina Interstate High-Speed Rail Compact (Compact) to guide the development of the SEHSR corridor. Although this bi-state Compact was created in 2004, it was dormant for its initial six years and since that time has not played an active role in the development of the project.

Brief overviews of the different participants in the SEHSR corridor are provided below.

H.3.1 Agency/Organization Descriptions

The Commonwealth of Virginia and the State of North Carolina are the sponsors of the SEHSR corridor project. Virginia's involvement in the SEHSR corridor is led by the **Virginia Department of Rail and Public Transportation (DRPT)**, which is one of seven state agencies reporting to Virginia's Secretary of Transportation. DRPT coordinates freight and passenger rail initiatives in Virginia and also interacts with the 60 public transportation systems in the Commonwealth. DRPT is responsible for coordinating Virginia's relationships with CSX, Amtrak, and Virginia Railway Express (VRE), each of which operates trains on the SEHSR within Virginia. DRPT establishes Virginia's rail investment priorities, manages the design and environmental clearance of public rail projects, and advocates for rail issues in the Commonwealth.

Responsibility for North Carolina's involvement in the SEHSR corridor is vested in the ***North Carolina Department of Transportation (NCDOT) Rail Division***. In addition to developing the state rail plan and coordinating rail planning, design, and investment policy in North Carolina, the Rail Division also operates intercity passenger rail service within the state.

The ***FRA*** is the lead federal agency for the SEHSR corridor. In this capacity FRA is responsible for reviewing all National Environmental Protection Act (NEPA) documents prepared for improvements in the SEHSR corridor and granting final NEPA approvals. The FRA is also responsible for administering federal grants for high speed rail projects. These activities are located within FRA's Office of Passenger and Freight programs in the Environment and Systems Planning Division and the Grant Management Division.

Four railroads operate passenger and freight services in the Virginia and North Carolina portions of the SEHSR corridor. The National Railroad Passenger Corporation, ***Amtrak***, operates intercity passenger rail service in the corridor, with the exception of the abandoned CSX S corridor. Amtrak operates 16 trains per day between Washington, D.C., and Richmond, Virginia, as well as stations further south and east in Virginia. It also operates six trains per day between Raleigh and Charlotte in North Carolina, two of which connect North Carolina with the Northeast Corridor. Pursuant to Section 209 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), both Virginia and North Carolina have agreements in place with Amtrak to cover the operating and capital costs associated with intercity rail service on routes under 750 miles.

The ***Virginia Railway Express (VRE)*** provides commuter rail service from the Northern Virginia suburbs to the Alexandria, Crystal City, and Union station in the Washington metropolitan area. VRE operates a total of 30 trains per day from 18 stations along the I-66 and I-95 corridors. VRE carries 20,000 passengers on an average weekday and is a partnership between the Northern Virginia Transportation Commission and the Potomac and Rappahannock Transportation Commission.

North Carolina Railroad Company (NCRR) is a state-owned railroad first established in 1849. The railroad extends for 317 miles from Pamlico Sound to Charlotte and has a lease agreement with the Norfolk Southern Corporation, which operates freight service on the NCRR track. Amtrak also provides passenger rail service on the NCRR track between Raleigh and Charlotte, operating six trains (three in each direction) on a daily basis. The SEHSR corridor will operate over NCRR right-of-way from Borland, near Raleigh and Charlotte.

CSX Transportation is one of the largest freight railroads in the United States, with a network encompassing over 21,000 route miles of track in 23 states. CSX owns the active right-of-way on which the SEHSR corridor will operate from Virginia Tower, located two miles away from Union Station in Washington, D.C., through Richmond and on to Petersburg in Virginia. From Petersburg to Norlina, North Carolina, the SEHSR corridor will operate along the abandoned S Corridor, which is also owned by CSX. From Norlina, the SEHSR corridor will rejoin an active CSX right-of-way where it will continue to Borland, near Raleigh. The remainder of the right-of-way from Borland to Charlotte is owned by NCRR.

Train demand for the northern portion of CSX's right-of-way from Richmond to Washington, D.C., is extremely high. This section of the SEHSR corridor accommodates over 70 freight and passenger trains per day and operates essentially at capacity. CSX controls the allotment of train slots throughout its network, including the approach to Washington, D.C.

H.3.2 Virginia-North Carolina Interstate High-Speed Rail Compact

In October of 2002, North Carolina and Virginia submitted the first tier of a two-tier EIS to the Federal Highway Administration (FHWA) and the FRA. In 2004, Virginia and North Carolina enacted legislation establishing the Compact in order to oversee the implementation of the SEHSR corridor within their borders. The impetus for establishing the Compact came from key legislators and Executive Branch staff in both states who understood that having lawmakers from both states in leadership positions would enhance the ability of the Compact to raise funds and show high state level legislative support in the event that federal funds were pursued. The bi-state Compact was authorized by Congress under Section 410 of Title 49, which grants consent for the two states to finance and develop the corridor project. The primary result of the legislation was the creation of the Virginia-North Carolina High-Speed Rail Compact Commission which was "established as a regional instrumentality and a common agency of each signatory party." (N.C. General Statutes).

As stated directly in Chapter 136, Article 18, Section 221 of the State of North Carolina statutes, the Compact Commission is charged with carrying out the four functions listed below.

2. Study, develop and promote a plan for the design, construction, financing and operation of interstate high-speed rail service through and between points in the Commonwealth of Virginia and the State of North Carolina and adjacent states.
3. Coordinate efforts to establish high-speed rail service at the federal, state, and local governmental levels.
4. Advocate for federal funding to support the establishment of high-speed interstate rail service within and through Virginia and North Carolina and to receive federal funds made available for rail development.
5. Provide funding and resources to the Virginia-North Carolina High-Speed Rail Compact Commission from funds that are or may become available and are appropriated for that purpose.

The commission consists of ten total members and each of the two states has equal representation with five seats. The body is headed by a chair which serves a one year term and is selected by a majority vote of the Commission. In order to promote equity between the states, the chairman position is alternately held by each state.

While the states are equally represented on the commission, the manner in which each state appoints its members varies. In Virginia, three members from the House of Delegates are appointed to the commission by the Speaker of the House of Delegates and two members from the Senate are appointed by the Senate Committee on Rules. In North Carolina, two members from the Senate are appointed to

the commission by the General Assembly, with recommendation from the President Pro Tempore of the Senate, two members from the House of Representatives are appointed by the General Assembly, with recommendation from the Speaker of the House of Representatives, and the fifth seat is directly appointed by the governor. Although both states appoint two members from their Senate and two from their House of Representatives, the fifth commission member from North Carolina is not legally required to hold a public office while the fifth member from Virginia must come from the House of Delegates. Aside from the difference in origins, the key difference between the two states' representation models is the level of confirmation required to finalize an appointment. All Virginia seats simply require a nomination to be appointed while four out of the five North Carolina seats are appointed but require confirmation from the General Assembly to finalize the appointment. The Compact allows for the commission to make use of primary staff from both the DRPT and NCDOT. To facilitate an information exchange between the states, the commission is required to meet at least twice per year. In order to strengthen participation from both states and avoid geographic bias, the commission must hold, at minimum, one meeting in each state in any given year.

As a means to inform those outside the commission of its progress, the group is mandated to issue at least one report each year summarizing the body's activities. Despite being required to convene on a semi-annual basis, the commission was inactive from its establishment in 2004 until 2010. During that time, members were appointed, but the Compact itself did not convene. The Compact has held regular meetings since 2010, but to date these have been informational in nature, with staff from DRPT, the NCDOT Rail Division, Amtrak, and other organizations making presentations on different aspects of the planning and construction work underway in the SEHSR corridor. The Compact has yet to make policy decisions on actual implementation activities.

In terms of funding, the commission may utilize three potential sources to support its activities. The group has the ability to utilize funding appropriated to the decision-making body by either state's legislature and can also make use of federal funds that have been earmarked for development of the corridor. Fortunately for the commission it is not subject to any caveats related to how the funds must be obligated.

H.4 Description of the Project Implementation Process

The steps in the project implementation process include: early feasibility studies to determine the viability of the project, planning studies that culminate in gaining environmental clearance for the project, final design and right-of-way purchase, and construction. While these steps are familiar to most infrastructure projects, two aspects distinguish the implementation of the SEHSR corridor from typical transportation improvements. The first is the scale of the project, which extends over 500 miles and has expected costs of \$7.5 billion. The size and complexity of the project dictate that it must be implemented incrementally. As described earlier, the project is being implemented in four segments. One is under construction and the other three have yet to gain environmental clearance. One of these sections is the bi-state link between Richmond, Virginia, and Raleigh, North Carolina, for which the two states have joint responsibility.

The second aspect that distinguishes the SEHSR corridor from other large transportation improvements is that it must meet certain requirements established by FRA for high speed rail projects benefiting from federal funding. Key among these is the adoption of Outcome Agreements and Service Development Plans (SDP). Outcome Agreements specify the project-related characteristics and institutional arrangements associated with high speed rail projects. These agreements are unique to specific projects and involve agreements among all of the stakeholders involved in the project. While Outcome Agreements cover individual segments, they may involve agreements or commitments that pertain to other segments that help knit the different pieces of an intercity passenger rail project into a larger whole.

The SDP identifies the different capital components of the project and describes how the intercity passenger rail project will operate. The SDP is an iterative document that becomes more detailed as work on the project advances. While the structure of the document is flexible, the following components are required:

- Project rationale
- Operations plan detailing rail services
- Capital needs
- Operating and financial results based on travel demand and revenue forecast and operating expenses
- Program plan and service development program schedule for all phases of the project

The SDP provides the opportunity to vet the multitude of decisions involved with implementing high-speed rail programs with all project stakeholders. In that they address costs and financial results, the SDP helps facilitate decision-making on cost sharing issues.

FRA guidance on the preparation of Service Development Plans taken from the 2009 High Speed Intercity Passenger Rail Program Notice of Funding Availability and Interim Guidance Federal Register Notice is provided in Appendix A.

Developing a Vision

The SEHSR corridor has been under consideration or study for 22 years. The visioning process intensified in 1994 when the state DOTs from Virginia, North Carolina, South Carolina, Georgia, and Florida entered into a memorandum of understanding (MOU) to fund a study of the market potential of high speed rail in the region. The intent was to inform future planning and investment decisions that might lead to the provision of high speed rail service in the Southeast. This initial study was administered by the North Carolina Department of Transportation (NCDOT) on behalf of all of its partners. South Carolina and Virginia agreed to provide \$50,000 in funding each, while Georgia and North Carolina provided \$60,000. Florida contributed services in kind. When the scope of the project was extended to include a connection to Hampton Roads at the request of Virginia, the MOU was modified to have Virginia provide an additional \$45,000 to support the work that continued to be administered by NCDOT.

Two additional extensions were added to the corridor after the addition of the Hampton Roads segment. The first extended to the southwest from Charlotte, North Carolina, through Spartanburg and Greenville, South Carolina, to Atlanta. There the alignment turns to the southeast passing through Macon and Savannah, Georgia, to arrive at Jacksonville, Florida. The second extension connects Raleigh, North Carolina, to Columbia, South Carolina, and continues south to Savannah and Jacksonville. The vision for the project gained further momentum in 1997 when a report on high-speed rail prepared for the USDOT identified the Southeast Corridor as the most economically viable of any high-speed rail corridor in the country.

A Two-Tiered, Multi-Segment Planning Process

The planning process for the SEHSR corridor began in 1998 when DRPT, the NCDOT Rail Division, FHWA and FRA signed an MOU to develop environmental documentation for the SEHSR in Virginia and North Carolina. This MOU established cost sharing parameters and guided the two states' collaboration from 1999 through 2002. As is often the case with large projects traversing lengthy corridors, a two-phase approach was used to obtain the necessary environmental approvals. In 1999, the DRPT and NCDOT began a Tier I Environmental Impact Statement (EIS) on the SEHSR corridor from Washington, DC, to Charlotte—extending across a distance of approximately 500 miles. The Tier I EIS evaluated social and environmental impacts along a broad corridor without identifying the exact location of the alignment itself. The Tier I EIS evaluated a total of nine alternatives, with the intent of identifying a preferred corridor. The Tier I effort was to be followed by a series of Tier II EIS analyses on sub-areas of the preferred Tier I corridor. The Tier II analyses were to be completed independently from those of the other sub-areas and ultimately identify the exact location of the alignment through the subarea.

The two states began a Tier I EIS in 1999 and issued a draft document in 2001. This was followed by a Final Tier I EIS in June 2002. The FHWA and FRA issued a Record of Decision for the document in October 2002, approving the alignment and paving the way for the second round of environmental studies. The preferred alignment ran from Washington, D.C., through Richmond and Petersburg, Virginia, and on to Henderson, Raleigh, Greensboro, and Charlotte, North Carolina, with a separate connection to Winston-Salem. The route followed a combination of existing railroads and preserved rail corridors, including a portion of the inactive CSX S line that extended from south of Petersburg to Norlina.

