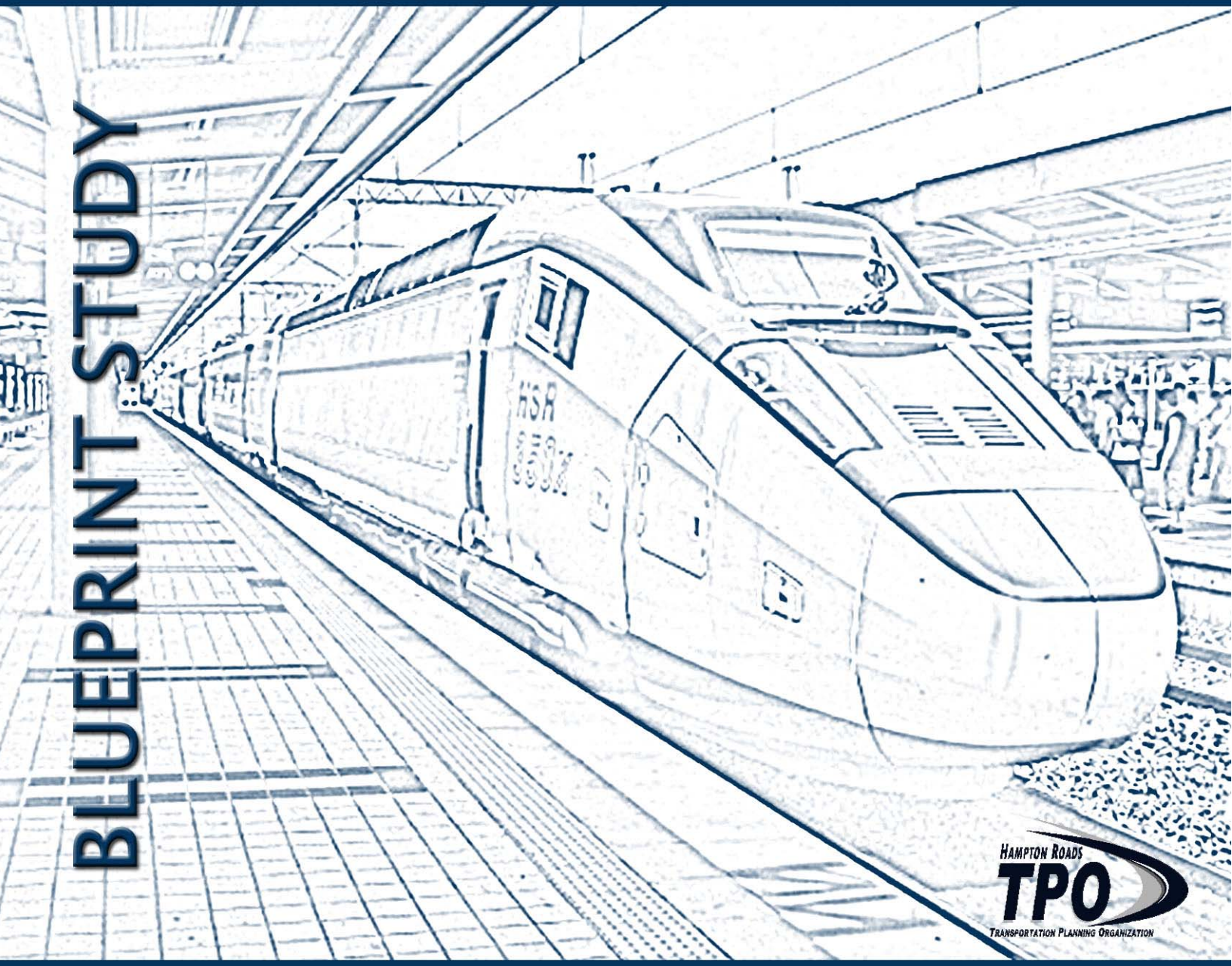
Prepared for
Hampton Roads Transportation Planning Organization

Hampton Roads Strategic Long-Term High-Speed and Intercity Passenger Rail Plan - Phase 1(B)

December 2010



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EXECUTIVE SUMMARY

1 OVERALL HIGH-SPEED RAIL CONCLUSIONS FOR THE HAMPTON ROADS-RICHMOND-WASHINGTON CORRIDOR

Key attributes of the Hampton Roads-Richmond-Washington (HRRW) Corridor are –

- The HRRW High-Speed Rail Corridor is the prime Virginia High-Speed Rail Corridor. Its potential is undermined by considering the corridor as two segments, Richmond-Hampton Roads, and Richmond-Washington.
- It has independent utility and can be developed as a freestanding High-Speed Rail Corridor.
- It is Federal Railroad Administration (FRA) designated, which means it may apply immediately for High-Speed Rail Funding.
- It is part of the Southeast High-Speed Rail (SEHSR) corridor and should be being developed at an appropriate rate with other segments as a high-speed corridor.
- The Federal government has put in place major funding opportunities and the corridor could and should apply for planning, environmental, design, and implementation funding.
- In conjunction with Federal funding, private sector and public-private partnership (PPP) opportunities exist that could provide up to 40 to 60 percent of the capital needs.
- Unlike Transit and Commuter Rail, High-Speed Rail can cover its operating costs and does not require subsidy.
- The Southeast High-Speed Rail Compact [1] was established by the legislatures of Virginia and North Carolina and has direct responsibility for implementing high-speed rail, coordinating Federal, State, and local efforts, and overseeing the development of the system.
- The Southeast High-Speed Rail Compact could provide the basis for establishing a Virginian Hampton Roads-Richmond-Washington "Authority" or "Commission" that would focus on the development of the Hampton Roads-Richmond-Washington Corridor.
- If any "Authority" or "Commission" is established it will need to be supported by a Board and an Executive staff to ensure an effective operation.

2 BLUEPRINT PLAN

Critical milestones in the development of the HRRW Corridor are –

- The High-Speed Rail Project will take 15 to 20 years to complete. This will include funding application studies, environmental impact studies, engineering studies, and construction and implementation.
- The next step beyond the Phase 1(B) study is to complete the work begun under the Vision Plan and to develop the Strategic Rail Plan that is needed to make application for Federal Funding. It is anticipated that this work will take 12 months to complete and will cost $300,000. This will allow an application for Federal Funding in line for May 2012 deadline.
- Due to the change in FRA application requirements, additional work in the form of a Service National Environmental Policy Act (NEPA) documentation and Conceptual Engineering (CEN) will

be needed to complete the application for Federal Funding. It is estimated that this work will require 9 months to complete and will cost an additional $300,000 to complete. This work will need to be undertaken beginning in October 2011 and could be completed using Federal planning money, if an application is made in May 2011.

- To implement the project beyond Phase 3 a High-Speed Rail applicant must be designated for the corridor to obtain funding for Phases 4 work and beyond. It is anticipated that the environmental and engineering studies for the HRRW Corridor could cost up to $8-10 Million. It is anticipated that the FRA would provide 80 percent of the funding.
- In order to apply for Federal Funds it is critical that an appropriate authority be established that can represent the interests of the HRRW Corridor to the FRA. The institutional analysis suggests that the applicant could be an "Authority" or "Commission" established under the existing SEHSR Interstate Compact.
- In order to raise local match for the HRRW Corridor project planning and construction, it is proposed that a Public-Private Partnership be considered for the corridor, as this type of funding can typically provide between 20 to 50 percent of a project's capital costs, which is sufficient to meet the federal local match requirement.
- Beyond Phase 3, Community Outreach is needed for the whole corridor. This could be tied into the Environmental Analysis work of Phase 4.

1 INTRODUCTION

This section provides a description of the background of the study, the purpose of the study, and the organization of the report

1.1 BACKGROUND

A Preliminary Vision Plan has been completed for the Hampton Roads Transportation Planning Organization (HRTPO) and approved by the HRTPO Board in June 2010 [2]. The initial findings of the Preliminary Vision Plan demonstrated the potential for providing High-Speed Rail services between Hampton Roads-Richmond-Washington (HRRW). The initial findings of the study are very positive and the HRTPO Board has determined that it should continue the analysis of Enhanced Passenger Rail and High-Speed Rail opportunities.

The Preliminary Vision Plan clearly demonstrated the utility of the Enhanced Passenger Rail and High-Speed Rail. It showed that the potential was for more than just the segment between Hampton Roads and Richmond. Rather, that study demonstrated that the Enhanced Passenger Rail and High-Speed Rail Alternatives rail system should be defined as Hampton Roads to Washington through Richmond and connecting to the Northeast and Southeast High-Speed Rail (SEHSR) corridor. The HRRW Corridor needs to be considered as a longer geographic corridor than just the Hampton Roads to Richmond segment. The Enhanced Passenger Rail and High-Speed Rail Alternatives System definition for rail service will be Hampton Roads-Richmond-Washington, and as a result will include the high-speed rail segment of infrastructure and passenger service between Richmond and Washington.

Representatives from the HRTPO have expressed a desire to more fully understand the development steps of an Enhanced Passenger Rail and High-Speed Rail Alternatives program and the level of responsibility of the HRTPO in the development process. The purpose of this phase of work (Phase 1B) is to set out a project development program for the HRRW Corridor.

The key issue, therefore, is how Hampton Roads will respond to this opportunity and how it will advance the project and implement it. Hampton Roads needs to understand the steps that must be taken in planning, institutional and funding terms. What is the planning process? Who needs to be involved and are there institutional structures that need to be developed? How much will this process cost, who will need to pay for what, and who will be responsible for what?

This implementation plan will be developed and used as a “Blueprint”. This will allow Hampton Roads to understand its responsibilities and commitment to the process, and how they can get the project developed working with other team members.

