

Appendix 3

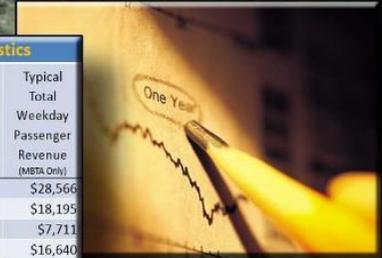
TECHNICAL REPORT Task 3: Financial Plan

October 2014

Alternative	Daily Rail/Bus Service	Capital Cost (millions)	Annual O&M (millions)
Concord Regional	8 trains (4 round trips) to Concord and Manchester 30 trains to Nashua	\$205 - \$245	\$7 - \$10
Concord Commuter	18 trains to Concord 22 trains to Manchester 26 trains to Nashua	\$185 - \$225	\$11 - \$15
Manchester Regional	16 trains to Manchester 34 trains to Nashua	\$145 - \$185	\$8 - \$12
Manchester Commuter	20 trains to Manchester 30 trains to Nashua	\$145 - \$185	\$8 - \$12
Nashua Commuter	34 trains to Nashua only	\$105 - \$145	\$5 - \$9
Nashua Minimum	16 trains to Nashua only	\$105 - \$145	\$5 - \$7

Station	Mile Post	Weekday Revenue Trains		Typical Weekday Passengers On or Off (MBTA Only)	MBTA Cash Fare	Average Revenue per Passenger Boarding (MBTA Only)	Typical Total Weekday Passenger Revenue (MBTA Only)
		MBTA	Amtrak				
Lowell	25.5	44		4,282	\$6.75	\$6.67	\$28,566
North Billerica	21.8	44		2,854	\$6.25	\$6.38	\$18,195
Wilmington	15.2	47		1,516	\$5.25	\$5.09	\$7,711
Woburn	12.6	57	10	3,486	\$4.75	\$4.77	\$16,640
Mishawum	11.9	6		100	\$4.75	\$4.95	\$495
Winchester	7.8	49		2,004	\$4.25	\$4.34	\$8,701
Wedgemere	7.3	48		1,480	\$4.25	\$4.36	\$6,459
W. Medford	5.5	49		1,768	\$1.70	\$1.83	\$3,244
North Station	0	58	10				
Totals		58	10	17,490		\$5.15	\$90,011

Source: MBTA Conductor's Audit Reports Thursday - February 9, 2012 and Jacobs Analysis



Alternative	Capital Cost (millions)	Annual O&M Cost (millions)
Bus on Shoulder (in Massachusetts only) for existing service, both I-93 and the Everett Turnpike	\$6 - \$8 M	\$5 - \$7
Bus on Shoulder for expanded service	\$13 - \$15	\$8 - \$10



New Hampshire

Capitol Corridor Rail & Transit Alternatives Analysis (Parts A & B)

State Project Numbers 16317 and 68067-A



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List of Acronyms

AA	Alternatives Analysis
AIP	Airport Improvement Program
BRT	Bus Rapid Transit
CIG	Capital Investment Grant
CMAQ	Congestion Mitigation and Air Quality Improvement Program
COPs	Certificates of Participation
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GANs	Grant Anticipation Notes
GHGER	Greenhouse Gas Emissions Reduction
HSIPR	High-Speed Intercity Passenger Rail
LRT	Light Rail Transit
MAP-21	Moving Ahead for Progress in the 21 st Century Act
MBTA	Massachusetts Bay Transportation Authority
MassDOT	Massachusetts Department of Transportation
NHDOT	New Hampshire Department of Transportation
NHPP	National Highway Performance Program

NHS	National Highway System
NNEPRA	Northern New England Passenger Rail Authority
O&M	Operations and Maintenance
PAR	Pan Am Railways
PFC	Passenger Facility Charge
PPP	Public Private Partnership
PRIIA	Passenger Rail Investment and Improvement Act
RGGI	Regional Greenhouse Gas Initiative
RIDOT	Rhode Island Department of Transportation
RRIF	Railroad Rehabilitation and Improvement Financing
RFP	Request for Proposal
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SGR	State of Good Repair
STP	Surface Transportation Program
TEA-21	Transportation Equity Act for the 21 st Century
TIF	Tax Increment Financing
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery
TOD	Transit-Oriented Development
USDOT	U.S. Department of Transportation
UZAs	Urbanized Areas

1 Project Purpose and Need Summary

Increasing transportation demand and growing concerns about mobility, economic development, and quality-of-life have led New Hampshire and Massachusetts citizens and officials to explore transit and/or intercity passenger rail service options in the 73-mile corridor (Capitol Corridor) between Boston, Massachusetts and Concord, New Hampshire.¹ The purpose of this Capitol Corridor Rail and Transit Alternatives Analysis (AA) Study is to evaluate a diverse set of rail and bus options to improve connectivity by leveraging existing transportation infrastructure, including Pan Am Railways (PAR), Route 3, and I-93. Investment in an improved transportation strategy is needed for several reasons:

- Projected population growth will result in increased roadway congestion
- New Hampshire’s existing transportation network does not effectively connect existing modes
- The regional economy is singularly dependent on roads for movement of goods and passengers
- Improved transportation options will attract employers to New Hampshire and improve employment options for New Hampshire residents
- Young New Hampshire professionals are leaving the area to be closer to employment and cultural/social opportunities associated with larger urban centers
- New Hampshire’s growing senior population needs more “car-light” mobility options
- Residential development patterns resulting from population growth may negatively impact the region’s existing quality-of-life
- The existing transportation network cannot accommodate increased levels of demand without negative environmental consequences

2 Task Objectives

Investing in an improved transit infrastructure will incur two types of costs:

- Capital Costs – the up-front costs of implementing a new or enhanced transit system
- Operations and Maintenance (O&M) Costs – the annual costs incurred after the system is active

This financial assessment identifies different capital and O&M funding options – focusing on opportunities to leverage available federal funds. The federal funds of most interest are those considered “discretionary,” i.e., funds not otherwise available to New Hampshire for other purposes; the majority of discretionary federal funds are available to cover capital costs. Other types of federal dollars – formula funds – are available to pay for O&M.

Receipt of federal funds is subject to a variety of eligibility rules, and most federal funds must be “matched” (typically by 20 percent) by state and/or local funds. Given the match requirement, this

¹ The report “Task 2: Project Purpose and Need” (Appendix 2 to the AA Final Report) provides an in-depth evaluation of the Capitol Corridor’s historical, current, and future state, and how Massachusetts and New Hampshire citizens would benefit from a transit investment strategy responsive to transportation needs and the region’s economic, social, and environmental climate

assessment also identifies potential state and local sources of funds that could provide this match. No recommendation on preferred sources of funds is made as part of this assessment. Rather, the options identified and evaluated will be subject to more discussion and decision-making once an alternative is identified as the preferred project for detailed development and ultimate implementation.