Environmental review remains underway in three portions of the SEHSR, while the improvements between Raleigh and Charlotte are under construction. As shown in Figure H-5, a total of three Tier II EISs will or are being conducted between Washington, D.C., and Raleigh and Hampton Roads. The Tier II segments include:

- Washington, D.C., to Richmond
- Richmond to Raleigh
- Hampton Roads to Richmond

DRPT is the lead agency for the two corridors located entirely within Virginia. It completed a Tier I EIS on the segment between Hampton Roads and Richmond in 2012 and has also initiated a Tier II EIS between

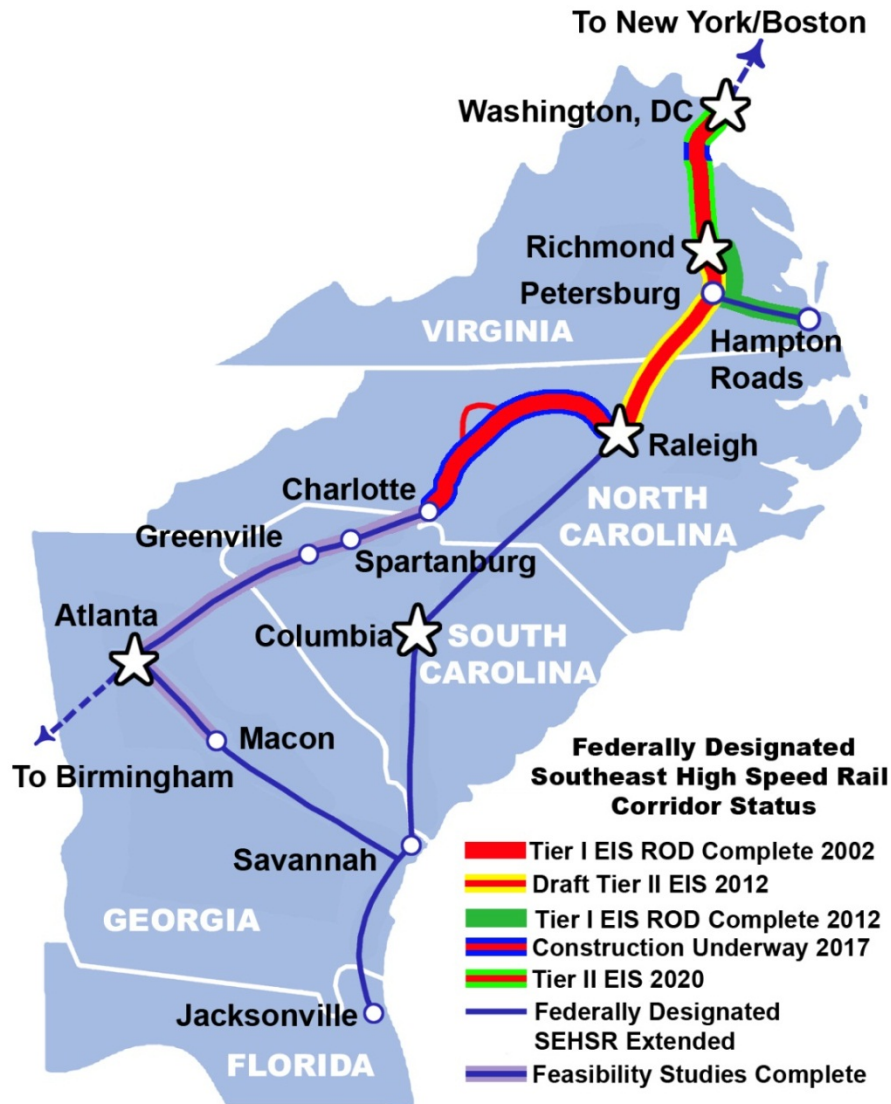


Figure H-51: Southeast High-Speed Rail Corridor Route and Status

Source: DRPT, 2014

Richmond and Washington, D.C., which is anticipated to be complete in 2020. In addition, DRPT has made strategic improvements to address capacity constraints between Fredericksburg, Virginia, and Washington, D.C., where a total of over 70 freight, commuter and intercity rail passenger trains compete for a fixed number of slots. These improvements included \$65 million provided by the Virginia legislature in 2000 for a third track through Alexandria and Franconia, as well as other spot improvements. DRPT's approach has been to make incremental improvements designed and built in the spirit of the SEHSR corridor. These pockets of investment are not connected today, but will be one day and are designed to support intercity passenger rail service.

The Tier II EIS on the bi-state segment of the SEHSR corridor between Petersburg and Raleigh began in 2003, approximately one year after DRPT and NCDOT secured the Tier I Record of Decision (ROD). The

NCDOT Rail Division is the official project sponsor for the Tier II EIS and makes all decisions in close coordination with DRPT. In 2007 the northern terminus of the corridor was extended to Richmond to create a 168 mile corridor.

The two states issued a Draft Tier II EIS in May 2010 and anticipate issuing a Final Tier II EIS in late 2014, with a ROD following in early 2015. The NCDOT Rail Division has led the Tier II EIS effort, in close coordination with DRPT. Funding for the Tier II EIS was agreed upon in face-to-face meetings between DRPT and the NCDOT Rail Division, with Virginia covering approximately 70 percent of the local match and North Carolina the remaining 30 percent. In addition to North Carolina's contributions, Virginia committed over \$6.6 million to the Tier II EIS between fiscal years 2006 and 2010, and FRA has provided an additional \$4 million.

The delays in gaining environmental clearance for the bi-state segment of the SEHSR were caused in part by the American Recovery and Reinvestment Act High Speed Rail (ARRA HSR) program, which required that states compete for funding and caused both North Carolina and Virginia to submit proposals for their own state proposals. This was further exacerbated by Section 209 of PRIIA, which removed federal subsidies for intercity Amtrak services of less than 750 miles. This change meant that both North Carolina and Virginia needed to identify funding to pay for the operating costs and capital charges associated with existing Amtrak services in the two states; each state negotiated separate agreements with Amtrak.

The NCDOT Rail Division was able to pursue a different approach in gaining environmental clearance for the improvements to increase travel speeds between Raleigh and Charlotte. Passenger rail service was already operating on this section of the SEHSR corridor and the NCDOT Rail Division and FRA found that the different improvements had independent utility and therefore could be subject to individual environmental documents. Most were cleared with categorical exclusions or Environmental Assessments (EA) and corresponding Findings of No Significant Impact (FONSI). This enabled the NCDOT to advance the improvements in the Raleigh - Charlotte corridor quickly when the ARRA made additional monies available to support high speed rail improvements. NCDOT ultimately received a \$541 million ARRA grant to implement the improvements in the Raleigh to Charlotte corridor. Construction is currently under way and will be complete when the ARRA monies expire in mid-2017.

A Close Working Relationship between DRPT and the NCDOT Rail Division

As they have advanced the SEHSR corridor over the past decade, DRPT and the NCDOT Rail Division have developed a close working relationship. This has occurred as they have worked together on the Tier I and Tier II EIS documents and as they have advanced their own independent improvements along the SEHSR corridor as cooperating partners within their own geographic boundaries. Recognizing the need to coordinate, particularly on challenging issues such as cost sharing, senior staff from DRPT and the NCDOT Rail Division have held regular "summits" in South Hill, Virginia, a neutral location equidistant between Raleigh and Richmond. Known as South Hill Summits, these gatherings have been held once or twice a year as needs have arisen since the early 2000s.

The ARRA high-speed rail monies, which became available in 2009, had a dual effect on the relationship between the two states. As noted earlier, the ARRA grants were awarded competitively, forcing the two states to work independently and compete for funding. However, the sizeable grant received by North Carolina and the inception of state-funded Amtrak service in Virginia in 2009 accelerated momentum on the SEHSR corridor and heightened the need for the two states to work together. These were the primary drivers that lead to the activation of the Interstate Compact in 2010.

As noted earlier, the policy board of the Compact is comprised of state legislators. The DRPT and the NCDOT Rail Division serve as technical staff. The Compact makes decisions by a simple majority vote following Robert's Rules of Order. Activities during the Compact's first years of operation focused primarily on educating Compact committee members about the SEHSR project. Technical and policy decisions have been made by DRPT and NCDOT Rail Division staff, who then informed the Compact members of what has taken place.

As they complete the Tier II Final EIS on the bi-state SEHSR corridor segment from Richmond to Raleigh, staff from DRPT and the NCDOT Rail Division hold a standing weekly conference call. Approximately 13 technical staff members from the two agencies participate in the weekly calls, with senior management participating as needs warrant. All technical and policy decision are made jointly by the two states.

The Strategic Role Played by FRA High Speed Rail Process Requirements

The process requirements put in place by FRA have provided a structure to the development of the SEHSR corridor. FRA, DRPT, and CSX entered into a Railroad Outcome Agreement prior to a \$75 million award to DRPT in 2012 for the construction of an 11 mile third track between Arkendale and Powell's Creek in Northern Virginia. This improvement, currently under construction, will increase travel speeds along the segment and alleviate capacity constraints, allowing VRE to operate additional trains into Union Station in Washington, D.C. The Outcome Agreement sets the terms and conditions of the award and identifies the expected outcomes of the project. In the case of the Northern Virginia improvement, the outcomes included CSX's consent to allow VRE the right to operate additional trains over its territory into Union Station and – recognizing the importance of the third track in accommodating high-speed rail service from North Carolina – offering NCDOT the option to purchase the S-line within a seven year timeframe.

This latter outcome is critical to the completion of the Richmond to Raleigh segment of the SEHSR corridor and also introduces a strategic deadline by which the two states must come to an agreement on funding the S-line purchase. Given that the funding of the S-line purchase is critical for the overall corridor plan, the 2012 Railroad Outcome Agreement essentially mandates that DRPT and the NCDOT Rail Division will need to resolve the funding for the entire Richmond to Raleigh segment of the SEHSR corridor by the 2019 deadline for the sale of the S-line.

DRPT and the NCDOT Rail Division are using the development of the Service Development Plan – another FRA requirement – as the operative process for vetting the difficult decisions that need to be made on the funding of the Richmond to Raleigh segment. Both DPRT and the NCDOT Rail Division know how many trains they want to operate once the SEHSR corridor is completed, but they must also share

the system with VRE and CSX, which controls the entire route, with the exception of the final two miles in the District of Columbia into Union Station and the S-line. Virginia and North Carolina are working with VRE and CSX to dovetail their future schedules and slot them into Northeast Corridor operations.

Now that the final vision for the corridor has been agreed upon, the focus of the SDP is to determine what is needed in order to achieve that vision. The high speed rail corridor will be developed through a series of capital improvements, some of which will be implemented independently by the two states and some of which will be done collaboratively. There will also be multiple agreements between the two states and CSX – some for stand-alone components of the system and others for multiple components. The Service Development Plan requires that Virginia and North Carolina identify all the corridor components and show how they will coalesce and accommodate existing freight, commuter rail and passenger rail services. In so doing, the SDP will identify a strategy to synthesize the competing needs of these different stakeholders in the development of the SEHSR corridor.

The SDP must also identify the capital costs of all the different components of the SEHSR corridor as well as the anticipated funding sources. This exercise will allow DRPT and the NCDOT Rail Division to identify funding gaps and discuss how they will be addressed. These negotiations will be challenging, as many of the improvements to be implemented in Virginia – such as those on the S-line – will ultimately serve the North Carolina market. In order to facilitate decision making, the SDP will be shared among all the project stakeholders and provide them with the detailed information needed to formulate their own positions on the different strategic issues that will need to be resolved. As new decisions are made, the SDP will be updated, making it a “living document” that will become increasingly detailed as work on the SEHSR corridor progresses.

The next step in the formulation of the SDP will be to prepare travel demand and revenue forecasts and capital cost estimates for the different phases of the project. Once these are available, DRPT and the NCDOT Rail Division will prioritize the capital improvements required for each phases of the projects and also complete the purchase of the S-line.

A Turning Point for the Virginia-North Carolina Interstate High-Speed Rail Compact

To kick off the preparation of the Service Development Plan and discuss future interaction with the Compact, DRPT and the NCDOT Rail Division held a day-long charrette in May 2014. At the charrette the two states confirmed their desired outcome for the project. North Carolina will operate four additional high speed passenger trains per day through Virginia into Washington’s Union Station, while Virginia will operate nine additional daily trains from Hampton Roads through Richmond and on to Washington, D.C.

While there is an on-going need to educate Compact members on the SEHSR corridor, DRPT and the NCDOT Rail Division also realize that the preparation of the plan represents a turning point in their interaction with the Compact. The SDP provides a plan of action that they can take to the Compact for its buy-in and approval, as well as a mechanism to vet technical and process issues with CSX, VRE, and FRA. Moving forward, DRPT and the NCDOT Rail Division anticipate that the Compact meetings differ from prior meetings. With the SDP under way, they will be able to engage Compact members directly in the decision-making process for moving the SEHSR corridor forward. Rather than being passive

observers, it is expected that the Compact members will be actively involved in the many decisions needed to advance the SEHSR corridor and important advocates for funding and fostering support for the project at all levels.