This phase of work is designed to answer these questions and provide a blueprint for the implementation of the project and its funding.

1.2 PURPOSE OF THE STUDY

The purpose of Phase 1(B) is to develop a program to show the timing, institutional structures and funding requirements for a High-Speed and Intercity Rail Plan with speeds ranging between 110-mph and 150-mph. The first step in the process is to explore the background to High-Speed Rail development in the HRRW Corridor. This step provides a context for the development potential of the corridor. The second step is to define the levels and types of funding that can be used to bring the project into operation. The third step will define the various institutional structures that will need to be set up to implement the program. The fourth step in the process is to set out the key tasks associated with implementing the program in terms of planning and implementation activities needed to bring the High-Speed program to an operational state.

1.3 REPORT ORGANIZATION

This report is designed to answer a large number of questions about the HRRW Corridor. These include such concerns as –

- Why has there been so little progress in developing the corridor?
- How would a high-speed rail corridor be funded?
- Who will lead the planning and development process?
- What are the timescales for getting the corridor built?

To meet this need the report is structured in the following way –

- Chapter 1 – Introduction
- Chapter 2 – High-Speed Rail Context and Designation
- Chapter 3 – Funding
- Chapter 4 – Institutional Framework
- Chapter 5 – "Blueprint Plan"
- Chapter 6 – Conclusions

2 HIGH-SPEED RAIL CONTEXT AND DESIGNATION

This section explores the historical background to the designation of the Hampton Roads-Richmond-Washington Corridor, its relationship to the Northeast Corridor and the Southeast High-Speed Rail Corridor, and the justification for its development.

2.1 INTRODUCTION

The development of the High-Speed Rail program in the U.S. has been a very spasmodic process. At different times, different communities and states have seen the potential for high-speed rail to be developed along their corridors, while at other times the lack of funding and in particular Federal funding has slowed or stopped development.

The earliest studies in the U.S. were initiated in the 1980's when different groups began to see the success of both European and Asian High-Speed Rail programs. These include the French TGV program, the British HST program, the Italian ETA program, and the Shinkansen program in Japan. In particular the French and Japanese moved ahead with increasing confidence about the ability of their high-speed rail systems to generate ridership and revenue, and to provide a comprehensive mode of travel at prices that the public can afford without the need for a government subsidy of train operations. This success led to studies in the U.S. in Texas TGV (1991) [3], Florida Overland eXpress(FOX) (2000) [4], and the Midwest* (1996) [5] which sparked the idea, that with appropriate capital grants for infrastructure, high-speed rail corridors could be established as financially viable entities, and the private sector could be franchised to operate these systems.

By 1997 the FRA produced the report *High-Speed Ground Transportation for America* [6] that established the basis for Federal funding of High-Speed Rail, and identified the key high-speed rail corridors across the country. These corridors became the basis for the FRA Designated Corridors. See Exhibit 1. It was clear that the identification of FRA "designated corridors" was not completely rigorous in its selection of potential corridors but rather combined technical selection with existing state and Amtrak aspirations. For example, the Indianapolis-Louisville corridor was designated as a high-speed corridor and as an extension of the Midwest system, even though its potential is relatively modest. However, the report itself and the "designated corridors" did become a rational basis and justification for a series of public and public-private initiatives in Florida, Texas, Michigan, Nevada, California, Midwest, and Northeast.

One project that made progress from the 1980's due to the USDOT FRA investment was the Northeast Corridor. Long recognized as the leading U.S. corridor with a population density to match those of European and Asian corridors, the corridor provided an opportunity to develop a strong high-speed rail corridor. The FRA investment in the 1990's resulted in an upgrade of the Northeast corridor extending electrification to Boston and increasing electric service speeds from 125-mph to 150-mph using tilting Acela trains. While still suffering from a very narrow and curvy right-of-way that reduced speeds, the Acela greatly improved travel time, comfort and reliability for travelers between Boston-New York and Washington. The $14 Billion upgrade (in 1980 dollars) of the system, for the first time, provided in the U.S. a real life example of what high-speed rail might offer in the future.

* (Section 1.2 of the 2004 Project notebook) for the MWRRS system as a whole, with individual corridor studies dating back into the early 1980's.

Exhibit 1: FRA High-Speed Rail Designated Corridors [7]

2.2 THE HAMPTON ROADS-RICHMOND-WASHINGTON CORRIDOR

The TEMS Vision Plan showed that the HRRW Corridor has very strong potential as a high-speed rail corridor. It has "independent utility", that means that it can be developed in its own right. Exhibit 2 shows that the corridor has the same potential on a population and distance basis as some of the most important corridors in the country such as Miami-Orlando, Cleveland-Columbus-Cincinnati, and Portland-Seattle, all of which have attracted USDOT FRA funding. Like these corridors, the HRRW Corridor was designated by the USDOT FRA as a national priority in the 1990's [8].

- The Washington-Richmond segment was "designated" in 1992, the extension from Richmond to Hampton Roads was "designated" in 1995.
- In 1995 the corridor was made part of the Southeast High-Speed Rail Corridor (SEHSR) that stretches from Washington to Atlanta (See Exhibit 3).

The most important attribute of these "designations" is that the corridor can compete and receive Federal Funds.

Exhibit 2: U. S. High-Speed Corridors by Distance and Population

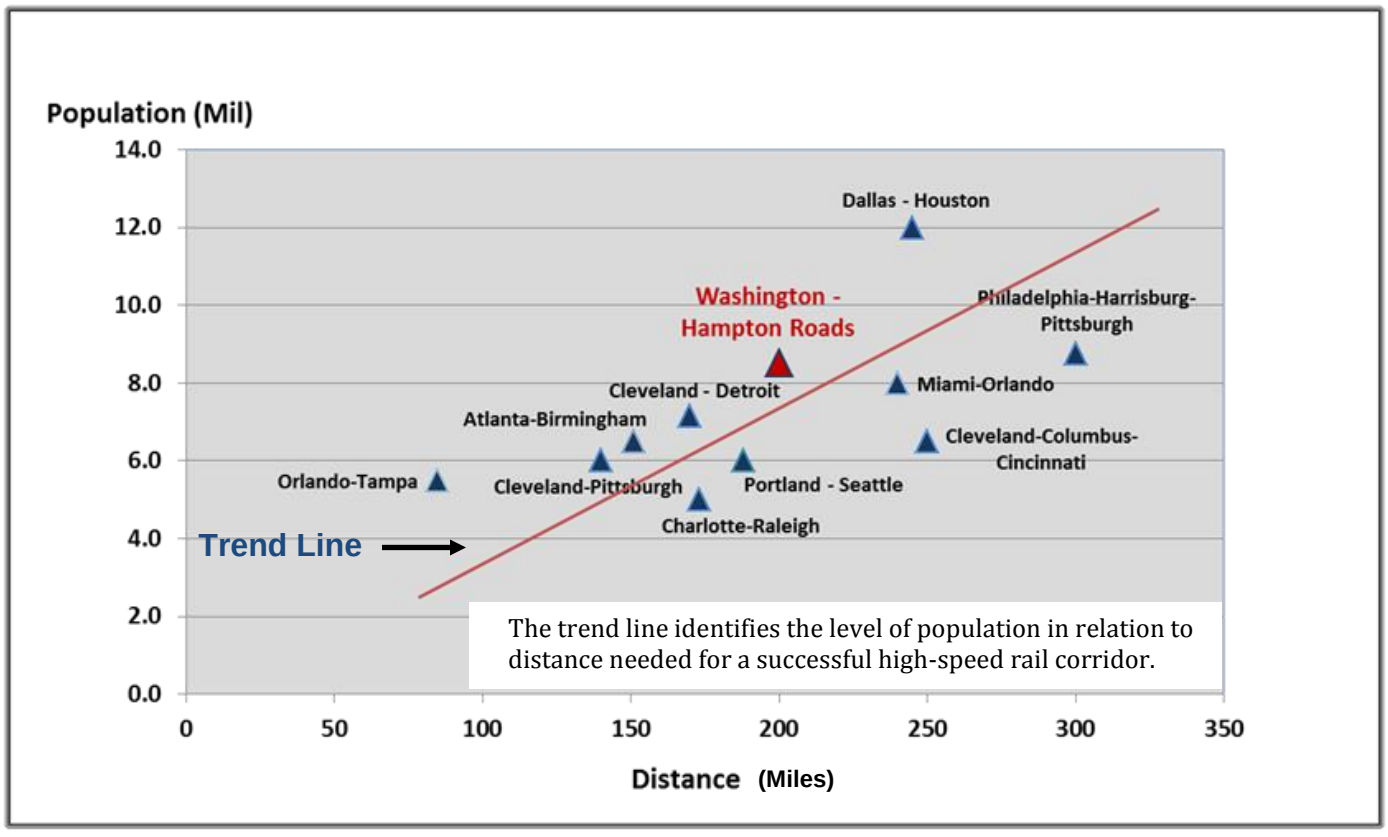
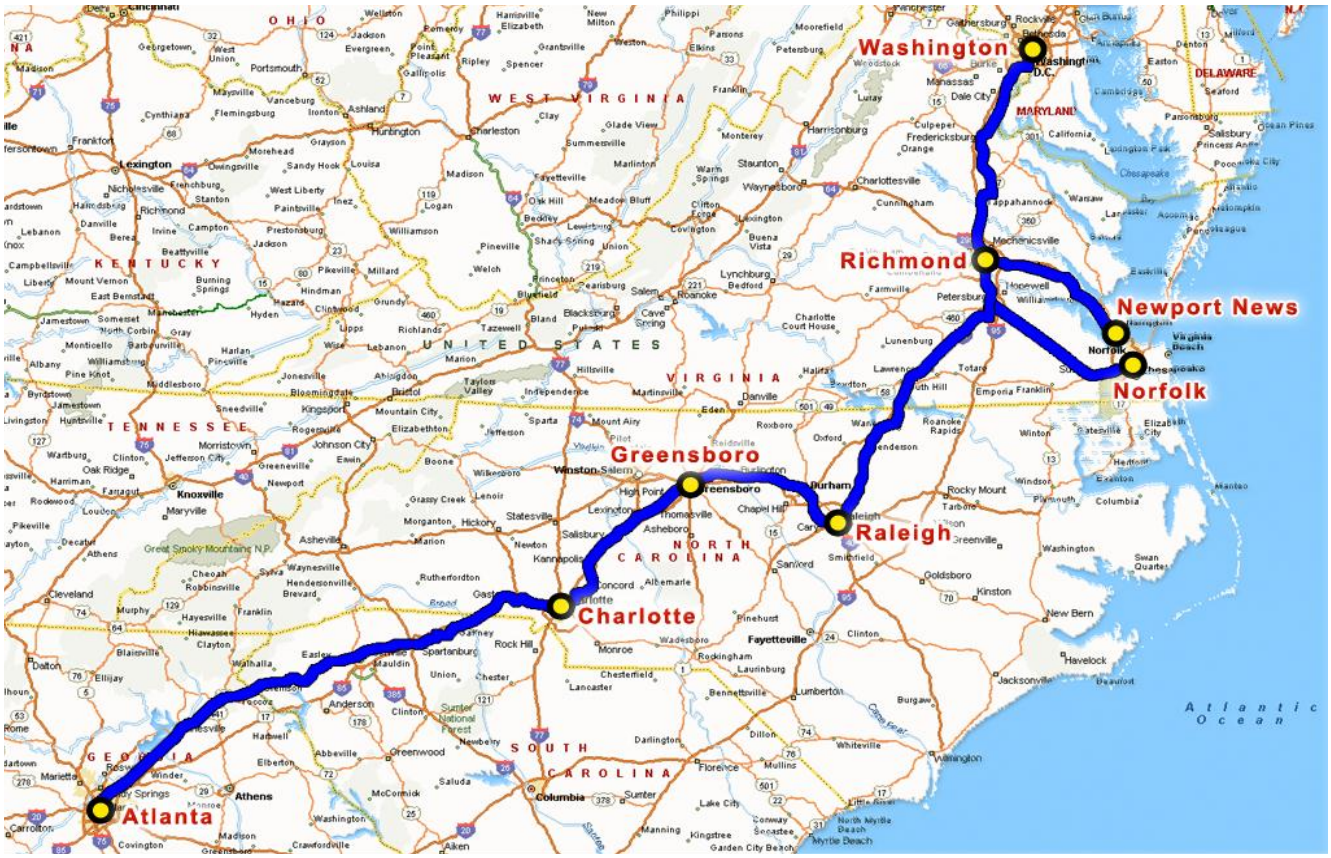


