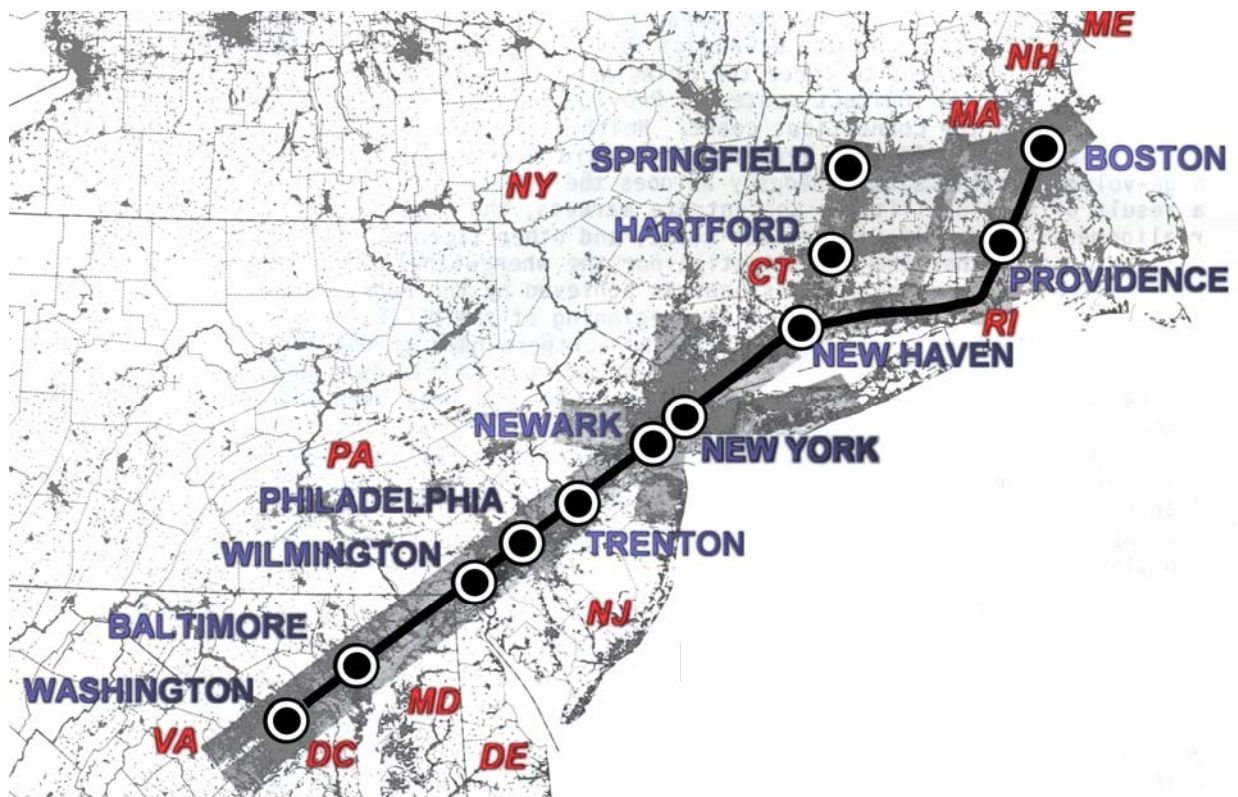


OPTIONS FOR FEDERAL OWNERSHIP OF THE NORTHEAST CORRIDOR (NEC) INFRASTRUCTURE

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Executive Summary

The National Railroad Passenger Corporation (Amtrak) was established in 1971 in order to save the freight railroads from the burden of passenger service deficits, and to save passenger rail services from indifferent or even hostile freight railroad management. In 1976, Amtrak acquired parts of the rail infrastructure in the Northeast Corridor (Boston to Washington, DC via New York City) as a result of the restructuring of Northeast freight service, basically because the NEC infrastructure was dominated by passenger service and was not of critical importance to the new freight company (Conrail).

It would be hard to call Amtrak's stewardship of the NEC infrastructure a success. After thirty years of Amtrak's ownership, and after two major rehabilitation programs amounting to over \$5 billion, the infrastructure has a larger maintenance and replacement problem now than ever before, on-time performance of Amtrak's NEC trains is low, demand has grown slowly, and Amtrak and the other Corridor users suffer from unreliable facilities and poor ride quality. This is not a criticism of the many individuals at Amtrak who have labored mightily to keep the NEC infrastructure in operation and up to adequate quality: indeed, the current, much-improved NEC Engineering Department at Amtrak has made real progress. Instead, it is meant to emphasize, as has been done by many authoritative observers – The Government Accountability Office (GAO), the US Department of Transportation (DOT) Inspector General (IG), and the Amtrak Reform Council (ARC) -- among others), that the current situation is broken, and needs fixing. ***The NEC infrastructure is simply not living up to its potential, nor will it be able to do so under its current ownership and management structure.***

There have been a number of proposals for developing an improved focus on the NEC infrastructure. The Bush Administration's proposal in the Passenger Rail Investment Reform Act (PRIRA) would create an entirely separate NEC infrastructure company, and eventually locate the functions of the company in a new Interstate Compact that would lease the infrastructure from the US DOT. The ARC proposed to create a separate company to own and manage the NEC infrastructure. The Amtrak Board's *Strategic Reform Initiatives 2005 (SRI 2005)* proposed to establish a line of business focused on the NEC infrastructure, though the Board did not propose actual separation of the assets from Amtrak. Recent proposals developed by the Voorhees Transportation Center (VTC) in New Jersey have reviewed the option of creation of a federal/state company to oversee the infrastructure as well as the option of establishing an interstate compact for the purpose. ***The common element in these proposals is the belief that ownership and management of the NEC infrastructure are critical functions that deserve clear and transparent focus that may not best be achieved under the currently undifferentiated Amtrak Corporate umbrella.***

In order to facilitate a process of reform of the NEC infrastructure, a first step could be for the US DOT to acquire title to the NEC infrastructure and then either contract, lease or transfer control or ownership under new conditions that would ensure better management. This paper deals with the question: ***“If the decision is taken to transfer ownership of the NEC infrastructure to DOT from Amtrak, what steps should DOT take to administer its rights and obligations of ownership?”*** In doing so, the paper addresses several questions:

- What is the NEC infrastructure, and how did it come to be what it is today?
- What are the problems of the current ownership and control structure, and which of them could be dealt with under a change in title and subsequent management? At the same time, what new problems might DOT ownership create that do not exist now and that would have to be addressed?
- What should be the objectives of a new approach?
- What are the overall approaches available and how can they be evaluated? What issues can be resolved, and which will remain?
- What actions does DOT need to take to implement the decisions taken?

In summary, the paper concludes:

- That transfer of title might well resolve some critical problems that the current structure cannot deal with; but, shifting title to DOT would pose a different set of risks and would impose significant costs that should be clearly identified and resolved before going ahead with title transfer.
- One dimension of the options is structural. Options for modified structures might include: simply better accounting cost and income separation for the NEC infrastructure within the existing Amtrak Corporate structure; creation of a focused Amtrak subsidiary to manage the NEC infrastructure; creation of a new public benefit federal/state corporation to plan and manage the infrastructure for the joint benefit of Amtrak and the commuter and freight operators; creation of an NEC interstate compact; and, at least in principle, creation of a private company to manage, or even own, the infrastructure.
- The other dimension of the options lies in the type of relationship between DOT as owner and the implementing agency. Choices include: an improved form of the existing Grant Agreement that focuses specifically on the NEC infrastructure as one of the elements of the Agreement; a contract between DOT and the implementing agency specifying what is to be done and ensuring performance of the contract; a lease from DOT to the implementing agency with appropriate conditions as to the use and management of the assets; or, again in principle, a concession or outright sale of the assets to a private management company.
- (Exhibit 1).
- The privatization options are probably not viable for a number of financial and policy reasons and keeping the NEC infrastructure as is, submerged within the undifferentiated Amtrak Corporate umbrella without accounting separation, has palpably failed. Any of the other structural options would be an improvement on today’s approach: each has different control, exposure and cost results.
- In any case, there will be no “fire and forget” approach available for the Federal Government, no matter what structural or legal relationships are instituted. The state-of-

good-repair program will take between 5 to 10 years (or longer) to implement. Multiple users of the infrastructure will need attention from a number of different federal agencies. Decisions about schedule priorities and access charges are certain to require federal involvement in resolution and funding (which will be the key to resolution). Finally, attempts to more effectively integrate commuter and Amtrak services in the Metro-North zone from New Rochelle, NY to New Haven, CT will require detailed federal involvement.

Although some of the implementing actions will, of course, be related to the specific structure and relationships chosen, a number of actions will be needed in the short, medium and longer term (Exhibit 2).

- **To be done as soon as possible, preferably in preparation for the implementation program:**
 - Develop a clear definition of the assets to be acquired and transferred, along with a listing of the liens or encumbrances on these assets. The asset definition in the DOT mortgage may be a starting point, along with the PRIRA language, but a more detailed definition is needed, especially in detailing the liens or encumbrances
 - Develop a complete listing of any agreements Amtrak has for joint use of the infrastructure or related facilities (these could include joint venture control centers, maintenance facilities, joint use of stations, etc) and determine whether these are transferable (and under what conditions) to the DOT and the successor agency. If not transferable, develop an approach for future management. Some agreements, such as Boston South Station, are directly between the Federal Railroad Administration (FRA) and the Massachusetts Bay Transportation Authority (MBTA) and do not involve Amtrak.
 - Develop a full list of Amtrak's real estate or other commercial ventures that might be affected by the transfer of assets, and describe the conditions of transfer.
 - Encourage Amtrak to pursue an immediate clarification of the NEC infrastructure accounts (expenses and revenues). The Amtrak NEC subsidiary now under consideration by the Amtrak Board would be an effective approach to accomplish this, although some estimates of account separation through modification of the existing Amtrak Route Profitability Statement (RPS) would be helpful in the short term.
 - Develop a revised Grant Agreement for **use in the short term** for NEC infrastructure during an interim period before any of the proposed transfers take place. It is possible that a Memorandum of Understanding (MOU) would suffice for a short-term relationship.
 - Develop draft contracts between DOT and Amtrak (or the proposed Amtrak subsidiary) for the functions to be performed until the longer-term institutions can be put in place. The existing contract between Amtrak and the MBTA for maintenance of the NEC section from Providence to Boston might be a useful model for this contract. The DOT/Amtrak contract for the NECIP (1976) might also

be a useful model (in both cases, an analysis of lessons learned should also be developed)

- Develop a conceptual draft federal lease of the NEC assets to a potential company or interstate compact, if those remain under consideration.
 - Identify potential members of the various new Boards of Directors
 - **On or by the day of acquisition:** DOT (or FRA) will have to sign simultaneously either a short-term amendment to the existing Grant Agreement (for the remainder of the Fiscal Year) with Amtrak to cover NEC infrastructure support, or it will have to sign a contract with the new Amtrak subsidiary. If a contract is signed, DOT will also need the additional resources (legal, procurement, engineering, etc) on board to permit responsible oversight of the contract. Based on past experience, this would probably best be handled by a contract such as the De Leuw-Cather Parsons (DCP) prime contract for support to the NECIP. Simple contract oversight of ongoing operations and maintenance is likely to require a dedicated staff of 10 to 15 full time equivalent (FTE) people at FRA: development, evaluation and oversight of the state-of-good repair program might well require resources similar to the original NECIP (50 FRA, 50 Federal Highway Administration (FHWA), and DCP staff exceeded 900 at one point).
- **Immediately (first 6 months):**
 - Initiate a review and development of the state-of-good-repair program. This could be based on the programs and capital plans already developed by FRA and Amtrak, and could be done by an oversight contractor. Critically, this should include definition of any environmental issues (now Amtrak's responsibility) that would become a more direct federal responsibility. It would also highlight safety issues (Connecticut grade crossings and/or NY tunnel fire egress) that, under federal ownership, would have higher public visibility. It should also cover potential initiatives between New Rochelle and New Haven that would improve conditions, capacity and service for both Amtrak and Metro-North trains. The state-of-good-repair program must be reviewed in detail by the states involved, and should include not only deferred maintenance, but also initiatives to increase capacity where needed and to improve service quality where feasible.
 - Develop a policy on how to handle the federal share in Amtrak's real estate joint ventures acquired by DOT, if such ventures are transferred to federal control rather than being left with Corporate Amtrak.
 - Begin discussions with the states on the alternatives, and structure, available for the new federal/state relationship (company or interstate compact) if that is still under consideration. This should include participation by the freight railroads because of the impact of NEC operations on highway capacity.
 - Freeze access slots and access charges for the moment, but initiate study on the policies for setting slot priorities, and develop the approach for setting access charges.

- **Over time (1 year to 5) Years**
 - Develop and implement access priorities and the access charge regime. This will include, inter alia, a clear policy of who bears what costs of operation and investment.
 - Work with states and the freight railroads to implement the new structure (federal/state company or interstate compact) and transfer assets to the new agency.



OPTIONS FOR FEDERAL OWNERSHIP OF THE NORTHEAST CORRIDOR (NEC) INFRASTRUCTURE

Introduction: Amtrak and the NEC Infrastructure

Intercity rail passenger service in the U.S. had its halcyon days in the years prior to World War II (WWII). Immediately after WWII, rapid highway construction (especially with the advent of the Interstate Highway program) coupled with the introduction of increasingly efficient passenger aircraft began to drive the private railroads out of the intercity passenger business. By the late 1960s, losses on intercity rail passenger service were consuming about half of the total Net Railway Operating Income that the railroads derived from freight operations.¹ Although the railroads attempted to discontinue their unprofitable passenger services, public resistance supported by regulatory delays forced them to continue services long after the gap between costs and revenues had become unsustainable. The burden eventually became so large that the viability of the entire private rail freight industry was threatened.

In 1970, the Nixon Administration proposed the creation of the National Railroad Passenger Corporation (Amtrak). The freight railroads were offered the opportunity to drop their intercity passenger services; in return, they were required to make a contribution to assist the creation and start-up of Amtrak. Amtrak assumed the responsibility for operating passenger trains, in return for which Amtrak paid an access and operations fee to the railroads over which they provided service. After the railroads “joined” Amtrak, the Federal Government assumed the responsibility for funding intercity passenger services.

The system to be operated by Amtrak was the subject of heated debate. The Administration’s initial proposal would have cut the intercity passenger route-miles by about 80 percent. After receiving the comments of the public, Congress, and the Interstate Commerce Commission (ICC), the final plan for Amtrak – reducing the route-miles by around 43 percent² – was promulgated and Amtrak commenced operations in May of 1971.