H.5 Barriers/Challenges Faced in Implementing the SEHSR Corridor

Balancing Competing Needs

As can be expected with a project of the scale and complexity of the SEHSR corridor, there have been a number of barriers and risks involved in the development project. The biggest single challenge has been balancing the priorities of Virginia and North Carolina. Virginia wants to gain more train slots for service from Newport News to Washington D.C. and points north, as well as expanding other service to Washington D.C. North Carolina is competing for the same slots. Train service between Richmond and Washington is at capacity currently and new slots can only be created by new investment in this section of the alignment. While North Carolina is investing in high speed improvements between Charlotte and Raleigh, a high speed connection north to Richmond does not yet exist. Much of this segment lies within Virginia, but the Commonwealth itself has relatively little to gain from investing in this section of the alignment, if viewed from a state-oriented perspective.

Coordinating with Freight Owners and Operators

The fact that operations between Washington, D.C., and Raleigh are controlled by CSX poses other challenges. It is ultimately CSX that decides whether Virginia and North Carolina are granted new train slots, and this can only be expected to happen if the states help to fund capacity improvements on CSX's tracks. In addition, CSX currently owns the abandoned S-line that Virginia and North Carolina plan to jointly purchase. Some observers believe that while Virginia and North Carolina may purchase the S-line from CSX, they may not fully control it once the purchase is made.

Mitigating Financial Risk

As a megaproject with a current cost in excess of \$4 billion supporting 13 new train services a day, the SEHSR corridor also represents a significant financial risk. Initial financial forecasts indicate that the project should generate adequate revenues to cover operating costs, with little excess revenue beyond that. However, there is a risk that these forecasts could be overly optimistic and that the project may not be able to recover its operating costs. The length of the corridor and the fact that it will have many operating segments also adds to the business risk.

The next step is for the two states to prepare investment grade ridership and revenue forecasts. This will involve verifying the different assumptions that underpin the forecasts and vetting the possibility of different outcomes. While this process will refine the forecasts, it will not be possible to eliminate entirely the underlying financial risk. As the project advances, the Service Development Plan will provide the project stakeholders with the opportunity to discuss how financial risks will be shared.

Inconsistent Design Standards and Requirements throughout the Corridor

Another issue with the SEHSR corridor is that the S-line segment between Petersburg and Raleigh is being designed to standards that are inconsistent with the rest of the Washington D.C. to Charlotte route. This section of the alignment will have a 125 mph design speed and no grade crossings. The

remainder of the corridor is designed for 90 mph travel with some grade crossings and freight traffic. In order to accommodate the 125 mph design speed in the S-line segment, additional right-of-way purchases will be required to provide the gentler curves that are required for higher speed operations. It is not clear how the benefits of providing higher speeds in this section compare to the additional costs associated with a faster design speed. Once again the Service Development Plan will provide an opportunity for DRPT and the NCDOT Rail Division and its partners to review issues such as the proposed design speed for the S-line to determine what would be most beneficial to the project.

Ironically, the ARRA program, which has provided dedicated funding for high speed rail, has also posed a challenge to cooperation between Virginia and North Carolina in the SEHSR corridor. The ARRA program required the two states to submit independent and competing applications for ARRA funding. As a result, North Carolina asked for money to improve the Raleigh -to - Charlotte segment of the SEHSR corridor, while DRPT applied for assistance with the 11 mile third track project at the northern end of the corridor near the District of Columbia. While DRPT and the NCDOT Rail Division had been working together on the Tier II EIS for the bi-state Richmond to Raleigh segment of the SEHSR corridor since 2003, their need to focus on the ARRA applications required a quick shift in priorities away from their collaboration on the bi-state segment to working independently on their own ARRA projects. Although the ARRA program inhibited bi-state collaboration on the SEHSR corridor when it was first announced, the funding it has provided to North Carolina and Virginia has fostered increased momentum for the SEHSR corridor and was a catalyst in the two states activating the Virginia-North Carolina Compact in 2010. The states' collaboration on the Tier II EIS for the Richmond to Raleigh segment has been reactivated, with a draft EIS issued in 2012 and a final EIS anticipated in late 2014, with a ROD following in early 2015.

H.6 Interpretation and Synthesis





This section interprets the case study findings in the context of the overall project objectives.

H.6.1 Key Aspects of the Case with Respect to Research Objectives




The conceptual framework developed for this project was founded on four major elements of collaborative efforts for intercity passenger rail transportation: visioning, planning, design and construction, and operations. This case study provides useful lessons for the first two elements.

The specific issues relevant to the research objectives for this study and their relevance and applicability to the SEHSR corridor case study are summarized in Table H.2.

Table H.20: Research Issue Applicability to Case Study

Research Issue	Degree to Which Objective is Applicable to SEHSR Corridor Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

Legend

	Addresses research issue to a high degree: issue has direct relevance and application to other rail corridors.
	Addresses research issue to a moderate degree: provides a reasonable amount of relevance; characteristic is present but may be of limited applicability to other rail corridors.
	Addresses research issue to a slight degree: not applicable to this rail corridor.

H.6.2 Key Lessons Learned

Lesson 1: Structured Visioning Process

Virginia and North Carolina's bi-state collaboration on the SEHSR corridor extends over a 20-year period and has evolved from a visioning effort to the implementation of four discrete project segments, one of which traverses the state line. Three of these segments are undergoing a tiered environmental review and construction is under way on the fourth, which is comprised of a series of improvements with independent utility cleared with Categorical Exclusions (CEs) and Environmental Assessments (EAs)/FONSI.

Practitioners involved with the project agree that the key lesson learned when two states collaborate on a project of this scope and scale is to establish agreement principles early on and stick to them. It is also essential to "get out ahead of yourself" and envision what the end product will be. Doing so forces both states to agree on the outcome of their joint effort. Once that occurs, they can identify the many steps that will need to be taken to arrive at the end vision.

Lesson 2: Institutional Foundation for the Vision

In 2004, the two states established the Virginia-North Carolina Interstate High-Speed Rail Compact comprised of five legislators from each state to oversee the implementation of the SEHSR corridor. Although this required the approval of enabling legislation in both states and an act of Congress, the Compact was dormant for its first six years. The reasons behind this are not clear, but are likely due to a lack of political buy-in and clarity on where the project was headed. Even though the Compact itself saw limited involvement, DRPT and the NCDOT Rail Division made good technical progress on the corridor.

Momentum for the project actually increased as a result of the financial crisis in 2008 and the dedicated high-speed rail funding provided in the ARRA of 2009. The \$526 million in funding provided to the two states prodded elected officials to activate the Compact in 2010. In its first four years of operations the Compact has done little more than report updates on the activities of DRPT and the NCDOT Rail Division and their stakeholders. However, in mid-2014 with the advent of the SEHSR corridor Service Development Plan, the Compact appears poised to take a more active role in decision-making moving forward.

It is not clear yet what impact the Compact will have on decision-making and in obtaining funding support for the project. As described above, progress was made on the project even in the absence of such involvement. However, as the difficult, yet critical decisions are soon to focus on corridor investment, the existence of an institutional structure for debating and deciding these issues seems to be an important strength of this project.

Lesson 3: Structured Process for Technical Analysis

The Service Development Plan (SDP) is the primary vehicle for overcoming service and technical challenges. The development of this Plan requires the active participation of all the project stakeholders and will ultimately need to be approved by the Compact, as well as FRA. As such, the SDP provides a transparent process for balancing the competing interests of the different project stakeholders.

While work on the SDP for the SEHSR corridor is only just beginning, senior practitioners involved with the project believe that the process will be helpful in informing meaningful decision-making as the project advances. They also note that the Service Development Agreement process will add a needed structure and purpose to the work of the Compact, as it will generate positions on a wide array of issues that will be taken to the Compact for review and approval. Those interviewed for this case study agree that it would have been helpful to have initiated the Service Development Agreement far earlier in the development of the SEHSR corridor.

The SDP will also be effective in integrating the work that is being performed on the four segments that comprise the SEHSR corridor in Virginia and North Carolina. While the project has been broken into four segments out of necessity, certain decisions can only be made by looking at the corridor as a whole. Since the Service Development Agreement process encompasses the entire corridor, it helps to integrate the segments' individual work products into a complete corridor. This is an important dynamic that can be expected to occur with any large high-speed rail program that extends beyond the boundaries of a single state. While the scale of these projects dictates that they be assessed and built in smaller more manageable segments – many of which will lie within the boundaries of a single state – they will ultimately function as part of a larger, integrated system. The SDP process is helpful as it requires holistic analysis of the entire corridor.

Lesson 4: Influence of Federal Funding Requirements

It is difficult to determine the scope of influence the ARRA program has had on bi-state collaboration in this corridor. On one hand, it seems clear from those interviewed and from the record, that the requirement for single state submittals did refocus staff resources and perspectives in both Virginia and North Carolina on state-oriented proposals. However, it is not evident that if multistate proposals had been allowed, that both states would have jointly submitted a proposal for the corridor (although if such had happened, the Compact might have been reinvigorated earlier). Ultimately both states did receive some federal funding for improvements on state corridor segments, which given the vision of the corridor policy process itself, are being constructed within the context of the overall corridor improvement strategy.

Lesson 5: Role of Railroads

This case study examines the implementation of multistate, intercity rail service on existing right-of-way, primarily through the use of track upgrades and/or providing additional track. Unlike many new intercity passenger rail services, the proposed project will not be on new right-of-way. As such, the owner of the right-of-way, in this case private railroads, plays an integral role in assuring project success, and in the institutional structure created to develop and implement a project. CSX Transportation, Inc. is playing such a role in the SEHSR corridor. Not only does CSX Transportation own much of the right-of-way, but through its rail operations control, it controls the number of train slots that can access particular destinations. As noted in the case study, obtaining cooperation from railroads will require some value add to the railroad itself (e.g., public support in upgrading track). This element of successful institutional arrangements for mixed-use corridors will likely be one of the most important factors in implementing intercity passenger rail services.

Degree to Which Results are Transferable

The key findings of the SEHSR Corridor case study should be transferrable to other large bi- or multistate intercity passenger rail projects. States should partake in technical collaboration even if public and political support for high-speed rail is unclear. While it is only possible to study and implement large multistate high-speed rail projects in smaller segments, states should not lose sight of the larger picture. In order to work in a coordinated way towards a collective goal, they to agree on a clear vision of what the end outcome of the project will be.

The Service Development Agreement process required by the FRA provides an excellent platform for developing a framework for operation and implementation of a large intercity passenger rail project. It provides an excellent structure for developing a service plan and undertaking other basic planning analyses that are needed for high-speed rail projects but that are not necessarily included in the NEPA process.

The Service Development Agreement is an iterative document that evolves and becomes more detailed over time. The experience in Virginia and North Carolina suggests that intercity passenger rail practitioners in other states would benefit from initiating work on Service Development Agreements for bi- or multistate intercity passenger rail projects early on in the planning process. Early buy-in on strategic issues such as the service plan and required through-put for the high-speed rail system will help shape the definition of the project.

The SDP process is also helpful because it identifies the other strategic planning analyses and decisions that will need to be made outside of the standard NEPA process as work on the intercity passenger rail project progresses.

H.7 References

1. CSX Corporation, Corridors of the Future Program Proposal, The Southeast I-95 Corridor, October 23, 2006.
2. Dezarn, Sheila, Principal Consultant, Parsons Brinckerhoff, Personal Communication, May 29, 2014.
3. Federal: 49 U.S.C. 24101, no date, Accessed from, <http://www.gpo.gov/fdsys/pkg/BILLS-105s738enr/pdf/BILLS-105s738enr.pdf> .
4. High Speed Intercity Passenger Rail Program (HSIPR) Notice of Funding Availability (NOFA) and Interim Guidance: ARRA / FY 2009, Federal Railroad Administration, Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices: Washington, D.C. Accessed from, <https://www.fra.dot.gov/Elib/Details/L03706>
5. Mann, Jeffry G., Parsons Brinckerhoff, Personal Communication: May 14, 2014.
6. North Carolina: N.C.Gen.Stat. § 136-220 – 136-222, Accessed from, http://www.ncleg.net/EnactedLegislation/Statutes/PDF/ByArticle/Chapter_136/Article_18.pdf
7. Page, Kevin B., Chief Operating Officer, DRPT, Personal Communication: May 21, June 6, and June 23, 2014.
8. Southeast High Speed Rail Corridor Website, NCDOT and DRPT, Accessed from, <http://www.sehsr.org/default.html> .
9. Southeast High Speed Rail Corridor Tier II Draft EIS – Richmond to Raleigh, NCDOT and DRPT, Accessed from, <http://www.sehsr.org/reports.html> .
10. Southeast High Speed Rail Corridor Tier I DEIS, FEIS and Record of Decision, NCDOT and DRPT, Accessed from, <http://www.sehsr.org/reports.html> .
11. Southeast High Speed Rail Memorandum of Understanding: North Carolina Department of Transportation, State of Florida, Georgia Department of Transportation, State of South Carolina, The Commonwealth of Virginia, April 19, 1994.
12. Virginia-North Carolina High Speed Rail Compact Website, DRPT, Accessed from, http://www.drpt.virginia.gov/projects/VA-NC_Compact.aspx .
13. Virginia: SB 126 General Assembly Special Sess. (Vir. 2004) approved as Chapter 662 Accessed from, <http://leg1.state.va.us/cgi-bin/legp504.exe?041+ful+CHAP0662> .