Exhibit 3: Southeast High-Speed Rail Corridor*



However, despite its "independent utility" and both its "designation" as high-speed rail corridor, and its inclusion in the Southeast High-Speed Rail, the HRRW Corridor attracted little attention as a high-speed corridor up to 2008. This was largely due to the lack of high-speed rail funding. In the absence of Federal High-Speed Rail Funding an incremental approach (79 to 100-mph) to passenger rail planning made sense.

In terms of developing passenger rail in the absence of High-Speed Rail Funds, a number of actions were taken that maximized the potential for developing incremental passenger rail.

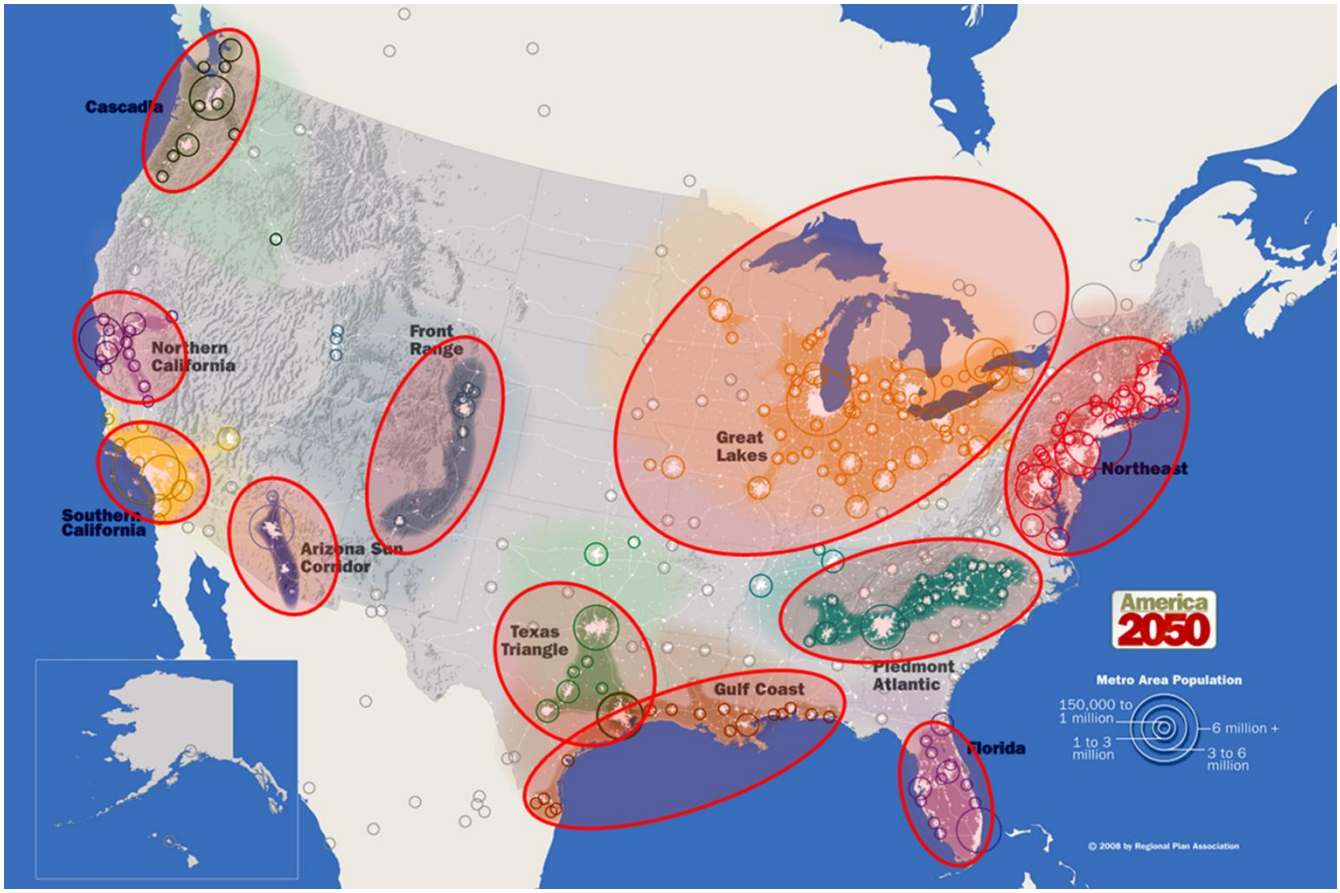
These actions included:

- Focusing development on the most densely populated areas of the SEHSR Compact states. Virginia focused on Washington-Richmond and North Carolina on Raleigh to Charlotte.
- As a second priority attention was paid to linking Richmond to Raleigh, and Richmond to Hampton Roads.