The full details of Amtrak’s establishment and initial structure are too complex to be handled in this paper, and will not be addressed. There is one aspect, though, that deserves comment: **the concept under which Amtrak was established envisioned Amtrak as purely an operating**

¹ Thompson, 2003, page 2. See this source also for a more detailed history of Amtrak and the reasons for its creation, along with an extensive bibliography.

² Interestingly, in the light of events to follow, both the initial and final systems were projected to be profitable. See Thompson, 2003, page 5.

company. Amtrak was not expected to have any infrastructure³ of its own, though it was expected to own and maintain rolling stock, and it initially owned many of the heritage railway stations. Thus, Amtrak began life purely as a tenant operating on the infrastructure of the freight railroads: it was (and remains), in fact, the largest passenger railway in the world that operates almost entirely (97 percent of the network miles) separated from its infrastructure while paying an access fee for use of the tracks and services provided by others. In a very real way, “infrastructure separation,” far from being infeasible (as is often argued), is actually the basis on which Amtrak exists.

Even today, of the roughly 22,000 route miles over which Amtrak operates, only approximately 650⁴ miles (about 2.9 percent) are owned and controlled by Amtrak. Of the 457 miles of the NEC Spine, Amtrak owns and controls 363 miles. Amtrak also maintains and controls (but does not own) the MBTA zone (38 miles). The 56 miles in the Metro North area are owned and controlled by Metro North and the State of Connecticut. In addition, the secondary route from New Haven to Boston via Hartford and Springfield (148 miles) might be included as could be the route from Philadelphia to Harrisburg (104 miles) (Exhibit 3).

Some segments of the NEC route were among the first railroad lines built in the U.S. The Canton Viaduct near Boston, for example, which still carries NEC passenger trains, was built in 1836. A number of other structures pre-date the Civil War. Partly because the NEC lines were built so early, before there were good highway alternatives, the NEC cities and their economies developed around, and are uniquely dependent on, passenger rail services.

The eight states (and DC) directly served by the NEC route make up about 20 percent of the nation’s population and generate nearly a quarter of its economic activity (23 percent and 27 percent, respectively, if ME, NH and VA are added). The importance of the NEC route to these states goes far beyond that of intercity passenger services: in fact, the NEC infrastructure serves as much as fifteen to thirty times as many commuter passengers annually as it does Amtrak passengers (Exhibit 4). Measured by the number of trains operated on each segment, Amtrak is a minority user in the areas of heavy commuter use, but the dominant users outside those areas (Exhibit 5). Although freight services have been severely restricted by rail traffic congestion and high access charges, freight remains (on a Gross Ton-Mile basis) around 5 percent (north end) to 15 percent (south end) of the NEC traffic (Exhibit 6). Freight traffic has increasingly been restricted by clearance problems in the Baltimore and Potomac (B&P) tunnel in Baltimore, a problem now under study by FRA.

³ Rail “Infrastructure” includes essentially everything “below the rails.” The term includes rails, cross ties, other parts of the track structure (switches and turnouts), bridges, signaling, electrification (if present), and all other parts of the fixed system upon which trains operate. It would not include coaches and locomotives, and the shops to repair them. Stations may or may not be considered as infrastructure, depending on the operational uses for each station.

⁴ See Amtrak Timetables and Amtrak Website.

The ownership and operational structure of the NEC infrastructure is as complex as the usage pattern. Amtrak owns the section from Washington, DC to New York Pennsylvania Station (NY Penn), and from NY Penn through Harold interlocking (owned by the Long Island Rail Road -- LIRR) and over the Hellgate Bridge to New Rochelle, New York. The section from New Rochelle to the Connecticut line is owned by Metro-North, and the section from the Connecticut/NY line to New Haven is owned by the State of Connecticut. Amtrak then owns the section from New Haven to the Massachusetts line north of Providence, and the State of Massachusetts owns the section from the Rhode Island line to Boston. Operationally, Amtrak runs trains on all sections of the Spine. The commuter operations are not, however, completely consistent with ownership, as Exhibit 5 above shows: freight patterns are yet different (Exhibit 7).

Because Amtrak operates the only end-to-end trains, Amtrak takes the lead in developing the overall, integrated timetable for all trains in the NEC, but does so in cooperation with all commuter operators. Amtrak controls the actual movement of trains (dispatching) in all areas except the Metro-North section from New Rochelle to New Haven, CT: this gap in the integrated dispatching of the NEC has significant implications for the speed and reliability of the service from NY Penn to Boston. Metro-North also maintains its zone, which means that Amtrak trains transiting the Metro-North zone are impacted by dispatching and track occupancy decisions that are out of Amtrak's control. In addition, if an Amtrak train is delayed in the Metro-North zone, that delay will impact Amtrak's on-time performance North and South of the zone.

The current ownership and control patterns are haphazard from the point of view of end-to-end service. The Pennsylvania Railroad (PRR) originally built the sections from NY Penn to Washington, and the PRR operated all of the intercity trains south of NY Penn. The section north of NY Penn was originally built and operated by the New York, New Haven and Hartford Railroad (the New Haven), though the section linking NY Penn to New Rochelle was a joint project of the PRR and New Haven Railroad. The ICC made the PRR and the New York Central include the New Haven in their merger in 1968, which meant that the NEC infrastructure was actually integrated under single ownership, Washington DC to Boston, for a brief period of two years.

Unfortunately, the Penn Central went bankrupt in 1970 and the integrated ownership broke down. Before the formation of the Consolidated Rail Corporation (Conrail), the piece from New Rochelle to the Connecticut line was leased and subsequently transferred to the State of New York, the piece from the New York State line to New Haven was leased and then transferred to the State of Connecticut, and the part within Massachusetts was sold to the State of Massachusetts (which it acquired using an Urban Mass Transportation Administration (UMTA) loan that was subsequently forgiven), in all cases because of the importance which these states placed on their commuter services.

The disposition of the remainder of the NEC infrastructure was the subject of close study by the United States Railway Association (USRA). In the Preliminary System Plan (PSP) for the formation of Conrail, USRA considered five options:⁵

1. Sale to a new, private owner;
2. Continued ownership by Conrail
3. Establishment of a federal corporation or Regional Authority to own the infrastructure and operate all passenger trains except those operated by Amtrak;
4. Sale of the NEC infrastructure to Amtrak, except for the Metro-North and MBTA zones that were already leased or owned by them;
5. Creation of a fixed plant entity that would only own and maintain the NEC infrastructure, and either lease the facility to the operators, or directly maintain the facility and charge users for its use.

The PSP rejected the first two options at the outset, believing that privatization was impracticable and that “[m]anagement and financial responsibility for the Corridor [the NEC infrastructure] should not be vested in ConRail (sic)...” because Conrail would not be the predominant user.

In the Final System Plan (FSP), USRA reiterated its conclusion that “[o]wnership or lease and control of facilities in the Corridor and elsewhere should become the responsibility of the dominant user.”⁶ This led to the recommendation that “Amtrak should own **or lease and provide the management** for Northeast Corridor properties **except for segments already owned or leased by state of local transportation authorities.**”⁷ Recognizing that Amtrak intended to purchase the NEC infrastructure, USRA concurred in the purchase, but added that “[r]ail properties in the Corridor which currently are owned by several state and regional transportation authorities cannot be conveyed to Amtrak under the Act, but Amtrak will continue to exercise operating rights for intercity passenger service on these lines.”⁸ The ICC concurred with USRA, noting “[i]t is our opinion that ownership of the Corridor should be transferred to Amtrak **or to a special agency established for this purpose.**” [emphasis added]

Three points about the USRA analysis and planning deserve emphasis, as added above. First, the fragmentation of NEC ownership and management began during the Penn Central bankruptcy, and USRA did not attempt to create a way of reunifying NEC operations. Second, the issue of the options of dealing with the NEC infrastructure is not new: indeed, most of the options that will be discussed later in this paper were identified and discussed then, or even much earlier. Third, and perhaps most important, both USRA and ICC explicitly retained consideration of alternatives to Amtrak ownership of the assets. In the event, ownership passed to Amtrak, not because Amtrak ownership was the only option approved by USRA or the ICC, but by default because none of the other available options were developed. Thus, in 1976, did

⁵ See USRA, PSP, pg 188. Interestingly, many of the same options were discussed in the first comprehensive study of transport in the NEC. See USDOT, 1970, pg 3-8.

⁶ USRA, FSP, page 37.

⁷ USRA, FSP, page 38.

⁸ USRA, FSP, page 42.

Amtrak acquire ownership of the NEC infrastructure as one of the steps in completing the reorganization of the Penn Central and the establishment of Conrail.

There were, from the beginning, no doubts about the dilapidated state of the assets acquired by Amtrak. Years of bankruptcy of the New Haven had meant that much of the route north of New York City was in bad physical condition. Though the PRR had been in better financial condition, it, too, had been forced to cut back on maintenance prior to the merger that created the Penn Central. Amtrak inherited an infrastructure that had a large backlog of deferred maintenance that needed to be attacked immediately if the existing schedule times were to be maintained and improved while operating safely.

The Railroad Restructuring and Regulatory Reform Act of 1976 (the 4R Act), established the Northeast Corridor Improvement Project (NECIP) and provided funding of \$1.75 billion to rectify the deferred maintenance backlog and to provide service (with appropriate stops) of 2 hrs 40 minutes between NY Penn and Washington, DC and 3 hrs 40 minutes between NY Penn and Boston.

The initial concept for the NECIP called for an almost complete upgrading of the NEC, including adding new electrification between New Haven and Boston (which, at that time, was operated by diesel traction), conversion of the electrification on the south end to constant tension catenary using commercial frequency (60 Hz – today the frequency is 25 Hz) at 25 thousand volts (KV), replacement and upgrading of the signaling throughout the NEC, replacement or thorough repair of most bridges, elimination of most curves that caused reduced speeds, installation of concrete crossties in order to provide a better ride at higher speeds, and rehabilitation of all stations, among many other features. Unfortunately, the \$1.75 billion budget was not consistent with the hopes of the engineers or the expectations of the Congress, and the scope of the project had to be cut back and the budget increased. This was agreed in the Passenger Railroad Rebuilding Act of 1980 when the budget was increased to \$2.5 billion, and some of the desired projects (e.g. new bridges) were reduced or removed. NECIP continued to experience scope and schedule problems, partly due to optimistic cost estimates, partly because the nature of the rehabilitation work was inherently difficult to project, and partly because the inflation rates encountered in the late 1970s were higher than those permitted in the Administration's economic projections.⁹

The Reagan Administration reduced the scope of NECIP in 1981 to \$2.19 billion for budgetary reasons, causing an additional reduction in project scope, including notably the new electrification between New Haven and Boston as well as remaining signal improvements on the south end of the corridor. After this point, the scope and the budget for NECIP remained fixed and no further changes were made. The trip time goals on the south end were met; but, because the electrification on the north end was eliminated, the trip time goals on the north end were not met. The NECIP was the largest project ever managed directly by the US DOT.

⁹ See USDOT, 1986, and Thompson, 1982 for more detailed discussions of the scope and budgetary issues of the NECIP.

For the purposes of this paper, the institutional aspects of the NECIP are probably more significant than the schedule and budget issues. Underlying the decision on the purchase of the NEC infrastructure by Amtrak was a series of conflicts between DOT and Amtrak as to the future of Amtrak services nationwide. One result of this conflict was that, though DOT allowed (or was forced to allow) Amtrak to obtain the NEC infrastructure, it was not willing to allow Amtrak to manage the NECIP. Instead, NECIP was managed directly by FRA. In some cases, FRA contracted directly for work to be done on Amtrak facilities (this was especially common on assets such as the stations for which the contractor did not have to work on the “live” railroad); in other cases, FRA contracted with Amtrak to do work on Amtrak’s own facilities, sometimes using contractors, and sometimes using Amtrak’s own labor force (“force account”) to do the work.

This relationship meant that FRA was responsible for all planning and design, as well as procurement and environmental proceedings, for a multi-billion project that spanned eight states (and DC) as well as a multitude of local jurisdictions and three freight railroads. Because FRA did not have on its staff the engineering resources needed, FRA and the FHWA developed a joint staffing plan in which about 40 FHWA staff were detailed to work under FRA supervision (about 50 FRA people were involved at the peak of the project). Most of the actual design and contracting work was conducted by a joint venture between Deleuw-Cather and the Ralph M. Parsons Company (DCP), which, at its peak, had a staff of over 900 people including direct staff and sub-contractors.

Direct management of NECIP by FRA had a number of advantages for the Department, including offering a better perspective for balancing all of the region’s transportation interests and more direct public accountability for achievement.¹⁰ Mega-projects such as the NECIP inherently impinge on a wide range of public interests and issues that Amtrak was not in a position to address. And, despite the frustration that multiple objectives cause – such as schedule and budget limitations in conjunction with the National Environmental Policy Act (NEPA) or the Minority and Disadvantaged Business Program¹¹ goals -- DOT was in a far better position than Amtrak to make the tradeoffs involved.

There were also clear costs of direct FRA management. The split in roles between FRA and Amtrak caused confusion and resentment for both at the beginning, and continued to cause problems, though much reduced as time went on and experience was gained with cooperation. Conflicts in priorities sometimes caused disputes. For example FRA insisted on thorough rehabilitation of historically sensitive stations, and attached great importance to compliance with

¹⁰ The 4R Act (Section 703 (2) and (3)) specifically required the Secretary of Transportation to take into account the interests of rail Commuter, Rail Rapid Transit and Local Transportation agencies as well as rail freight service in planning the NECIP.

¹¹ Then Secretary William T. Coleman, Jr. attached special importance to the MBE goal of 15 percent, and felt that direct DOT management would ensure appropriate attention. In fact, the actual percentage was 18 percent, among the more successful programs in the Federal Government for a program of this size.

NEPA.¹² Amtrak would have preferred to spend more money on concrete ties or other track work, and was, at the local level, often less careful about environmental issues. Coordination between work on track and operations was often poor; local Amtrak dispatchers sometimes ignored track access agreements that Amtrak's engineering department had accepted, causing additional charges due to contractor change orders. Communication between Amtrak and FRA's prime contractor, DCP, on design and planning issues was sometimes less effective than would have been preferable.