Appendix H-1 – Federal Register / Vol. 74, No. 119 / Tuesday, June 23, 2009 / Notices

[High Speed Intercity Passenger Rail Program \(HSIPR\) Notice of Funding Availability \(NOFA\) and Interim Guidance: ARRA / FY 2009](#)

CASE STUDY I: WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA)

Contents

I.0 Executive Summary	324
I.1 Introduction	327
I.2 Description of the Washington Metropolitan Area Transit Authority	327
I.3 WMATA Participants	329
I.4 Functional Relationships & Decision-Making within WMATA	333
I.5 Barriers/Challenges	343
I.6 Interpretation and Synthesis	345
I.7 References	349
Appendix I-1 – WMATA Compact	350

Glossary of Terms

ACC	Accessibility Advisory Committee
CIP	Capital Improvement Program
DCA	Ronald Reagan Washington National Airport
DDOT	District Department of Transportation
EIS	Environmental Impact Statement
JCC	Jurisdictional Coordinating Committee
MPO	Metropolitan Planning Organization
MTA	Maryland Transit Administration
MWAA	Metropolitan Washington Airport Authority
NCTA	National Capital Transportation Agency
NVTV	Northern Virginia Transportation Commission
PRIIA	Passenger Rail Investment and Improvement Act of 2008
RAC	Riders Advisory Council
ROD	Record of Decision
TOC	Tri-State Oversight Committee
TPB	National Capital Region Transit Planning Board
USDOT	United States Department of Transportation
VRE	Virginia Railway Expressway
WMATA	Washington Metropolitan Area Transit Authority
WSTC	Washington Suburban Transit Commission

I.0 Executive Summary

Background

The Washington Metropolitan Area Transit Authority (WMATA), also known as Metro, provides rail (Metrorail), bus (Metrobus), and paratransit (MetroAccess) services to a 1,500-square mile area that includes the District of Columbia and surrounding jurisdictions in Maryland and Virginia. Creation of WMATA dates back to the early 1950s and 1960s when Congress mandated preparation of plans for the movement of people and goods in the DC region.

Nature of the Partnership

The breadth and depth of coordination and consensus building at the federal, state, and local levels to come to common ground on the multi-institution arrangement has yielded a highly complex governance structure for WMATA. The WMATA Compact is the defining document that details the roles, responsibilities, and powers of the Authority in conducting its mission of providing effective mass transportation to the Washington metropolitan area.

Challenges and Barriers

Funding is by far the greatest challenge facing the WMATA system. An estimated additional support of \$25 million from each signatory jurisdiction has been provided as of 2015 as “seed money” while negotiations continue over the funding that is needed to implement WMATA’s strategic plan, Momentum, and to sustain the system over the long-term, an amount is estimated to be in the billions.

Lessons Learned

- *Having a clear mission and vision at the outset aided representatives from all WMATA justifications to find common ground in agreeing to the multistate Compact.* WMATA’s mission was clearly stated in its Compact. Finding common political ground among the various participating agencies of WMATA and recognizing the strength of regional coordination, as opposed to acting individually, played a key role in building consensus early on.
- *WMATA has developed indicators to regularly assess performance to see if they meet Board established service criteria.* Establishing clear goals that are linked to specific performance measures helps in achievement of those goals and allows the WMATA partnership to continue moving forward as a region in its provision of quality transit services.
- *Creating a congressionally supported multi-institutional compact is challenging but lasting.* The federal-state-local partnership took over a decade to build consensus and create an agreement and legislation which all parties could sign. The Compact has proven durable over time.
- *Early Establishment of Shared Funding Allocations Can Instill Accountability and help to ensure a continued commitment by all parties to build and operate a regional system over the long haul.* Consideration for how the multi-agency partnership will manage situations where one partner may have financial trouble is important, along with ensuring that resources are allocated appropriately to areas of most need when services may not be laid out the same way as costs.

Table I.1 shows how the WMATA case fits into the conceptual framework.

Table I.21: WMATA Collaboration for Planning/Visioning/Operations and Maintenance

Characteristic	Discussion
Phase of Project Development	Operations and Maintenance
Stakeholders	✓ Federal Government, Commonwealth of Virginia, Northern Virginia Transportation Commission, State of Maryland, District of Columbia, Washington Suburban Transit Commission, Cities of Alexandria, Falls Church, Fairfax, Counties of Arlington, Fairfax, Loudon in Virginia, and Counties of Montgomery and Prince George's in Maryland.
Institutional Relationships	✓ Established through WMATA Compact, agreed to by signatories in 1965-1966.
Identification of Responsibilities	✓ WMATA and Board of Directors empowered to establish a regional transit authority to plan, develop, finance, and operate a balanced regional system of transportation. Other responsibilities cited in the Compact are to develop a regional mass transit plan, create sound financial policies to operate the system, develop and operate a transit police force, among many others.
Role of regulatory agencies	✓ WMATA overseen by Board of Directors. Representatives from the Federal Government report to the Government Services Administration. For financial oversight, WMATA Compact requires an annual audit by and independent 3 rd party. Financial transactions of the Board are reviewed by U.S. General Accounting Office.
Political Foundation	✓ National Capital Transportation Act of 1960 & 1965 WMATA Compact agreed to by U.S. Congress: Public Law 86-794, 74 Stat. 1031), by Maryland (Ch. 869, Acts of General Assembly 1965), by Virginia (Ch. 2, 1966 Acts of Assembly).
Why – ‘Compelling Need’?	✓ The National Capital Transportation Act of 1960 and 1965 declared that a coordinated system of rail rapid transit, bus transportation service, and highways is essential in the National Capital Region for the satisfactory movement of people and goods, the alleviation of traffic congestion, economic vitality, and the effective performance of the functions of the U.S. Government.
Decision-making Process	✓ Various decision making procedures are specified throughout the WMATA Compact. General actions of the Board are to be made only when a quorum is present and expressed by motion and resolution. Other decision making processed are detailed for issues such as adoption of a Mass Transit Plan, adjustments to service or fares, procurement of property or services, etc.
Corridor Ownership	✓ Article XVI, Section 74 details WMATA's authorization related to Rights of Way. According to the Compact the Board is authorized to locate, construct and maintain any of its transit and related facilities in, upon, over or across and streets, highways, freeways, bridges and any other vehicular facilities.
Lead Agencies/Groups	✓ WMATA Board of Directors
Legal Authority	✓ National Capital Transportation Act of 1960 & 1965 WMATA Compact agreed to by U.S. Congress: Public Law 86-794, 74 Stat. 1031), by Maryland (Ch. 869, Acts of General Assembly 1965), by Virginia (Ch. 2, 1966 Acts of Assembly).
Cost Sharing	✓ Article VII enumerates financing policies for WMATA, Section 18 details cost sharing of each of the signatory jurisdictions. The general policy states that ‘the payment of all costs shall be borne by the persons using or benefitting from the Authority's facilities and services and any remaining costs shall be equally shared among the federal, District of Columbia and participating local governments in the Zone’.
Funding Sources	✓ Funding sources are from fares as well as financial participation from governments in the Transit Zone in Virginia, Maryland, District of Columbia and Federal Government.
Operating Standards	✓ Operating and Service Standards are the sole purview of the Board of Directors according to Article XIII Section 61.
Oversight	✓ Board of Directors provided oversight of WMATA. Financial oversight provided by annual independent audit.
Relationship with Host Railroad or Other Providers of	✓ Compact allows WMATA to contract with third party private provides to operate transit services within the Transit Zone.

Characteristic	Discussion
Service	
Marketing & Customer Service	✓ WMATA manages marketing and customer service. Advertising sales managed by third party.
Revenue Sharing	✓ The Board shall set rates and fares where resulting revenue will pay the operating expenses and provide for repairs, maintenance and depreciation of the transit system owned for controlled by the Authority.
Branding	✓ WMATA responsible for management of 'Metro' brand and use for various mode, i.e. Metrobus, Metrorail, etc.
Liability Issues	✓ The Board may self-insure, or purchase insurance against loss or damage to any to its properties, against liability for injury to persons or property, and against loss of revenue from any cause whatsoever.
Procurement	✓ Procurement procedures are laid out in Article XVI Section 73. Generally all procurement of property, services, or construction must me through open competition. This section details the procurement process, and does provide for exceptions to the open procurement procedures.
Contractual Arrangements	✓ Legal agreement serves contract between all signatories of the WMATA Transit Zone.

I.1 Introduction

The objective of NCRRP 07-02 is to create practical models for multistate institutional arrangements for developing and providing intercity passenger rail networks and services. Different institutional models can be applied to a variety of service and infrastructure sectors, each dealing with unique challenges. This case study examines the constitutional and collaborative nature of the Washington Metropolitan Area Transit Authority (WMATA), a federal-state-local partnership, with a purpose to provide transit service, now known as the Metro System (the Metro), to the State of Maryland, Commonwealth of Virginia, and District of Columbia. Thus, the focus of this case study will detail the organizational structure of WMATA and delineate institutional aspects and practices that may be useful in the planning and delivery of intercity passenger rail.

I.2 Description of the Washington Metropolitan Area Transit Authority

Creation of WMATA dates back to the early 1950s and 1960s when Congress mandated preparation of plans for the movement of people and goods in the region. A Congressionally-funded Mass Transportation Survey calling for a \$500 million rapid rail system by 1980 was presented to President Eisenhower in 1959, prompting the development of the National Capital Transportation Agency (NCTA) to develop the rapid rail system. NCTA's Transit Development Program was submitted to President Kennedy in 1962 which proposed an 83-mile, 65 station rapid rail system.

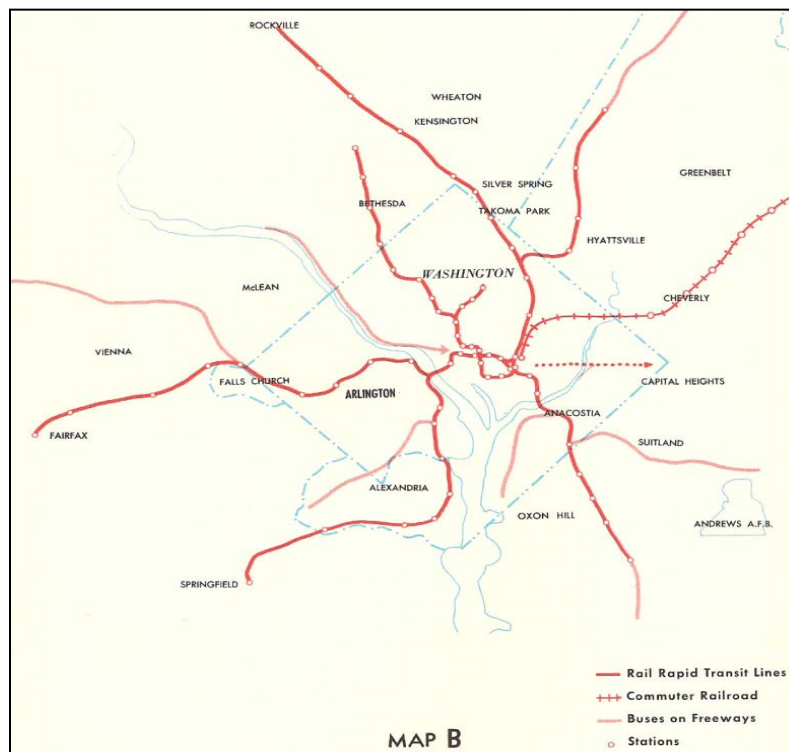


Figure I-52: Rail System Proposed in NCTA Transit Development Program, 1962

Source: Kugler, Tracy. The Rail of Two Cities.

http://oregonstate.edu/instruct/geo422/Rail_Two_Cities.pdf. 2008.