* Map Source: Mapquest, 2010

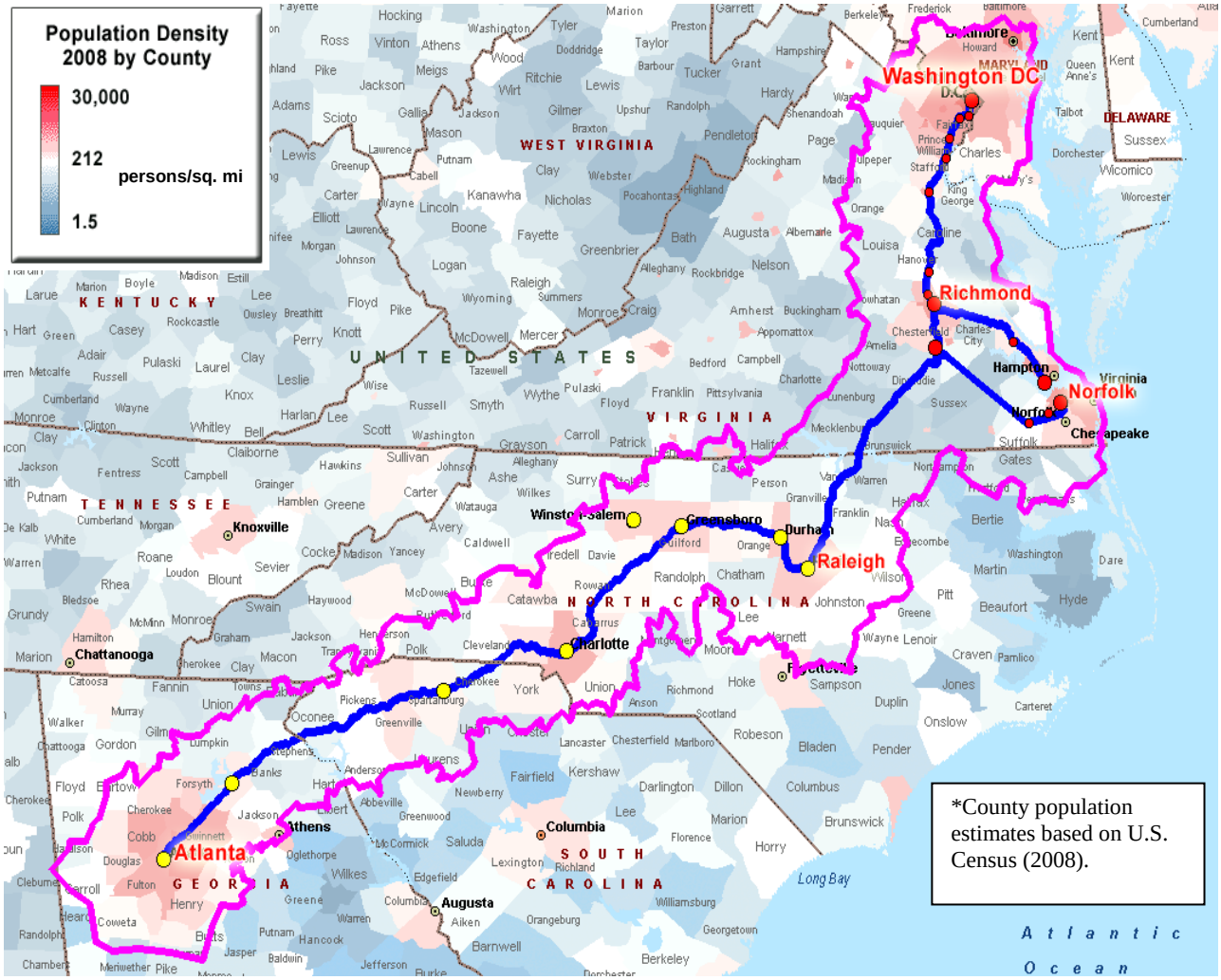
To maximize the opportunity for incremental rail, Virginia took advantage of its relationship with Amtrak. Amtrak had long viewed the HRRW Corridor not as part of the SEHSR corridor, but rather as part of the Northeast Corridor (NEC). Amtrak had good reason for this as the corridor is contiguous with the NEC, and historically from 1994-2002 train service to Hampton Roads was vested with Amtrak's Northeast Corridor Strategic Business Unit [9]. Exhibit 4 shows the Northeast Mega Region according to the Regional Plan Association's U.S. 2050 map (2008), which includes Washington-Richmond and Hampton Roads [10].

Exhibit 4: U.S. 2050 Mega Region Map



Even today Amtrak's passenger trains from Virginia run into the Northeast Corridor. Furthermore, the market analysis of the Draft Environmental Impact Statement (DEIS) completed by Virginia Department of Rail and Public Transport (DRPT) [11] in 2010, and in the TEMS Vision Plan (2010) showed that over 50 percent of the trips made from Hampton Roads went to Washington or farther north along the Northeast Corridor. The potential rail ridership connection with Raleigh and the Southeast Corridor is much weaker. Exhibit 5 shows the population density along the Southeast High-Speed Rail corridor. It can be seen that the population density is very low between Petersburg and Raleigh.

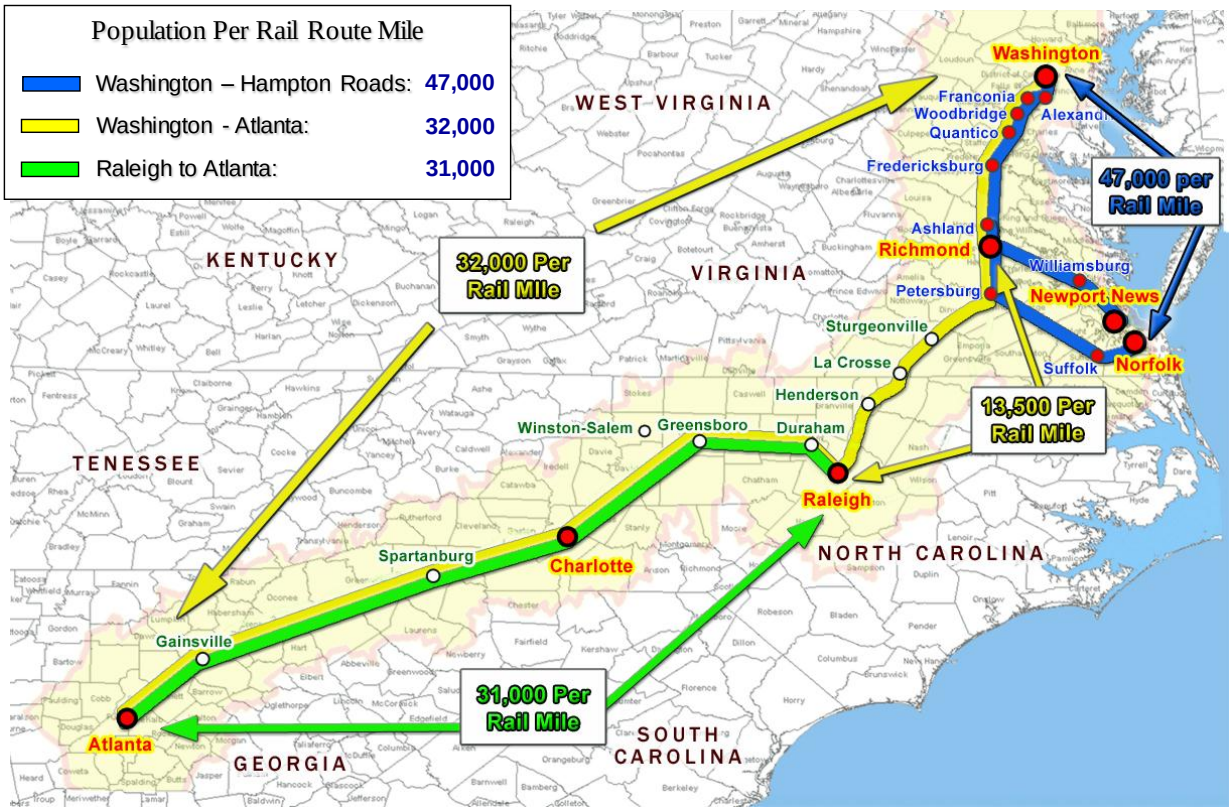
Exhibit 5: USDOT FRA – Southeast High-Speed Rail Corridor Population Density*



This focus on incremental rail passenger service and the lack of funding for the development of high-speed rail impacted the HRRW Corridor in a number of ways.

- It reduced attention on the SEHSR Compact since the SEHSR was being developed in separate elements by different states. The first meeting of the SEHSR Compact was not until 2010, once it became clear that high-speed rail funding could be available to support high-speed rail development. Only the Richmond-Raleigh component of the SEHSR required full attention of both states. However, it was clear that the Petersburg to Raleigh segment was going to be difficult to develop within an incremental framework. This is due to the very low population density of the Petersburg to Raleigh section, and the difficulty of achieving FRA Cost Benefit and Financial Criteria (See Exhibit 6). The population falls to 13,500 people (within 1 hour drive of the route) per route mile. This compares with 31,000 per mile from Raleigh to Atlanta. The HRRW segment has an average of 47,000 per mile.

Exhibit 6: USDOT FRA – Southeast High-Speed Rail Corridor Population by Route Mile



- Dividing of the HRRW Corridor into the Washington-Richmond and Richmond-Hampton Roads segments fails to develop the synergies that an integral corridor would provide. In particular it weakens the potential of the corridor for High-Speed Rail, which is most effective over a 200 to 400 mile routes, and is far less effective over 100 mile routes. Both the DEIS and the Vision Plan recognized the need to include travel to both the NEC and the SEHSR corridors.
- The lack of funding not only focused development on incremental rail, but it also prevented the opportunity to develop the business case for investing in high-speed rail for critical segments like Richmond/Petersburg-Raleigh. Analysis by the FRA in their 1997 "Commercial Feasibility Study" showed that such investment could be very effective under FRA/Office of Management and Budget (OMB) financial and economic criteria for linking across low density areas up to 300 miles in length between Mega regions. For example, the Northern and Southern California Mega regions separated by 200-300 miles of low density population can be financially and economically viable under FRA criteria. Where the gap between the high density areas is shorter, slower speeds can be used. For example, the Northeast and Great Lakes Mega regions are closer and the low density gap is smaller and as a result it can be connected using evaluation criteria at slower speeds of 110-mph.

2.3 FRA FUNDING

The availability of funding for High-Speed Rail suggests that it should be possible to begin to develop High-Speed Rail in Virginia. High-Speed Rail plans should tie in and leverage directly the Incremental Passenger Rail approaches. However, the concept of High-Speed Rail has entirely different requirements and changes the rail planning approach by:

- increasing the length of segments that need to be evaluated (200-400 miles). It is only when the HRRW Corridor is considered as a unified corridor, that it becomes obvious that it is Virginia's prime High-Speed Rail Corridor, and a project of National Significance.
- the ability to link Mega regions by High-Speed rail will change the infrastructure approach needed for low population density segments like Petersburg to Raleigh.
- opening up the opportunity for new kinds of funding (public-private partnerships) due to the ability of high-speed trains to operate without an annual subsidy, (as shown in the Vision Plan) and for the private sector to help finance the project. Previous studies in Midwest, Florida, and Texas show that the private sector capital contribution can be within a 20 to 50 percent range. Typically, higher speeds (110-mph rising to 300-mph) generate bigger private sector potential. High-Speed Rail Funding provides –
    - the ability to implement projects faster because, although the same environmental studies are needed, the availability of funding is so much greater than in an incremental process. As a result, a lot more of the system can be built by a given date.
    - the ability to have a "franchised" operation that not only avoids annual operating subsidy, but it provides the commercial marketing that the private sector is renowned for offering on high-speed rail services.
    - because high-speed rail operates between larger cities and over longer distances it creates the need for interstate organizations like the SEHSR Compact. In 2004 Virginia and North Carolina set up the SEHSR Interstate Compact. That body is officially responsible for development of high-speed rail in both states, and in the new funding environment can take the lead in implementing High-Speed Rail in both states.