3 Non-Federal Transit Funding in the U.S.

As federal funds typically contribute a large share of transit project capital costs, this section describes how other state/local agencies across the country have paid for new transit projects.

3.1 Common Sources of State Funding

Most state transit funding comes from General Fund appropriations, or through traditional taxes and fees, such as motor fuel taxes, sales taxes, and vehicle fees. State transit funding provides both operating assistance and capital funds, but only a few states provide dedicated funding either for capital expenses (Arkansas, Idaho, Kentucky, and Nevada) or operating expenses (Maine, South Dakota, and Wisconsin).

3.2 Common Sources of Local Funding

Local transit funding is primarily provided through General Fund allocations, dedicated local option taxes and fees, and value capture mechanisms. Applying dedicated local taxes and value capture mechanisms for transit is dictated by enabling legislation that allows or restricts the use of these funding sources. Following is a description of common local funding options.

- **Sales taxes** are the most widely used source of dedicated transit funding. Sales tax rates typically range from 0.25 to 1.0 percent dedicated to transit, applied to purchased goods or services. Given the broad tax base of dedicated sales taxes, revenues can usually be applied to both capital and O&M expenses, and some agencies pledge sales tax revenues to support debt financing of major capital investments. Many bus rapid transit (BRT) and light rail transit (LRT) systems in the U.S. are funded through dedicated sales tax revenues.
- **Property taxes** are generally the principal source of revenue for local governments (with revenues going into the General Fund), but some states provide enabling legislation that allows property tax revenues to be dedicated to transit.
- **Motor fuel taxes** are generally levied as an excise tax (i.e., cents per gallon), although some local governments apply a sales tax on the price of fuel, with levies dedicated to transportation. Motor fuel tax revenues, however, are not a common local transit funding source, although they have been authorized and used by some transit agencies.
- **Vehicle fees** include registration fees, driver license fees, car rental taxes, and tolls not typically used for transit. In New Hampshire, any city or town can levy a registration fee of up to \$5.00 for municipal transportation improvements, including transit capital and operating expenses.²

² New Hampshire Revised Statutes Annotated 261:153(VI)

- **Employer/payroll taxes** refer to taxes imposed directly on employers for the amount of gross payroll paid for services performed within a transit district. **Income taxes** are applied to individual earnings, but are less commonly applied at the local level.
- **Utility taxes/fees** are local utility charges to property for access to the transportation system, mainly used for local roads and streets. Transportation utility rates can be set using different measures, including fees that apply per unit of housing or parking space, fees based on square footage or gross floor area, and fees that vary with the trip generation rate of a given property type.
- **Room/occupancy taxes** are applied either as sales tax on the cost-per-room, or as a daily-fee-per-room, and are dedicated typically to tourism or tourism-related facilities. They may be implemented to support transportation investments where needed to enhance the visitor experience, mobility, and accessibility.
- **General revenues** (non-dedicated) refer to funding provided by local governments for transit services, whether through a jurisdiction’s annual budget and appropriations process, grants/contributions, or negotiations or local agreements between the transit service provider and the jurisdiction(s) within the transit service area.
- **Value capture** mechanisms are special types of “property taxes” or fees targeted to capture the benefits or cost of infrastructure that serves property development. To date, this source, when used, typically contributes less than five percent of total project costs. Some of the most common value capture techniques are described below.
 - **Impact fees** are one-time charges to developers on new development. Revenues are typically used to pay infrastructure improvements required to meet the increase in demand generated by the new development.
 - **Tax Increment Financing (TIF)** districts are created to capture the increase in property tax levies over the base or expected future levies as a result of infrastructure improvements. The additional levies are typically pledged to bonds issued to finance infrastructure improvements.
 - **Special assessment districts** are created to levy additional property taxes dedicated to infrastructure improvements serving the district, with the approval of property owners.
 - **Joint development** involves a partnership between the transit agency and a private developer, commonly applied to Transit-Oriented Development (TOD) on land at or adjacent to transit stations.

3.3 Recent History in Commuter/Intercity Rail Funding

To provide context for understanding how a rail investment in the Capitol Corridor might be funded, information was assembled on eight new commuter or intercity rail systems that have opened in the U.S. over the past 15 years, as shown in Table 3.1.

Table 3.1: New Commuter Rail Systems in the U.S. and Primary Capital Funding Sources

System	Location	Year Opened	Length (mi)	Federal	State	Local General	Sales Tax	Other Local
Sounder Commuter Rail	Puget Sound, WA	2000	33	•			•	•
Rail Runner Express	Albuquerque, NM	2006	97		•			
Music City Star	Nashville, TN	2006	32	•	•	•		
FrontRunner	Salt Lake City, UT	2008	44				•	
Northstar Line	Minneapolis, MN	2009	40	•	•	•		•
Capital MetroRail	Austin, TX	2010	32				•	
Westside Express Service	Portland, OR	2009	15	•		•		
A-Train	Denton County, TX	2011	21				•	•

Capital funding for these projects comes from a variety of sources. The most common source, used in half of the projects, is Federal Transit Administration (FTA) Section 5309 New Starts funding, which accounted for an average 43 percent of these projects' capital costs. One project, the Rail Runner Express extending between Albuquerque and Santa Fe, was funded entirely through state bonds backed by state road and highway revenues, including gasoline and diesel fuel taxes and federal highway aid. Local funding was more diverse. Three systems used General Funds, mostly from local counties. Four projects used bonds backed by local sales taxes. Other local funding sources include a motor vehicle excise tax by Sounder Commuter Rail and road tolls, which paid for 80 percent of the A-Train capital costs. The Northstar Line in Minneapolis received a contribution from the Minnesota Twins major league baseball team, helping to fund the terminal station next to Target Field.

For operating costs, local sales taxes are the most common primary source, used by six of the eight new rail systems: Sounder Commuter Rail (Puget Sound, Washington), Rail Runner Express (Albuquerque, New Mexico), FrontRunner (Salt Lake City, Utah), Northstar Line (Minneapolis, Minnesota), Capital MetroRail (Austin, Texas), and A-Train (Denton County, Texas). The Westside Express Service in Portland, Oregon is primarily funded through a payroll tax. Operating costs for the Music City Star in Nashville, Tennessee are primarily funded through federal grants and contributions from Metro Nashville.

