

North South Rail Link (NSRL)

Major Investment Study (MIS)

Draft Environmental Impact Study (DEIS)

Draft Environmental Impact Report (DEIR)

Principal Conclusions of the NSRL Project MIS / DEIS / DEIR



prepared by the Citizens Advisory Committee
appointed by the EOEa to oversee the North
South Rail Link Project MIS / DEIS / DEIR Process

March 31, 2003

THE CITIZENS ADVISORY COMMITTEE
FOR THE NORTH SOUTH RAIL LINK PROJECT

March 31, 2003

Ellen Roy Herzfelder, Secretary
Executive Office of Environmental Affairs
251 Causeway Street – Ninth Floor
Boston, MA 02114

RE: EOE A #10270

Dear Secretary Herzfelder,

Eight years ago, EOE A Secretary Trudy Coxe empanelled a Citizens Advisory Committee (CAC) to oversee the environmental, economic and engineering analysis of a proposed North South Rail Link (NSRL), which would finally create a truly integrated regional rail network and extend the high-speed interstate service along the Northeast Corridor north of Boston to the Northern New England states and Canada. The evaluation of such a new connection was authorized and funded by Congress through the Federal Railroad and Transit Administrations (FRA and FTA), in coordination with Amtrak and the Massachusetts Executive Office of Transportation & Construction; and it was carried out by an expert and experienced team of respected consultants under the capable direction of the Planning Department of the Massachusetts Bay Transportation Authority. The result of that extensive collaborative effort is a Major Investment Study (MIS)/Draft Environmental Impact Statement (DEIS)/Environmental Impact Report (DEIR) that the CAC commends to you as more than meeting the standards of competence, completeness and objectivity -- and of which the entire team of public and private participants can be proud.

Based on the findings of that lengthy document with regard to the transportation, environmental, economic, social and security benefits of this cost-effective project -- which are summarized in the attachment hereto -- the overwhelming majority of the CAC has determined that the NSRL is an essential and a timely transportation initiative, which merits a strong and clear endorsement by the Commonwealth of Massachusetts and other interested parties in the public and private sectors at the local, regional and federal levels. Such an endorsement would certainly include preserving the Rail Link option and protecting its right-of-way, as well as support for the next phase of federal funding.

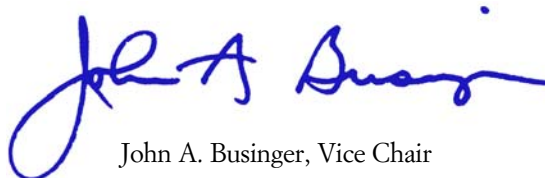
That funding has already been requested by Senators Kennedy and Kerry, and Congressman Lynch. Those funds will be necessary to complete the Final Environmental Impact Statement/Report (FEIS/FEIR), to begin the preliminary engineering required to protect the vulnerable right-of-way for this critical project, and to prepare a definitive project business plan for the project based on the funding options and guidelines provided in this MIS. The failure to secure additional funding for those purposes would, in our opinion, risk pushing the regional transportation system beyond its limits and deprive Massachusetts and New England of our single best opportunity to secure for the long term the important and related goals of transportation efficiency and effectiveness, environmental protection and justice, and economic growth and development.

In sum, the NSRL is a timely infrastructure investment that would create major and necessary transportation improvements, which would result in substantial environmental and economic benefits and could be funded in an innovative manner that could well inaugurate a new era of infrastructure financing. In all of these respects, the Rail Link is consistent with the financial, transportation and land use policy priorities of the Romney Administration -- and merits your support.