During the Johnson administration, legislation was signed in 1965 authorizing a \$431 million rapid transit system capable of future expansion. In November 1966, President Lyndon B. Johnson signed a bill to create WMATA. Later that same month, the Governors of Maryland and Virginia and Commissioners of the District of Columbia signed identical legislation for their respective jurisdictions. The interstate compact ("Compact") was an agreement between the District of Columbia, the State of Maryland and the Commonwealth of Virginia and their respective local governments to plan, develop, finance, and operate a comprehensive mass transit system for the Washington Metropolitan area. In 1967, WMATA was officially established, eventually replacing the former NCTA.²¹⁸

WMATA's primary purpose and objective is to plan, develop, finance, operate, and coordinate transit services within the designated Washington Metropolitan Area transit zone. This zone includes the District of Columbia, the cities of Alexandria, Falls Church and Fairfax, the counties of Arlington and Fairfax and political subdivisions of the Commonwealth of Virginia located within those counties, and the counties of Montgomery and Prince George's in the State of Maryland and political subdivisions of the State of Maryland located in those counties (see Figure 2). Loudoun County in Virginia has been added to the zone in anticipation of service from the new WMATA Silver Line, but does not participate financially or in terms of Board membership.²¹⁹ Today WMATA operates heavy rail, bus, and paratransit services in the Washington metropolitan region.

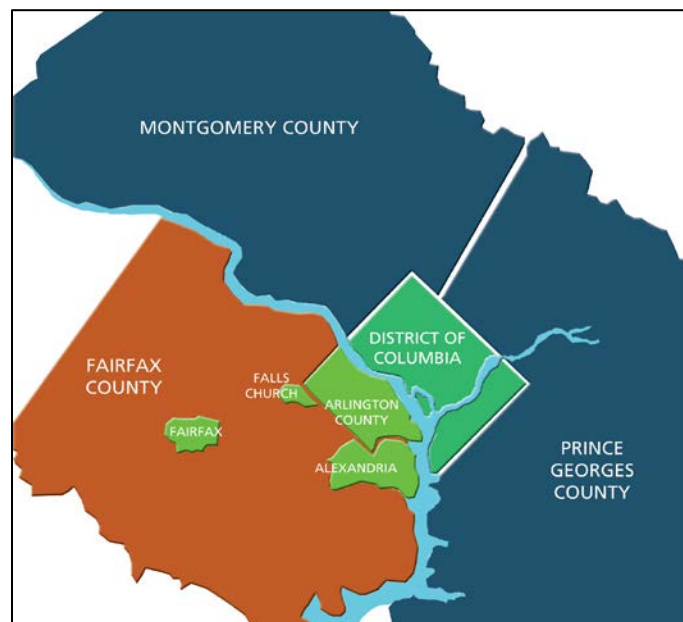


Figure I-53: WMATA Rail and Bus Service Area

Source: Metro Facts, Page 1, Washington Metropolitan Area Transit Authority, Accessed from, http://www.wmata.com/about_metro/docs/Metro%20Facts%202014.pdf

²¹⁸ WMATA Compact found at: http://www.wmata.com/about_metro/docs/Compact_Annotated_2009_final.pdf

²¹⁹ WMATA Compact. Section 3 amended as shown by Washington Metropolitan Area Transit Regulation Compact Amendments of 1996, Pub. L. No. 104-322, 110 Stat. 3884; 1996 Laws of Maryland, Ch. 489; 1995 Acts of Assembly of Virginia, Ch. 150; D.C. Law 11-138 (1996).

I.3 WMATA Participants

WMATA's governance structure involves Signatories, Appointing Authorities, the Board of Directors, Tri-State Oversight Committee, and a General Manager (see Figure I-3) Roles and responsibilities of each are detailed below.

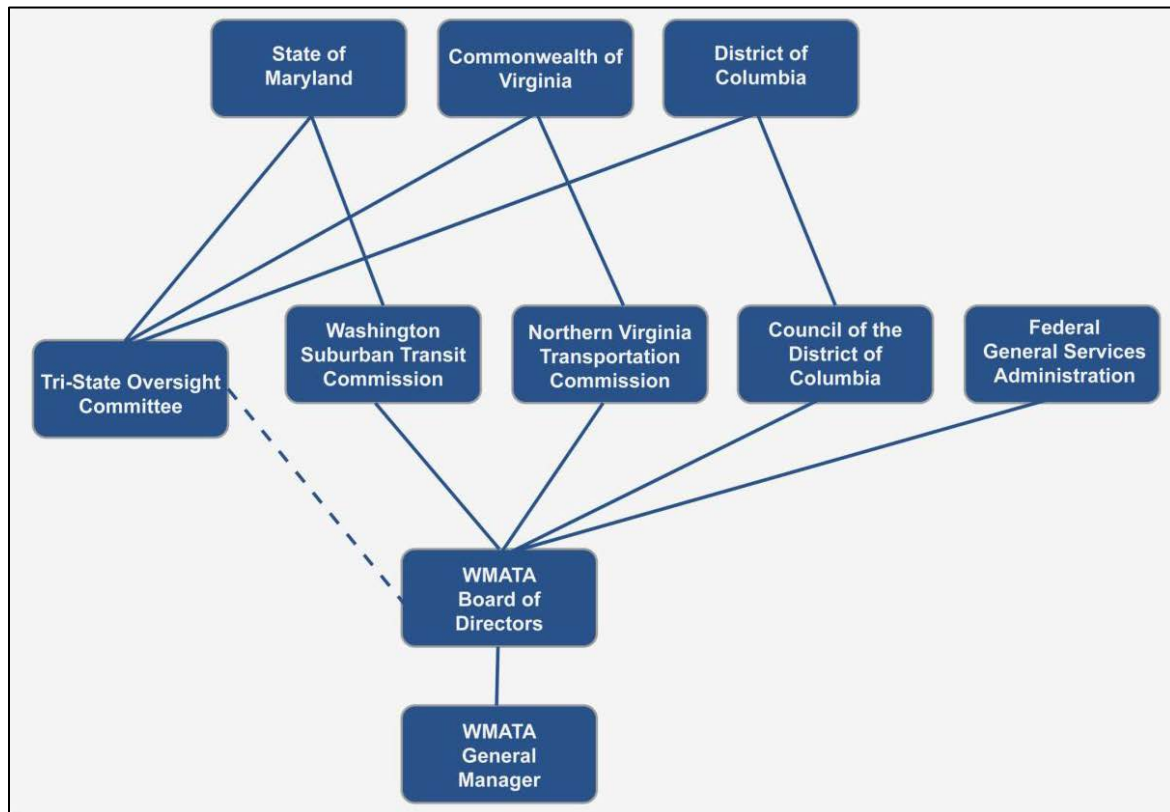


Figure I-54: WMATA Governance Structure

Source: Moving Metro Forward, Report to the Joint WMATA Governance Review Task Force, November 17, 2010, page 13

Signatories – Signatories are the signing authority of the WMATA Compact and may amend the Compact with the consent of Congress. There are three signatories to the Compact: the State of Maryland, the Commonwealth of Virginia, and the District of Columbia.

Appointing Authorities – Appointing authorities are responsible for independently appointing two primary members and two alternate members to the WMATA Board of Directors. There are four appointing authorities in the Compact: for Maryland, the Washington Suburban Transit Commission (WSTC); for Virginia, the Northern Virginia Transportation Commission (NVTC); for the District of Columbia, the Council of the District of Columbia; and for the federal government, the U.S. DOT.

The four authorities have different criteria for appointing members to the WMATA Board both as provided in the compact and in state or city legislation. For example:

- The **WSTC** appoints its primary and alternate WMATA Board members from among its membership. As provided in Maryland law, WSTC members appointed by the Governor are appointed as the two primary WMATA Board members. WSTC members appointed by Montgomery County and Prince George's County are appointed as the WMATA alternates. WSTC's membership is composed of seven members; two are chosen by Montgomery County, two are chosen by Prince George's County, and three are chosen by the Governor with advice and consent from the State Senate.
- The **NVTC** appoints its primary and alternate WMATA Board members from among its membership. Traditionally, NVTC members from Arlington County and Fairfax County serve as the primary WMATA Board members, while NVTC members from Alexandria and Fairfax County serve as the WMATA alternates. NVTC's membership is mandated by state statute to comprise 20 state and local elected officials plus one member appointed by the State Secretary of Transportation. In recent years, the Governor of Virginia has required that the State member of NVTC be appointed to the WMATA Board. NVTC Board members are elected annually and can be reappointed.
- The **D.C. Council** traditionally appoints one elected official from among its membership and one appointed official from the Mayor's administration to serve as its primary WMATA Board members. The same arrangement is used for its alternate members.
- The **U.S. DOT** appoints primary members and alternates to serve on the WMATA Board for the federal government.

Board of Directors – The WMATA Board is the decision-making body responsible for providing for its own organization and procedures, officer appointments, annually adopting a capital budget and a current expense budget. Transit service and the rates and fares to be charged for such service are subject to the sole and exclusive jurisdiction of the Board. The Board is comprised of a total of 16 members, typically members hold or have held elected or appointed positions within the jurisdictions. Each appointing authority selects two directors and two alternates, totaling eight members and eight alternates on the Board. Members and alternates serve without compensation, although they may be reimbursed for necessary expenses and alternates may only act in the absence of their Board member. Two members represent the State of Maryland; two members represent the Commonwealth of Virginia; two members represent the District of Columbia; and as of the 2009 Compact Amendment, two additional members represent the federal government. Term limits are not applied to the Board in the compact, however, the first federally-appointed members were appointed for terms of four years.

State and District legislation adopted individually by the three jurisdictions established certain policies to their appointment of WMATA Board members. The legislation suggests the types of individuals to be appointed (e.g. engineers, lawyers, financial specialist, etc.) and suggests that they should be system users. In each of the jurisdictions, the legislation calls for staggered four year terms to be established with a limit of two terms of service. Members are to file reports on their frequency of Board meetings. The implementation of all these provisions is still a work in progress.

The Board of Directors has a number of documents that guide the agency's organizational activities and direction. These include: the Metro Compact (annotated, as amended through August 2009), Bylaws, Board procedures, committee assignments, public comment procedures, Code of Ethics, and Joint Development Policies and Guidelines. Many other WMATA policies are contained in resolutions adopted by the Board over its decades of existence, and these have been codified into a single source.

Tri-State Oversight Committee – The Tri-State Oversight Committee (TOC) was created in 1997 in response to a federal regulation, which required specially designated state agencies to provide safety oversight of rail systems that were not already regulated by the Federal Railroad Administration. The three WMATA Signatories signed a memorandum of understanding to establish the TOC with two representatives from each signatory jurisdiction. New Federal legislation with respect to transit safety responsibilities of the Federal Transit Administration has called out the need to establish a more permanent body to take over this function, and legislation is now pending to do this.

General Manager – The Compact states that the General Manager (GM) shall be the chief administrative officer of WMATA and subject to policy direction by the Board shall be responsible for all activities of WMATA. The only positions at WMATA that report to the Board are the GM/Chief Executive Officer (CEO), the Board Secretary and the Inspector General. An Executive Leadership Team exists to carry out the various responsibilities and activities at WMATA. The Executive Leadership team reports to the GM/CEO and is comprised of the Safety Chief, Deputy General Manager of Operations (DGMO), Metro Transit Police Department Chief, General Counsel, and Chief Financial Officer (CFO). Additional leadership roles include: Dulles Metrorail Extension Chief Policy Officer, Bus Services Assistant General Manager, Customer Services, Communications, and Marketing Assistant General Manager, Human Resources Chief, Chief of Staff (includes Office of Performance Chief), and Information Technology Assistant General Manager/Chief Information Officer, reporting to the CEO; Access Services Assistant General Manager and Transit Infrastructure and Engineering Services Assistant General Manager, reporting to the DGMO; and Procurement and Material Chief Procurement Officer, reporting to the CFO (see Figure I-4).