It is also useful to consider how other passenger rail projects in the Northeast have been funded, particularly projects that represent extensions of the Massachusetts Bay Transportation Authority's (MBTA's) system. For projects wholly located within the Commonwealth of Massachusetts, funding for extensions has been provided by a mix of state and federal sources:

- Extension of peak-period commuter rail service from Framingham to Worcester was completed in 1994, paid for by MBTA funds. Off-peak service was added in 1996, as well as infill stations in 2000 and 2002.
- The 27.6-mile Greenbush Line to Scituate was a state air quality commitment project that opened for service in 2007. The \$534 million project was also paid for with MBTA funds.
- Half of the capital costs of improvements to the Fitchburg commuter rail line were paid for by an FTA Section 5309 Small Starts grant; the other half was paid for by state transportation bond proceeds. A 4.5 mile extension to a new Wachusett station was paid for by a U.S. Department of Transportation (USDOT) Transportation Investment Generating Economic Recovery (TIGER) grant (see Section 5.1.9). Construction is underway with completion expected in 2015.

Extensions of MBTA service south into Rhode Island have been implemented in accordance with the “Pilgrim Partnership,” a 1989 cooperative agreement between the MBTA and Rhode Island Department of Transportation (RIDOT). These have included extension of MBTA commuter rail service to Providence, which was funded by RIDOT in part with “earmarks” in transportation appropriation bills (transportation earmarks have subsequently been prohibited by federal law) and state funds. In exchange for operation of the service by the MBTA, RIDOT suballocates its federal formula funds to the MBTA. Extension further south to Wickford Junction was paid for by an FTA Section 5309 Small Starts grant (50 percent of capital costs) and the remainder with a mixture of federal formula funds and state bonds. Intercity service between Portland, Maine and Boston (Amtrak *Downeaster*), restored in 2001 at a construction cost of approximately \$66 million, was paid for by Congressional appropriations matched by state and local sources. Today, operation of the service is paid for through fares, which account for just under 50 percent of operating costs, federal funds (Congestion Mitigation and Air Quality Improvement Program, CMAQ, see Section 5.1.7) allocated to operations, an annual subsidy from Maine of approximately \$8 million, and an in-kind contribution from Massachusetts consisting of trackage rights. New Hampshire, which has three *Downeaster* stations in Exeter, Durham at the University of New Hampshire, and Dover, does not contribute financially.

In all cases, both nationally and in the Northeast, state funding sources have been an integral part of each project’s financial plan, including both construction and ongoing operations.

4 Funding Needs

This section identifies the capital and O&M costs needed to construct and operate the intermediate alternatives. Final capital costs were estimated in 2014 dollars, O&M costs in 2012 dollars.³ To understand total needs to construct each alternative, capital costs were also escalated to year-of-expenditure dollars. For the rail alternatives, a four-year construction period is assumed, beginning in 2019.

For the Expanded Base alternative, capital costs consist of additional bus purchases. Some construction is associated with the two other bus alternatives to allow operation on the highway shoulder. It is assumed those construction activities could be accomplished over a three-year period.

The annual O&M costs for each alternative were also estimated based on costs for similar services provided elsewhere in New England or based on recent historic expenditures for similar services in New Hampshire.

Table 4.1 summarizes capital and O&M costs of six alternatives evaluated in detail in Appendix 7 to the Capitol Corridor AA Final Report; the No Build alternative is not shown, as this option does not incur capital costs and O&M costs remain unchanged.

Table 4.1: Capitol Corridor Alternatives' Capital and O&M Costs

Alternative	Capital Costs (In Millions, 2014\$)		Annual O&M Costs (In Millions, 2012\$)
	2014	Year-of-Expenditure Cost	
Manchester Regional Commuter Rail	\$245.6	\$303.4	\$10.8
Nashua Minimum Commuter Rail	\$120.3	\$148.6	\$4.1
Intercity 8	\$256.5	\$316.9	\$7.7
Expanded Base	\$9.6	\$10.6	\$3.0
Bus on Shoulder	\$7.4	\$8.4	\$0.0
Expanded Bus on Shoulder	\$17.0	\$19.3	\$3.0

Source: Jacobs Engineering, September 2014; bus O&M dollars reflect incremental costs of enhanced service or construction of a shoulder lane

³ See Appendix 6 of Capitol Corridor AA Final Report (Task 6 Evaluation Criteria and Methodology, Appendix A Capital Cost Methodology Memo and B Operations and Maintenance Cost Methodology Memo)

5 Federal Funding Sources

This section describes federal funding sources that might be used to help pay for new transit service in the Capitol Corridor. A key objective of any Capitol Corridor Financial Plan is to leverage federal sources to the greatest extent possible.

5.1 Federal Funding Sources and Financing Tools

Within the USDOT, the FTA administers the primary funding programs available for public transportation investments. The Federal Highway Administration (FHWA) administers some federal-aid highway programs with flexible provisions that allow the transfer of funds for public transportation investments. The Federal Railroad Administration (FRA) administers the Railroad Rehabilitation and Improvement Financing (RRIF) program, which can be used for passenger rail projects, and in the past has provided capital funding through the High-Speed Intercity Passenger Rail (HSIPR) program.

In addition, federal finance tools are available that can be used to advance project implementation by leveraging future revenue streams of dedicated funding.

This section summarizes potential federal funding and financing tools and their eligibility to fund the proposed Capitol Corridor alternatives. Examples of other projects that have used these sources as part of their funding plan are identified. Table 5.1 provides a high-level summary of the federal funding sources and tools discussed in this section, including potential eligibility, based on proposed mode.

Table 5.1: Federal Funding Sources and Tools

Funding Source	Capital, O&M, Both	Eligible Mode	Formula/Competitive	Comments
FTA 5311(f) Intercity Bus	Both	Intercity Bus	Formula	
FTA 5309 Capital Investment Grant (CIG) (New and Small Starts) Program	Capital	Commuter Rail	Competitive	For New Starts projects, CIG share capped at roughly 50% of capital costs; for Small Starts, cap is \$75 million
FTA 5307 Urbanized Area Formula Grants	Capital	Commuter Rail Intercity Bus	Formula	Formula amounts, calculated based on metrics that included fixed-guideway route and revenue vehicle miles, would increase following implementation of one of the commuter rail alternatives
FTA 5337 State of Good Repair (SGR) Grants	Capital	Commuter Rail	Formula	After seven years of rail implementation
FHWA National Highway Performance Program (NHPP)	Capital	Intercity Bus	Formula	Must benefit the National Highway System
FHWA Surface Transportation Program (STP)	Capital	Commuter Rail Intercity Bus	Formula	Flex
FHWA CMAQ	Both	Commuter Rail Intercity Rail Intercity Bus	Formula	Flex

Funding Source	Capital, O&M, Both	Eligible Mode	Formula/Competitive	Comments
FRA HSIPR	Capital	Intercity Rail	Competitive	No funding currently available
USDOT TIGER	Capital	Commuter Rail Intercity Rail	Competitive	No funding currently available; average award of \$17.6 million for transit projects
USDOT Transportation Infrastructure Finance and Innovation Act (TIFIA)	Capital	Intercity Rail Commuter Rail Intercity Bus	Competitive	Loan Program
FRA RRIF	Capital	Intercity Rail Commuter Rail	Competitive	Loan Program