2.4 CONCLUSION

The recent High-Speed Rail funding bills of the Obama administration have created a new environment for passenger rail planning –

- The HRRW Corridor has considerable potential for High-Speed Rail. If considered as a whole, it becomes Virginia's prime High-Speed Rail Corridor.
- The HRRW Corridor is well placed to receive funding –
    - It is designated by FRA
    - It is part of the SEHSR Compact which is responsible for high-speed rail development in both Virginia and North Carolina
- To implement the HRRW Corridor it is clear that a focused development approach is needed to allow the corridor to catch-up with its competitors in the Midwest, Florida, and California, which have already successfully applied for money in the first two rounds of funding.
- The Blueprint Study outlines the program for moving forward with the development of high-speed rail in the HRRW Corridor.

3 FUNDING

This section assesses the sources of public and private money that would be available for developing the Hampton Roads-Richmond-Washington High-Speed Rail Corridor. It describes the Federal Legislation, Application process, as well as Private Sector options.

3.1 INTRODUCTION

A critical issue for any High-Speed Rail program is funding. Like in most major urban areas the HRTPO's ability to fund a transportation project for auto, air, transit or rail depends on the ability to attract federal and state funds. Until recently the discussion on high-speed rail was largely academic, as there were few federal funds for intercity passenger rail and even less for high-speed rail. In this environment, DRPT naturally focused on incremental conventional rail investments working with Amtrak to develop improved service. The threats, however, of increasing highway congestion and rising oil prices that are likely to increase significantly in the next thirty years have resulted in a revised approach to high-speed rail by the Federal Government. Building on top of its earlier acts of Congress like Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Transportation Equity Act for the 21st Century (TEA-21) 1998, and the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) 2005 [12] etc., the USDOT set out both guidance rules and constraints on investment in High-Speed Rail. Investments are to be made in "designated corridors" using a Service Development Plan that applies cost benefit rules with thresholds established in the late 1990's and early 2000's for previous High-Speed Rail and Maglev deployment programs. These thresholds are regularly reviewed by the OMB and include both financial criteria and economic criteria. [13]

The passage of American Recovery and Reinvestment Act of 2009 (ARRA) and Passenger Rail Investment and Improvement Act of 2008 (PRIIA) for the first time provided significant funding for High-Speed Rail.

- **American Recovery and Reinvestment Act of 2009**: This provided $8 Billion in High-Speed Intercity Passenger Rail funding to "jump start" the high-speed program. It provided up to 100 percent funding for approved projects.

  "*Federal share of costs for a grant is made….shall be at the option of the recipient, up to 100 percent*"

  In addition, the ARRA grants did not require the proposed projects to be included in a State Rail Plan. [14]

- **The Passenger Rail Investment and Improvement Act of 2008** represents the most sweeping Congressional action on intercity passenger rail since the creation of Amtrak and the Northeast corridor improvement project during the 1970's (ref. FRA docket No. 2009-0045). The legislation established three new competitive grant programs, each of which required a 20 percent non-Federal match:
  - Intercity Passenger Rail Service Corridor Assistance (Section 301). This provides grants for capital improvements to benefit all types of Intercity Passenger Rail service. Amtrak with states, states, groups of states, and compacts can apply. A key requirement is to be in the State Rail Plan.
  - High-Speed Corridor Development (Section 501). Funding is restricted to federally designated high-speed corridors that are expected to reach speeds of 110-mph. Applicants can include Amtrak, states, groups of states, compacts.

- Congestion Grants (Section 302). States, Amtrak (in cooperation with states) can apply for infrastructure and equipment grants to reduce congestion or facilitate the growth of intercity ridership. [15]

As a result of these new opportunities for funding High Speed Rail, the FRA developed guidelines and an application process in which to apply for these Federal funds.

3.2 APPLICATION PROCESS

To apply for Federal FRA funds, the process begins with a pre-application. The pre-application is a simple form to give the FRA an early assessment of projects and programs, and to provide feedback to applicants from the FRA and begin a collaborative process.

Applications are assessed in a three step process:

- Screening for completeness and eligibility
- Evaluation panel review process applying "evaluation criteria"
- Final review and selection

The evaluation criteria [16] used for a high-speed corridor application are the following –

PUBLIC RETURN ON INVESTMENT

Evaluation Criteria2	Example Factors	Key Documentation
1. Transportation Benefits	▪ Improved Intercity Passenger Rail service ▪ Transportation network integration (including intermodal connections) ▪ Transportation safety benefits	▪ Service Development Plan (including business case; assessment of benefits and public investment) ▪ Quantitative output measures (service – reliability, schedule, capacity; and transportation – passenger miles, including sources – aviation, highway, induced)
2. Economic Recovery	▪ Preserving and creating jobs – particularly in economically-distressed areas	
3. Other Public Benefits	▪ Environmental quality ▪ Energy efficiency ▪ Livable communities	

PROJECT SUCCESS FACTORS

Evaluation Criteria	Example Factors	Key Documentation
1. Project Management Approach	▪ Organizational capacity ▪ Track record of comparable projects ▪ Adequacy of engineering ▪ Reasonableness of schedule ▪ Progress toward NEPA compliance ▪ Thoroughness of management plan ▪ Sufficiency of safety and security planning ▪ Sufficiency of stakeholder agreements ▪ Reasonableness of financial estimates ▪ Availability of operating financial support ▪ Quality of planning process	▪ Project management plan
2. Sustainability of Benefits		▪ Financial plan (capital and operating) ▪ Stakeholder agreements

2 See Section 4 for a detailed summary of submission requirements, and Section 5 for additional detail on evaluation and selection criteria.

OTHER ATTRIBUTES

Evaluation Criteria	Example Factors	Key Documentation
1. Timeliness of Project Completion	▪ Project readiness ▪ Reasonableness of completion schedule	▪ Project schedule

SELECTION CRITERIA

Selection Criteria (Balance and Diversity)	Example Factors
1. Region/location 2. Innovation 3. Partnerships 4. Tracks and round timing	▪ Geography and economic conditions ▪ Technology and industrial/capacity development ▪ Multi-state agreements ▪ Project costs and schedules

3.3 APPLICATION PROCESS: TRACKS

ARRA appropriated a total of $8 Billion under three Intercity Passenger Rail capital investment programs authorized by PRIIA: Section 501 (High-Speed Rail Corridor Development), Section 301 (Intercity Passenger Rail Service Corridor Capital Assistance), and Section 302 (Congestion Grants). ARRA left the mix of funding among the three PRIIA programs to the discretion of the Secretary of Transportation. As described in the Department's April 2009 strategic plan for high-speed rail, *Vision for High-Speed Rail in America*, FRA will not allocate funding among the three PRIIA programs in advance, but will cumulate the amounts under each PRIIA section from the funding sources identified in the selected applications, subject to the overall $8 billion ARRA limit. In addition to the ARRA appropriation for High-Speed Rail/Intercity Passenger Rail, this funding opportunity solicits applications for up to $9,540,500 for Intercity Passenger Rail planning activities.3

At the discretion of the Secretary of Transportation, the FRA developed its own mechanism for selecting projects using the Evaluation Criteria developed above. The FRA funding solicits applications for funding appropriated through ARRA, and regular USDOT Appropriations Acts under four distinct Tracks as described below:

- Track 1 – Projects (ARRA funds);
- Track 2 – Programs (ARRA funds);
- Track 3 – Planning (annual appropriations funds for Interstate Passenger Rail planning)
- Track 4 – Appropriations Projects (annual appropriations funds for Interstate Passenger Rail non-planning).

FRA anticipates making multiple awards under each of the four Tracks. There is no predetermined allocation between Tracks 1 and 2; all distributions will cumulatively reflect the nature and timing of the selected applications.

3 A total of $90 million was appropriated under the FY 2009 DOT Appropriations Act to remain available and unexpended under the heading of Capital Assistance to States – Intercity Passenger Service, of which no more than 10 percent, or $9 million, may be made available for planning activities. In addition, a total of $540,500 in planning funding, and at least $1,352,573 in FD/construction funding also remained available until expended following the award of grants under the FY 2008 Capital Assistance to States – Intercity Passenger Service program.

3.3.1 FUNDING TRACKS

Track 1 – Intercity Passenger Rail Projects funded under ARRA ("Track 1 – Projects")

This track is aimed at chiefly addressing the economic recovery goals of ARRA through:

a) Final Design (FD)/construction of "ready-to-go" projects – i.e., those with completed site-specific NEPA documentation (project-level final Environmental Impact Statement (EIS), final Environmental Assessment (EA) or Categorical Exclusion (CE) documentation along with Preliminary Engineering (PE); and

b) Completion of project-level NEPA and PE to prepare projects for FD/construction grants that may be available under future solicitations. Track 1 projects should be completed within two years of award. These projects are funded through either Section 301 (Intercity Passenger Rail Corridor Capital Assistance) or Section 302 (Congestion Grants) of PRIIA, for the benefit of existing services, including those that support development of High-Speed Rail. Eligible projects include infrastructure, facilities, and equipment, and must have independent utility[4]. The Federal funding share can be up to 100 percent, although evaluation criteria favor projects that leverage federal funding with non-federal investments.

The HRRW High-Speed Rail Corridor would make application for these funds for Phase 5 of the Blueprint Program.