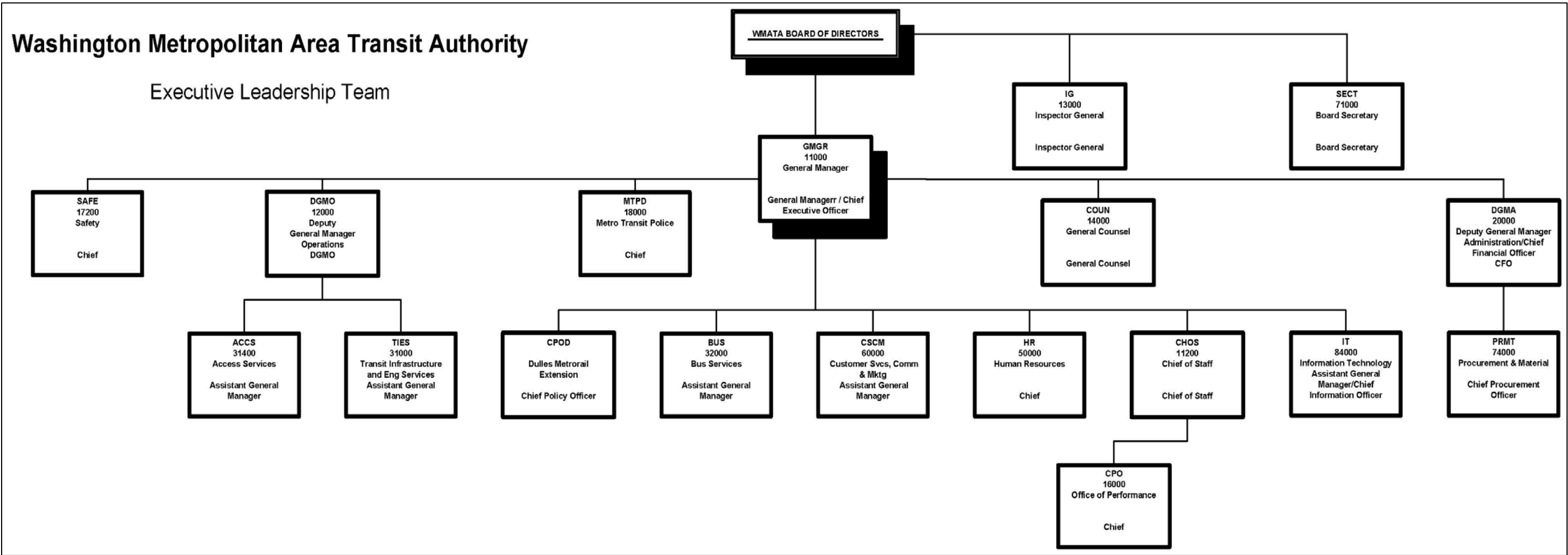


Figure I-55: WMATA Executive Leadership Structure

Source: Metro website, Washington Metropolitan Area Transit Authority, Accessed from, http://www.wmata.com/about_metro/

I.4 Functional Relationships & Decision-Making within WMATA

The Compact specifies that the Chairman and Vice Chairman shall be elected annually by members of the Board. Previously, by Board Procedures not as specified in the Compact, a second chair was also elected and the three offices (chair, vice chair, and second chair) were rotated annually among the six members representing the three signatory jurisdictions. Currently, these three positions are elected annually rather than by rotation. Incumbents can be re-elected and the practice is now to permit two one-year terms at the decision of the Board.

Full Board meetings are held once or twice a month with a closed Executive Session often held prior to each meeting to cover certain confidential matters identified in the Compact and Bylaws. As specified in the Compact, decisions at Board meetings are made by a majority vote, but at least one member or eligible alternate member from each signatory must vote affirmatively (also referred to as the jurisdictional veto). However, as noted in a 2010 Governance Report, WMATA Board decisions are not based solely on the vote of the majority at WMATA due to this provision of a jurisdictional veto. Some experts have questioned this decision-making arrangement. For example, the Greater Washington Research Center found that “because of the structure of the WMATA board as a forum for inter-jurisdictional political negotiation, almost every aspect of Metro planning and operations becomes a subject for political consideration.” Further, the Congressional Research Service said jurisdictions have occasionally “threatened to withhold, eliminate, or unilaterally reduce their annual contributions on the ground of perceived inequities.” While many stakeholders expressed such views to the Task Force, several argued that the veto is beneficial to regional decision-making due to WMATA’s unique, multistate arrangement. To assure the process is used correctly, the ByLaws provide that a jurisdiction expecting to use the veto should first advise the Chair of their intent so that the controversy could be resolved.

Much of the work takes place through WMATA’s committee structure. Some committees comprise of all 14 Board members, while others only comprise of a subset of the Board members. Each year the Board Chair determines the Committees, their respective Chairs, and voting members including alternates. Per the 2010 Board Procedures, the following committees have been defined: Finance and Administration; Governance; Planning, Program Development and Real Estate; Jurisdictional Coordinating; Customer Service and Operations; Safety and Security; Audit and Investigations; and a special committee on the 2025 plan. Most committees meet at least once a month. Their meetings are public except for confidential items and agendas are posted in advance and offer an audio broadcast. Public comment, however, takes place at Committee meetings only by decision of the Committee chair depending on the nature of the topic.

The Board is formally advised by three outside groups: The Riders’ Advisory Council, the Accessibility Advisory Committee, and the Jurisdictional Coordinating Committee.

The Riders’ Advisory Council (RAC) was established in 2005 to advise the Board on issues affecting Metrobus, Metrorail, and MetroAccess service. RAC is made up of 21 riders, including six each from D.C., Maryland, and Virginia, two at-large members, and the chair of the Accessibility Advisory Committee. RAC members are typically appointed by the Board based on their jurisdiction and are appointed to

serve staggered three-year terms and may serve for up to four full terms. The RAC elects a Chair from among its membership and one Vice Chair from D.C., Maryland, and Virginia. The RAC holds meetings open to the public once a month. Additional meetings may also take place through ad-hoc and other standing committees part of the RAC. At times the RAC may approve letters or resolutions or conduct special studies that are sent to the Board. On a monthly basis, a presentation is made to the Board by the RAC chair or a designee.

The Accessibility Advisory Committee (AAC) also includes members from D.C., Maryland, and Virginia and advises staff and the Board on issues affecting senior riders and those with disabilities.

The Jurisdictional Coordinating Committee (JCC) is comprised of representatives from the local, state, and federal governments, including departments of transportation that operate local bus service and other agencies. JCC members also typically serve as staff to the jurisdictions' Board members advising them on matters of policy. As such, JCC meetings often explore policy issues that cross jurisdictions or provide staff with early input on how Metro projects may impact or interface with other jurisdictional efforts and priorities. The JCC does not have voting authority or provide advice as a body. Therefore, agendas, minutes, recommendations, or other input as a result of these committee meetings may be provided directly to Board members but not to the public.

I.4.1 Development and Implementation Process

WMATA's annual budget serves as the foundation for its financial planning and control. The General Manager and staff prepare and submit the budget to the Board for approval. The annual budget consists of two budgets: an operating budget and a capital budget. It is the responsibility of each department to administer its operation in such a way that ensures its use of funds is consistent with the goals and programs authorized by the Board and that approved spending levels are not exceeded.

Funding is provided through a variety of sources:

- **Capital** investment projects are funded through WMATA's Capital Improvement Program (CIP), a rolling six-year program derived from its 10-year \$13 billion Capital Needs Inventory which prioritizes investment needs between FY 2011 through FY 2020. Capital funding sources include two national level Federal Transit Administration formula grant programs supplemented by dedicated federal funds approved under the Passenger Rail Investment and Improvement Act (PRIIA) of 2008. The dedicated funding bill authorized \$1.5 billion over ten years for Metro's capital and preventive maintenance projects, to be matched dollar-for-dollar by equal shares from the WMATA Compact jurisdictions. Federal funding contributions to WMATA have aided in the organizations overall success. For FY 2015 federal contributions are anticipated to make up approximately 16 percent of the organization's overall budget.

Table I.2 displays the each of the local jurisdiction's capital fund contributions from fiscal years 2013, 2014, and 2015 (proposed).

Table I.22: WMATA Jurisdiction's Capital Fund Annual Allocations FY 2013 - 2015

Jurisdiction	FY 2013	FY 2014	FY 2015 (Proposed)
District of Columbia	\$67,466,000	\$72,805,000	\$75,228,000
Montgomery County	\$31,297,000	\$33,400,000	\$34,511,000
Prince George's County	\$34,459,000	\$34,693,000	\$35,848,000
City of Alexandria	\$7,393,000	\$8,786,000	\$9,079,000
Arlington County	\$13,823,000	\$16,351,000	\$16,895,000
City of Fairfax	\$466,000	\$504,000	\$521,000
Fairfax County	\$24,503,000	\$28,727,000	\$29,683,000
City of Falls Church	\$483,000	\$602,000	\$641,000
State and Local PRIIA	\$148,272,000	\$158,627,000	\$168,446,000
TOTAL	\$328,162,000	\$354,515,000	\$370,852,000

Source: WMATA Annual Budgets

Operating funds include fares, advertising, and subsidies. Fares and advertising revenue do not cover all of the costs of operating Metrorail, Metrobus, and MetroAccess service. The shortfall is covered by contributions, determined by formula, from the District of Columbia, Maryland, and Virginia. In Virginia, local governments pay most of the costs of subsidies. According to NVTC, the state government pays about 28 percent of Virginia's WMATA funding. Additional funding comes from dedicated taxes, such as an add-on gas tax, which is charged in Northern Virginia jurisdictions and collected by the state but dedicated to transit in Northern Virginia. The remainder of the Virginia-based subsidy is paid out of general revenues by the counties of Arlington and Fairfax and the Cities of Alexandria, Fairfax and Falls Church. In Maryland, all compact funds are derived from the state's unified Transportation Trust Fund, and District of Columbia contributions are appropriated from a variety of taxes established for transportation purposes. A summary of WMATA's annual operating jurisdictional allocations are provided in Table I.3.

Table I.23: WMATA Jurisdiction's Annual Operation Allocations FY 2013 – 2015

Jurisdiction	FY 2013	FY 2014	FY 2015 (Proposed)
District of Columbia	\$267,253,535	\$274,633,724	\$296,789,237
Montgomery County	\$121,358,517	\$125,541,146	\$130,255,538
Prince George's County	\$160,543,844	\$153,358,620	\$166,828,662
City of Alexandria	\$25,252,117	\$26,309,755	\$28,448,068
Arlington County	\$43,441,741	\$50,042,664	\$50,009,239
City of Fairfax	\$1,425,132	\$2,240,193	\$1,682,404
Fairfax County	\$89,659,303	\$99,632,588	\$103,101,864
City of Falls Church	\$1,956,774	\$2,229,882	\$2,137,534
TOTAL	\$710,890,964	\$733,988,472	\$779,252,545

Source: WMATA Annual Budgets

Subsidy formulas have been negotiated by WMATA and its jurisdictions for rail operations, bus operations, and paratransit.

- **Base rail allocation formulas** are based on three elements distributed evenly (i.e., 33 percent each) comprising population and population density (utilizing US Census data), average weekday ridership by jurisdiction of residence (determined by rail passenger survey), and number of rail stations by jurisdictions (assignments determined by Board).
- **Bus allocation formulas** are based on the type of bus service provided: regional, non-regional, or reimbursable as defined by a Regional Mobility Panel. Established some years ago to allocate bus responsibilities among the parties. Individual jurisdictions have the option of establishing their own non-regional bus systems or buying service from WMATA. Regional service subsidy equals total regional bus operating cost minus regional bus revenue. This subsidy allocation is formula-based drawing on four major elements with associated weightings: population/population density (25 percent); revenue hours which are assigned geographically or by Board agreement (25 percent); revenue miles also assigned geographically or by Board agreement (35 percent); and ridership by jurisdiction of residence determined by bus survey and average weekday ridership (15 percent). Non-regional service subsidies equal marginal cost of operating each route minus the revenue of that route. Reimbursable service subsidies, also known as demonstration or contract service, are determined by the marginal cost minus revenue for the route or by separate contract.
- **Paratransit allocation formulas** are determined by the cost of service minus revenue for each rider allocated by jurisdiction of residence. Paratransit costs are based on the number of trips completed per jurisdiction of residence, cost per trip, number of vehicles assigned to each jurisdiction, and vehicle lease cost.

I.4.2 Organizational Activities

WMATA's responsibilities, as articulated in its compact are:

...to create a regional instrumentality, as a common agency of each signatory party, empowered, in the manner hereinafter set forth, (1) to plan, develop, finance and cause to be operated improved transit facilities, in coordination with transportation and general development planning for the Zone, as part of a balanced regional system of transportation, utilizing to their best advantage the various modes of transportation, (2) to coordinate the operation of the public and privately owned or controlled transit facilities, to the fullest extent practicable, into a unified regional transit system without unnecessary duplicating service, and (3) to serve such other regional purposes and to perform such other regional functions as the Signatories may authorize by appropriate legislation.

This section highlights primary functions carried out by WMATA.

Provision of Metro Service

WMATA, also known as Metro, provides rail (Metrorail), bus (Metrobus), and paratransit (MetroAccess) services to a 1,500-square mile area that includes the District of Columbia and surrounding jurisdictions in Maryland and Virginia. The stated mission of Metro is to 'provide save, equitable, reliable and cost-

effective public transit.²²⁰ WMATA uses a mix of transit modes to accomplish this mission including both rail and rubber tire transit vehicles. The Metro directly operates bus and rail services as well as contracts out service operations to third party vendors for certain routes, such as the DC Circulator, which provides frequent bus service connecting many tourist landmarks in the D.C. area. Along with the DC Circulator, WMATA also contracts with third party vendors for operation of its paratransit services. In 2013 WMATA awarded paratransit service operations contracts with five different vendors to operate the MetroAccess service.²²¹

As of 2013, WMATA had a workforce of more than 12,000 employees.²²² The majority of these employees are in the Bus Services, Rail Services, and Metro Transit Police Departments.