The relative roles of FRA and Amtrak began to change in the early 1980s. Though FRA retained control of the budget, completion of most of the design and environmental work and commitment of many of the direct federal contracts meant that there was diminishing need for a direct contract between FRA and Amtrak. This change was also supported by Amtrak's progress as it began to get better control over the massive projects under its control (the Track Laying System, for example, that ultimately installed about 400 miles of new, concrete tie track). The result was that the FRA role began to wind down, and the contract with Amtrak was converted to a Grant Agreement at the beginning of FY 1985.¹³

Another facet of the NECIP was the initially troubled relations with the commuter authorities along the Corridor. At the beginning of the NECIP, the commuter authorities complained that FRA was making decisions that would impose changes, and costs, on them without their agreement. The most important examples were the proposed conversion of the south end electrification from 11KV 25 Hz to 25 KV 60 Hz, and the proposed upgrading of the south end signal system to include additional signal aspects (speed limits) that would have increased the train carrying capacity in the areas in which commuter trains and Amtrak operated. Both changes would have had benefits for commuters as well as intercity trains, but both involved expenses either to scrap or upgrade the existing commuter equipment that commuter authorities were unwilling to pay. There was a similar problem for freight locomotives that would have had to install improved cab signals that Conrail believed were unnecessary for freight operations. FRA was planning other decisions, such as the modification of a number of interlockings (crossover points), that would have improved capacity and reduced interactions between commuters and high-speed trains, without (as the commuter authorities saw it) adequate planning coordination with the commuter authorities.

In response, the commuter authorities formed the North East Corridor Commuter Rail Authorities Coordinating Committee (NECCRACC). NECCRACC served as a discussion forum for commuter interests and as a point of contact (and pressure) with FRA. After a contentious

¹² Interestingly, FRA has used the requirements in NEPA to require that any potential project also consider the impact on the operations and capacity of all NEC users, not just Amtrak.

¹³ This change was also in response to a requirement that the contract be converted to a Grant Agreement in the Passenger Railroad Rebuilding Act of 1980 (PL96-254).

beginning, the more effective communications that the formation of NECCRACC brought quickly led to the resolution of most disputes, and to an improved ability to eliminate future arguments.¹⁴

By about 1986, FRA's role in NECIP had mostly wound down. Most FRA contracts had been completed, and much of Amtrak's work was also in place. The remainder of the work continued at a decreasing pace until the end of the 1980s.¹⁵ The total cost of the original NECIP was \$2.19 billion. Unfortunately, the scope reductions of the NECIP ensured that follow-on investment would be required if Corridor operations were to be safe and reliable, and especially if trip times were to be improved beyond the 2:40/3:50 levels prevailing at the end of the NECIP.

Amtrak has continued to spend on the NEC, partly under a Grant Agreement with FRA and partly from internal funds. The GAO reported¹⁶ that, as of March 2003, Amtrak had spent an additional \$2.6 billion on NEC-related activities. Most of this (\$1.1 billion) went for high-speed rolling stock (Acela and high speed locomotives) along with related maintenance facilities (never a part of the original NECIP scope). Amtrak had also spent \$717 million completing the electrification from New Haven to Boston, \$652 million on track and other infrastructure projects, \$95 million on environmental mitigation projects and \$34 million on "product development." The combination of the new high-speed rolling stock and the electrification permitted Amtrak to reduce its trip time on the north end to 3:27 (below the NECIP goals), but the NY Penn to DC Union station had been increased to 2:47 (but with 6 stops, which, assuming 4 minutes per stop, is consistent with the 2:40 NECIP goal).¹⁷

Despite the spending so far, much remains to be done if the Corridor is to be put, and kept, in a state-of-good-repair and the future service and capacity needs of all users are to be met. Estimates of future needs are not always in the same format, and it is not always clear how to distinguish between what is already spent or committed. With this in mind, there have been two more or less comprehensive estimates of future needs: DOT's 1994 look at the north end, and Amtrak's 2000 look at the south end. (Exhibit 8), which contains a listing of the various upgrading proposals]

The north end estimates developed by DOT in 1994, and showed a need for an additional \$3.1 billion, of which \$853 million had already been budgeted, leaving a gap of \$2.3 billion: of this, \$658 million would go to trip time improvement, \$580 million for increased capacity, and about

¹⁴ In addition, the Reagan budget cuts eliminated the planned signal upgrading, thus removing one of the sources of dispute. Unfortunately, the lack of signal upgrading also permitted the accident at Chase, Maryland to happen.

¹⁵ Amtrak was required to finish its work under the original NECIP Grant Agreement by the end of FY 1988, but minor amounts of the work continued thereafter.

¹⁶ GAO, 2004, page 21.

¹⁷ See Amtrak System Timetable, fall 2003/winter 2004. Note that the original 2:40/3:40 goals had been reviewed by FRA in a 1978 report mandated by Congress (See US DOT 1978 – the "Two-Year Report"). The report found that the goals could be reduced to 2:30/3:00, but the significance was eliminated by the budget reductions mandated by President Reagan.

\$1 billion would go to “recapitalization” (deferred maintenance and replacement of age-expired facilities). This would have permitted a 3-hour schedule from NY Penn to Boston, and would have accommodated the growing capacity needs of intercity, commuter and freight users.

The south end estimates, developed by Amtrak in 2000, showed needs for about \$3.2 billion in the short run (FY2001-2005) and an additional \$8.9 billion in the longer run (FY 2006 to 2025). Of the \$12.1 billion, about 45 percent would be spent for safety and reliability, about 48.4 percent would be spent on shared capacity benefits (Amtrak, commuter operators and freight), and only 6.2 percent would be spent on high-speed projects. This program would permit returning the entire NEC to a state-of-good-repair, would accommodate the expected traffic growth of the commuter operators, and permit a 2-hour schedule (3 stops) or 2:15 schedule with 6 stops (compared with 2:47 today).¹⁸

A third perspective on future funding needs is in the Amtrak Strategic Plan (FY2005-2009).¹⁹ This study presents total infrastructure needs for all purposes and does not distinguish between NEC and other Amtrak infrastructure. A review of the detailed discussion suggests that almost all of the funding is NEC related. The total in this estimate is \$2.126 billion.

It would be easy, in the midst of the details, to lose sight of the bigger picture – the importance of the NEC infrastructure to the region. The Northeast Corridor Transportation Project Report (1970) concluded that highway and air travel capacities in the Northeast would be increasingly strained by a combination of economic growth in the face of a growing inability to add capacity. This report concluded that an effective approach for alleviating the Region’s growing urban and intercity passenger congestion would be a judicious investment in rail, and laid out a series of alternatives for doing so.²⁰ The report suggested three rail alternatives: the DEMO program which would essentially have maintained the existing service at a cost of \$ 200 million; the HSR-A program would have cost around \$6.15 billion, and yielded 1:56/2:05 trip times from DC to NY Penn and from NY Penn to Boston respectively; the HSR-C program would have cost \$10.1 billion, and would have yielded trip times of 1:25 and 1:23 (cost estimates in this paragraph are in constant 2004 \$).

Though subsequent studies have tended to be less ambitious (or optimistic) in their expectations of the top speed of rail service, the underlying diagnosis of the problem has changed very little. If anything, highway congestion and the cost and difficulty of using air travel is worse than foreseen 30 years ago. Mobility -- intercity, commuter and freight -- is no better now than then, and the prospects for the next thirty years are probably even less optimistic. Against an ever growing demand for intercity and commuter transport, and for movement of higher-valued freight cargo, prospects for increasing highway capacity appear very limited, and access to the airports that would be involved in services competitive to the NEC spine (Reagan National in Washington, LaGuardia in NYC, and Logan in Boston) is already restricted.

¹⁸ Amtrak, 2000, page 19, Exhibit 5.

¹⁹ Amtrak, 2004, page 13.

²⁰ USDOT, 1970, page S-6.

Compounding the problem is the likelihood that little, if anything, can be done to significantly reduce the cost of gasoline and diesel fuel, putting a high premium on fuel efficiency – an area in which rail offers advantages. In fact, the same issues are appearing in many urbanized areas of the country; the NEC is not really different, it is just 10 to 20 years ahead of the trends elsewhere.

This is not an issue to be dealt with just within the intercity rail mode. Instead, the resolution must span intercity rail, commuter rail, mass transit, the private auto, and air travel. Though many of the individual actions will be implemented at the modal, or even sub-modal level, the leadership, and the overall guidance (and a lot of the funding) must come from the federal level. Given the significance of intercity rail passenger rail travel in the overall travel matrix, and given the multiplicity of users (some of whose uses are potentially conflicting), there is clearly a mandate for federal and state involvement in the NEC rail infrastructure planning and management.

Problems With Amtrak's Ownership and Management of NEC Infrastructure

The well-known saying, "if it ain't broke, don't fix it," is important. What are the problems with the current situation that might need fixing?²¹

Continuing maintenance and replacement backlog. As acknowledged above, Amtrak acquired in 1976 a set of infrastructure assets that were sadly rundown and outdated. Almost thirty years later, the NEC infrastructure is still not in a state-of-good-repair. In Amtrak's defense, a major part of the maintenance shortfall is certainly related to a shortage of authorized and appropriated funding, which no doubt happened for a number of reasons, including: a lack of internal focus; conflicts in internal priorities;²² conflicting priorities of the Presidential Administrations during Amtrak's stewardship of the NEC infrastructure; and, Congressional tradeoffs (within and outside of Amtrak's budget). This said, and whatever all of the reasons may be, it is inescapable that the existing organization of Amtrak, conflicting internal priorities and the current ownership structure of the NEC infrastructure, have not resulted in the authorization, appropriation or allocation of adequate funding for maintenance of the NEC. The US DOT IG concluded, for example, "... programming millions of scarce capital dollars for fixing long-distance sleeper cars when bridges that Amtrak owns are beyond their functional and economic lives and must be refurbished or replaced **is unacceptable**."²³ [emphasis added] A more dramatic statement by the DOT IG was that Amtrak's funding priorities had "resulted in a form of Russian roulette, spreading capital much too thinly and substantially increasing the amount of deferred investment."²⁴

A very large capital backlog. Despite two major upgrading programs – NECIP and the Northeast High-Speed Rail Improvement Project (NHRIP) -- the needs for trip time improvement, capacity upgrading and recapitalization remain daunting, larger than ever. To be fair, many NEC components that were left unaddressed by the NECIP have simply deteriorated further. It is sobering to note, for example, that when the High Speed Ground Transportation Act of 1965 was enacted, the PRR electrification was only three decades old: an additional **four decades** of deterioration have occurred since then, still with no systematic rehabilitation. Seventy years of intensive use is a long time. The actual needs are not clear; but, Exhibit 8 shows three different approaches for estimating that around \$6 billion is needed in the short term, and as much as an additional \$9 billion in the longer term, to meet trip time, capacity and recapitalization needs on the south and north ends, with most of the cost due to capacity and

²¹ USDOT IG, 2003, "... the current, overall approach to designing, governing and funding the intercity passenger rail system in this country is **broken**."

²² As an example, when Amtrak was given a large amount of money (\$2.2 billion) under the provisions of the Taxpayer Relief Act of 1997, Amtrak did not choose to spend even a majority of the money on NEC infrastructure. In its review of Amtrak's spending under this Act, the GAO found that a significant portion of the funds were spent for purposes not consistent with the Act, and that "Amtrak has not had a multiyear plan that identifies its capital needs and sources of funds." See GAO 2000, page 3

²³ USDOT IG, November 2004, page 2.

²⁴ USDOT IG, November 2004, page 3.

recapitalization, as no convincing case has been made for significant further trip time reductions. The US DOT IG estimates a capital backlog of \$5 billion.²⁵ Experience with the prior capital programs, particularly NECIP and NHRIP, argues convincingly that these numbers will be underestimates, partly because of incomplete or inaccurate estimates, and partly because future capacity needs are inevitably understated. However accurate the numbers, the real question is whether Amtrak, based on past experience, can both **obtain** and **manage, by itself**, a future investment program that is several times larger than the prior programs.

Problems in program management. Managing maintenance and construction on a densely used railway that dates to the early years of the 20th Century has been compared to open heart surgery on an 80 year old patient: it is never easy and the outcome is always uncertain. In addition, Amtrak's Engineering Department appears to have made progress in planning and managing its maintenance and rehabilitation activities²⁶; but Amtrak has had manifest problems in managing large-scale projects in the past. For example, in a report entitled "Amtrak's Management of Northeast Corridor Improvements Demonstrates Need for Applying Best Practices," the GAO found that the cost of the new electrification (New Haven to Boston) grew from "... about \$300 million in 1992 to about \$727 million in 2003."²⁷ In fact, the electrification program eventually experienced about a four-year delay from the original completion date before partial operation in January 2000, with full acceptance even now not fully complete.

More broadly, GAO found that "Amtrak could have exercised more effective management of the NHRIP had its management of the project been more comprehensive and had it focused greater attention on critical infrastructure issues needed to attain the 3-hour trip time goal."²⁸ Moreover, GAO concluded: "Amtrak's management of the Northeast High-Speed Rail Improvement Project contributed to its inability to achieve project goals."²⁹ And, GAO remarked, "Amtrak did not use the information it received to effectively manage problems that arose."³⁰ In a summary, GAO found that: "[n]either Amtrak nor FRA exercised effective management or oversight of the Northeast High-Speed Rail Improvement Project. Amtrak's management was not comprehensive, and it was focused primarily on the short term. Amtrak focused on managing the electrification and acquisition of new high-speed trains, and did not sufficiently address major infrastructure improvements needed to attain the trip-time goal."³¹ GAO agreed, however, that the reason why FRA had not exercised adequate oversight was a lack of authority to do so, and recommended "... that FRA seek legislative authority to oversee such projects in the

²⁵ USDOT IG, May, 2005, "Amtrak has an estimated \$5 billion backlog of state-of-good-repair investments, and underinvestment is becoming increasingly visible in its effects on service quality and reliability."

²⁶ USGAO, Oct 2005, page 56.

²⁷ USGAO, Feb 2004, page 21.

²⁸ USGAO, Feb 2004, page 26.

²⁹ USGAO, Feb 2004, page 26.

³⁰ USGAO, Feb 2004, page 27.

³¹ USGAO, Feb 2004, summary page.

future,” GAO found similar management problems in the Acela program, which is the key to providing high-speed service on the NEC infrastructure.³²

It is also significant that neither the Amtrak Board’s *SRI 2005* nor the Amtrak Strategic Plan FY 2005-2009 contains any specific discussion of service goals or demand or market expectations for the NEC or its infrastructure: physical indicators abound, but there is no indication of either trip time goals nor improvements in on-time performance. Though the Board did indicate that the FY06-10 version of the Strategic Plan would be organized around business lines and would make recommendations on strategic direction and policy for each business line³³, the GAO’s conclusion about the lack of real planning remains. Of course, without planning and clear indicators of performance, it is impossible to measure performance.³⁴

Lack of information and transparency in the NEC infrastructure accounts. The Amtrak Board found, in *SRI 2005*, that “[c]larity and transparency with respect to the financial performance of each business line is critical to all stakeholders.”³⁵ Such clarity is critical (in the Board’s words) because none of the stakeholders, including the DOT and the commuter operators, can assess how well, and where, money is actually spent without accurate accounting. Amtrak’s motives in failing to develop and release accurate information on the NEC infrastructure, despite many requests, are not clear. The Amtrak Reform Council (ARC) concluded, for example, “Amtrak has resisted all requests that it separate the financial statements for the Northeast corridor rail infrastructure that it owns and maintains from the financial statements of its train operations. **This makes management of both elements more difficult.**”³⁶ [emphasis added] The inescapable conclusion is that a lack of accurate accounting information, even in internal reports, serves a desire for obscurity: certainly, the absence of this information (internally and publicly) ensures that Amtrak’s planning and management of investment programs will continue to receive adverse GAO and DOT IG findings.³⁷

Possible strikes or bankruptcy threaten the stability of service to all NEC users. Because Amtrak is not the only user of the NEC infrastructure, threats of labor strikes against Amtrak are also threats against the commuter authorities and the freight railroads who are not involved in Amtrak’s negotiations: they are hostage to decisions they do not make. This was emphasized both by threats from Amtrak management to shut down operations as a result of budget problems and by an unusual threat or questionable legality by one Amtrak’s labor unions to strike Amtrak (shutting down the NEC infrastructure) to add support to Amtrak’s request for more money. Though Congress added a requirement to Amtrak’s budget that adequate funds be segregated to ensure that the NEC infrastructure would remain open even in a more general

³² See USGAO, December 2004, and USGAO, May 2005.