Track 2 – High-Speed Rail/ Intercity Passenger Rail Service Development Programs ("Track 2 – Programs")

This track is aimed at developing new High-Speed Rail corridor and Intercity Passenger Rail services, or substantial upgrades to existing corridor services, eligible under Section 501 (High-Speed Rail Corridor Development) and Section 301 (Intercity Passenger Rail Corridor Capital Assistance) of PRIIA. It is intended to fund development of a set of inter-related projects that constitute the entirety or a distinct phase (or geographic section) of a long-range service development plan – projects which collectively produce benefits greater than the sum of each individual project[5]. Under this Track, not all projects need to be ready-to-go; the Federal Government provides a commitment to fund the entire program, generally through a Letter of Intent (LOI), and obligates funds for FD/construction projects through cooperative agreements as soon as they are deemed ready-to-go. Track 2 LOIs and cooperative agreements must include specific milestone deadlines for completion of environmental, engineering, design and other work.

To be eligible for awards under Track 2, Service Development Programs ("SDP" – defined in Section 2.2) must include completed:

a) a corridor-wide "service" NEPA study, such as a programmatic or Tier I EIS; and

4 While ARRA-funded projects are exempt from State Rail Plan requirements, evaluation preference is given to those that are part of a planning process that includes a prioritized list of capital projects supporting a corridor service development plan; equipment projects should be consistent with Section 305 of PRIIA, which calls for the establishment of a standardized next-generation rail corridor equipment pool (see Section 3.6.3).

5 A group of projects that collectively advance the entirety, or a "phase" or "geographic section," of a corridor service development plan are referred to here as a "program."

b) a High-Speed Rail/ Intercity Passenger Rail SDP, or an equivalent approach that provides a business and investment justification with sufficient project cost and benefit estimates. Key elements of an SDP or equivalent business case include:
   i) an overview of program rationale (including purpose and need);
   ii) a service and operations plan, and a prioritized capital investment plan for infrastructure, fleet and stations/facilities; and
   iii) an implementation approach, including schedule, project management plan, stakeholder agreements, and a financial plan for funding both capital and operations.

Track 2 programs will generally address infrastructure, equipment and stations/facilities investments in a comprehensive fashion. While these programs are the most complicated and need a particularly rigorous project management approach, Track 2 programs represent the long-term emphasis of the High-Speed Intercity Passenger Rail (HSIPR) Program, and thus FRA expects to focus its collaborative efforts on this Track. The Federal funding share can be up to 80 percent, although evaluation criteria favor projects that leverage federal funding with non-federal investments.

The HRRW High-Speed Rail corridor would make application for these funds for Phase 4 of the Blueprint Program.

Track 3 – Service Planning Activities funded under the FY 2009 and FY 2008 DOT Appropriations Acts ("Track 3 – Planning")

This track is aimed at helping establish a pipeline of future High-Speed Rail/ Intercity Passenger Rail projects and service development programs by advancing planning activities for applicants at an earlier stage of the development process. Under Track 3, FRA will enter into cooperative agreements for preparation of SDPs, State Rail Plans and service-level environmental documents6. This Track provides States an opportunity to complete the prerequisite work needed to submit applications under Tracks 1 and 2, so that applicants may be ready for potential future solicitations. Under the terms of the FY 2008/2009 DOT Appropriations acts, planning activities funded under this Track require a 50 percent non-Federal match.

The HRRW High-Speed Rail Corridor would make application for these funds for Phase 3 of the Blueprint Program.

Track 4 – FY2009 Appropriations-Funded Projects ("Track 4 – FY2009 Appropriations Projects")7

Track 4 provides an alternative for projects that would otherwise fit under Track 1, but for State applicants offering at least a 50 percent non-Federal share of financing. This Track offers applicants simplified grant agreement terms, and up to five years to complete projects (vs. two years under Track 1). Applicants providing at least a 50 percent project match are strongly encouraged to submit project

6 Project-level NEPA documents are eligible for funding under Tracks 1 and 2.

7 A total of $90 million was appropriated under the FY 2009 DOT Appropriations Act under the heading of Capital Assistance to States – Intercity Passenger Service, of which no more than ten percent, or $9 million, may be made available for planning activities. In addition, a total of $540,500 in planning funding, and at least $1,352,573 in FD/construction funding also remained available until expended following the award of grants under the FY 2008 Capital Assistance to States – Intercity Passenger Service program.

applications under Track 4 (those submitting project application(s) under Track 4 may also request concurrent consideration of such application(s) under Track 1).

The HRRW High-Speed Rail Corridor could make application for these funds as part of the Public-Private Partnerships funding for Phase 4 of the Blueprint Study.

3.4 REVISED APPLICATION PROCESS

In the two years that the FRA has accepted funding requests for High-Speed Rail its requirements have increased significantly. Originally, the requirement was largely focused on a Service Development Plan (SDP) that provided insight into Ridership, Revenue, Operations, Operating Costs, and Capital Costs, and used the FRA public-private partnership criteria to judge the financial and economic benefits of a project.

In the first and second rounds (2009, 2010) the Midwest, Ohio, Florida all used existing Business and Vision Plans to make their successful applications. However, the FRA has now made it clear that for Track 2 it requires three sets of information:

- Service Development Plan (SDP)
- Concept Engineering (CEN); and
- Service National Environmental Policy Act (NEPA) documentation

The FRA recognizes the additional information it is asking applicants to provide in 2011 and beyond and it has provided guidance on what it needs [17], [18]. Its current guidance suggests that the Preliminary Engineering should be at five percent or Concept Engineering, while the Service NEPA documentation would be at least an Environmental Scoping if not a full Programmatic Environmental Impact Statement. Nonetheless, the additional work will double the effort required to prepare an application. The detail requirements are as described below.

3.4.1 TRACK 2 REVISED APPLICATION REQUIREMENTS

SERVICE DEVELOPMENT PLAN (OR EQUIVALENT)

A Service Development Plan (SDP) is a plan for developing High-Speed Rail/Intercity Passenger Rail service, either initiating new service or improving existing service (e.g., adding train frequencies and/or reducing trip times) – typically focused on distinct phases and/or geographic sections of service improvement. A SDP or equivalent covers three general topics:

i) rationale (including purpose and need),
ii) service/operating plan and prioritized capital plan, and
iii) implementation plan (including project management approach, stakeholder agreements and financial plan).

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

After receiving the pre-applications for Track 2, subject to available resources, FRA will be available for a kick-off discussion with the prospective applicant that will include a review of the contents of the SDP.

FRA will provide assistance to Track 2 applicants in clarifying whether the information necessary for the SDP is complete. FRA will also discuss submission requirements with prospective applicants.

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

- **Illustrative topics dealing with program rationale** – The SDP includes a description of the corridor's transportation challenges and opportunities based on current and forecasted travel demand and capacity conditions. Through the SDP, the applicant has the opportunity to show FRA and its constituents how the proposed High-Speed Intercity Passenger Rail (HSIPR) Service Development Program can cost-effectively address transportation and other needs considering system alternatives (highway, air, other, as applicable). Qualitative and quantitative assessments of the costs, benefits and impacts and risks of the alternatives will provide decision makers with sufficient information. The SDP might also explore synergies between the High-Speed Rail/Intercity Passenger Rail proposal and large-scale goals and development plans within its service region and communities.
- **Illustrative topics dealing with operations –** The SDP describes the train service to be provided for each phase of new or improved Intercity Passenger Rail service including: the service frequency, timetable (including time-distance "stringline" diagrams), general station locations, intermodal connections, and train consists. The SDP would describe the underlying operational analyses, including railroad operation simulations and equipment and crew scheduling analyses, which in turn reflect such variables as travel demand and rolling stock configuration. The planning horizon should be consistent with the anticipated useful lives of the improvements to be introduced.
- **Illustrative topics dealing with capital needs** – The SDP describes the rail equipment and infrastructure improvements for each discrete phase of service implementation. If applicable, the SDP would prioritize improvements for each phase. The SDP presents estimated capital costs for projects and project groups, with documentation of assumptions and methods. Initial capital expenditures estimates to bring the service to its full operating capability, accommodation of future traffic growth and ongoing expenditures for replacement of system components should be included.
- **Illustrative topics dealing with operating and financial results** – The SDP includes operating and financial projections for each phase of the planned intercity passenger rail service. The SDP will address the methods, assumptions and outputs for travel demand forecasts, the expected revenue from the service, and all operating expenses for the train service including maintenance of way, maintenance of equipment, transportation (train movement), passenger traffic and services (marketing, reservations/information, station, and on-board services), and general/administrative expenses. Cost-sharing arrangements with infrastructure owners and rail operators should also be included.
- **Illustrative topics dealing with public benefits –** The SDP includes a description of user and non-user benefits and, to the extent readily quantifiable, the estimated economic value of those benefits, with particular attention to topics prominent in ARRA, i.e., job creation and retention and potential energy savings.
- **Illustrative topics dealing with program implementation –** The SDP presents a Service Development Program schedule for carrying out each phase; a preliminary description of the intended techniques of project management that will assure quality, cost, and budget control; and the financing and organizational plans for carrying out the proposed strategy.

If the High-Speed Rail/Intercity Passenger Rail service contemplated under the SDP makes use of facilities that would be shared with freight, commuter rail, or other Intercity Passenger Rail services, the existing and future characteristics of those services –as developed cooperatively with freight, commuter, and Intercity Passenger Rail partners–would need to be integral to the High-Speed Rail/Intercity Passenger Rail SDP. In particular, the SDP needs to show how the proposed Service Development Program will protect the quality of those other services through a planning horizon year and under assumptions mutually agreed to with the other partners.