Sincerely,



Robert B. O'Brien, Chair



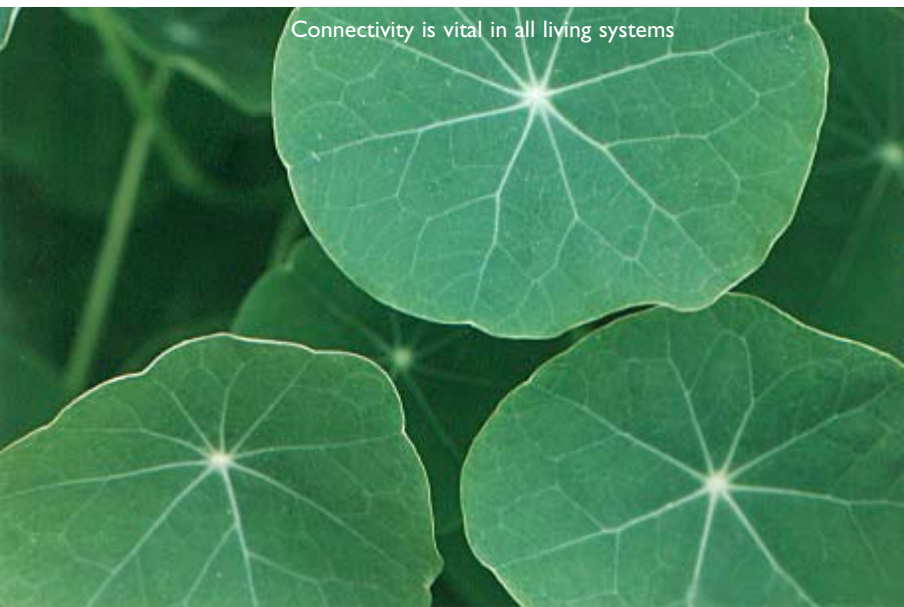
John A. Businger, Vice Chair



The NSRL Project will resolve urgent facility constraints at North and South Stations and add substantial capacity, not otherwise possible, to the only element of the regional transportation system practically and politically capable of significant growth:

All of the major modes of public and private transportation – highway, transit, rail and air – are approaching or have already exceeded their effective capacity. North and South Stations, which now serve as terminals for two relatively inefficient stub-end systems, currently operate near-capacity during peak periods and would be unable to accommodate the commuter ridership increases of 34% -- almost 84,000 additional commuter rail trips every business day – projected over the next twenty years by the regional ridership model.

The NSRL would provide the additional rail capacity needed to serve that demand and considerably more for decades to come. Without such additional capacity on the regional rail network, that deficit will exacerbate the existing congestion crises on other modes of transportation, which are simply not capable of absorbing any such increase in demand. The adverse impacts of an increasingly gridlocked transportation system on regional economic development and employment growth in the foreseeable future, as well as on the quality of the social and physical environment, are both extremely dire and quite predictable.





The NSRL will result in a major inter-modal shift from the highways to the rails and from private to public transportation, at a level beyond that promised by any other transportation project now planned or proposed, with commensurate air-quality and other environmental benefits:

The regional ridership model projects that by 2025 the NSRL will result in the daily diversion of more than 54,000 auto trips to more environment-friendly commuter rail – a reduction of more than 1,000,000 vehicle miles each business day and a travel-time savings of 16,000,000 hours annually. The Rail Link would also reduce reliance by existing riders on other forms of public transportation – i.e., rapid transit and express bus service – by more than 91,000 daily trips, which would in turn increase downtown peak-period transit and bus capacity, allowing for further ridership growth in these other modes of public transportation and in cost-effective pedestrian activity. In addition, the NSRL diverts almost 2,000 daily airport trips from auto to rail with related traffic congestion benefits for airport communities. No other planned or proposed project has that level of air quality benefit and inter-modal shift potential.



The NSRL Project will make much more efficient use of billions of dollars of past investment in existing rail transportation infrastructure and will complement other proposed transit projects:

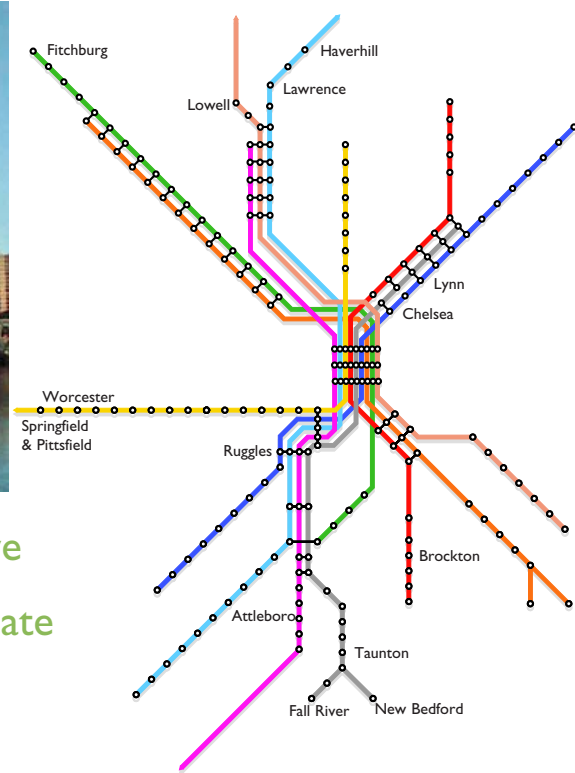
Massachusetts has one of the most extensive rail networks in the nation, but it operates at a fraction of its potential efficiency and capacity because its two stub-end components are disconnected. By bridging a critical gap in the existing rail transportation network, the NSRL will make considerably more efficient use of these existing rail facilities. (To appreciate the transformative effect of the Rail Link on regional rail operations, consider how poorly our rapid transit lines would operate if they dead-ended in Boston and all trains had to back-out of the major downtown stations – as commuter rail and Amtrak trains now must do at North and South Stations.)