³³ *SRI 2005*, page 12.

³⁴ USGAO Oct, 2005, page 48. GAO concluded that “Amtrak does not have a meaningful strategic plan...”

³⁵ *SRI 2005*, page iv.

³⁶ ARC, 2002, page 4.

³⁷ USGAO, Oct 2005, page 10. “Amtrak’s ability to monitor, evaluate and report on performance is hindered by its data systems and reporting processes.”

Amtrak strike, the efficacy of this provision has not been tested, and it is still not a sure thing that commuters and freight shippers would not suffer from Amtrak's labor issues.

Another potentially serious threat would be an Amtrak bankruptcy. In this event, it is difficult to predict what would happen to the NEC infrastructure. While it is possible that the public service emphasis of the rail bankruptcy laws would encourage the potential trustee to keep the NEC infrastructure open, there are certainly bankruptcy scenarios in which a shutdown and eventually unpredictable and difficult to control disposal would occur. In studying this issue, GAO determined that "[t]he liquidation of Amtrak could also disrupt intercity and other passenger rail service. A number of factors could affect the continuation of rail service, including access to the tracks and stations that are owned by Amtrak and others, and the ability of states and commuter railroads to absorb the cost of continuing service... [sentence omitted] ... Finally, freight railroads use the Northeast Corridor and may also face the potential loss of millions of dollars of business to the extent that they are unable to retain access to the Corridor."³⁸

The seriousness of these threats is hard to assess. It can be argued that a strike in the NEC infrastructure would be so destructive that Congress would be required to act immediately, so the commuter agencies and freight railroads using the NEC really have little to worry about. While probably true, this is not an explanation that most governors or commuter authorities are likely to be comfortable offering to their constituents and passengers. It is also true that the primary threat of an Amtrak bankruptcy lies in a deliberate decision by the Congress not to appropriate enough money to keep Amtrak in operation, presumably to be accompanied by a decision as to keeping the NEC infrastructure in operation. At the same time, there have been enough recent occurrences – for example the need for an emergency \$300 million loan in 2001, secured by the platforms in NY Penn Station, or the need for an emergency loan in 2002 for \$100 million under provisions of the Railroad Rehabilitation and Improvement Financing program. -- to remove any comfort in the hope that an unexpected financial emergency cannot happen.

Concerns of the Commuter Authorities. Whenever a facility is owned by one party and used by others, there are bound to be concerns by both sides about the actions of the other. Moreover, publicly stated positions may overstate underlying beliefs, and may change. Nevertheless, and with this in mind, the commuter authorities have expressed a number of concerns about Amtrak's control and management of the NEC infrastructure:

- **Neutrality of access.** In the areas dispatched by Amtrak, some commuter authorities believe that Amtrak's trains receive preferred dispatching, even when the Amtrak trains are not on time and thus are running out of their scheduled slots. The VTC study, for example, argued for "[s]cheduling and dispatching protocols developed in a neutral forum."³⁹
- **Unbalanced capacity and service planning.** "In addition, Amtrak did not fully integrate the interests of stakeholders (commuter rail authorities and state governments) into the

³⁸ US GAO, 1998, page 3.

³⁹ VTC, page 4.

[Northeast High-speed Rail Improvement Project -- NHRIP] project, even though work that involved them was critical to achieving 3-hour service.”⁴⁰ This is a serious issue because the conflicting needs for capacity between commuter authorities and Amtrak will only grow more serious, and because, in the Metro-North zone, Amtrak is dependent on Metro-North in exactly the way the New Jersey Department of Transportation (NJDOT) and the South East Pennsylvania Transportation Authority (SEPTA) are dependent on Amtrak. Commuter authorities have also argued that a lack of coordinated planning has meant that their own investments (much of which are supported by the US DOT through the Federal Transit Administration (FTA) do not realize their full benefit.

- **Amtrak is a monopolist.** Commuter authorities feel that Amtrak’s “monopoly control” should be replaced with “a more balanced approach that recognizes the needs of both intercity and commuter customers and providers...”⁴¹

Fragmented ownership may have a deleterious effect on service quality and integration.

Amtrak’s position in the Metro-North zone is the same as that of NJDOT and SEPTA in the south end zone. Amtrak’s needs for higher-speed service are hostage to Metro-North’s priority for lower-speed but higher capacity (and cheaper) service. This has meant, for example, that Amtrak has been unable to enjoy the maximum use of the tilting capability of the Acela because the track centers are too close and Amtrak has not been able to get them widened.⁴² In addition, Metro-North has, for cost reasons, reduced curve and bridge super-elevation, and has removed capacity that is useful for Amtrak but not needed by Metro-North.⁴³ GAO noted, however, that “[o]fficials of Metro-North Railroad also told us that Amtrak’s agenda has generally been to take care of its own needs and spend money on its tracks, and commuter railroads could take care of their own needs. In their opinion, better cooperation and cooperation would have made the work [on the NHRIP] go faster and more smoothly.”⁴⁴

“Blame gaming” seems to be an inevitable part of political railroading (other areas of politics as well), and there is probably something to be said for all sides in the disputes. Without necessarily finding fault, though, there is little question that the needs of intercity passengers on the north end, and of commuter passengers on the south end, are not being met in the way that they should. The full potential of the NEC infrastructure is not being realized, nor will it be realized, under the current institutional and ownership arrangement.

⁴⁰ US GAO, 2004, introductory page.

⁴¹ VTC, page 3.

⁴² US GAO, Feb 2004, page 18. Of course, part of this problem is caused by the fact that the Acela equipment is wider than it should have been. Had the Acela been built as specified, the track centers would have been adequate. Two other potentially serious problems, track stability under high unbalance operation and pantograph contact, might also have caused problems, but did not arise because of the equipment width. Source: FRA.

⁴³ Source: FRA.

⁴⁴ US GAO, Feb 2004, page 30.

The tail wags the dog. As discussed above, Amtrak was not originally intended to be an infrastructure company as well as an operating company. Indeed, between 1971 and 1976, Amtrak ran its trains on Penn Central infrastructure just as it operated on the infrastructure of the other private freight railroads. Acquisition of parts of the NEC infrastructure was a byproduct of restructuring of the rail freight system in the Northeast, and happened at least partly because other approaches were not fully explored.

Today, however, NEC infrastructure is the financially and managerially dominant activity. Although exact numbers are not available, as noted by ARC, it is a reasonable assumption that employees dedicated to the NEC infrastructure represent around 20 percent of Amtrak's employees, and that Amtrak's total NEC employment, including operating personnel, represents something over 30 percent of Amtrak's total staff.⁴⁵ In addition, the Amtrak Strategic Plan FY2005-2009 provided \$1.476 billion in capital for all rolling stock (system wide) as compared with the \$2.123 billion essentially for NEC infrastructure.⁴⁶ The inevitable result is that management time and capital resources that should be focused on running trains properly, have been significantly diluted to the potential detriment of other things that Amtrak does. This is partly what the Board meant in *SRI 2005* when it said that "[r]esponsibilities and resources at Amtrak have been grossly mismatched for too long."⁴⁷ It is the basis for the ARC's conclusion that "Amtrak's responsibilities for maintaining the Northeast Corridor make it more difficult for Amtrak to achieve and sustain operating self-sufficiency," and the related finding that "Amtrak should focus on its core mission as a service provider. Amtrak's primary mission is to provide intercity passenger and mail and express service; Amtrak should focus exclusively on this mission and be freed from the financial and managerial distractions associated with track ownership and maintenance."⁴⁸

A summary of the problems. That the above issues exist is beyond serious argument, though their gravity may well be exaggerated by the self-interest of the various parties. Some of the problems may be more serious than others. Some may be on the way to resolution; others may be irresolvable under any framework. **The critical conclusion is that there are significant problems with the current structure and that they do act to limit the value and effectiveness of a crucial national asset.** The real question is how can the problems be addressed and, in particular, can federal ownership and subsequent restructuring of the management of the NEC infrastructure make a useful contribution?

⁴⁵ Based on Amtrak monthly reports and information furnished by FRA.

⁴⁶ Amtrak 2004, pages 13 and 35.

⁴⁷ *SRI 2005*, page iv.

⁴⁸ ARC, 2002, page 24.

Objectives for a New Organizational Structure

Agreeing that “it is broke,” how will we know that it is fixed? That is, what are the objectives that a change in ownership and organizational structure of the NEC infrastructure is meant to reach? Answering these questions is critical, and obviously related to the problems described above. A better solution ought to include the attributes below.

Improved public oversight. The NEC infrastructure is a critical facility for a number of operators (Amtrak, commuters and freight). It serves a number of vital public needs for urban and intercity mobility, reduction of congestion on highways and air, providing a lower cost alternative for lower income travelers, and reduction of air and noise pollution associated with highway and air operations, among others. Vast amounts of public money are at stake in the effective provision of rail infrastructure: as such, users and providers of capital and operating support have a right to clear and unambiguous information about costs and outputs. ***Any step forward will have to be based on development and publication of much more detailed and reliable financial and operational reports dealing specifically with the NEC infrastructure.*** Without this information, improved public oversight will not be possible.

Better public control and assurance that capacity, safety and environmental objectives are being identified and met. Based on the GAO findings and remarks by Metro-North, which are mirrored by Amtrak concerns for the attention they receive in the Metro-North zone, there is not an effective process for ensuring that the needs of all operators for capacity and safety are being met. The same can be said for the fragmented way in which FRA concerns for grade crossing safety in Connecticut were taken into account by the state DOT. ***A better coordination and discussion mechanism should be a part of any new organization.***

Stronger public voice in infrastructure planning. This is an issue that revolves around the meaning of “voice.” Mere discussion is often not enough (as results to date indicate): it is clearly not sufficient that New Jersey Transit (NJT) or SEPTA would depend on the good graces of Amtrak, or that Amtrak would similarly be dependent on Metro-North. It is also questionable whether, under the current relationships, federal money is being spent most effectively: FTA objectives can be thwarted by FRA (Amtrak) decisions, and vice versa. In either case, the broader objective of developing a better balanced and more effective transport system in the Northeast can be defeated. All parties (separately) argue that they need something more than the ability to complain: they need, instead, a forum in which they have at least some actual power (voice). Where large investments are involved and hard tradeoffs needed, something more than *noblesse oblige* of one of the parties is required. The Corridor infrastructure is a critical national transportation asset, not just a high-speed rail line. ***An authority with the ability to call all to account and arbitrate (or at least mediate) better resolutions would be a powerful motivator for reaching fair solutions. If improvements on the north end are desired, Metro-North will have to be included.***

More efficient use of the asset and the public investment in it. This issue has two aspects: improving the efficiency with which the assets are planned, constructed and maintained; and,

developing charges for use of the infrastructure that encourage efficient use by each operator. ***The first can be met by better information about the costs and efficiency of Amtrak (and Metro-North)*** in infrastructure activity and, to some degree, by allowing and encouraging both to ***make maximum use of competition for maintenance and construction contracts.***

The second issue is more complex. Experience in the United Kingdom (UK) and European Union (EU) with access charges for rail infrastructure shows that getting access charges right is important, and that getting them wrong can do real damage to the financial performance and stability of the infrastructure and operators.⁴⁹ This experience establishes that the current system of access charges for the NEC infrastructure is almost certainly wrong, on a number of grounds:

- With no real information on which to base the calculation of charges, it is not clear that **any** of the charges are truly related to costs or to use, however calculated: garbage in risks garbage out
- The commuter access fees, arguably based on marginal costs, may (or may not) be slightly understated, and may not be formulated to give a strong relationship of charges with use
- Freight access charges, based on “fully allocated costs” appear to include a number of elements (return on investment, for example) that may not truly be recoverable costs: if so, then freight access charges are too high, and are actually shifting traffic from rail to road (which could be the wrong outcome in at least parts of the NEC territory). In any event, charging fully allocated costs to freight and not other users distorts the use of the Corridor infrastructure.
- Beyond the hypothetical and approximate accounting allocations in the RPS, Amtrak does not impute access charges for its own use of the NEC, making the real financial performance of the Amtrak trains on the NEC difficult to assess (by comparison, the non-NEC Amtrak trains do pay an equivalent access charge to the freight railroads). In addition, viewing the use of the Corridor as “free” could cause Amtrak to make unduly favorable ratings of at least some of its trains.⁵⁰

An improvement in the access charge system will require better accounting information, expert analysis of the relationship between use and costs, and an improved, and fully neutral, approach to relating use to access charges. In particular, access charges should primarily be related to variable costs of use, with fixed charges either absorbed by the federal contribution (as in effect they are today) or allocated without regard to the actual level of train operations.

Clarification of Amtrak’s role as an operator of trains. Amtrak plays two different roles today. It is an operator of trains in competition with air and highway transportation, and it is the

⁴⁹ See Thompson, 2004, and ECMT, 2005, for a detailed discussion of the issues involved in establishment of access charges and the harmful effects of improperly formulated charges.

⁵⁰ See, for example, the discussion the impact of inaccurate or partial internal accounting on Amtrak decisions at USGAO, Oct 2005, pages 66-68.

owner and maintainer of a major infrastructure facility for a multiplicity of users, among which Amtrak is important, but not necessarily dominant. There is nothing necessarily inconsistent about these roles – indeed, most integrated railways play both – but a number of authoritative observers, *SRI 2005* and ARC among them, have argued convincingly that they may conflict, especially when the NEC infrastructure managerial and funding challenge threatens to harm (or has harmed) Amtrak’s ability to meet its responsibility to run the national system, and realizing the multipurpose nature of the NEC infrastructure.⁵¹ The problem has been that, with its murky system of accounting, even Amtrak cannot show that they have separated the two functions, nor could Amtrak establish that the two do not conflict, financially or otherwise.