Metrobus service began in 1973 when WMATA assumed the responsibility for operating four area bus systems. Metrobus is the sixth largest bus system in the nation, providing 400,000 trips each weekday serving 11,500 bus stops in the District of Columbia, Maryland, and Virginia. WMATA has a fleet of over 1,500 buses operating on 325 routes. WMATA began its third transit service, MetroAccess, which provides paratransit service for people with disabilities, in 1994. MetroAccess provides paratransit service for more than 7,000 riders on a typical weekday.

Metrorail commenced its first phase of operation in 1976 and its original construction plan was completed in 2001. Metrorail is the second busiest system in the United States, with more than 218 million trips per year and more than 750,000 trips on an average weekday. The 118-mile system now serves 91 stations in Virginia, Maryland, and the District of Columbia, including the recent Phase I Silver Line opening. Once Phase II is completed in the Dulles Corridor, 11.4 miles of track and six new stations will be added. The Metrorail system now has six color-coded rail lines: Red, Orange, Blue, Yellow, Green, and most recently added, Silver (see Figure I-5). Unlike its first five lines, WMATA is not constructing the Silver line; the Metropolitan Washington Airports Authority is taking that role, but WMATA is assuming operation of the line upon completion of each phase. Current Metrorail connections to other transit in the region include local and Metrobus service, Amtrak, MARC, Virginia Railway Express (VRE), and Washington National Airport (DCA).

²²⁰ WMATA. Momentum Strategic Plan: 2013-2025. <http://www.wmata.com/momentum/momentum-full.pdf>. 2013.

²²¹ WMATA. News Release: Metro Awaits New Contracts for Paratransit Services. http://www.wmata.com/about_metro/news/PressReleaseDetail.cfm?ReleaseID=5447. March 1, 2013.

²²² WMATA. Approved FY 2013 Annual Budget. p. V-3. http://www.wmata.com/about_metro/board_of_directors/board_docs/051012_3AFY2013Budget51012FAREVISED.pdf. May 24, 2012.

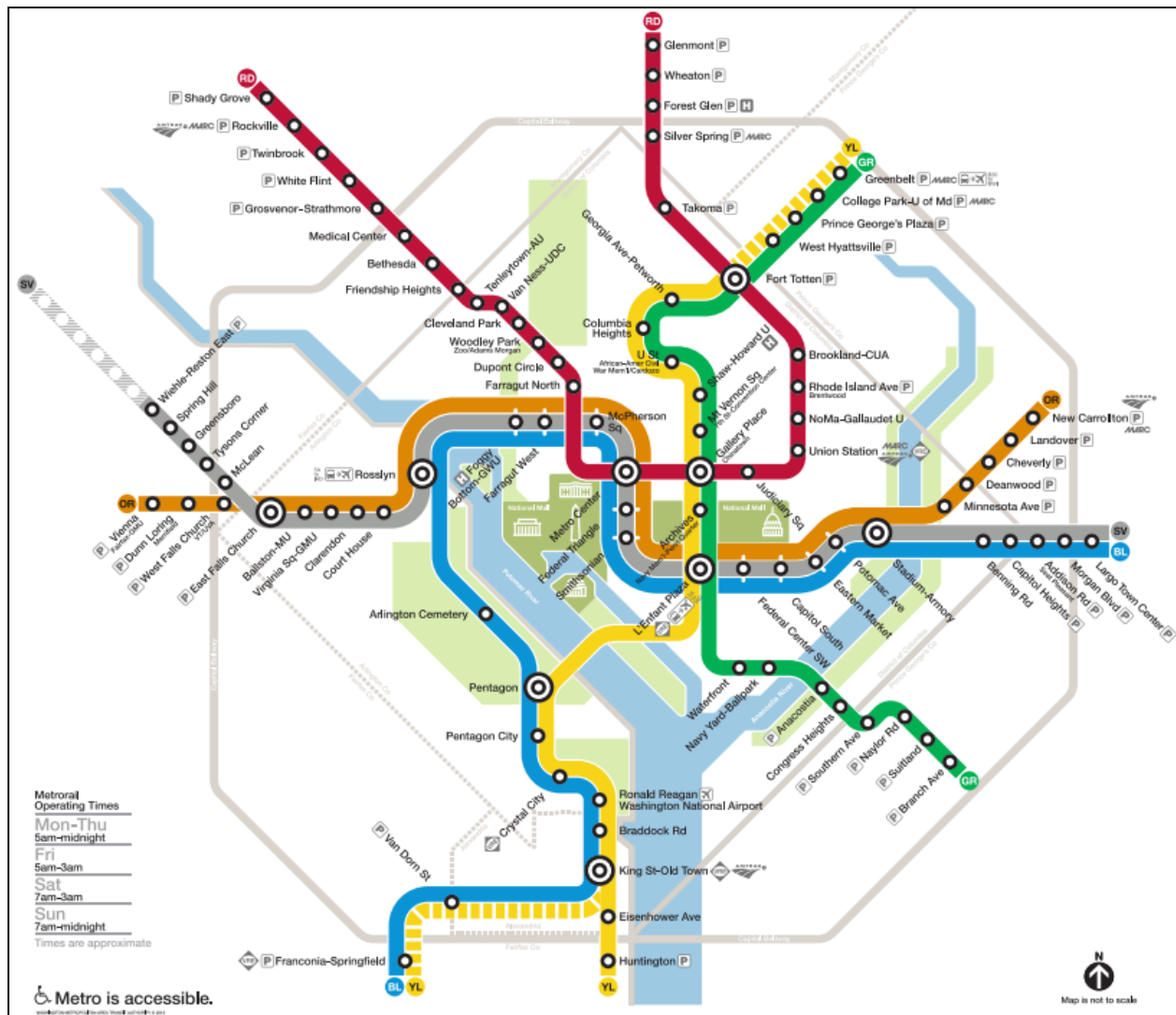


Figure I-56: WMATA Metrorail System

Source: Metro Facts, Page 4, Washington Metropolitan Area Transit Authority, Accessed from, http://www.wmata.com/about_metro/docs/Metro%20Facts%202014.pdf

Long Range (Strategic) Planning

WMATA's strategic plan, "Momentum," is an important guiding document that lays out the priorities and direction of the organization over the next 25 years. It includes a new vision, mission, goals, strategies and performance metrics reflecting the priorities of the region and incorporated extensive internal and external input received through meetings, workshops, surveys, and online forums (e.g., MindMixer). Momentum takes into account expected growth in ridership, future funding levels, system maintenance requirements, and the need for an expanded transit network to sustain the region. It builds upon the progress that has been made in recent years on reinvestment and upgrades to achieve a state of good repair. This effort will be continuing and will constitute the majority of WMATA's capital investment even as the longer term improvement and expansion efforts go forward.

In 2012, Board members and WMATA management initially reached out to internal and external stakeholders to develop a draft framework for Momentum, including federal, state, and local governments, WMATA's advisory groups, and Metro staff. In June 2013, the WMATA Board unanimously approved the Momentum strategic plan. Since then, Board members, stakeholders, and staff have been working to inform and build support from riders, organizations, jurisdictions, and businesses. WMATA's strategic planning process involved:

1. Board workshops to develop mission and vision (Summer 2011)
2. Board commitment to improve governance and adopts Code of Ethics and Bylaws (Summer 2011)
3. Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis through operational employee feedback (Fall 2011)
4. Board member meetings with key regional stakeholders and rider advocates (Winter-Spring 2012)
5. Board and Executive Leadership of Metro discussions to develop draft Strategic Framework (Spring 2012)
6. Board endorsement of draft framework and public outreach (Fall 2012)
7. Public outreach to gain feedback on Strategic Framework (Fall-Winter 2012)
8. Staff draft of Momentum released as outreach continues (Winter 2013)
9. Board endorsement of Momentum: The next generation of Metro (Spring 2013)
10. Metro Strategic Plan adopted and implementation underway (2014-2024)

For riders, Momentum will mean more trains, reduced crowding, faster buses, brighter, safer, easier-to-navigate Metrorail stations, and information. For the region, Momentum will increase capacity throughout the system, enable future expansion, and remove vehicles from our already-crowded roadways.

Through the strategic planning process, coordination and balance with the regional plan adopted also takes place. The region's Constrained Long Range Plan is adopted by the designated Metropolitan Planning Organization (MPO), the National Capital Region Transportation Planning Board (TPB). Only the projects included in the adopted CLRP are eligible for federal funding. The TPB has adopted a draft CLRP that funds the ongoing renewal efforts. The 2025 investments are still under consideration. More information on these projects is provided in the following sections.

I.4.3 Capital Projects & Regional Coordination

The following section provides an overview of current major capital projects WMATA will own or operate in the region. As will be discussed under each project, in general, the delivery of these projects are occurring under differing funding and/or governance structures than established in the WMATA compact due to unique situational elements under each project. Other transit projects that connect with WMATA's regional network are also discussed.

Silver Line

The Silver Line is the first new Metrorail line since the Green Line opened in 1991. It has national significance as one of the nation's largest transit projects in two decades, connecting two of the region's largest employment centers in the Dulles Corridor. The project was organized in two phases. Planning and project development for the Silver Line was led by WMATA and followed the standard Federal Transit Administration process for New Starts projects. The general project time line included:²²³

- 1994-1998: Major Investment Study
- 2000-2004: Environmental Impact Statement and Locally Preferred Option Analysis
- 2005-2006: Preliminary Engineering
- 2007: Agreement with Metropolitan Washington Airports Authority (MWAA)
- 2009: Federal Grant to MWAA
- 2009-2013: Construction
- 2014: Revenue Operations

Phase I construction began in March 2009 and was recently completed and operating as of July 26, 2014. Phase I consists of 11.7 miles of track connecting the District of Columbia with major activity centers in Northern Virginia with five new stations, rail yard expansion at West Falls Church, and a new railcar maintenance facility. Total project costs for the first phase are estimated at \$3.14 billion. USDOT is contributing \$975 million and the remaining costs are being covered by state and local funding sources. The new Silver Line tracks branch off from the existing Orange Line between East Falls Church and West Falls Church. The first phase includes five new stations: McLean, Tysons Corner, Greensboro, Spring Hill, and Wiehle-Reston East. Wiehle-Reston East Station connects to the Reston Town Center and Washington Dulles International Airport by frequent bus service. Phase II construction has already begun which will extend another 11.4 miles to six new stations including Reston Town Center, Herndon, Washington Dulles International Airport, and Ashburn. Construction was managed by the Metropolitan Washington Airports Authority who also provided significant financing from a toll road under their jurisdiction; however, WMATA took control of the first phase of the Silver Line on May 27, 2014 and began revenue service on July 26, 2014. As this was the first rail expansion project not constructed by WMATA, prior Boards of Directors of WMATA set forth policies and procedures guiding requirements for testing and acceptance of the new rail infrastructure prior to the start of revenue service.²²⁴ The Silver Line will be the last expansion project for Metrorail unless funding is secured for projects in WMATA's Momentum strategic plan. Momentum's long term options include additional extensions, but only after investments have been made to expand the system's core capacity to handle more trains and more passengers.

Potomac Yard Metro Station

The Potomac Yard Metro Station, currently in its planning phase, would provide a new access point to the regional Metrorail system offering expanded transportation options for current and future residents,

²²³ Silver Line Operating Plan Update. http://www.wmata.com/about_metro/board_of_directors/board_docs/120612_4ASilverLine.pdf

²²⁴ WMATA Silver Line Operating Plan Update.

http://www.wmata.com/about_metro/board_of_directors/board_docs/120612_4ASilverLine.pdf

employees, and businesses in the growing Alexandria area. The planning and analysis for the Potomac Yard Metro Station is being led by a partnership between WMATA, City of Alexandria, the National Parks Service, and the USDOT. The City of Alexandria is planning the development of a major transit-oriented mixed use activity center in the vicinity of the proposed station. In 2008, a Metrorail Station Feasibility Work Group was first established which has now evolved into the Potomac Yard Metrorail Implementation Work Group. The Work Group consists of members from the Alexandria City Council, Environmental Policy Commission, Transportation Commission, Planning Commission, and one member at-large. Its purpose is to review EIS documentation, provide policy guidance to the City of Alexandria and WMATA staff, analyze station concept refinement, and consider funding issues related to the new Metrorail station. Scoping for the EIS and refinement of alternatives started in 2011 with a Draft EIS (DEIS) release, public comment period and hearing on the DEIS anticipated in Fall 2014. A Final EIS is anticipated for release in summer 2015 and a Record of Decision (ROD) anticipated in fall 2015. The build alternatives will include alternatives for at grade station platforms as well as an aerial station with a central platform. Details of the three build alternatives for the Potomac Yard Metrorail station can be viewed in Figure I-6.

This “infill station” followed the successful opening of a New York Avenue station in the District of Columbia. This station, now known as NOMA-Gallaudet University, was financed by a partnership agreement among the Federal Government, the District of Columbia, and the local landowners. It has spurred extensive economic development in its area.