5.1.1 FTA Section 5311(f) – Intercity Bus

The FTA Rural and Small Urban Areas (Section 5311) funding program provides capital, operating, and administrative expense support in areas with a population under 50,000. Within this program, Section 5311(f) requires at least 15 percent of a state’s funds to be used to support intercity bus services, unless the Governor has certified that such needs are already being met. This funding can be used for up to 80 percent of capital costs and 50 percent of net operating costs (after fare revenues are credited and ineligible costs are deducted). Under Section 5311(f), the following activities are eligible for funding:

- Operating assistance for direct operation of intercity service
- Operating grants through purchase-of-service agreements
- Capital grants for intercity vehicles and equipment, bus shelters, joint-use stops, and depots
- Planning and marketing for intercity bus transportation
- User-side subsidies
- Demonstration projects
- Coordination of rural connections between small public transportation operations and intercity bus carriers

New Hampshire received nearly \$3.1 million in FTA Section 5311 funds for FY2014, of which \$450,000 could be available for intercity bus. One recent 5311(f) grant awardee was the Concord Coach Lines, Inc., which received operating assistance totaling \$153,549 to increase service frequency to Littleton and Conway.

5.1.2 FTA Capital Investment Grant Program (Section 5309) – New and Small Starts

The FTA Section 5309 CIG program is the primary funding source for major transit capital investments. Eligible projects include new fixed guideways or extensions to fixed guideways, bus rapid transit projects, and projects that improve capacity on an existing fixed-guideway system; the two commuter rail alternatives would be considered eligible projects under this program. This discretionary program requires project sponsors to undergo a multi-step, multi-year process to be eligible for funding. The capital costs of the proposed commuter rail alternatives for the Capitol Corridor range between \$148.6 million and \$303.4 million (year-of-expenditure). The lower cost alternative to Nashua falls within the Small Starts cost threshold, while the Manchester alternative would be defined as a New Start.

To be considered a Small Starts project, the total project cost in year-of-expenditures dollars must be under \$250 million, and the Small Starts share must be less than \$75 million. A New Starts project costs over \$250 million, and the share of funds that would be provided from FTA would average roughly 50 percent of capital costs. The program is chronically oversubscribed and thus extremely competitive. As a result, whether a Small or New Starts, the Capitol Corridor project must demonstrate that it performs well according to FTA's project evaluation measures⁴ and that it has strong local commitment – i.e., sufficient state and local non-federal matching funds – to earn a portion of this limited federal capital funding source.

5.1.3 FTA Urbanized Area Formula Grants (Section 5307)

The FTA Urbanized Area Formula Grant program provides grants for public transportation capital, planning, job access, and reverse commute projects, as well as operating expenses in certain circumstances (rail-fixed guideway projects are excluded from operating costs under this program). The funding formula is based on a combination of bus revenue vehicle miles, bus passenger miles, fixed-guideway revenue vehicle miles, and fixed-guideway route miles, as well as population, population density, and number of low-income individuals. Funding apportionments to New Hampshire for FY2013 totaled \$6.5 million, of which \$4.0 million are administered by the New Hampshire Department of Transportation (NHDOT) for Urbanized Areas (UZAs) of 50,000 to 200,000 population.

In addition to potential funding allocations for implementation of proposed commuter rail alternatives, FTA Urbanized Area formula apportionments to New Hampshire may increase roughly two years following the start of revenue service on the corridor. Based on FY2014 formula factors and the proposed incremental level-of-service for the commuter rail and bus alternatives, the additional FTA formula funds anticipated for New Hampshire are estimated at approximately \$300,000 for the bus alternatives (Expanded Base and Expanded Bus on Shoulder) and between \$700,000 and \$2.5 million for commuter rail options. This additional funding could be reinvested in the corridor to address preventative maintenance and other capital needs.

5.1.4 FTA State of Good Repair Grants (Section 5337)

The FTA SGR program provides funding for capital projects to maintain, repair, and upgrade rail transit systems and high-intensity motor bus systems. It is a formula program, with grants allocated based in part on revenue vehicle miles and route miles. The program requires a 20 percent local match. Eligible recipients are state and local government authorities in urbanized areas with fixed-guideway public transportation facilities operating for at least seven years. Currently, New Hampshire is not an eligible recipient, but funding may become available seven years after the start-of-revenue service of fixed-guideway rail service, such as one of the commuter rail alternatives. The funds can be used for preventative maintenance and SGR activities. None of the other alternatives would be eligible for this source.

⁴ FTA evaluates project justification according to several criteria: mobility improvements, cost effectiveness, transit supportive land use, economic impacts, and environmental benefits; congestion relief is an additional measure of project justification, although FTA has not yet determined a measurement approach for this criterion

5.1.5 FHWA National Highway Performance Program

The FHWA NHPP provides funding specifically to support the condition and performance of the National Highway System (NHS). While this is a highway-specific program, NHPP funds could be used on a public transportation project that supports progress toward achieving national performance goals for improving infrastructure condition, safety, mobility, or freight movement on the NHS, and meets the following criteria:

- Project is in the same corridor as, and in proximity to, a fully access-controlled NHS route
- Construction is more cost-effective (as determined by a benefit-cost analysis) than a NHS improvement
- Project will reduce delays or produce travel time savings on the NHS and improve regional traffic flow

Types of public transportation eligible projects may include the construction of publicly owned intracity or intercity bus terminals servicing the NHS.

5.1.6 FHWA Surface Transportation Program

The FHWA STP provides flexible funding to states for a variety of eligible activities, including many highway-related activities, as well as capital costs for transit projects, such as vehicles and facilities used to provide intercity passenger bus service. The program can fund capital for transit projects eligible for federal funding under Chapter 53 of Title 49, which could include the commuter rail and bus alternatives.

5.1.7 FHWA Congestion Mitigation and Air Quality Improvement Program

The FHWA CMAQ program funds transit system capital expansion and improvements projected to realize an increase in ridership, travel demand management strategies and shared ride services, and pedestrian and bicycle facilities. Projects must have a transportation focus, reduce air emissions, and be located in or benefit an air quality nonattainment or maintenance area. Funding is distributed based on a formula that considers the severity of air quality problems. The federal share is 80 percent for most CMAQ projects.

In FY2013, New Hampshire received \$10.3 million in CMAQ funds. Using these funds for a project in the Capitol Corridor would require reallocation of some portion of the total New Hampshire apportionment. Under current rules, CMAQ funds can be used for the project's capital expenses, as well as operating costs, for a limited period of time. Operating assistance is limited to certain activities, including new transit, commuter, and intercity passenger rail services. Under the Moving Ahead for Progress in the 21st Century (MAP-21) Act, the operating funding period was extended from three to five years.