SRI 2005, and the current Board consideration of setting up a separate subsidiary to hold and manage the NEC infrastructure,⁵² aim to clarify the situation by creating a firmer accounting and managerial boundary between NEC infrastructure and all train operations. This would permit Amtrak Corporate management to focus more directly on running rail passenger services. The ARC proposal, and others, would achieve the same purpose by full separation between NEC infrastructure (as a new and independent company) versus the train operating company. ***However achieved (options are discussed later in this paper), an enhanced distinction and managerial separation between the marketing and operating of intercity trains as opposed to the maintenance, construction and provision of NEC infrastructure will be important.***

The NEC infrastructure as a drain on Amtrak’s resources. However measured, the NEC infrastructure surely consumes a majority of Amtrak’s capital and it must consume a major portion of operating costs. When Amtrak is evaluated as an undifferentiated bundle, as it is today, then NEC capital and operating resources must compete with non-NEC obligations, and do so in a way that is not at all transparent from the outside (if, in fact, it is clear on the inside). Amtrak’s advocates are frequently split along long haul versus NEC lines, and a continuing source of dispute is the question of whether the NEC is a drain on Amtrak or a source of net income.⁵³ The answer is unclear, partly because of the lack of information. What is clear, though, is that the inability to evaluate each of Amtrak’s functions separately, and on its own merits, makes it harder to justify any individual activity, and has probably made it harder for Amtrak to do anything really well.

There is a strongly held counter argument – the one that says that an entire sweater can be unwound by pulling at any of its threads. In the Amtrak context, this translates to the belief that the only way Amtrak can be successfully defended is as a single entity, and that looking at the pieces separately would damage the whole: members of a political coalition, standing together, can accomplish what no single member can accomplish acting alone.

⁵¹ ARC, 2002, page 24: “Amtrak should focus on its core mission as a service provider.”

⁵² See Amtrak Board, September 2005.

⁵³ See, for example, URPA, October 18, 2005, for an example of the debate.

Whatever the merits of the argument in political terms, it does mean that each member of the coalition gets less than it might be able to justify by itself, and it ensures that the Congress, the Administration, and state governments and commuter authorities in the Northeast, are denied the information they need to make better service and investment decisions. ***A good way to guarantee that no part of Amtrak is a “drain” on another is to create the ability to look at each part separately.***

Limiting the effect on others of Amtrak labor disputes and bankruptcy. There is little question that the commuter operators and freight railroads could be affected by an Amtrak labor dispute, whether with operating employees, maintenance of way employees or signal operators. It is also clear that an Amtrak bankruptcy might well threaten the continued operation, maintenance and future investment in the NEC infrastructure in the areas owned by Amtrak. The key linkage appears to be Amtrak’s ownership and operation of the infrastructure: so long as Amtrak or an Amtrak affiliate owns and operates the NEC infrastructure, the threat will exist. ***If it is an objective to ensure continuity of operation and investment of the NEC infrastructure in the event of Amtrak strikes or bankruptcy, then one aspect of a new organization will need to be transfer of title and possibly operating control of the NEC infrastructure to a separate agency.***

National security and safety issues. Amtrak is a corporation with a relatively constrained purview – operation of passenger trains and control over a piece of rail infrastructure. Amtrak’s perspective is grounded in this role; it is not qualified nor does it have the information needed to make broader public policy decisions about the environment, public safety or security. The NEC infrastructure is a critical piece of public infrastructure and it is a bit of an anomaly for it to be owned by Amtrak.

An example of the problem has been the fire safety egress problem in the Hudson River tunnels. It was known for many years that the capacity and condition of the fire safety egress stairways is not adequate in the case of a major fire. The investment needed to fix the problem was in (and out) of Amtrak’s budget for years, but the work was not been done because of the tradeoffs within Amtrak’s capital budget (and because Congress has not given the project a high priority, either). Only in 2001, as a result of the terrorist attacks of September 11, 2001, was sufficient attention directed to the issue. Under present plans the work will now be done by the end of 2009. Another example is Amtrak’s ownership of superfund sites that would probably receive a different visibility if directly owned by a public authority. As discussed earlier, the Connecticut grade crossings might be another illustration of differing priorities depending on the owner.

Growing concerns about the safety and security of essential infrastructure after 9/11 have highlighted urban rail infrastructure (passenger and freight), partly because of their proximity to sensitive, populated areas, and partly because of their potential for high capacity evacuation in the event of security alerts or natural disasters. Though there is every indication that Amtrak has fully cooperated in the efforts to increase the security of its infrastructure, there is a question

whether the risks could be lowered, and benefits increased if the infrastructure were in public hands.

The issue of ensuring that the NEC infrastructure is safe, secure and environmentally beneficial needs high visibility in any institutional restructuring.

It would be misleading to suggest that there are only positive objectives in a potential restructuring. In fact, there are a number of significant risks and costs in changing the *status quo*, some of which should give serious pause to the US DOT and others before deciding on the changes (if any) to be made. In particular, the risks should be factored in when reaching the right balance among the objectives sought.

The dangers of federal proximity. Just as the public ownership and control over the NEC infrastructure might lead to better public tradeoffs among the various economic, financial, operational, safety, environmental and security objectives, it would also increase directly the public's responsibility for the outcomes. The distance that FRA and DOT might enjoy today when a grade crossing incident occurs would be reduced if title to the infrastructure were transferred to the US DOT. The same would be true of a superfund site, or if the Portal Bridge near Newark, NJ, fails during rush hour. These risks might not be fully eliminated even if the NEC infrastructure were leased, no matter to which agency it was leased to or what the notional protections afforded by conditions in the lease. Direct federal ownership would clearly increase the ability of the DOT (or others) to fix problems or make better public tradeoffs: it would at the same time, make DOT directly responsible for finding the funding, and for the outcomes. ***Before DOT decides to take title to the NEC infrastructure, it should be fully aware of the responsibilities it will unavoidably take on, as well as the benefits it might generate.***

Fragmentation of infrastructure versus operations. Probably the greatest concern about a change in infrastructure ownership from experienced railway operators is the possibility that reduced integration between infrastructure and operations might lead to scheduling conflicts, delays in service due to dispatching decisions, and even threats to the safety of operations. The argument is that Amtrak's ownership and dispatching of the NEC infrastructure ensures better performance for Amtrak's end-to-end and high-speed trains. An added argument is that infrastructure separation has been tried elsewhere – notably in the UK and the EU – and has allegedly failed; this argument will be addressed below.

The fragmentation argument deserves careful attention and respect. Experience in Europe (where infrastructure and operations are separated by EU law) has shown that infrastructure separation does introduce complexity (especially in setting access charges) and costs that do not exist in an integrated railway. It will certainly expose tradeoffs in access priority that would otherwise be submerged.

In practice, railway infrastructure separation has both costs and benefits. The costs of potential complexity, interagency conflict, transaction costs and service priority conflict (among others) must be weighed against the benefits of higher efficiency in use of infrastructure assets, more

neutral access, clearer access priorities and transparency of government spending. As discussed earlier, Amtrak is actually the world's largest infrastructure separated operator, operating as a separated tenant on 97 percent of its system. In the Amtrak case, though, the manifest costs of conflicts between freight and passenger traffic (which, on a freight railway, tend to be resolved in favor of freight, especially when traffic approaches the point of congestion) are outweighed by the ability to focus government spending on passenger services only, and by the impossibility of having separate infrastructure for each user. It would be impossibly expensive to build 22,000 miles of line, most used by only one train pair/day, solely for Amtrak's use.

The NEC infrastructure – one of the more complex and intensively used pieces of rail infrastructure in the world – may be integrated for Amtrak, but it is definitely separated from the viewpoint of the commuter authorities and freight railroads (and, of course, Amtrak is a separated tenant operator in the Metro-North zone). More broadly, various forms of owner/tenant relationships (for which at least the tenant is separated) appear to have originated in the US rail industry because they offer the best tradeoff among investment, public transparency, and business focus.⁵⁴ The emphasis, however, is on tradeoffs, not perfection in reaching any single objective. *SRI 2005* addressed the issue, concluding that "... for now, ... the costs, complexities and risks of such a split within Amtrak outweigh the benefits." But, the Board also stated "... we will continue to evaluate alternatives involving actual segregation of infrastructure from operations –structured with either Amtrak, federal government, state government consortia or private ownership."⁵⁵ ***If DOT acquires ownership of the NEC infrastructure, the subsequent transfer should be made to an agency that will make the right tradeoff among the objectives. In particular, the danger of fragmentation in dispatching and track maintenance will need to be minimized and explicitly balanced against corresponding benefits such as neutrality of access.***

A related issue – Amtrak's problems in gaining access and priority to the Metro-North zone needs attention. Concerns about separation of infrastructure on the south end are often expressed as "we don't want to create another Metro-North problem" in which Amtrak trains, and Amtrak's access needs are secondary to Metro-North priorities.

This problem was addressed in *SRI 2005* where the Board proposed that "... the federal government and affected parties consider integrating corridor control under one umbrella. Specifically, we suggest examination of federal purchase of the Metro-North segment from New Rochelle to New Haven, and integration of the entire NEC infrastructure under the oversight of one manager, **whether that be Amtrak or another qualified entity in the future.**"⁵⁶ [emphasis added] The Board also suggested integration of the MBTA zone, though coordination problems are admittedly less serious there because, as of now, Amtrak maintains and dispatches the zone under contract with MBTA.

⁵⁴ See Thompson, 1998, for a more detailed discussion of the objectives of infrastructure separation.

⁵⁵ Both quotes from *SRI 2005*, page 13.

⁵⁶ *SRI 2005*, page 17.

In the short term, The Board's proposal will probably not be attractive to Metro-North given the political and bureaucratic turf sensitivities involved. At the same time, the need to more closely integrate the planning and dispatching of the entire NEC is clear: ***any solution needs to explore all opportunities to bring about better coordination in planning, scheduling and operation.***

Coordination within DOT also needs to be improved, as FTA and FRA often make commitments to their clients without knowing what the other is doing. ***An MOU between FRA and FTA (and possibly FHWA), in which each commits to keep the other fully informed of investment plans in the NEC region, would multiply the effectiveness of both.***

Added costs of administration. DOT acquisition and subsequent transfer of NEC infrastructure ownership would add costs that are not now incurred in two ways. First, DOT oversight, probably located in FRA, would have to increase. The amount of increase would depend on the decision for transfer, with the level increasing from Grant Agreement to lease to contract: the further along the spectrum, the more direct federal involvement and responsibility. The current Grant Agreement structure, agreed to be insufficient to oversee the NEC infrastructure in detail, amounts to about 5-6 FTE. A **more detailed Grant Agreement**, with more FRA involvement in planning and management, would probably double this level, especially if legal and engineering efforts are involved. In addition, contract assistance in a number of areas, especially review of the state-of-good-repair program, would be required. A **federal lease** to another entity would require more effort because it would add the need to inspect the property carefully and periodically to ensure that the conditions of the lease were being met. It would also be necessary to have a better definition of the assets being leased. A **contract** relationship between DOT and the operator/manager would probably be the most resource intensive because more of the decisions about all issues would be made by the owner. This would be particularly true if a major investment program is to be developed and implemented. As an example of the effort involved, the NECIP required an FRA and FHWA staff of about 100 at its peak, along with a contractor's staff of around 900: there is no reason to think that any new program would require less. ***Whatever decision is made as to structure, it will fail unless a concomitant decision is made to locate the requisite staff and financial resources in DOT and FRA.***

A second area of added costs is duplicative overheads and bureaucracy. Today, there are a few groups within Amtrak, -- the Engineering Department and the Regional Divisions -- that are effectively responsible for the NEC infrastructure operations and maintenance. Creation of a focused Amtrak subsidiary will require appointment of a Director and at least a minimum of added administrative and legal support staff, along with a new Board. A federal/state corporation would require a larger group of managers and administrators. An interstate compact would probably need an even larger group of appointees and administrators, along with support functions. Related to this would be the predictable panoply of interagency contracts and relationships that do not exist today. In addition, all of these assume that the actual infrastructure function -- the people actually working on the track and managing the signal systems -- would remain constant, wherever located.

This does not mean that the added costs are necessarily bad. It does mean, though, that ***the added DOT/FRA effort, and the added costs of administrative duplication, must be balanced against benefits in efficiency, neutrality, balancing of interests, or other advantages.*** Replacing one less than desirable approach with one that is no better would be pointless.

Lessons from the British Rail privatization and restructuring and infrastructure separation in the European Union. In the mid 1990s, the old unitary British Railways (BR) was split into a large number of parts and the entire system was privatized. Over roughly the same period, the railways of the European Union were ordered by the European Commission to implement an accounting separation of their infrastructure functions from operations and to (slowly) allow competing operators onto the infrastructure while applying non-discriminatory access and access charges. In both cases, the process was extremely complex and the results mixed. Because the experience (especially the BR breakup) has been used, and often distorted, when discussing possible changes in the structure of the NEC, it will be worthwhile to take a brief look at the two cases.

The old BR was popularly known as “the railway people love to hate.”⁵⁷ As one of the oldest industrial institutions in the country (and the oldest railway in the world) BR was woven deeply into British history and culture. Encountering the same market changes after WWII as the US passenger railways, BR experienced the same decline, and was the subject of a number of passionately argued government reform attempts. BR was also the beneficiary of one of the better and more committed management cadres in the British public sector. After repeated, unsuccessful attempts to stabilize BR, and despite the well founded reluctance of the government to take on such a thorny problem, the Government of John Major decided, in 1992, that (not a British phrase) “the system was broke and needed fixing.” The chosen approach was a combination of changes in structure and in ownership.

BR was split into an infrastructure company (Railtrack), 25 franchised passenger companies (Train Operating Companies, or TOCs), three freight companies, three rolling stock leasing companies (ROSCOs), and about 70 other bits and pieces dealing with infrastructure maintenance, rolling stock maintenance, equipment manufacture, railway engineering, and real estate, among many others. In addition, the Government created three regulators – one for awarding and overseeing the franchises, one to oversee Railtrack and one to deal with safety. To get the system started, the Government established a set of initial infrastructure access charges and developed and signed a set of infrastructure maintenance contracts, all of which were handed to Railtrack as it began operations. Essentially everything was privatized. Shares in Railtrack were sold (on the London Stock Exchange), as were the ROSCOs. Each of the 25 Franchises was put up for competitive award on the basis of minimum subsidy from, or maximum contribution to, government (there were both types). In total, the Government realized about \$8 billion from the sales. Equally important, the Conservative Government did everything

⁵⁷ See Thompson, 2004, for a detailed review of the BR restructuring and privatization along with a more extensive set of references on the subject.

in a hurry in order to ensure that the ensuing Labor Government would not be able to stop the process or undo it later. The result was, as always, haste made waste (which **is** a British saying).