The added capacity that the Rail Link provides will generate more than \$50 million of ongoing annual revenue from increased commuter rail ridership; and the continuing operating savings from a more efficient run-through system have been estimated in studies prepared during the MIS/DEIS/DEIR process to be in the range of \$70 million or more annually – a very encouraging preliminary projection that will have to be further documented and refined by more detailed modeling and peer review. Between increased revenue and reduced costs, that represents a positive and continuing cash flow contribution of at least \$120 million annually for every year after the NSRL becomes operational.

Moreover, from both funding and operational perspectives, the NSRL complements and enhances other major transportation projects currently in the proposal, planning or implementation stages. These particularly include the Urban Ring and Silver Line, both of which the commuter rail system intersects at critical points. In the case of the Urban Ring, for example, numerous intersections with commuter rail – e.g., Ruggles, Chelsea and Wellington – create not only important multi-modal transportation opportunities but significant transit-oriented development possibilities as well. (In that regard, the intersections of these radial rail and circumferential transit systems create the same kind of synergies as do those between a radial highway system like Route 93 and a circumferential highway system like Route 128. They serve and reinforce one another and stimulate new transportation and economic opportunities at their junctions.)



Lowell, Massachusetts



The NSRL Project is particularly responsive to the increasingly important and appropriate priorities of environmental justice:

With much of our regional economic development and employment growth beyond the effective reach of public transportation, and especially with low rates of automobile ownership in disadvantaged urban communities, improving regional mobility and accessibility via regional rail would be an important step to assure that economic opportunity is more equitably shared. Of the 125 stations currently projected for the newly integrated regional system that the NSRL will create, 19 are located in the inner-belt communities of Boston, Cambridge and Chelsea. The residents of these communities now bear the environmental burdens of existing commuter rail infrastructure and operations, without effective access to their transportation and economic benefits – clearly a cost/benefit inequity which the NSRL would remedy. Indeed, the Rail Link would make these urban stops, which are now near the end of the line on the existing stub-end commuter systems, the core of an integrated regional rail network, providing a new range of commuting options both to and from these locations.

In addition, a single regional rail network would fully and finally link virtually all of the federal and state economic target zones beyond the inner-belt to include Brockton, Taunton, Attleboro, Worcester, Fitchburg, Haverhill, Lowell, Lawrence and Lynn. With appropriate land use planning, such a network could again generate invaluable new economic and employment benefits for these communities, which historically developed and thrived around the rail lines in the past.



The NSRL will stimulate transit-oriented development and encourage coordinated transportation/land use planning throughout the region, with beneficial effects on related issues of urban sprawl:

The NSRL not only supports transit-oriented development, such development could be a significant source of potential funding for the project itself. At North Station, for example, where most, if not all, of the existing tracks and terminal facilities could be replaced underground, those include residential, institutional, recreational and commercial development opportunities in concert with redevelopment of CA/T, MBTA, DCAM and MGH parcels and the old Boston Garden site. At South Station, where the South Postal Annex is the preferred site of a NSRL underground station, they include a similar range of redevelopment opportunities in conjunction with the adjacent South Station air-rights project and the ongoing growth of the nearby Fort Point Channel/Seaport District/Convention Center areas.

Beyond those obvious possibilities, transit-oriented development prospects would also include the inner-belt communities and older industrial cities referenced above. Among the latter sites are a number of development prospects – e.g., Assembly Square and Wellington – that are already identified as priorities, and many others that could well emerge given the new synergies and connections created by the Rail Link. What is worthy of note in this regard is that the regional accessibility and mobility improvements provided by NSRL afford expanded transportation choices without the need for a physically expanded transportation system. With appropriate coordination of transportation and land use planning, therein lies a unique opportunity to encourage transit-oriented development throughout the existing transportation system -- thereby discouraging further urban sprawl -- in an equitable, efficient and sustainable manner that reconciles economic and environmental values.