5.1.8 FRA Discretionary Programs

FRA occasionally makes funding available through discretionary programs that provide grants to eligible projects through a competitive application process. For example, the HSIPR was created to make investments in a network of passenger rail corridors across the country. The program's objectives are to

build new high-speed rail corridors, upgrade existing intercity passenger rail corridors, and lay the groundwork for future high-speed rail services through planning efforts. More than \$10 billion in grant funding was provided after the enactment of the program through the Passenger Rail Investment and Improvement Act (PRIIA) of 2008, including a FY2010 grant of \$2 million to the Capitol Corridor for engineering and environmental analysis. The program was highly competitive, with over \$75 billion in total funding requests from 39 states, Washington D.C., and Amtrak. While the program is not currently funded and no new funding appears to be likely in the near-term (thus no applications are being accepted), the intercity rail alternative could be eligible for future grant solicitations should additional funding be allocated.

5.1.9 USDOT Transportation Investment Generating Economic Recovery

Another discretionary funding source is USDOT's TIGER program. Competitive grant applications are solicited on a periodic basis; there have been six rounds of funding since 2009, providing \$4.1 billion to eligible road, rail, transit, and port projects. Rail and transit projects awarded TIGER funding have accounted for more than 40 percent of total awards to date. The average award for transit projects was \$17.6 million. The last round of awards was announced in September 2014. Should another round of funding be made available, the commuter rail and intercity alternatives could be eligible projects.

5.1.10 USDOT Transportation Infrastructure Finance and Innovation Act Credit Assistance

The TIFIA program is a credit assistance program administered by USDOT providing direct loans, loan guarantees, and standby lines of credit. Surface transportation projects that cost \$50 million or more are eligible, including those for state and local governments, transit agencies, railroad companies, special authorities, special districts, and private entities. Any transit project eligible for grant assistance under the transit title of the U.S. Code (chapter 53 of 49 U.S.C.) and intercity bus vehicles and facilities are eligible for TIFIA credit assistance. In addition, rail projects involving the design and construction of intercity passenger rail facilities or the procurement of intercity passenger rail vehicles are also eligible. The TIFIA loan or loan guarantee amount should not exceed 49 percent of eligible costs; for standby lines of credit, the limit is 33 percent of the project costs. Dedicated revenues for repayment are required. Tax revenues, including sales taxes, are a common revenue pledge for TIFIA. A total of \$1.0 billion was authorized for this program in 2014.

5.1.11 FRA Railroad Rehabilitation and Improvement Financing Program

The RRIF is an FRA loan program enacted under the Transportation Equity Act for the 21st Century (TEA-21) that provides direct federal loans and loan guarantees to finance development of railroad infrastructure. Eligible applicants are railroads, state and local governments, government-sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers who intend to construct a new rail connection. Loans can cover up to 100 percent of project costs with interest rates equal to U.S. Treasury rates. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) made amendments to the program; no changes were included in MAP-21. There have been few RRIF loans: Out of \$35 billion in authorized funds, only \$1.7 billion in loans have been awarded through FY2012. Reasons for the program's underutilization include that unlike TIFIA, there is no federal subsidy; therefore, costs associated with

FRA's review of the RRIF loan application are covered by the applicants. In addition to this investigative fee, the applicant also pays a credit risk premium unless collateral is provided. Other issues include long loan processing times and the perception that applicants bear the full risk of default.

Eligible projects include acquisition, improvement, or rehabilitation of intermodal or rail equipment or facilities; refinancing existing debt incurred for the purposes above; or developing or establishing new intermodal or railroad facilities. The Northern New England Passenger Rail Authority (NNEPRA), which operates the *Downeaster* passenger rail service between Brunswick and Boston, was approved for a RRIF loan in 2009, but this was foregone in favor of HSIPR grant funding awarded for the project.

5.2 Non-Federal Match Options for Alternatives

Non-federal match options for a project implemented in the Capitol Corridor were narrowed from the longer list identified in Section 3.2, since some of the most commonly used sources of local funding for transit are not available in New Hampshire. These include dedicated sales tax revenues (which are the most common source of local match in the U.S.), payroll taxes, and fuel taxes.

- New Hampshire does not impose any sales or payroll taxes, and it is assumed they would not be implemented solely for a project in the Capitol Corridor.
- Fuel taxes are constitutionally restricted in New Hampshire for use on construction, reconstruction, and maintenance of public highways,⁵ so a project in the Capitol Corridor would be ineligible for this funding source, and a change to the constitution is not perceived to be possible.

For each funding option discussed below and summarized in Table 5.2, a definition is first provided, followed by an assessment of the feasibility and potential revenue estimate for each source. Ratings for feasibility reflect an assessment of 1) whether the source currently exists in New Hampshire, 2) whether transit is an eligible expenditure for the funding source, 3) the extent of likely support for the source, and 4) actions (e.g., legislative) that would be required for use of the source as part of the project's financial plan to cover costs.

The amount of revenue that might be generated from each source also is estimated. All of these estimated yields are subject to change based on changes to input assumptions and charge rates. Annual yield rating ranges: estimates greater than \$5 million = High; \$1-\$5 million = Medium; less than \$1 million = Low.

In general, each feasible funding source requires significant effort and commitment to implement. As potential sources are evaluated, it will be important to consider the level of required effort in the context of likely yield. While revenue estimates are provided for all options, sources with low feasibility are unlikely to be available given significant implementation challenges.

⁵ Part II, Article 6-a of the New Hampshire Constitution

Table 5.2: Summary of Non-Federal Funding Options for Capitol Corridor Alternatives

Funding Source	Feasibility	Yield	Annual Estimate (In Millions)	Comments
NH State Capital Program	High	High	\$10.0	7.6% of 2014 debt payment (principal + interest)
NH Parking Fees	High	Low	\$0.7	Based on \$4.00 per day parking fee
Vehicle Registration Fees	Medium	High	\$5.9	\$5.00 fee on passenger vehicles and trucks statewide
Municipal Contribution	Medium	Medium	\$1.0-3.0	\$1 million/city with new stations; city discretion regarding source
Regional Greenhouse Gas Initiative (RGGI)	Medium	Low	\$0.5	Based on historical awards
Property Tax	Low	High	\$15.7	0.1 mill applied statewide
Lottery Revenues	Low	Medium	\$3.7	5% of net proceeds
Passenger Facility Charges	Low	Medium	\$1.0	½ of \$1.50 passenger facility charge (PFC) increase beginning in 2016
Value Capture	Low	Low	--	Need more study to estimate

5.2.1 New Hampshire State Capital Program

New Hampshire State (Legislature/Governor) approves a capital budget every two years. The last approved budget, for 2014-2015, was \$219.4 million (for all projects, including highways, which are paid for with restricted revenues, i.e., fuel tax and highway user fees). The next cycle to approve the budget is initiated in the fall (projects are submitted by November 15). The budget is approved on February 15th of odd numbered years (i.e., the next budget will be approved in February 2015).