It is important to emphasize that the BR program actually involved **three simultaneous** elements, not one: changes in structure, privatization and rapid implementation. Later commentators have not always tried to distinguish between the effects of each, and quite often the problems of structural change have been ascribed to privatization and vice versa. Haste affected everything, but today's critics are often (but not always) not those under the gun at the time.

There were clearly some successes from the process. Passenger demand grew rapidly, with passenger-miles higher now than any year since 1947, fares (revenue/passenger-mile) have remained stable (up by only 6.3 percent in real terms since 1995, as compared with the 25 percent real growth at Amtrak over the same period)⁵⁸ and freight tons and ton-miles have grown continuously. To some extent growth in demand should be ascribed to the strong British economy, but a significant part must also be credited to the market development done by the new, private operators. **The safety record of the new system is much improved, much better now than under the old, integrated BR system.** The allegations often heard in the US that the private operators and Railtrack were careless or did not care about safety are simply and demonstrably false. Investment in the system has skyrocketed, with more new rolling stock in place or on order than at any time before. The average age of passenger rolling stock has fallen in just five years from 20.64 years to 14.68 years, and is still falling.⁵⁹ Government support for operating assistance has remained virtually constant, and subsidy per passenger mile has remained within a range of 7 to 14¢ per passenger-mile.

Certain aspects of the British approach clearly failed. Most important, Railtrack's private management never fully got control over its business and, after a series of well-publicized problems (notably the accident at Hatfield in 2000 in which four people were killed), Railtrack was replaced by Network Rail, a quasi public corporation that has managed to stabilize the infrastructure function. In the process, the British Government has had to increase its direct support for infrastructure, and the costs of infrastructure work have grown rapidly, at least partly because of the high volume of work now being attempted. Two more subtle, but important problems also emerged -- access charges and the imposed maintenance contracts.

The concept of developing a commercial relationship between an independent infrastructure provider and operators had never been tried before on any significant scale. In setting up the infrastructure access system (which had to be done before Railtrack was sold and before the franchises could be awarded), and lacking good information about infrastructure costs, the Government had to balance two objectives: ensuring that Railtrack would have a sufficient and stable source of revenue so it could be sold, and instituting access charges that would

⁵⁸ SRA, 2005, page 43.

⁵⁹ SRA, 2005, page 46.

accurately relate use to operating cost and capacity demands so that the system would reach the right demand/supply balance.

The Government initially opted in favor of a system that had a high fixed monthly charge and a very low charge for each train-km operated, placing more emphasis on assuring fixed income for Railtrack than on an accurate relationship of charges to usage. The net result was that Railtrack and the TOCs, instead of being partners, became antagonists: the TOCs faced a very small charge for each extra train-km, and ran as many trains as would cover their low fuel and crew costs; Railtrack, deriving almost no additional revenue from extra train-km operated, had no incentive to provide the capacity. The Government has addressed this problem by putting a higher premium on the variable component of the charges and less on the fixed component, but the initial problems were serious.

One of the functions that was privatized was track maintenance. In this case, the Government decided that Railtrack should be almost wholly a contracting company, with very little in-house, force account ability. As a result, the maintenance companies were given a maintenance contract before privatization. These contracts fixed the costs and actually allowed the contractor to determine what work was needed and when. Railtrack was given the contracts with very limited ability to renegotiate the contracts.

Railtrack management apparently accepted the concept of contracting out so fully that it did not retain an in-house engineering or contract oversight capability, and the results were predictable: Railtrack lost control over the quality and costs of the infrastructure work

Perhaps the most important problem, though, was the lack of a Government understanding of the issues and a policy for dealing with them. The Conservative government clearly expected that passenger demand would continue on its downward trend and that the privatization, once completed, would not require Government involvement beyond the contracted franchise payments. When the franchises actually began to succeed in rebuilding demand, Government was simply unprepared to deal with success. In addition, the incoming Labor Government, having opposed the privatization, had no clear idea of how to deal with the privatized system. Both the success of the franchises and the failure of Railtrack management posed challenges for which a Government response was delayed in coming.

Government has responded by creating Network Rail, an entity that is somewhere between truly private and re-nationalized. Network Rail has renegotiated some of its contracts, and has brought a major portion of the track work back in-house. Government has committed a large amount of money to bringing the infrastructure back into a state-of-good-repair and to completing the Channel Tunnel link into London. Through the Strategic Rail Authority, it began to reduce the number of franchises and focus them on London's major stations. The parts of the railway in Scotland have been given to local authorities to operate (and fund). Recently, Government has actually abolished the SRA and folded its functions directly into the Ministry of Transport and Environment.

The experience with rail restructuring in the rest of the EU has been somewhat different.⁶⁰ The initial Commission Directive 91/440 required only an accounting separation of infrastructure from operations and mandated competitive access under a very limited set of circumstances (international movements only). The Commission has gradually expanded the policy so that actual institutional separation of infrastructure is now required (though it can be circumvented in a number of creative ways – see the case of SNCF and RFF, or the DB holding company) and non-discriminatory, competitive access is soon to be available even for domestic freight flows (cabotage). Access charges and priorities must be set by an authority separate from any of the operating companies. The Commission is also proposing to require that all Government subsidies to rail operators be provided through competitively awarded contracts.

The Commission has no authority to mandate an increase in the role of the private sector, and countries have adopted widely varying policies on the question. No EU countries beyond the UK and Estonia have attempted to privatize their infrastructure. There are now private freight operators, and their percentage of traffic may be growing. Even so, the vast majority of freight traffic is still carried by publicly owned freight companies and the outlook for traffic growth is constrained by the fact that most EU railways are passenger traffic dominated and attach a low priority to freight traffic.

There are very few private intercity operators (Tallinn to Moscow is an exception) because the services are unprofitable, but Governments have been unwilling to pay explicit support. This may change as the new Commission policies are implemented.

The most vibrant area of private entry has been in commuter and urban rail services, particularly in Sweden and Germany. A majority of all Swedish rail passengers is now carried by private operators, and many of Germany's local rail services have been awarded to private companies. All of these are minimum subsidy (negative) concessions rather than maximum payment to Government (positive) concessions.

The EU experience has to be understood from the viewpoint of the characteristics of the role of railways in Europe. Unlike the US (where 99 percent of the traffic is freight and the companies are mostly privately owned) the EU railways are much nearer a balance between passenger and freight traffic, or are even passenger dominant,⁶¹ and are publicly owned (the only exceptions are the UK and Estonia). Competition from highways and air for intercity passenger travel, and for freight movement, is so strong that none of the original EU countries regulate rail tariffs at all. The objectives of the Commission in directing infrastructure separation were primarily to break down the old national barriers by promoting cross-border flows and to separate railway accounts in a way that would focus national subsidies on social services and prevent support in competitive areas. In practice, this has meant that countries are free to

⁶⁰ See ECMT, 2005, for a more detailed discussion of the current status of infrastructure separation in the EU.

⁶¹ ECMT, 2004, Figure F and Appendix 2.

support infrastructure (so long as the access terms are non-discriminatory) but must limit operating subsidies to social services such as urban and low-income rural passengers.

The EU approach has encountered a number of problems. Most important, the national barriers have proved hard to break (in this, as in many other areas) and many of the state-owned railways, supported explicitly (France) or implicitly (Germany) by their governments, have resisted change as strongly as possible. This resistance has been accompanied by continuation of the old methods of accounting that do not always conform to International Accounting Standards (IAS is the international version of the US Generally Accepted Accounting Principles) on depreciation or amortization: as a result the accounts of the EU railways can be hard to interpret and costs of particular activities impossible to determine. Perhaps more serious (as in the case of Amtrak), the EU railways have resisted reporting their results by line of business, making the separation of commercial from social activities as difficult as possible (obscurity makes oversight more difficult). The Commission is moving to require better reporting, but may be stymied for the near-term by the complexity of the job of getting 25 member states to agree on a common approach.

Perhaps more pertinent to this report is the challenge of setting access charges to rail infrastructure, a problem that is multiplied by the number of essentially independent approaches thus far adopted by the different members. A recent ECMT report (ECMT 2004) concluded that the EU railways have developed an inconsistent patchwork of access charges that probably are acting to inhibit the flow of international freight. Each country is free to adopt a different approach to the degree to which user charges (as opposed to state support) are expected to cover the costs of infrastructure, which directly affects the level of the charges. With differing mixtures of passenger versus freight, and of international versus domestic traffic, many countries have developed distinctive approaches to the structure of access charges. The result is a set of charges that are confusing and hard to use. More important, the differing structures make international flows difficult because they affect the optimum size and makeup of freight trains. In addition, countries with large fixed charges are discriminating against small operators, an outcome that does not displease the large national operator.

The report recommended that freight access charges be based on avoidable cost (because freight is generally a minority user of infrastructure – as in the NEC), that they should be mostly variable with traffic (either based on gross ton-km or train-km) and that they be made as uniform as possible consistent with national cost levels and conditions. The report also concluded that access charges where the competition is for the market (concession) rather than in the market (freight) can more readily be based on two-part charges where part of the charge is fixed and part variable with traffic.

Taken together, the UK and EU experiences suggest a few conclusions for the structure of the NEC infrastructure:

- ***The decision about infrastructure separation should be driven by objectives and not dogma.*** Where the rail infrastructure has a single or highly dominant operator, and where rail versus rail competition on the same tracks is not an objective, then

infrastructure separation may have few benefits. US freight railways (with passenger services as tenants) are an example where complete separation may not be worth the costs. Where there are many users and neutrality of access is important, where competition on the same tracks is important, or where the mixture of funding sources is such that a separation of costs and support spending is important, then infrastructure separation may well justify the trouble involved. Without prejudging the outcome, it seems fair to say that, if infrastructure separation were justifiable anywhere in the US, the NEC infrastructure would be the place.

- ***Privatization is also a tool, not an end in itself.*** Where the objectives of the operators are purely commercial, the railway is financially viable, and competition or (preferably light) regulation can protect against abuse of market power, then the case for private ownership and operation is strong. When objectives are social and most of the financing comes from various public sources, then the public role is correspondingly larger. This does not imply that publicly defined and funded services cannot be provided by a competitive private sector; it does imply that leadership, and probably underlying ownership, is likely to be public. On these grounds, there is no convincing case for privatizing the NEC infrastructure; there might, however, remain an argument for contracting out of maintenance work or for concessioning the facility to a private manager.
- ***Continuing public funding and policy involvement will be required.*** There are no “fire and forget solutions.” The NEC infrastructure is a critical facility for a number of public purposes and of levels of government, federal, state and local. The USDOT and the states can legitimately develop various options for the balance between their responsibilities and financing; but, neither can responsibly choose to do nothing and, more important, Amtrak, by itself, cannot legitimately take the place of either because Amtrak is not a public agency. At the same time, the potential federal (and state) roles that go beyond the current, relatively hands-off, roles cannot be done with the resources or the funding approach of today. A change of roles will carry with it the responsibility to execute the new responsibilities fully, which will require a larger staff and more money at the federal and state levels. A serious commitment to long-range planning and investment in the NEC will also require a re-examination of the time periods over which funds are authorized and appropriated for use in the NEC by FTA and FRA.
- ***Access charges will play a critical role in the way in which the system operates.*** Today’s NEC access charges are an inconsistent mish-mash based on inadequate data and conflicting policies for freight, intercity passenger and commuter operators. Especially if any of the options for further separation of infrastructure are adopted, the existing access charges will damage the system, causing destructive conflicts between the infrastructure provider and the various operators, and causing an inefficient use of the infrastructure. A fairer and more efficient set of infrastructure access charges must be a priority if the federal and state investments are to reach their intended potential.



The Organizational Options

In railroads, as in art and architecture, form follows function. What functions must one or the other of the agencies perform in order to realize the potential of the NEC infrastructure?

Functions to be performed.

- On-going maintenance of track and other physical facilities such as signaling and electrification. This is done today by Amtrak in the parts of the NEC it owns and by Metro-North in the New Rochelle to New Haven section. Amtrak manages the zone in Massachusetts under contract to MBTA. The total annual cost of maintaining the entire NEC infrastructure is not known, but is probably in the range of \$300 to \$400 million.
- Development and implementation of the state-of-good-repair program. This includes assessment of the current age and conditions of all facilities, engineering design of work to be done, contract or agreement preparation, legal assistance, and procurement (a partial list). Cost estimates are in the \$6 billion range. Today Amtrak and Metro-North would perform the work.
- Development of an integrated schedule based on neutrality of access (with an agreed priority and slot time-width for the high-speed, end-to-end trains). Amtrak performs this function today in cooperation with all commuter agencies.
- Dispatching of trains in accord with the schedule. This includes agreed rules for priorities to be used in the event that trains are running outside their scheduled slots. Today this function is split between Amtrak and Metro-North. Amtrak and the LIRR dispatch the Amtrak section from NY Penn to Harold interlocking jointly.
- Coordination of services and infrastructure work among all agencies, including Amtrak and all commuter agencies. This may well include discussion with, and assistance to, Metro-North for capacity creation and service improvements in order to encourage them to accept greater integration into the overall NEC service pattern. This is currently done on an ad-hoc basis by Amtrak and Metro-North, and all parties argue that it is not done well.
- Development and implementation of efficient access charges. The existing access charges were established by various laws and have been litigated before the ICC and STB.
- Management of stations. Since stations typically serve a mix of users, and involve commercial as well as transportation activities, station management is a matter of agreement among all users. Station ownership is also ad-hoc, as are the cost sharing agreements, based on historical roles and negotiations.
- Ensuring safety and security for all operators and all passengers and freight shippers. This is basically the responsibility of station management and the infrastructure operator today. It is done in coordination with local police departments and federal agencies.
- Undertaking real estate development in conjunction with station properties or other properties that are owned in conjunction with the NEC infrastructure and that maximize the overall value of the operations on the infrastructure. An open question will be what to do with properties that are not rail operations-related today: should they be developed by

the infrastructure manager or sold? There is no common approach to real estate development. When Amtrak acquired the NEC infrastructure, it acquired a series of real estate assets, some related to rail operations (air rights, for example, at 30th Street Station in Philadelphia or at Sunnyside Yard in Queens) and some not. Commuter agencies have also engaged in various joint venture arrangements, some with Amtrak (parking garages) and some without Amtrak.

- Financial management of the infrastructure functions, including the collection of access charges, assigning shares for capital project responsibility, and administration of federal and state funding. This will require accuracy and clarity of numbers, and full transparency in all public reports. The financial reports today are not suitable for effective management or cost sharing. To the extent performed, they are done by Amtrak or, in a way not related to Amtrak, by the commuter agencies.
- An open question is whether a new agency should attempt to run some or all of today's Amtrak services. An argument can be made that some of Amtrak's regional services could easily be run by a new agency, or even by existing commuter agencies.⁶² Transfer of responsibility for actually operating and marketing Acela or other high-speed trains would deserve a great deal more discussion.