The NSRL will enhance regional competitiveness:

From a national and international competitive perspective, the Northeast Corridor is increasingly becoming a distinct and inter-dependent economic region; and in that context, it is essential for a variety of environmental, economic, equity and security reasons that all of New England have access to more complete, reliable, effective and efficient rail connections to other elements of the corridor. To that end, the NSRL will more finally and fully integrate the economy of the Northeast Corridor with that of Northern New England and Canada by providing more cost-effective, dependable and secure options to air and highway travel. The critical importance of redundancy in our corridor transportation networks was made especially clear in the aftermath of the terrorist events of 9/11/01, when Amtrak was virtually the only mass transportation system operating effectively between Boston, New York and Washington, DC; and since then, the attractiveness and expansion of the inter-city high-speed Acela service that now terminates at South Station, as well the remarkable growth of Amtrak rail service between Portland and Boston, have made more convenient and comprehensive access to the inter-city rail system a matter of even greater urgency – and equity. It also reflects and reinforces the increasing awareness that rail travel for such distances is both more environmentally and economically appropriate and advisable than is such travel by air or highway.



The NSRL will support and expand the visitor and tourism industry:

Local, regional, national and international tourism is not only a critical element of the active and attractive quality of New England life, it has become the second most important industry in Massachusetts. Thirty million people a year already visit the Commonwealth alone from outside the state, patronizing our hotels, restaurants and retail stores; utilizing our recreational, athletic, entertainment, convention and meeting facilities; supporting our cultural, historic, academic and medical institutions; and enjoying our natural resources. Their activity affects almost 150,000 jobs throughout the state and results in \$800 million of tax revenues. Its overall economic impact in Massachusetts alone exceeds \$20 billion per year.

The NSRL will have a very beneficial effect in terms of improved visitor and resident access to recreational, cultural and natural attractions throughout New England. According to the economic development paper prepared in connection with this MIS/EIS/EIR process, 20 of the top 25 tourist attractions in Massachusetts would be accessible via an integrated regional rail system, not to mention the many such destinations in Maine, New Hampshire, Vermont and Canada in all seasons of the year. European and Asian visitors are especially predisposed to use rail transportation, if available – as are Americans in Europe and Asia. Improved regional rail mobility can only increase the number of tourists and visitors to our area, extend their length of stay and distribute recreational income more widely and more equitably across the region – well beyond the capacity of our regional rail ridership model to project. Moreover, since most of those trips would be in off-peak periods when existing capacity is greatly underutilized, substantially increased recreation-oriented ridership could be accomplished without any expansion of critical peak-period capacity. Indeed, expanded off-peak utilization of available capacity is a cost-effective characteristic of comparable integrated regional rail systems elsewhere in the country and the world, which could – and should – be replicated in Massachusetts and New England.

The capital costs of the NSRL are fully and conservatively estimated and the project proves to be cost-effective because its benefits are so substantial and pervasive:

The design and construction costs of the full-build version of the NSRL Project – the 4-track/3-station option -- are projected at \$3.8 billion in current dollars, including a 30% allowance for design and engineering costs. In order to compensate for cost and construction uncertainties at this conceptual stage of design, a contingency factor of 50% of the total estimated construction costs has been added to these underlying estimates, bringing the current capital infrastructure cost estimates to \$5.7 billion.

(That fact has been obscured by an FTA requirement that rail and transit transportation project costs be extrapolated to the projected mid-point of construction. No such requirement applies to Federal Highway Administration Projects (FHWA) or to state-funded transportation projects. In addition to presenting some problems of comparability among such infrastructure projects, the FTA requirement adds two additional areas of uncertainty to the cost projection formula: estimating the actual construction mid-point and estimating the actual rate of inflation.

In the case of the NSRL Project, the mid-point of construction is projected to be 2010 and the inflation between now and then has been estimated at 3.5% annually. As a result, the cost of the NSRL Project in FTA terms is not \$5.7 billion in current dollars, but \$7.6 billion in 2010 dollars – an apparent cost escalation of 33% over previously reported cost estimates, solely to account for eight years of projected inflation. If it were decided to postpone the project for five years, the apparent cost would be over \$9.0 billion – even higher if higher inflation rates were projected – notwithstanding the fact that the underlying costs of the project actually remain unchanged.