The most recent budget included bond authority for the entire cost of the capital program (\$219.4 million). Of this, \$128.7 million are for projects funded with bonds that are repaid with unrestricted General Fund revenues.

For NHDOT, bonds for highway projects are repaid with highway revenues (restricted). The capital budget included \$2.2 million in General Fund bonds for NHDOT’s Aeronautics, Rail and Transit Division. The proceeds provide matching funds to Federal Aviation Administration (FAA) and FTA grants.

As of June 2013, the state had \$963.2 million in outstanding general obligation debt, including bonds for highways and the University of New Hampshire.

Feasibility	Yield
<ul style="list-style-type: none"> ▪ Existing source of funding for state capital investments through bonds repaid with unrestricted General Funds ▪ Currently providing matching funds to federal grants for NHDOT’s Aeronautics, Rail and Transit Division ▪ Governor/Legislature support required ▪ Only for capital expenses 	<ul style="list-style-type: none"> ▪ Would need to assess feasibility of fully or partially providing Capitol Corridor project capital funding needs through the State Capital Program, while maintaining reasonable debt-to-state revenue ratios ▪ The largest single funding allocation from bond proceeds in recent years was for \$38 million, which is less than 15 percent of total funding needed for most costly alternatives ▪ Assumes an annual allocation of \$10 million in unrestricted General Funds to repay bonds issued through the capital budget to pay for construction of the selected alternative; at the current debt service level (FY2014 = \$132.2 million), \$10 million represents about 7.6 percent of unrestricted General Fund revenues required to repay bonds

5.2.2 Parking Fees

New parking facilities associated with the alternatives could generate funding to support O&M expenditures. Only the rail alternatives include planned new parking, so this potential revenue source is not available for the bus alternatives.

The methodology to estimate revenues is based on parking occupancy and the number of vehicles that use the parking facility in an average day. If most travel is work-related, chances are that most parking spaces are occupied by a single vehicle any given day, and the parking turnover rate would be low.

<i>Feasibility</i>	<i>Yield</i>
<ul style="list-style-type: none"> ▪ Parking at rail stations will be provided, so parking would be considered a future available source for funding 	<ul style="list-style-type: none"> ▪ Based on data provided by Jacobs Engineering, an estimated 470 to 925 parking spaces would be available at planned commuter and intercity rail park-and-ride lots, depending on the alternative; if fully occupied 240 days per year, with a per-day parking fee of \$4.00, parking revenues would total between \$0.5 million and \$0.9 million annually; a midrange of parking yields \$0.7 million annually; for comparison, most MBTA commuter rail park-and-ride facilities charge \$4.00 per day; in Lowell, garage parking is priced at \$5.00 per day

This fee could be extended to other park-and-ride facilities, specifically those used by riders of intercity bus service between New Hampshire and Boston.

5.2.3 Vehicle Registration Fees

New Hampshire currently collects vehicle registration fees at the state and local level that vary by type, size, value, and age of the vehicle. State fees are restricted to use on highways, but municipalities have more latitude on the use of at least a portion of their revenue.

<i>Feasibility</i>	<i>Yield</i>
<ul style="list-style-type: none"> ▪ Changes to registration fees would require legislative action to modify Section 261:141 (Registration Fees)⁶ and/or Section 261:153 (Municipal Permits for Registration)⁷ of Title XXI (Motor Vehicles) in the state statutes ▪ State-level registration fees are constitutionally restricted to be used for construction and maintenance of public highways,⁸ while local-level fees have a broader range of uses ▪ Fees are assumed to be applied statewide 	<ul style="list-style-type: none"> ▪ In 2011, nearly 840,000 passenger vehicle registrations and 334,000 truck registrations were processed in New Hampshire;⁹ assuming a \$5.00 fee statewide translates to approximately \$5.9 million annually ▪ This yield assumes a small statewide increase; other assumptions could be made, including geographies covered – i.e., only the municipalities served by the project in the Capitol Corridor – and fee rates

⁶ <http://www.gencourt.state.nh.us/rsa/html/XXI/261/261-141.htm>

⁷ <http://www.gencourt.state.nh.us/rsa/html/XXI/261/261-153.htm>

⁸ Part II, Article 6-a of the New Hampshire Constitution

⁹ <https://www.nh.gov/safety/documents/2011-annual-report.pdf>

5.2.4 Municipal Contributions

Cities often help pay for implementation and/or ongoing O&M of transit projects, particularly cities that receive a substantial new station that generates accessibility benefits and increases in development opportunities and property values. For this assessment, it is assumed that only cities that will have rail stations – Nashua, Manchester, and Concord, depending on the alternative – could make an annual contribution.

Feasibility	Yield
<ul style="list-style-type: none"> ▪ Cities would have the flexibility to identify their own sources of revenue, whether an existing source or a new source associated more directly with the project, such as a tax increment financing district or some other value capture mechanism 	<ul style="list-style-type: none"> ▪ For purposes of this assessment, it is assumed that Nashua, Manchester, and Concord would contribute (e.g., \$1 million annually) depending on the alternative/whether it includes a rail station in the municipality

5.2.5 Regional Greenhouse Gas Initiative (RGGI)

Proceeds from the auction of RGGI emissions allowances in New Hampshire go to the Greenhouse Gas Emissions Reduction (GHGER) Fund. Ten percent of funds are set aside for a low-income residential energy reduction program; the remainder is awarded in grants through a Request for Proposal (RFP) process focused on electric and fossil fuel energy efficiency programs. A list of eligible programs includes nothing transportation-related, only buildings, although the list indicates eligibility is not limited to that list.¹⁰

As of 2013, New Hampshire had received more than \$57 million in allowance auction revenues over five years.¹¹ Grant awards have ranged from as little as \$8,000 to as much as \$5 million.

No New Hampshire transportation project has yet been awarded grants from the GHGER Fund. In the 10 states participating in RGGI, one percent of CO₂ allowance proceeds have been used "for a wide variety of greenhouse gas reduction programs, including programs to promote the development of carbon emission abatement technologies, efforts to reduce vehicle miles traveled, and programs to increase carbon sequestration." Therefore, there is some precedent in at least one of these states to use these funds for a transportation project.

¹⁰ <https://www.puc.nh.gov/SustainableEnergy/GHGERF.htm>

¹¹ http://www.rggi.org/docs/Investment_of_RGGI_Allowance_Proceeds.pdf

<i>Feasibility</i>	<i>Yield</i>
<ul style="list-style-type: none"> Use of RGGI proceeds for transit improvements in the Capitol Corridor would need to be confirmed 	<ul style="list-style-type: none"> For the purposes of this assessment, it is assumed that a project in the Capitol Corridor could receive annual grants of the same order of magnitude of historical grant awards through this program, or approximately one-half million per year

5.2.6 Property Tax

Four types of property taxes are assessed in New Hampshire: town tax, local education tax, state education tax, and county tax. Property taxes are a common source of funding for transit projects in the U.S.