The Available Approaches.

There are two dimensions to be considered in analyzing the possible approaches to NEC infrastructure ownership and management: options for structure, and options for the legal relationship between the infrastructure owner and the agency that will control the infrastructure. The potential details and variations of each are virtually unlimited, but the broad options that have been employed can be defined, along with their advantages and disadvantages. Also, the options presented are not necessarily discrete, with sharp boundaries between them: instead, they actually represent a more or less continuous spectrum from one to the other. For the most part, these options are not newly conceived; they can be found in reports as far back as the NECTP-209 in 1970 and the various USRA and ICC analyses of the transfer of the NEC infrastructure.

Structural Options.

- **No change.** In this option, Amtrak would continue to own what it does today and the Grant Agreement between DOT and Amtrak would remain unchanged. The Grant Agreement might possibly be improved and made more specific, and FRA oversight might be deepened. The only argument to be made in favor of this option is inertia, political or otherwise.
- **Improved Amtrak cost accounts along with more specific Grant Agreement.** One part, improved cost accounting, is inherent in *SRI 2005* as published by the Amtrak Board.⁶³ The DOT/FRA action would involve a revised Grant Agreement with a specific

⁶² For example, Amtrak's "Clockers" are now operated by New Jersey Transit.

⁶³ *SRI 2005*, page iv.

section dealing only with NEC infrastructure. This could be accompanied with a contract covering some (or all) of the state-of-good-repair program. Ideally, if Amtrak actually adopts the five lines of business, the Grant Agreement would be modified accordingly in order to improve the DOT/Amtrak interaction in all of Amtrak's business lines.

- **Formation of a focused Amtrak subsidiary to manage the NEC infrastructure.** The Board is now exploring this option. If implemented, it would make the interaction with DOT much cleaner if accompanied with either a modified Grant Agreement or a lease or contract. If the Board of the subsidiary includes representatives of the commuter authorities as well as DOT and Amtrak, the interactions among them all can be improved. At the same time, the Amtrak subsidiary would remain under the overall Amtrak umbrella and would not threaten the kind of possible fragmentation that the options below might cause.
- **Creation of a special purpose, wholly federal agency,** such as the Corps of Engineers. Though arguably an option, this is not consistent with current federal policies and practices discouraging the proliferation of such agencies.
- **Creation of a federal/state, public purpose corporation.** This corporation might choose to contract with Amtrak to provide services now being performed by Amtrak. Though it would require legislation, the corporation would be easier and faster to form than an interstate compact discussed below. The corporation would unify infrastructure operations and investment planning, and would be the recipient for federal and state funding. It would begin to raise the issue of fragmentation between infrastructure and operations for Amtrak that is today confined to the commuter and freight operators. This option has been defined in more modern form in the VTC report.⁶⁴
- **Creation of an Interstate Compact.** This option is based on the Administration's position in PRIRA. The compact would take on the responsibility for all infrastructure operation, maintenance and investment. It would have the advantage of making the role of the states concrete, and it would incorporate further guarantees of neutrality of access and dispatching. The disadvantage is that it would take from 2 to 5 years to put in place as a result of the negotiations and more detailed federal and state legislation required. The compact raises the concern that it could actually enhance Federal disengagement in the NEC. In addition, the compact would take the separation issue a step further, and would require careful attention to ensuring fair access and dispatching for the high-speed trains, depending on the relative balance among Amtrak, commuters and freight operators on the Board of the compact. The compact could, if it wished, retain the ability to contract with Amtrak for some or all of the functions it provides. It would also presumably have the ability to award a significant portion of its maintenance and capital investment by competitive contract.
- **Concessions to the private sector.** Under the right arrangement, private companies can, and do, maintain (and operate) railways under concession to governments. The current arrangements for the Underground in London, where the infrastructure is concessioned but the operators remain public, are an example, but not one that gives confidence that this is a good idea. The integrated concessions of suburban passenger

⁶⁴ VTC 2005

railways and Metros in Buenos Aires and Rio de Janeiro, as well as the operating franchises in the UK, Germany and Sweden, have certainly shown that private concessions can work well when properly formulated. Concessions would bring more competition, both at the outset and afterwards, and make the use of public funding more explicit. It would, also, raise a challenge in contract formulation that no country has solved completely satisfactorily, and would put the largest burden on governments for oversight. Unless both infrastructure and operations were jointly concessioned under a negative⁶⁵ concession, the fragmentation argument would also arise.

- **Outright privatization of the NEC infrastructure.** The NEC infrastructure was originally built and operated by the private sector for many years. The private sector in the US operates the largest and most efficient freight railway infrastructure in the world. There is no question that the private sector could own and manage the NEC infrastructure again. The problem was always that the NEC infrastructure was passenger dominated and unprofitable, and there is no reason to believe that this would be different today, especially if the private owner had to provide service to the various public operators at access charges that did not cover full cost. There is even less reason to believe that the financing for major new capacity or service improvements could be financed privately if the costs had to be recovered from access charges alone. As in the concessioning option, fragmentation between infrastructure and operators could be serious depending on which agencies do the operations.
- **Hybrid structures.** In addition to being a spectrum of choices rather than a set of discrete options, there is a possibility of hybrid approaches in time, structure and geography, some of which exist today. The time hybrids come about because the restructuring could be staged. DOT could opt to improve the Grant Agreement in the short run, to work with the new Amtrak focused subsidiary in the medium term and then move to the further options as the process for development and passage of legislation for either a public corporation or an interstate compact proceeds. Structural hybrids could involve different approaches to and management of the on-going maintenance efforts, the state-of-good-repair program and the investment programs to increase capacity or services. Or, as is now required in the EU, the scheduling and dispatching of the NEC could be located in a separate, neutral agency with appropriate representation from all parties, while all else remains the same. The obvious geographic hybrid would be to adopt a different treatment of the south end from the north end. Though the concept of a fully integrated corridor from Washington, DC to Boston is intellectually appealing and merits long-term attention, Amtrak's traffic patterns show that 92 percent of the passengers and 89 percent of revenues are generated by passenger trips that do not transit through NY Penn Station: that is, very few passengers, representing very little revenue, originate south of NY Penn and terminate north of it, or vice versa. Given that integration and neutral access are likely to be much more difficult to achieve on the north end, and the fact that there is little current demand to go from south to north or vice

⁶⁵ In a "negative" concession, the funding agency pays a competitively awarded support payment to the private operator. In a positive concession, the private operator pays the owning agency for the right to operate the infrastructure.

versa, developing a different institutional framework on the south end from the north end, at least initially if not for good, seems a viable issue for discussion.

Options for Exerting Control of the Infrastructure

If DOT acquires title to the NEC infrastructure, there are a number of ways it could choose to exert its ownership rights.

- **Retain title, strengthen the Grant Agreement.** This could include a contract for either the state-of-good-repair program or the service and capacity improvement programs, or both. This would place the greatest burden on DOT for oversight, and it would maximize federal exposure to safety and environmental liabilities.
- **Retain title, but contract with the managing agency** to carry out the functions required. The implementing agency in this case could range from the focused Amtrak subsidiary to the interstate compact. It is possible that the burden of contract oversight would be somewhat less than that of a Grant Agreement, but federal exposure would not be diminished.
- **DOT to lease the assets to the implementing agency.** In principle, a lease could be executed today between DOT and Amtrak Corporate, but it would change little in the way the asset is managed. The leasing option becomes more useful as the degree of restructuring is increased. Leasing to an interstate compact is the preferred approach in the PRIRA (the ARC proposal would actually transfer title). In principle the terms of a lease could relieve the federal government of some of its environmental and safety responsibility; whether this would be sustained in all cases needs examination. The lessee could also be funded to carry out essentially all functions needed (relieving the federal government of some of the oversight burden).
- **Sale or concession to a private manager.** Experience in the EU and elsewhere has shown that formulating and enforcing the concession or sale contract can be as difficult and uncertain as contracting or leasing.
- (Exhibit 1)

It is important to emphasize that essentially all of the options for change, either in structure or in the method of control, have implications for the federal oversight role and the resources and authority needed to exercise it. While, as argued, there is a strong case for at least implementing a more explicit DOT role in relation with the new, focused Amtrak subsidiary (if it is implemented), none of the benefits can be realized without a stronger role including, possibly: policy and financial oversight; engineering evaluation; engineering design; contract development; procurement and oversight. Restructuring, however beneficial, should not be sought without a parallel commitment to live up to the new responsibilities.

There appears to be a strong case for transfer of title to DOT, essentially no matter how DOT chooses to transfer control. In the broader issue of Amtrak's legacy debt, which all parties agree will have to be resolved, transfer of NEC title to DOT in return for extinguishing the DOT mortgage will have to be a part of the process (in combination with dealing with the equipment obligations and the preferred stock). As events have repeatedly shown, though Amtrak's current

“ownership” accords DOT a gauzy political veil in cases of Amtrak liability, the federal government ultimately carries the financial responsibility for Amtrak’s actions (and most of the political agony as well). A properly executed exchange of the NEC title for extinction of obligations of much higher value would be a highly advantageous transaction for Amtrak, and it would protect the control over the assets in the event of an Amtrak bankruptcy. Protecting access to the infrastructure in the event of labor strife at Amtrak would not be dependent on DOT holding the title alone, if Amtrak in any form remained the manager: it would require that an independent agency (the federal/state corporation or an interstate compact) be formed.

It seems unlikely that any of the options for change can occur solely with the existing set of federal and state authorities and funding roles. The existing situation serves the direct interests of Metro-North and of MTBA adequately, and they will not be much interested in surrendering any of their control to a new organization unless it is in their interest to do so – exactly as the manager of the south end infrastructure will feel.

At the same time, both Metro-North and MBTA are facing more rapid growth in passengers than Amtrak is (Exhibit 4), and they will need large amounts of capital (mostly from federal sources) to finance the capacity growth needed. Attempts to improve service levels, especially for high-speed trains in the Metro-North zone will only multiply the funding and managerial challenge.

In one scenario, the project planning needed would (as often happens under the current arrangement) simply degenerate into a time-wasting, sterile squabble about who is responsible for which benefit and investment cost. With a more positive federal coordinative and funding role, and with FRA and FTA (and, in some areas, FHWA) working more closely together on NEC-related investments, the emphasis could be more on what is needed to serve intercity passengers, commuters and freight users, and less on bickering about the exact shares. Ensuring good coordination within DOT is, of course, no small challenge: this said, past experience in the NECIP suggests that it can be done if given a high priority.

Finally, the importance of getting the access charges right cannot be overemphasized. Though it appears to be a narrow, technical issue, the access charge level and structure, along with the assured financing role of federal and state agencies, will determine whether or not the infrastructure agency is financially stable, and it will strongly influence how effectively the large investment in NEC infrastructure is put to use: in other words, with the wrong access charges, much of the real potential value of the infrastructure will be threatened.

Three broad approaches are possible: marginal cost based access charges for all users with government(s) paying the fixed costs; attempting to charge the passenger users marginal cost while charging freight users fully allocated costs; and charging all users some form of fully allocated costs.

The first approach is the recommended approach of the EU Commission, though EU members are allowed to institute “add-ons” to marginal cost if they wish to reduce the government contribution (the government contribution will have to be the difference between full costs and

whatever is generated from user charges). This approach will ensure the most effective use of the NEC infrastructure, but would carry with it the need for a continuing government financing role (just as, in effect, there is today).

The second approach is essentially what is used today in accord with various legislative requirements and what the ARC Report recommended.⁶⁶ As suggested earlier, it is defensible only on political grounds: in practice, without adequate cost information or a demonstrable relationship of use to costs (however defined), it is indefensible on either economic or financial grounds. It is, for example, not clear why essential freight usage of the NEC infrastructure should be taxed for the benefit of Amtrak's regional passengers, especially if the objective of both is to clear highway congestion. It is entirely possible that more effective use of the NEC by freight services could have more of an effect on highway congestion than do at least some of the passenger services that are paying marginal cost or less. It is clear that, by only attempting to tax the minority freight shippers to make a contribution to fixed costs, this approach also guarantees a large and continuing financial role by government(s). It is also significant that the USRA FSP (correctly) recommended the opposite approach: "[w]here passenger and freight services are mixed, the dominant user should own the facility and the other user should pay and avoidable cost for use of the facility."⁶⁷ Current user patterns show freight to be by far the minor user that, under the USRA's approach, should be paying avoidable costs for its use of the infrastructure (Exhibit 6).

The third approach, fully allocated costs for all users, was recommended in *SRI 2005*⁶⁸, and in the USRA PSP.⁶⁹ It is also the approach that was initially adopted by the British Government and given to Railtrack. Other EU railways have attempted to use "add-ons" to accomplish the same thing. The full cost approach has the advantage that it reduces the financial burden on government(s), but does so at the cost of causing an inefficiently low use of the infrastructure. To some extent, this problem can be rectified by two-part access charges where one part is directly related to marginal cost and use, while the other is fixed, and is apportioned among all users in some relationship to their expected (but not actual) use of the facility.

⁶⁶ ARC, 2002, page 36.

⁶⁷ USRA, FSP, July 1975, page 40.

⁶⁸ *SRI 2005*, page 34.

⁶⁹ USRA, PSP, February, 1975, page 167.



An Action Agenda

Preparation of a detailed action agenda (Exhibit 2) is difficult without decisions as to the particular option to be chosen. With this in mind, though, there are a number of steps that should be taken in any case, a number that are essentially common to all realistic alternatives, and few that are option or path specific.

- **ASAP, or sooner**
 - a) Develop a detailed definition of the assets and liabilities (Penn Station loan, for example) to be acquired. Examine the current DOT/Amtrak mortgage for definition of assets, as well as the PRIRA definition. The Amtrak Board resolution considering the NEC subsidiary may also contain a definition of the assets to be owned by the NEC subsidiary that would be helpful in clearly defining the NEC assets.
 - b) Develop a complete listing of all Amtrak agreements or commitments for single or joint use of the NEC assets and whether the Amtrak share of the agreement can be transferred to DOT and subsequent agencies. Examples of such agreements would be Joint Venture control centers (Amtrak/LIRR), maintenance facilities (including Bear, DE), joint use of stations, etc.
 - c) Develop a detailed list all Amtrak real estate ventures and whether they are transferable. If they are transferable, develop a plan for future management of the interest: if not, decide how to dispose of the interests.
 - d) On a priority basis, support the Amtrak efforts to develop a much improved cost and revenue accounting separation for the five lines of business called for in *SRI 2005*, with particular emphasis on an expedited accounting separation of the NEC infrastructure. If the focused Amtrak subsidiary is implemented, assist in getting it established as soon as possible.
 - e) In the short term, there will be no alternative to asking Amtrak to continue to manage the NEC infrastructure until the desired arrangements can be made, though the focused subsidiary approach is probably faster than other options. Accordingly, put highest priority on developing a revised Grant Agreement to deal with the short-term issues of the asset transfer.
 - f) As it appears that acquisition of title to the NEC assets is a good idea in almost all cases, FRA or DOT should review DOT's authority to exchange infrastructure title for in return for removing the DOT mortgage and extinguishing the preferred stock and other Amtrak liabilities. In a technical sense, if the authority exists, this should be done immediately.
 - g) Develop a good draft contract between DOT/FRA and Amtrak for the functions to be performed by Amtrak or the Amtrak NEC subsidiary in the short term. This will be needed in any case as the more elaborate federal/state corporate or interstate compact options cannot be implemented quickly enough. The existing Amtrak contract with MBTA should be one model, as should the original DOT contract with Amtrak for NECIP. In both cases, a "lessons learned" analysis ought to be conducted before a draft is completed.