By that standard, the longer it takes to commence and complete any given project, the more it appears to cost, despite the fact that by traditional standards of financial analysis, the present value of such costs would actually be lower if the project is to be done later rather than sooner. Without debating the technical merits of the FTA cost reporting requirement, if it is not properly understood and/or explained, it tends to add an unfortunate degree of confusion and subjectivity to a public or media discussion of comparative project costs, especially if figures are cited without adequate explanation -- as can and does often happen.)



With the exception of increases in these contingency provisions, there have been no significant increases in project cost estimates since the NSRL was initially proposed. In contrast to the CA/T Project, the full scope of the NSRL Project was known, defined and costed from the outset; the less intrusive construction methodologies to be used in this case are far simpler and better tested – and benefit from the work and experience of the CA/T Project itself; the contingencies provided are far greater and more realistic; and all of the construction costs estimates were subject to independent peer review – which actually suggested further areas of cost savings not reflected in current cost estimates. Even more recent advances in tunnel-boring technology and experience in Europe suggest the real possibility of further cost and schedule efficiencies beyond those now projected.

In addition, as noted above, the NSRL Project that will generate significant additional revenue from ridership increases as well as substantial projected operating savings for the rail system as a whole; and as noted below, it is a project that is unusually conducive to the innovative and collaborative funding strategies and public private partnerships that will tend to limit the burden on public resources.

Because its benefits for the regional transportation system as a whole are so substantial and pervasive, and notwithstanding its significant capital costs, the NSRL proves to be a quite cost-effective project. By the traditional FTA measure of cost-effectiveness – cost per new transit trip -- the full-build 4-track and 3-station alternative shifts more than 15 million regional trips from auto to rail at a total annualized capital and operating cost of \$30.90 per new transit trip and \$20.24 per new commuter rail trip during the 30-year period of project funding -- before accounting for system-wide operating savings. That compares very favorably to the cost of both past and present public transportation projects.

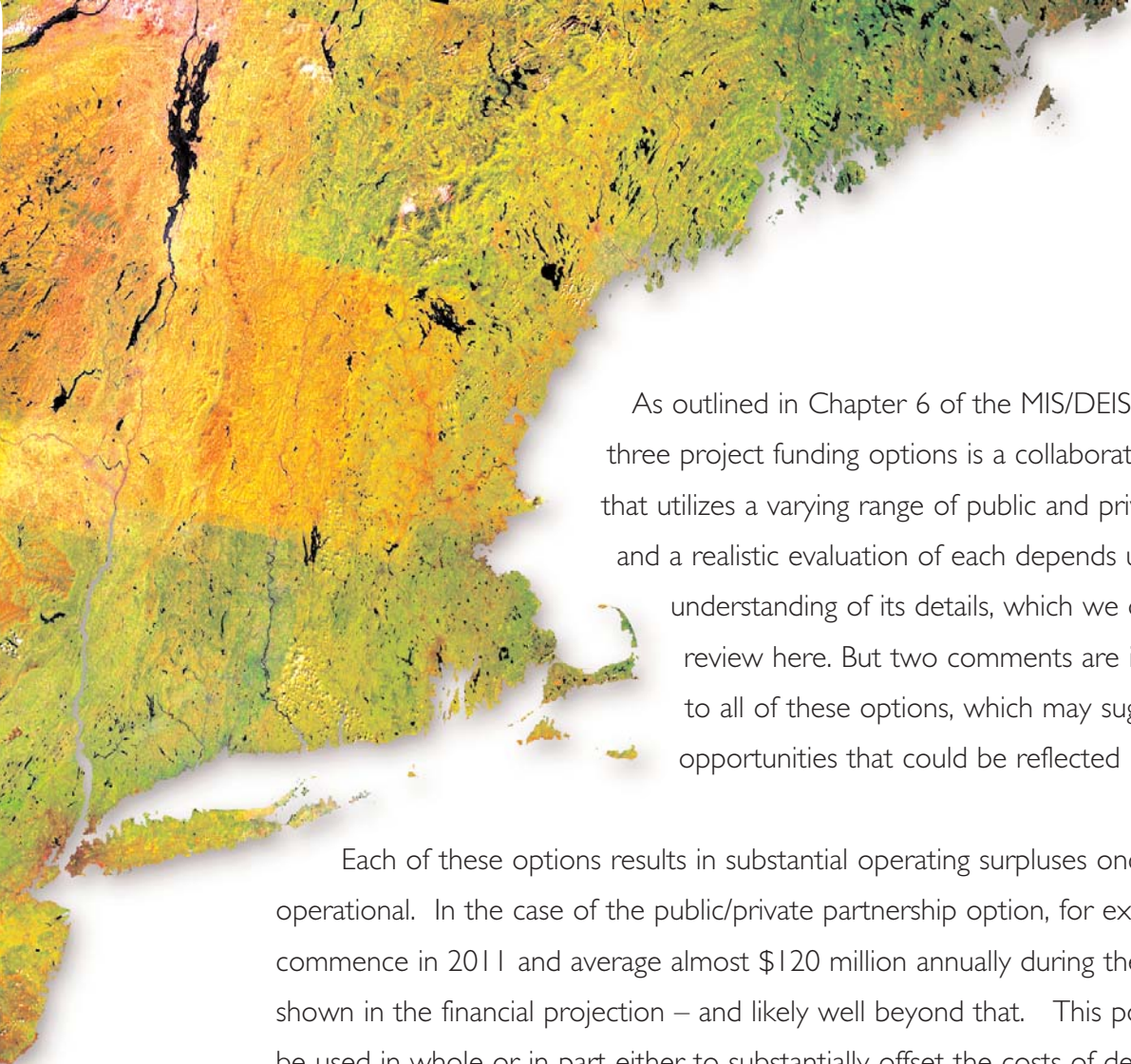
Since the Rail Link will benefit almost all regional rail riders -- including but not limited to those who have shifted from auto to rail -- by virtue of the improved speed of an integrated system with more attractive and better situated downtown stations, perhaps a more appropriate measure of project cost-effectiveness would amortize NSRL project annualized capital and operating cost over the entire projected commuter rail ridership. By that standard, the added cost of the NSRL per commuter rail trip would be \$5.13 during the 30-year amortization period, before offsetting operating savings. That represents an investment that will attract and retain a growing rail ridership for decades beyond that; and by any of these standards, the NSRL compares very favorably to other major transportation projects, past, present and proposed -- most of which do not have the potential for such offsetting operating savings.