Other Projects in the Region

WMATA coordinates on a number of other transit projects owned and/or operated by another entity to provide regional connectivity. For example the developing Washington D.C. Streetcar system is being constructed and implemented by the District Department of Transportation (DDOT). WMATA has worked in concert with DDOT and the streetcar projects have developed. Additional projects underway and included in the National Capital Region Transportation Planning Board’s (TPB) constrained long range plan total roughly \$7 billion (2010 dollars) in the following transit investments to be implemented between 2012 and 2040:

- K Street Transitway, District of Columbia
- H Street Streetcar, District of Columbia
- Anacostia Streetcar, District of Columbia
- Crystal City Potomac Yard Transitway, Virginia
- Columbia Pike Streetcar, Virginia
- Van Dorn – Pentagon “Metroway” Bus Rapid Transit, Virginia
- Corridor Cities Transitway, Maryland
- Veirs Mill Busway, Maryland
- Purple Line, Maryland

The Purple Line is a proposed 16-mile light rail line extending from Bethesda in Montgomery County to New Carrollton in Prince George's County, Maryland. Twenty-one stations are planned with direct connections to the Metrorail Red, Green, and Orange Lines; at Bethesda, Silver Spring, College Park, and New Carrollton. The Purple Line would also connect to MARC, AMTRAK, and local bus services. Although the Maryland Transit Administration (MTA) is the lead and project sponsor on this project, support and close coordination with WMATA, Montgomery and Prince George's counties, the Maryland-National Capital Park and Planning Commission, State Highway Administration, and local municipalities in the project area is taking place. Construction is anticipated to begin in 2015 with service opening in 2020. Unlike the Silver Line, the Purple Line will be operated by a private operator with coordination and passenger connectivity to WMATA’s regional network.

I.5 Barriers/Challenges

The breadth and depth of coordination and consensus building at the federal, state, and local level to come to common ground on the multi-institution arrangement was one of the first and biggest challenges WMATA overcame.

WMATA Governance Changes

Agreeing on identical legislation at each level of the partnership was no small feat and made the compact that much more durable. In 2010 and 2011, however, studies were conducted identifying shortcomings in WMATA's governance structure, hindering its performance. Studies were conducted by the Greater Washington Board of Trade and Metropolitan Washington Council of Governments (2010), the Riders Advisory Council (2010), and the United States Government Accountability Office (2011). Recommended actions from these reports included but were not limited to:

- Clarify the roles and responsibilities of the Board;
- Coordinate process for appointing Board members and Chair, including staggered terms and a uniform compensation policy;
- Conduct a regular self-assessment of the Board's effectiveness;
- Improve strategic planning process by actions such as increasing the Board's involvement in the process and updating the agency's performance metrics; and
- Develop an orientation process for Board members.

As a result, a WMATA Governance Commission was formed with members of the Signatories and Appointing Authorities to address the findings and recommendations of these reports and improve WMATA's governance structure through the development of a governance implementation plan in 2011. This 24-month implementation plan outlined immediate actions as well as those to be accomplished within the first six months, year, and second year. WMATA has implemented a number of these changes as reflected in this case study to make a more effective governance structure and robust strategic planning process.

Funding Shortfall

One of the current challenges facing WMATA in the implementation of its strategic plan Momentum, is addressing the funding shortfall to successfully sustain its rebuilding effort and implement the seven 2025 initiatives that will increase reliability, safety, and capacity in the face of significant growth in the region and projected ridership. The current CLRP Financial Plan has insufficient funding to fully support Metro's projected renewal needs beyond 2020 and its core capacity improvement needs. Estimated additional support of \$25 million from each signatory jurisdiction has been provided as "seed money" while negotiations continue over the funding that is needed to implement Momentum and to sustain the system over the long-term, an amount is estimated to be in the billions.

In 2013, WMATA began assessing alternate means of funding Metro 2025 initiatives. WMATA released a report that assessed several different financing alternative including Public/Private Partnerships, Infrastructure Banks, Station-Area Property Tax Districts, Supplemental Regional Sales Taxes, and others. Figure I-7 illustrates the various financing methods assessed and their potential to help achieve the financial needs for Metro 2025 Initiatives.

Moving forward, WMATA will continue to seek multiple alternatives to fund projects laid out in Metro 2025.

Metro 2025 Initiative	Public-Private Partnerships	Value Capture or Station-Area Tax Districts	Infrastructure Bank	Station Adoption Programs	Supplemental Regional Sales Tax
100% Eight Car Trains	●	●	●	○	●
Core Station Improvements	●	●	●	●	●
Metrobus Priority Corridor Network	●	●	●	●	●
New Blue Line Connections	●	●	●	●	●
Next Generation Communications	○	○	●	○	●
Bus Fleet Expansion	●	○	●	○	●
Pocket Tracks	●	○	●	○	●

●	High
●	Medium
●	Low
○	None

Figure I-58: Alternative Financing Methods Applicability for Metro 2025

Source: <http://planitmetro.com/wp-content/uploads/2014/07/Metro-Creative-Financing.pdf>

I.6 Interpretation and Synthesis

This section interprets the case study findings in the context of the overall project objectives.










I.6.1 Key Aspects of the Case with Respect to Research Objectives

The conceptual framework developed for this project was founded on four major elements of collaborative efforts for intercity passenger rail transportation: visioning, planning, design and construction, and operations and maintenance. This case study focuses on lessons pertaining to



WMATA's organization and procedures, and how these aspects can influence construction and operational outcomes.


The specific issues relevant to the study's research objectives and their relevance and applicability to the WMATA case study are summarized in Table I.4. For each case study the applicability of the research issues may vary given the specific circumstances associated with the given case.

Table I.4: Case Study Applicability to Research Issues

Research Issue	Degree to Which Research Objective is Applicable to WMATA Case Study
Existing and evolving legal, financial, and administrative requirements	
Competing federal, regional, state, and local responsibilities and interests	
Balancing potentially competing needs of intercity passenger, commuter, and freight rail in shared corridors	
Determining eligibility and flexibility to receive and invest public and private funds	
Evaluating and sharing costs, benefits, and risks among multistate institution participants	
Creating a framework for setting project priorities	
Establishing overall management responsibility for corridor operations and services; facilitating project delivery	
Enabling seamless connections to other modes	
Identifying and resolving jurisdictional overlaps among multistate institutions and other affected entities.	

Legend

	Addresses research issue to a high degree: issue has direct relevance and application to other rail corridors.
	Addresses research issue to a moderate degree: provides a reasonable amount of relevance; characteristic is present but may be of limited

	applicability to other rail corridors.
	Addresses research issue to a slight degree: not applicable to this rail corridor.

I.6.2 Key Lessons Learned

Lesson 1: Developing a Clear Mission Statement is Critical to Sustaining a Multi-Agency Effort Over the Long Term

WMATA's mission was clearly stated in its Compact to plan, develop, finance, operate, and coordinate transit services within the designated Washington Metropolitan Area. For the first forty years, the primary mission of the signatories was to get the regional rail system built and the goal was to build a 100-mile rail system. Finding common political ground among the various participating agencies and recognizing the strength of regional coordination, as opposed to acting individually, played a key role in building consensus early on. Upon completing the original rail system, the notion to revisit and renew the region's vision, mission, and goals for Metro became essential in continuing to move it forward. The latest strategic planning effort resulted in a new vision, "Metro moves the region forward by connecting communities and improving mobility for our customers" and a mission to, "...provide safe, equitable, reliable and cost-effective public transit." Specific goals WMATA has set out to meet are to:

- Build and maintain a premier safety culture and system;
- Meet or exceed customer expectations by consistently delivering quality service;
- Improve regional mobility and connect communities; and
- Ensure financial stability and invest in our people and assets.

To measure performance in achieving its mission and goals, WMATA has developed indicators to regularly assess performance such as: customer and employee injury rates, crime rates, on-time performance, escalator availability, customer satisfaction, capital funds invested, operating expense on budget, meet Board established service criteria, and connecting communities. It is with these clear and common goals and means to measure performance in achieving these goals that the multi-agency partnership is able to continue moving forward together as a region even after the original system has been built. Moving forward, WMATA multiple jurisdictional partners will continue to stay engaged in the planning, maintenance and operation of the system through their contractual obligations established in the Compact.

Lesson 2: Creating a Congressionally Supported Multi-Institutional Compact is Challenging but Long-Lasting

The congressionally supported federal-state-local partnership took over a decade to build consensus and create an agreement and legislation by which the federal government, District of Columbia, State of Maryland, and Commonwealth of Virginia could each sign. Due to the extensive effort and time it took to develop such a compact, the arrangement was made durable and tough to break or even amend. It

should be noted that although this worked well for WMATA, it may not necessarily be a preferred model for other multi-institutional efforts to follow, particularly long distance intercity passenger rail programs due to the added complexity of involving a greater number of participating agencies and stakeholders.

Lesson 3: Early Establishment of Shared Funding Allocations Can Instill Accountability

Establishing a commitment for shared funding despite which jurisdiction the system is currently being developed in at a particular point in time is important for seeing a vision through. Consideration for how the multi-agency partnership will manage situations where one partner may have financial trouble is important, along with ensuring that resources are allocated appropriately to areas of most need when services may not be laid out the same way as costs. Reaching an agreement on funding formulas among jurisdictional participants early on ensures a level of fairness in approach and a continued commitment by all parties to build and operate a regional system over the long haul.

Lesson 4: Addressing Potential Inter-Jurisdictional Issues Early On Can Facilitate Consensus Needed in Regional Planning

WMATA's Committee and Advisory structure allows for technical and policy issues crossing jurisdictional boundaries to be addressed early on. Committees involving members from each jurisdiction meet monthly to discuss any technical, policy, or access-related issues with current Metro service or future plans. The Jurisdictional Coordinating Committee, which includes members at the technical staff level, discusses specifically how Metro's technical or policy items may interact with specific jurisdictions' current or planned efforts or policies. Discussing these issues early on and in a more informal environment has been useful to address issues at the staffing level and to elevate issues needed for discussion at the Board level to the attention of Committee members' respective Board members for Board level discussion, decision-making, and resolution.

I.6.3 Degree to Which Results are Transferable

Although WMATA's creation as an interstate compact from the start is unique compared to most other intercity passenger rail programs, some of the key findings are transferrable to other multi-institution arrangements. Establishing a common vision, mission and goals along with a supporting governance and decision-making structure that allows for checks and balances, for which these can be realized is necessary. Although WMATA is considered an authority, it acts with inclusivity and obtaining buy-in from its stakeholders along with coordinating with other local transit operators has proven to be key in successfully implementing its plans and building regional connectivity. Transferable considerations in the funding and implementation of projects, include but are not limited to:

- How will the partnership manage situations where one partner is faced with financial challenges?
- Who will set fares? Service frequency and amenities on the train? Identify infrastructure constraints?
- How will protocols be developed and managed for regular maintenance and service or capital improvements to be implemented?

I.7 References

1. Downey, Mort, First Vice Chair, Federal Government, WMATA Board of Directors, Personal Communication, September 12, 2014.
2. Harcum, Rick, Director, WMATA Office of Performance, Personal Communication, August 15, 2014.
3. Metro at 25: Celebrating the Past, Building the Future, Wayne Thompson, Washington Metropolitan Area Transit Authority, January 1, 2001.
4. Metro Facts, Washington Metropolitan Area Transit Authority, Accessed from, http://www.wmata.com/about_metro/docs/Metro%20Facts%202014.pdf
5. Metro website, Washington Metropolitan Area Transit Authority, Accessed from, http://www.wmata.com/about_metro/
6. Momentum: The Next Generation of Metro (2013-2025), Strategic Plan, Washington Metropolitan Area Transit Authority, 2013.
7. Moving Metro Forward, Report to the Joint WMATA Governance Review Task Force, November 17, 2010.
8. Potomac Yard Metrorail Implementation Work Group, City of Alexandria, Accessed from, <http://www.alexandriava.gov/PotomacMetroWorkGroup>
9. Potomac Yard Metrorail Station EIS Website, Washington Metropolitan Transit Authority and City of Alexandria, Accessed from, <http://www.potomacyardmetro.com/>
10. Public Transportation, Washington Metro Could Benefit from Clarified Board Roles and Responsibilities, Improved Strategic Planning, Report to Congressional Requesters, United States Government Accountability Office, June 2011.
11. Purple Line Website, Maryland Transit Administration, Accessed from, <http://www.purplelinemd.com/en/>
12. Report on Governance of the Washington Metropolitan Area Transit Authority, Rider's Advisory Council, December 1, 2010.
13. Strauss, Steve, District of Columbia Department of Transportation, Personal Communication, October 10, 2014.
14. Transforming Governance of the Washington Metropolitan Area Transit Authority, Implementation Plan and Schedule for WMATA Governance Reform, January 7, 2011.
15. WMATA Compact, D.C. Code § 9-1107.1, As Amended through August 2009.

Appendix I-1 – WMATA Compact

Available at

https://www.wmata.com/about_metro/docs/Compact_Annotated_2009_final.pdf