CONCEPTUAL ENGINEERING (CEN)

CEN completion is a prerequisite for projects submitted under Track 1 – FD/Construction projects, Track 2 –Programs, and Track 4. CEN entails sufficient engineering design to define a project, including identification of all environmental impacts, design of all critical project elements at a level sufficient to assure reliable cost estimates and schedules (in turn sufficient to complete project management and financial plans), and definition of procurement requirements and strategies.

The CEN development process starts with the evaluation of project design alternatives (a range of rail improvements, specific alignments, and project designs) sufficient to support subsequent NEPA analysis. The NEPA environmental determination is a prerequisite for FRA to obligate construction funds. As with the SDP, FRA acknowledges the complexity of the work required for CEN, and that it will vary depending on the project scope. Thus, FRA does not pre-determine the form and structure of the CEN work. FRA has opted to specify the illustrative contents of CEN – thus allowing the applicant discretion to pursue the most workable approach tailored to its needs and suitable for the proposed project.

CEN results in detailed estimates of project costs, benefits, and impacts of the preferred alternative that merit a higher degree of confidence than those prepared in earlier stages of planning. FRA considers that CEN for a major capital investment project is complete when:

- The signed environmental Record of Decision (ROD) or Finding of No Significant Impact (FONSI) signals that the NEPA process has been completed;
- The project scope, capital cost estimates, and financial plan are finalized;
- The project sponsor has adequately demonstrated its technical capability to advance the project into FD and construction;
- The project sponsor has adequately demonstrated its process and schedule for filing any safety regulatory waivers necessary to implement the project; and
- The project sponsor has provided an adequate system safety program plan and any necessary collision/derailment hazard analysis.

The products of CEN will include: engineering designs; a detailed project description, including provisions for compliance with the Americans with Disabilities Act (ADA); a highly accurate project cost estimate (including a description of methodologies and assumptions employed in developing the estimate) that identifies major components and that includes contingencies that are reduced from previous estimates and are broken down by phase and functional area, a thorough project management plan suitable for this phase of project development; and a solid project financial plan that includes Federal and non-Federal funding committed to the project.

CEN documentation will typically include:

1) scale maps or scale aerial photography of existing conditions at a scale of one inch = 100 to 500 feet depending on location (built up vs. undeveloped areas); and
2) design plan drawings overlaid on the maps/photography. These design drawings will typically show:
   i) Existing railroad right-of-way limits along with the railroad ownership;
   ii) Proposed track changes including track removals and track installations showing track centers, turnout sizes, curve and spiral data, etc.;
   iii) Vertical profiles and grades of existing and proposed construction;
   iv) Public and private at-grade highway crossings; and
   v) Passenger stations, building(s), platforms, parking, access to the primary highway system in the area, and public transit services and facilities.

The detailed project description developed in the CEN typically includes an assessment of the physical condition and location of the existing project area (generally two to three miles beyond the project construction limits) and elements associated with the design(s). These elements may include: bridges (rail and highway); track including the number and location of previously existing railroad tracks on a roadbed; buildings (stations and maintenance facilities, etc.); signal systems and interlocked detectors, switches, derails, and snow melters; utility systems on, over, adjacent to or under the rail line and agreements concerning them; electrification systems, if any; description of highway crossing warning systems (if any) and daily traffic counts at public and private at-grade highway crossings; existing and proposed railroad operations and routes of freight, commuter and intercity trains with daily numbers of trains by type; a safety and security management plan; and STRACNET [19] routes and/or moves for commercial high and wide loads. For maintenance facilities, the CEN outputs will describe and provide drawings that show the location, track and facility layout, specialized equipment (if any), office and employee welfare facilities, etc.

FRA will be available, subject to available resources, to assist applicants in clarifying whether the CEN is complete and encourages applicants to contact FRA to discuss CEN.

SERVICE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENTATION

The FRA's compliance with NEPA is outlined in the agency's Procedures for Considering Environmental Impacts (64 Fed. Reg. 28545 (May 26, 1999)) and the Council on Environmental Quality's (CEQ) NEPA implementing regulation (40 C.F.R. §§ 1500-08). NEPA requires that appropriate environmental documentation be available to public officials and citizens before decisions are made and actions are taken. The available information should be relevant to the decision to be made at any particular stage of project development. CEQ further encourages agencies to use Programmatic Environmental Impact Statements for planning decisions and the use of tiered statements from broader scope (Tier 1) to those of narrower scope (Tier 2 for specific actions). FRA has structured the HSIPR guidance with these considerations in mind.

In many, if not most, of the corridors around the country where substantial improvements are needed to implement significantly expanded conventional or high-speed rail services, what FRA has defined in the guidance as "Service NEPA" is an essential first step. Service NEPA documentation (which CEQ refers to as Programmatic or Tier I EIS) typically addresses the broader questions relating to the type of service(s) being proposed, including cities and stations served, route alternatives, service levels, types of operations (speed, electric, or diesel powered, etc.), ridership projections, and major infrastructure components. For a major rail corridor improvement program, this type of environmental review must be completed before any substantial investments in the corridor can be made.

Several different approaches are available to accomplish Service NEPA documentation, including Tiered NEPA (Tier 1 EIS) or EA followed by Tier 2 EISs, EAs or Categorical Exclusion determinations (CE)) or non-Tiered NEPA (one EIS or EA covering both service issues and individual project components). In the Guidance, FRA has drawn a distinction between Service NEPA documentation and Project NEPA documentation. Project NEPA documentation consists of a Tier 2, site-specific environmental review that is appropriate to make a decision on implementing a particular project. A key difference between a "Service NEPA" and a "Project NEPA" is the level of detail required:

- Service NEPA documentation requires Conceptual engineering to approximately 5 percent related to the SDP and supporting programmatic environmental analysis. By comparison, Project NEPA documentation requires Preliminary engineering to 30 percent and a full project description required to support site-specific environmental analysis.
- Service NEPA documentation requires Landscape level data collection and impact analyses are required. Overall air and noise effects from train operations are considered. This requirement for detail is consistent with a preliminary environmental scan or scoping document. By comparison, a Project NEPA documentation requires Site-specific impact analysis and field work support full compliance with NEPA and other laws and provide for actual construction permits.
- Service NEPA documentation requires limited Permitting agency involvement and only requires public circulation of the proposed Service NEPA document prior to an FRA decision. A Project NEPA documentation by comparison require extensive early and continuing permitting agency involvement to ensure that Project NEPA will support permit issuance, including historic preservation Section 106, endangered species act, and clean water act permitting. Project NEPA documentation also requires extensive and formal processes for public involvement and participation.

It is important to note that substantial environmental work has already been done or is underway for all segments of the HRRW Corridor. Much of this existing data can be leveraged to speed development of the required Service Level NEPA documentation with fundamentally new analysis required mostly to assess the proposed new alignment alternatives.

3.5 ADDITIONAL FEDERAL FUNDING REQUIREMENTS

In addition to its requirements for Track 2 funding, the FRA has two further requirements for approving construction funding.

OPERATING AND ACCESS AGREEMENTS

Prior to construction grant and typically during the Environmental Process, recipients will be required to reach a written agreement, approved by FRA, with each of the railroads or other entity on whose property the project will be located. Among other things, such railroad/owner agreements shall specify terms and conditions regarding the following issues: responsibility for project design and implementation, project property ownership, maintenance responsibilities, and disposition responsibilities, and the owning entity's commitment to helping to achieve, to the extent it is capable, the anticipated project benefits. If an agreement between the grant recipient and the owner which substantially addresses the above-referenced issues is already in place as of the date of execution of the grant agreement, the grant recipient will be required to submit it to FRA for FRA's review and determination of adequacy. However, if either no agreement is in place as of the date of execution of this Agreement, or if an existing agreement has

been determined by FRA to be inadequate, the grant recipient shall, prior to the grant recipient's execution of an agreement with the owner, submit the final draft of such an agreement to FRA for FRA's review and approval. A finding by FRA that the required approved railroad/owner agreement(s) are in place is a prerequisite for reimbursement of construction-related project expenses.

REAL PROPERTY AND EQUIPMENT MANAGEMENT, DISCONTINUANCE OF SERVICE, AND DISPOSITION REQUIREMENTS

The grant recipient will be required to ensure the maintenance of project property to the level of utility (including applicable FRA track safety standards) which existed when the project improvements were placed in service for a period of a minimum of 20 years from the date such project property was placed in service. In the event that all Intercity Passenger Rail service making use of the project property is discontinued during the 20-year period, the grant recipient will be required to continue to ensure the maintenance of the project property, as set forth above, for a period of one year to allow for the possible reintroduction of Intercity Passenger Rail service. In the event the grant recipient should fail to ensure the maintenance of project property, as set forth above, for a period of time in excess of six months, the grant recipient will be required to refund to FRA a pro-rata share of the Federal contribution, based upon the percentage of the 20-year period remaining at the time of such original default. The grant recipient will also be required to acknowledge that the purpose of the project is to benefit Intercity Passenger Rail service. In the event that all Intercity Passenger Rail service making use of the project property is discontinued (for any reason) at any time during a period of 20 years from the date such project property was placed in service, as set forth above, and if such Intercity Passenger Rail service is not reintroduced during a one-year period following the date of such discontinuance, the grant recipient will be required to refund to FRA, no later than 18 months following the date of such discontinuance, a pro-rata share of the Federal contribution, based upon the percentage of the 20-year period remaining at the time of such discontinuance.