The NSRL Project is especially well suited to the collaborative funding and the public/private partnership development and funding strategies that are likely to be an increasingly important element of transportation infrastructure funding in the future – as they have been in the past:

While the NSRL tunnel will be physically located in Boston, its transportation, environmental and economic impacts extend well beyond Boston – and well beyond the MBTA District – to include several New England States and a range of public and private economic interests. For that reason, the funding options outlined in the MIS/DEIS/DEIR do not approach the NSRL as an MBTA project, but rather reflect its benefits for the Commonwealth and for the New England region as a whole. These options all capitalize on the major commercial and real estate development benefits of the NSRL, as well as the fact that it is a relatively local and straight-forward construction project, despite its significant national and regional implications.

The result is a series of collaborative funding strategies that variously contemplate a Commonwealth Rail Authority, a New England Regional Rail Authority, and a Public / Private Rail Corporation – or perhaps some combination thereof – to finance and build the Rail Link and operate the newly integrated regional rail system. Generally speaking, these funding strategies are not competitive with other proposed transportation project like the Urban Ring and Silver Line. They rely on a mix of less traditional and more innovative funding options – although the public/private partnership and joint development can be argued to be the vehicles by which the national railroads were originally financed and built. In all such cases, it is clearly intended not to further burden the MBTA with a project that in its nature and scope exceeds the purview and resources of the MBTA; and in all such options, any reliance on federal funding is limited to no more than 50% of capital costs – well below the historical level of the CA/T Project and other highway/transit projects.



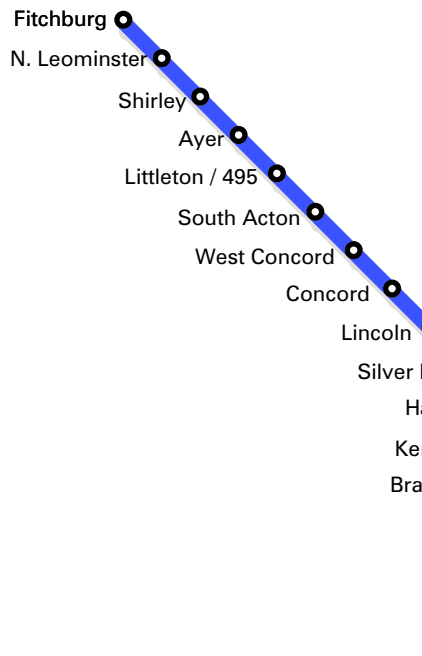
As outlined in Chapter 6 of the MIS/DEIS/DEIR, each of the three project funding options is a collaborative funding strategy that utilizes a varying range of public and private funding sources; and a realistic evaluation of each depends upon a thorough understanding of its details, which we do not intend to review here. But two comments are in order with respect to all of these options, which may suggest further funding opportunities that could be reflected in any and all of them:

Each of these options results in substantial operating surpluses once the NSRL become operational. In the case of the public/private partnership option, for example, these surpluses commence in 2011 and average almost \$120 million annually during the 12-year period shown in the financial projection – and likely well beyond that. This positive cash flow could be used in whole or in part either to substantially offset the costs of debt service in those years or to support additional bonding in an amount approaching the \$1.6 billion amount of the to-be-funded payment projected in this and other funding options.

None of these options contemplate any increase in regional ridership rail fares – except to account for inflation, all projected increased fare revenues are due to increased ridership levels, rather than increased fare levels. If commuter rail fare increases were included in the mix, however, an average fare increase of \$1.25 per trip for each commuter rail trip would also generate \$120 million per year – again an annual amount approaching what would be required to bond the to-be funded payment of \$1.6 billion.

Either of these additional financing options, perhaps in some combination, could add further flexibility to the proposed funding strategies outlined in Chapter 6.

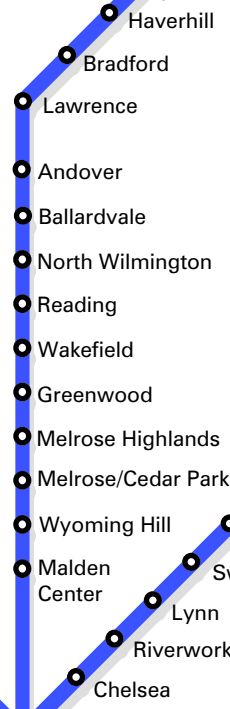
Fitchburg Line



Lowell Line



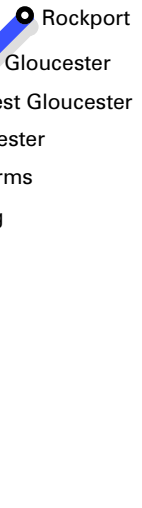
Haverhill Line (AMTRAK to Portland)



Newburyport Line



Rockport Line

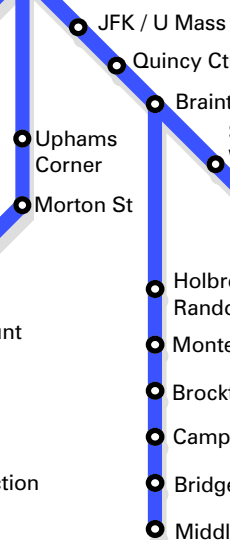


North Station

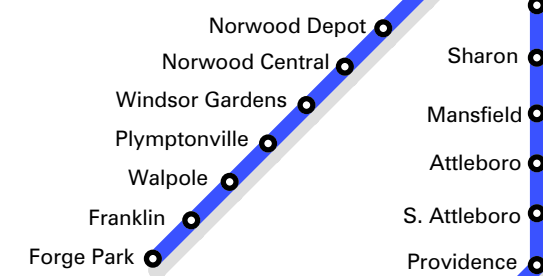
South Station



Framingham / Worcester Line



Needham Line



Franklin Line

Attleboro / Stoughton Line (AMTRAK to New York)



Middleborough Line

Plymouth / Kingston Line



Four Track Alternative with 9 proposed line pairs

NSRL Project Consultants:

Prime Consultants: Vanasse Hangen Brustlin, Inc.

DMJM + Harris, Inc.

Construction Analysis: URS Corporation

Cost Estimator: Keville Enterprises, Inc.

Financial Analysis: Infrastructure Management Group, Inc

Ridership Modeling: Central Transportation Planning Staff

Transportation Economics and Management Systems, Inc.

Construction Peer Review: Paul Silvestri, *National Constructors Group*

George Ziegler, *MK Centennial Inc.*

Adam Bararaba, *MK Centennial Inc.*

Morse Klubock, *Perini Corporation*

Tom Kwiatkowski, *Jenny Engineering Corporation*



dedicated to Guy Rosmarin

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