<i>Feasibility</i>	<i>Yield</i>
<ul style="list-style-type: none"> Major existing local source of revenue Currently, all state-levied property taxes are dedicated to education; using this revenue source for the Capitol Corridor would require legislative action 	<ul style="list-style-type: none"> In 2012, total assessed property value in New Hampshire was \$156.6 billion;¹² the weighted statewide average of property tax rates was 20.71 mill Applying a tax rate of 0.1 mill (10 cents per \$1,000 in assessed value) would generate approximately \$15.7 million per year

5.2.7 Lottery Revenues

New Hampshire has the oldest legal lottery in the U.S. The state participates or hosts a variety of lottery games, including scratch tickets and draw games.

<i>Feasibility</i>	<i>Yield</i>
<ul style="list-style-type: none"> Currently, all net lottery revenues in New Hampshire are dedicated to the state education fund A new lottery game dedicated to the Capitol Corridor or more broadly for transportation use would likely be needed, rather than diverting revenues from existing games; in either case, legislative action would be required 	<ul style="list-style-type: none"> Lottery revenues in New Hampshire, net of prizes and administrative expenses, totaled \$74.3 million in 2013 Five percent applied to a Corridor project would result in \$3.7 million per year

¹² New Hampshire Department of Revenue Administration

5.2.8 Passenger Facility Charges

Manchester-Boston Regional Airport (Manchester Airport) currently collects the maximum \$4.50 per enplanement passenger facility charge (PFC). Eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns. Under its current approvals, the airport is authorized to collect PFC through November 2022.

In the near-term, PFC revenues at the \$4.50 level are fully committed, including payments to debt service on outstanding bonds, approved pay-as-you-go projects for which the airport has not yet reimbursed itself, and additional projects identified in the Capital Improvement Program.

Feasibility	Yield
<ul style="list-style-type: none"> ▪ In the current FAA reauthorization proposals, the cap on PFC levels may be raised beyond the \$4.50 level to provide additional funding available outside of FAA’s Airport Improvement Program (AIP); beginning in FY2016, the airport is assumed to increase its PFC level to \$6.00 and additional collections are assumed to be used on a pay-as-you-go basis for future projects¹³ ▪ It appears possible, but difficult, for a transit project to use this funding source given restrictions on project eligibility and the existing cap on PFC levels; if an eligible project could be developed, negotiations would be needed with the airport and FAA to include it in the airport’s future capital plan 	<ul style="list-style-type: none"> ▪ Enplanements have fallen since their 2.2 million peak in 2006, and totaled 1.36 million in 2011;¹⁴ an additional \$1.50 PFC would create an estimated \$2 million annually; if half of this increment could be directed towards a corridor project, then this would provide \$1 million annually to the project pending eligibility considerations

5.2.9 Value Capture

Value capture includes revenue mechanisms such as impact fees, TIF, and special assessment districts. Without specifics on future development and potential development to result from implementation of new transit corridor service, it is difficult to generate estimates for impact fees or TIF. An option is to estimate how much revenue could be generated through a special assessment district. Data needs/basic assumptions for special assessment district example include the following:

¹³ <http://www.flymanchester.com/sites/default/files/public-documents/ManchesterAirportMasterPlanUpdate.pdf>

¹⁴ <http://www.flymanchester.com/sites/default/files/statistics/MHTEnplanements2000-2012.pdf>

- Taxable property values in the cities/towns served by each corridor alternative (New Hampshire Department of Revenue) or within some agreed upon distance from the corridor and/or station locations
- Historical trends on property value growth
- Property tax rate
- Alternatively, calculate tax rate, based on capital and O&M needs

It should be noted that changes in development patterns and property values take time – often considerable time – to be realized based in large part on market conditions and demand. Therefore, value capture would not be a near-term source of revenue for a Capitol Corridor project.

5.3 Massachusetts Department of Transportation (MassDOT)/MBTA Contributions for Commuter Rail Alternatives

An additional source of funding for the two commuter rail alternatives (Manchester Regional and Nashua Minimum) could be the MassDOT/MBTA. NHDOT has had discussions with officials from these organizations about cost sharing arrangements for alternatives that extend the MBTA's existing Lowell Line into New Hampshire. Based on these discussions, the following contributions might be considered as part of one of the commuter rail alternative's financial plan:

- MassDOT/MBTA owns the corridor rail line to the New Hampshire/Massachusetts border. North of the border, the line is owned and operated by PAR. The MBTA recently acquired trackage rights for commuter rail service on the PAR line north to Concord in exchange for other considerations worth approximately \$35 million. On a prorated basis, the roughly 20 miles to Manchester would be valued at \$18 million for the Manchester Regional Commuter Rail alternative. This could represent a source of non-federal match donated by the MBTA. The value of the MBTA trackage rights used for the Nashua Minimum Commuter Rail alternative would be less than \$1 million since the service extends less than a mile into New Hampshire.
- Construction of infrastructure improvements in Massachusetts could be paid for by MassDOT. The extent of these infrastructure improvements is from Lowell Station (Milepost 25.4) to the Massachusetts/New Hampshire state line (Milepost 34.4). The costs of these infrastructure improvements in Massachusetts, which would be incurred for both commuter rail alternatives, are estimated at \$45.5 million in 2014 dollars.
- Rolling stock for both commuter rail alternatives would be provided by MBTA. The value of that rolling stock could be considered as a project cost to be paid for by MBTA and count towards the non-federal local match. For the Manchester Regional Commuter Rail alternative, rolling stock is valued at \$33.2 million and for the Nashua Minimum Commuter Rail alternative at \$20.5 million.

Totaled together, and assuming contributions at the levels suggested above, nearly 40 percent of the capital costs of the Manchester Regional Commuter Rail alternative and 55 percent of the Nashua Minimum Commuter Rail alternative could be paid for by MassDOT/MBTA.

5.4 Fares

Each alternative’s O&M costs will be partly offset by fares collected from riders. Table 5.3 provides the total annual fare revenue estimated for each alternative, as well as the farebox recovery ratio (percentage of annual O&M costs covered by fares). As shown, the Manchester Regional Commuter Rail alternative has a very high recovery ratio, since trips made on this alternative represent the highest value fares along the entire line.