- h) Develop a good draft federal lease for potential use with the Amtrak NEC subsidiary, the federal/state company, of the interstate compact.
- i) Identify potential federally-appointed Board Members for the Amtrak subsidiary, or for federal/state company or the interstate compact
- **On or by the day of transfer:**
 - a) Execute the transfer of assets and of the related consideration.
 - b) Amend the existing grant agreement, or sign contracts with Amtrak or the NEC subsidiary for the first year or two of management.
 - c) Acquire the oversight resources (legal, contracting and engineering) for federal oversight of the new grant agreement or contract. A strong possibility would be a consulting contract similar to the DCP contract used for NECIP.
- **First year**
 - a) Develop and review the state-of-good repair program. The review could use the Amtrak Strategic Plan FY2005-2009 as a start, but will require detailed review (probably contracted). It should look not only at rail infrastructure for safety and capacity, but must also look at long-standing safety issues (NY Fire) and environmental issues. It will need to be reviewed and approved by all parties operating trains on the NEC infrastructure, though some will have more interest than others.
 - b) Develop the federal policy for management or disposal of Amtrak real estate joint ventures, or other non-rail activities.
 - c) Work with states to develop the federal/state company or the interstate compact alternatives, either of which would probably take a minimum of one to two years to accomplish.
 - d) Freeze access slots and charges for the time being, but initiate a detailed study of policies for setting slot priorities and dispatching, and develop the approach for cost allocation for use in user access charges.
- **Longer time frame (1 to 5 years)**
 - a) Implement the state-of-good-repair program. From inception, through design, procurement and construction, this will take 5 to 10 years, or (based on past experience) longer. In the meantime, of course, annual maintenance will need to be brought to a level that will prevent future maintenance deficits from emerging.
 - b) Work with states and freight companies to establish either the Federal/state Corporation or the interstate compact and transfer control of assets to new agency.
 - c) Develop and implement the contracts or grant agreements needed to relate to the new agency
 - d) Develop and implement the new policies for setting schedule and dispatch priorities, and for setting access charges.

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Exhibit 1

Structural Options	Structure and Control Approaches				
	Improved Grant Agreement	Contract with DOT	Lease	Concession	Sale with conditions or restrictions
Amtrak Corporate, but with better accounting separation	xx	xx	X		
Amtrak Focused Subsidiary		xxxx			
Federal/State Public Corporation		xx	xx		
Compact			xxxx		
Private Sector				xxxx	xxxx

Note: a public corporation or an interstate compact could contract back to Amtrak for some or all of the management and construction services required.

Exhibit 2

The Action Agenda	Time needed in months
ASAP	
Definition of assets (and liens) to be transferred	6
Listing of Amtrak agreements	4
Listing of Amtrak commercial joint ventures	4
Clarification of Amtrak accounts	12
Draft revised Grant Agreement	2
Draft DOT/Amtrak short term contract	3
Draft Federal Lease	2
Identify members of Amtrak NEC subsidiary Board	1
Day of Transfer	
Sign short term grant agreement with Amtrak for NEC management	1
Acquire FRA resources and issue supervisory contract	12
Within First Year After Transfer	
Review SOGR program and modify as needed	6 to 12
Develop Federal policy on disposal of joint ventures	2
Discuss with states the structure of public corp or interstate compact	12
Initiate studies of infrastructure access priorities and charges	8
One to Five years	
Implement new public corp or interstate compact	24
	24 to 48 (if dependent on SOGR progress)
Develop and implement access priority and charge regime	
Implement SOGR program	60 to 120

Exhibit 3

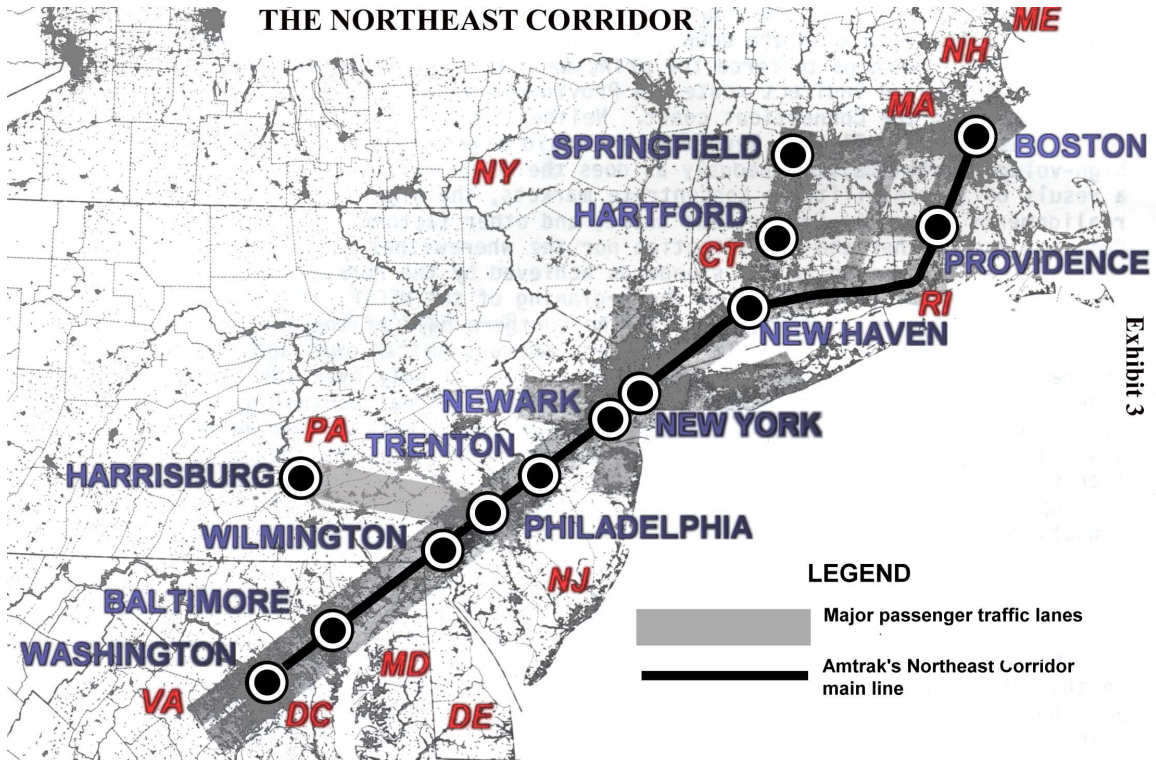


Exhibit 3

Exhibit 4

Unlinked Passenger Trips on Commuter Railroads in the NEC* (millions)

	1991	2003	Percent growth, 1991 to 2003
Metro-North and LIRR	153.3	170.6	11.3
NJT	47.6	64.6	35.7
SEPTA	24.1	30.0	24.5
MBTA	19.9	40.6	104.0
MDOT	4.0	6.3	57.5
Total Commuter Passengers	248.9	312.1	25.4
Amtrak Northeast Corridor	10.9	10.7	-1.8
Ratio: Sommuter to Amtrak	22.8	29.2	

* Note: No data exist to show how many of these commuters actually use a part of the NEC infrastructure. Although most of these commuters use at least a part of the NEC on their trips, few of them make their entire trips on the NEC. A more reasonable estimate might be 15 times rather than the 29.2 ratio shown

** includes LIRR and Metro North commuter passengers

Source: APTA 1992, pg 71 and APTA 2005, pg 94 and Amtrak Annual Reports

Exhibit 5

Balance of Train Operations

Line Segment	Percent of trains operated by Amtrak	Commuter Operator	Ownership
MBTA Zone: Boston South Station to Attleboro	13 to 20	MBTA	MBTA
Amtrak Zone: Providence to New Haven	40 to 90	CDOT	Amtrak
Metro-North Zone: New Haven to New Rochelle	12 to 30	Metro-North	Metro North
Amtrak Zone: New Rochelle to Harold Interlocking	100	Amtrak	Amtrak
Amtrak Zone: Harold Interlocking to NY Penn	20	LIRR	Amtrak
NJT operating Zone	30 to 60	NJDOT	Amtrak
SEPTA operating Zone	36 to 60	SEPTA	Amtrak
Amtrak Zone: Wilmington to Washington Union Station	65 to 75	MDOT	Amtrak

Typical Weekday Train Traffic (Dec, 2000 Time table)

Exhibit 6

Percent of Gross Ton-Miles

	South End	North End*
Amtrak	52.4	87.4
Commuter	33.4	8.6
Freight	14.2	4.0
total	100.0	100.0

* Excludes MTA CTA Zone, on which Amtrak is a minority user.

Source: estimate provided by Zetatech based
on 1995 data

Exhibit 7

NEC Commuter Systems

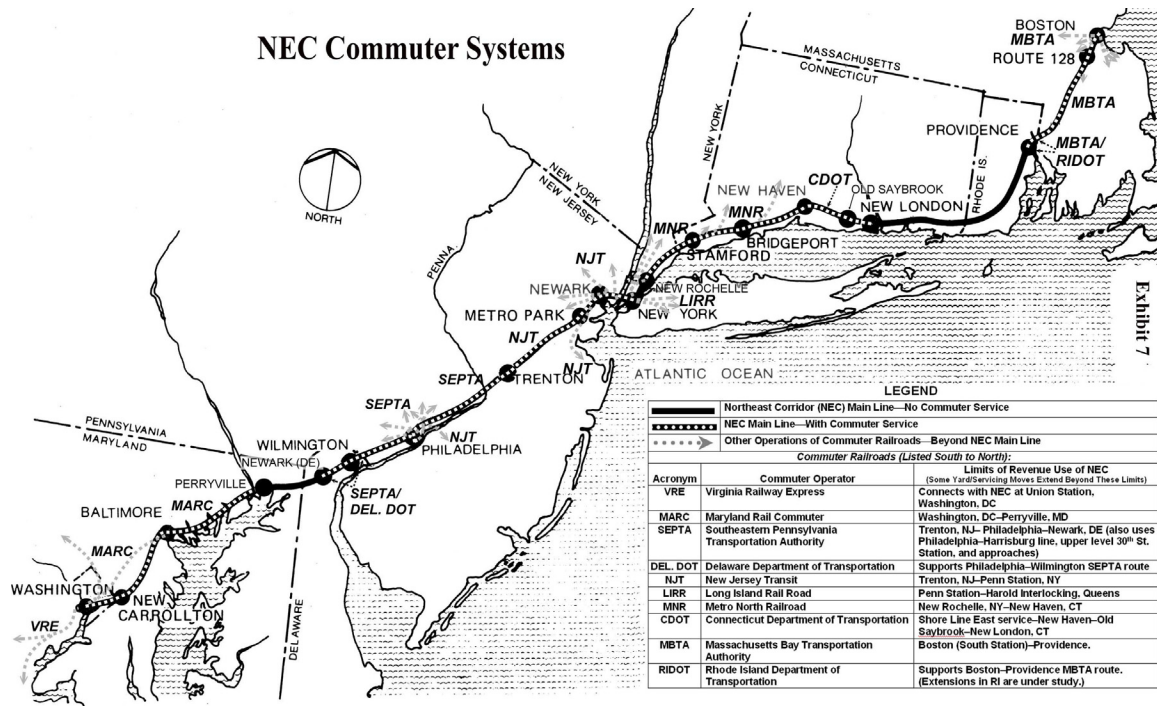


Exhibit 8

ESTIMATES OF CAPITAL COSTS IN THE NORTHEAST CORRIDOR

Northeast Corridor Transportation Plan (NHRIP) New York To Boston

(\$ millions)

	Amtrak's Budget	Required To Meet Goals	Existing Funds		Additional Funds Required**
			Amtrak	Commuter	
Trip Time Improvements***	998	1,255	578	19	658
Capacity Improvements	43	606	-	27	580
Recapitalization*	56	1,230	44	185	1,015
Total	1,097	3,092	622	231	2,253

* essentially correction of deferred maintenance

** Additional Funds are the required funding to meet goals minus Existing Funds

*** Most of the cost of electrification had already been budgeted, and does not show under additional funds

Source: USDOT, 1994, pg V-8 to V-10

Estimate of Needs for the South End of the NEC -- NYC to Washington, DC

(\$ millions)

	Near-term			Long-term			Grand Total	Percent of Grand Total
	Amtrak	Other Sources	Total	Amtrak	Other Sources	Total		
Basic Support								
Life Safety	95	216	311	137	205	342	653	5.4
Operational reliability	1,057	186	1,243	2,145	1430	3,575	4,818	40.0
Corridor Enhancement								
High Speed Rail	458	0	458	286	0	286	744	6.2
Shared Benefit	165	807	972	1,655	2482	4,137	5,109	42.4
Commuter/Freight	0	206	206	0	522	522	728	6.0
Total	1,775	1,415	3,190	4,223	4,639	8,862	12,052	100.0

Source: Amtrak, 2000, pg 46 and 47

Amtrak Estimate of Infrastructure Funding Needs (FY 2005-2009)

(\$ millions)

	Forecast FY 2004	FY 05	FY 06	FY 07	FY 08	FY 09	Total (05-09)
Track	172	152	153	190	213	194	902
Structures	29	64	93	95	109	126	487
Stations	11	21	35	35	35	45	171
Communications and Signals	33	36	53	54	47	39	229
Electric Traction	25	37	67	83	95	88	370
Life Safety	57	90	66	60	26	11	253
Partnerships	69	103	132	72	13	11	331
Funding from other sources *	-143	-162	-139	-131	-100	-85	-617
Total, Federal Need	253	341	460	458	438	429	2126

* Funding from commuter and freight railroads, states and FRA fire/life safety grant

Note: Numbers not exactly equal to original, presumably due to rounding in original

Source: Amtrak, 2004, pg 13. See also pages 14-31 for details of infrastructure plan