Table 5.3: Annual Fare Revenue, O&M Cost, and Farebox Recovery Ratio by Alternative

Alternative	Fare Revenue (In Millions, 2014\$)	Incremental Annual O&M Cost (In Millions, 2014\$)	Farebox Recovery Ratio
Manchester Regional Commuter Rail	\$6.9	\$10.8	64%
Nashua Minimum Commuter Rail	\$1.8	\$4.1	44%
Intercity 8	\$3.2	\$7.7	41%
Expanded Base	\$0.8	\$3.0	25%
Bus on Shoulder	\$0.1	\$0.0	0%
Expanded Bus on Shoulder	\$0.9	\$3.0	28%

Source: Jacobs Engineering, September 2014

5.5 Summary

While final decisions on a preferred alternative for advancement will necessarily incorporate a broad range of considerations including benefits and impacts, the ability to identify stable and reliable sources of revenue will be critical to the advancement of any alternative. Leveraging available discretionary federal funds is a key objective of a future funding plan. In addition, there might be some limited opportunities for project delivery through some form of Public Private Partnership (PPP), which may be investigated as alternatives are refined.

This section summarizes key findings regarding federal fund leverage potential by alternative. Some suggestions also are provided on other sources of potential revenue to provide a match for federal funds; however, any new source of revenue to help pay for a transit investment in the Capitol Corridor will be subject to considerable review and input by corridor stakeholders and decision-makers.

- Manchester Regional Commuter Rail** would be a candidate for New Starts funding established under FTA’s CIG program. Eligible New Starts projects that meet certain criteria receive on average 50 percent of their capital costs. The remaining costs could be covered by other federal funding programs, such as CMAQ, as well as parking revenue and contributions from MBTA (track work and trackage rights, rolling stock) and the municipalities that will have commuter rail stations (Nashua, Bedford [Manchester Airport], and Manchester).
- Nashua Minimum Commuter Rail** would be a candidate for Small Starts funding established under FTA’s CIG program. Eligible Small Starts projects that meet certain criteria receive up to \$75 million of their capital costs. The remaining costs could be covered by other federal funding programs, such as CMAQ, as well as parking revenue and contributions from the MBTA (track work, rolling stock) and from Nashua.

- **Intercity 8** would rely on federal programs, namely FRA’s HSIPR. However, the HSIPR currently has no funding available. For purposes of this assessment, it is assumed that half the capital costs of the project might be paid for by a future HSIPR appropriation. Similar to the two commuter rail alternatives, local sources could include CMAQ and TIGER grants, parking revenue, and contributions for the three municipalities with stations (Nashua, Manchester, and Concord).
- None of the **three bus alternatives** require significant new capital investment, with estimates for new buses and infrastructure improvements ranging from \$6.0 million to \$13.4 million. The capital required likely could be covered by federal formula programs such as Section 5307 or CMAQ. Other new revenue sources are unlikely, given the limited additional mobility and economic benefits anticipated by increasing or otherwise enhancing existing bus service.

Table 5.4 shows a summary of how well each alternative might leverage discretionary federal funds – new dollars going to New Hampshire that would not otherwise be available, awarded based on a competitive process. The table also estimates total funding that might be provided by Massachusetts for the two commuter rail alternatives and Bus on Shoulder alternatives. Also provided is a preliminary estimate of remaining costs that would then need to be paid for with New Hampshire sources yet to be identified.

To help understand what this might mean in terms of an annual “bill” to New Hampshire for each alternative, debt service is calculated for the New Hampshire share of capital costs for rail options as well as for annual capital lease payments for bus alternatives. This annual debt service, which lasts only for the period of the bonds issued, is then added to the annual operating cost for each alternative, net of fares and incremental FTA Section 5307 Formula fund apportionments due to the new or increased level of transit services. The annual debt service must be viewed as a best case, since agreements with Massachusetts on cost sharing are subject to additional discussion and negotiation. Short-term financing costs during the construction period associated with the issuance of Grant Anticipation Notes (GANs) in advance of receipt of federal (FTA or FRA) discretionary funds are shown in Table 5.5.

All numbers are subject to change as additional work and coordination with potential funding partners is advanced.

Table 5.4: Possible Financial Assessment Summary (In Millions, 2014\$)

Funding Source	Manchester Regional Commuter Rail	Nashua Minimum Commuter Rail	Intercity 8	Expanded Base	Bus on Shoulder	Expanded Bus on Shoulder
NH Contribution to Infrastructure Cost	\$149.0	\$53.4	\$233.2	\$0.0	\$0.0	\$0.0
MA Contribution to Infrastructure Cost	\$45.5	\$45.5	\$0.0	\$0.0	\$7.4	\$7.4
Rolling Stock Value	\$33.2	\$20.5	\$23.3	\$9.6	\$0.0	\$9.6
Trackage Rights Value	\$18.0	\$0.9	\$0.0	\$0.0	\$0.0	\$0.0
Total Project Value	\$245.6	\$120.3	\$256.5	\$9.6	\$7.4	\$17.0
Potential Federal Grant	\$122.8	\$53.4	\$128.2	\$0.0	\$0.0	\$0.0
MA Share (MA Infrastructure, Rolling Stock – commuter rail only, Trackage)	\$96.6	\$66.9	\$0.0	\$0.0	\$7.4	\$7.4
NH Share (after Federal/MA contributions)	\$26.2	\$0.0	\$128.2	\$9.6	\$0.0	\$9.6
Annual Payment to Retire NH Share ^a	\$2.1	\$0.0	\$10.3	\$1.2	\$0.0	\$1.2
Annual Operating Cost	\$10.8	\$4.1	\$7.7	\$3.0	\$0.0	\$3.0
Annual Passenger Revenue	\$6.9	\$1.8	\$3.2	\$0.8	\$0.1	\$0.9
Incremental FTA Section 5307 Formula funds	\$2.5	\$0.7	\$0.0	\$0.3	\$0.0	\$0.3
Annual NH Cost for Service	\$3.5	\$1.6	\$14.8	\$3.2	\$0.0	\$3.1

^a Assumes 20-year bonds (level payment) at five percent to retire the state/local match for commuter and intercity rail alternatives; for the bus alternatives, it is assumed that short-term debt/certificates of participation (COPs) will be issued to cover state/local costs; the minimum repayment period was assumed at nine years, or 75% of the useful life of buses, in line with FTA requirements for capital leases (<http://www.fta.dot.gov/grants/12865.html>)

Table 5.5: New Hampshire Cost of Financing GANs during Construction (In Millions, 2014\$)

Funding Source	Manchester Regional Commuter Rail	Nashua Minimum Commuter Rail	Intercity 8	Expanded Base	Bus on Shoulder	Expanded Bus on Shoulder
Short-term financing to advance federal grants	\$2.3	\$1.0	\$2.4	\$0.0	\$0.0	\$0.0

Short-term financing to cover lags in the federal reimbursement process during construction only accounts for interest payments (at three percent) over the four-year construction period, assuming level principal payments