3.6 NON-FEDERAL FUNDING

There are a number of non-Federal funding opportunities that can be used to meet the "match" requirements of Federal funding. These include state and local government, local development – value capture groups, and private sector funding specialists who can work with the operators, equipment providers, development groups to provide both equity and debt funding to a high-speed rail project. The key requirement for private sector involvement is a project that provides at least a franchise capability by at least breaking even on train operations, and a positive cost benefit ratio that shows there is value captures opportunities at stations along the route. In the Phase 1 Progress Report of the HRRW Corridor the typical Public-Private Partnership financial structure was shown. See Exhibit 7. It can be seen that the opportunity at 150-mph is much greater than at 110-mph, but in both cases at a 20 percent local match, only limited local/state government contributions (if any) are needed.

Exhibit 7: Preliminary PPP Funding Plan

	110-mph Service $Billion	150-mph Service $Billion
Federal Grants	1.2 – 1.5	2.4 – 2.5
Revenue Bonds	0.2 – 0.4	0.8 – 1.0
Vendor Equity Contribution	0.5 – 1.0	1.2 – 1.5
Station Development	0.2 – 0.3	0.3 – 0.5
TIF District/Parking	0.2 – 0.3	0.2 – 0.4
State and Local Contribution	0.3 – 0.4	0.4 – 0.5
Total Funding Range	2.6 – 3.9	5.3 – 6.4

3.6.1 STATE FUNDING

While it is recognized that state funding is limited, there do exist some state funding programs. These programs include, the Rail Enhancement Fund ($21 Million annually for rail capital improvements in FY 2011), Shortline railway preservation ($3 Million annually for rail capital improvements), and Capital Project Bonds ($3 Billion by FY 2018 for transit and rail capital improvements). Also for construction of industrial access railroad tracks ($1.5 - $2.5 million annually shared with the road and airport access funds and rail project). These funding streams, though limited, could provide the state and local contribution to pay for rail capital improvements. With no identified state rail operations funding, the private sector could be called in to fill that gap with PPPs and franchising operations [13].

3.6.1 PUBLIC-PRIVATE PARTNERSHIP

The 2004 USDOT Report to Congress on Public-Private Partnerships [20] defines a PPP as:

A public-private partnership is a contractual agreement formed between public and private sector partners, which allow more private sector participation than is traditional. The agreements usually involve a government agency contracting with a private company to renovate, construct, operate, maintain, and/or manage a facility or system. While the public sector usually retains ownership in the facility or system, the private party will be given additional decision rights in determining how the project or task will be completed.

PPPs vary by the extent to which the public sector transfers project responsibility, risk and ownership to the private sector. Exhibit 8 describes PPP methods:

Exhibit 8: Public-Private Partnerships Infrastructure Approaches* [21]

Approach	Description
Traditional Approach	
Design-Bid-Build (DBB)	The traditional method of project delivery in which the design and construction are awarded separately and sequentially to private firms.
Public-Private Partnerships Approaches	
Design-Build (DB)	Combines the design and construction phases into a single fixed-fee contract, thus potentially saving time and cost, improving quality, and sharing risk more equitably than the DBB method.
Private Contract Fee Services/Maintenance Contract	Contracts to private companies for services typically performed in-house (planning and environmental studies, program and financial management, operations and maintenance, etc.)
Construction Manager at Risk (CM@R)	A contracted construction manager (CM) provides constructability, pricing, and sequencing analysis during the design phase. The design team is contracted separately. The CM stays on through the build phase and can negotiate with construction firms to implement the design.
Design-Build with a Warranty	A DB project for which the design builder guarantees to meet material workmanship and/or performance measures for a specified period after the project has been delivered.
Design-Build-Operate-Maintain (DBOM), Build-Operate-Transfer (BOT), or Build-Transfer-Operate (BTO)	The selected contractor designs, constructs, operates, and maintains the facility for a specified period of time meeting specified performance requirements. These delivery approaches increase incentives for high-quality projects because the contractor is responsible for operation of the facility after construction. The public sector retains financial risk, and compensation to the private partner can be in the form of availability payments.
Design-Build-Finance (DBF), Design-Build-Finance-Operate (DBFO), or Design-Build-Finance-Operate-Maintain (DBFOM)	DBF, DBFO, and DBFOM are variations of the DB or DBOM methods for which the private partner provides some or all of the project financing. The project sponsor retains ownership of the facility. Private sector compensation can be in the form of tolls (both traffic and revenue risk transfer) or through shadow tolls (traffic risk transfer only).
Long-Term Lease Agreements/Concessions (brownfield)	Publicly financed existing facilities are leased to private sector concessionaires for specified time periods. The concessionaire may pay an upfront fee to the public agency in return for revenue generated by the facility. The concessionaire must operate and maintain the facility and may be required to make capital improvements.
Full Privatization	
Build-Own-Operate (BOO)	Design, construction, operation, and maintenance of the facility are the responsibility of the contractor. The contractor owns the facility and retains all operating revenue risk and surplus revenues for the life of the facility. The Build-Own-Operate-Transfer (BOOT) method is similar, but the infrastructure is transferred to the public agency after a specified time period.
Asset Sale	Public entity fully transfers ownership of publicly financed facilities to the private sector indefinitely.

* Listed from least private involvement to greatest.

Exhibit 9 describes some of these PPP methods according to the involvement of the public and private sector in elements of surface transportation projects:

Exhibit 9: Public-Private Partnerships Infrastructure Approaches [22]

PPP Method	Responsibility for Project Element					
	Design	Construction	Maintenance	Operations	Financing	Ownership
Traditional Design Bid Build						
Fee-Based Contract Services						
CM at Risk						
Design Build (DB)						
DB with Warranty						
DB Operate Maintain (DBOM)						
DB Finance Operate (DBFO)						
Build Operate Transfer (BOT)						
Build Own Operate (BOO)						

Legend: Public Sector Public/Private Private Sector

3.6.2 PUBLIC-PRIVATE PARTNERSHIP GUIDELINES

Virginia Department of Transportation (VDOT) and the Commonwealth Transportation Board has authority to design and construct transportation projects through design-build (DB) contracts [23]. From 2001 through 2006, VDOT awarded DB on a best value basis, lowest bid basis, fixed price basis and best & final offer (BAFO) basis [24]. Since 2002 through 2010, VDOT has awarded nine DB highway projects totaling more than $215 Million and with two DB highway projects in the notice of intent to award. These projects funded through the American Recovery and Reinvestment Act of 2009 are being procured through DB.

VDOT statutes do not restrict DB projects to highway projects. There are four multiple bridge and three multiple culvert rehabilitation DB projects [25]. However, given the structure of the legislation (which limits the number of DB contracts on an annual basis and requires an annual report on DB contracts), VDOT might want to seek more explicit authority to use DB for rail projects.

With respect to the PPP's authority, according to the Public Private Transportation Act (PPTA) "*The private entity shall have all power allowed by law generally to a private entity having the same form of organization as the private entity and shall have the power to develop and/or operate the qualifying transportation facility and impose user fees and/or enter into service contracts in connection with the use thereof. However, no tolls or user fees may be imposed by the private entity on any existing rural Interstate highway without the prior approval of the General Assembly if the affected Interstate System component is Interstate Route 81*." [26] However, again Virginia Department of Transportation might want to ensure applicability to a high-speed rail project.

INSTITUTIONAL CONSIDERATIONS

The USDOT has developed extensive literature on implementing Public-Private Partnerships. For example, the 2007 FHWA *User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States* [27] offers extensive advice to states ready to implement PPP programs. The 2007 FHWA PPP Guidebook offers a series of questions to prompt internal discussions of

PPP program development. The USDOT FRA has also long advocated the use of Public Private Partnerships for developing high-speed rail programs. FRA publications include the 1997 Commercial Feasibility Study [6] and also the 2005 Maglev Deployment Program [28]. The FRA and FHWA have both gone as far as suggesting how states might set of PPP's and key questions that states might need to address in designing their programs:

What is the institutional context for the PPP program? States implement PPP programs to address a variety of problems. For some, PPPs might address internal agency capacity constraints to manage mega-projects; for others, PPPs appear to be a means of bringing private capital to address state funding shortfalls; for others, ongoing entreaties from the private sector may be the cause for creating a program to handle the requests. A state should also be clear about what kind of criteria it will use to assign projects to PPP delivery.

Does the sponsoring agency have the statutory and regulatory authority for PPPs? Having the legal authority to proceed with PPP projects is a necessary condition for a state; otherwise, private firms would have no assurance that a PPP contract with the State will be binding and enforceable. VDOT has some legal authority to enter into certain kinds of PPPs, but not necessarily for High-Speed rail projects. The legislation should be reviewed to ensure that the statutory and regulatory regime offers the flexibility to solicit PPP proposals to implement rail projects in this Plan and that it is possible to solicit or accept PPP proposals for other (non auto) surface transportation projects.

What are the potential public and private partner responsibilities, risks, and returns? PPP projects are likely to be most successful when they balance the risks and returns between the public and private sector in a way that shares rewards and mitigates risks for both parties. Careful delineation of risks and rewards is a productive step in crafting a sustainable, productive PPP program. This also necessarily involves quantifying relative costs and benefits for a project for the public and private sector parties, so that relative shares of costs (capital and operating) can be allocated between partners. This benefits assessment is part of the PRIIA state rail plan guidelines, and was also part of the recent USDOT Transportation Investment Generating Economic Recovery (TIGER) grant program, and is likely to be required by future Federal funding programs.

Does the sponsoring agency have the capabilities and resources to develop and manage a PPP program and the resulting projects? While a new PPP program will likely require specialized advice for program definition and procedures, it would be wise to carefully connect the PPP procedures with the overall agency mission and responsibilities, rather than create stand-alone organizational structures that fail to recognize that PPPs are a means of advancing the public interests of the agency, not an end unto itself. Therefore, part of the PPP program development process should be an analysis of the public sector resources necessary to implement the program. This not only requires an assessment of the kinds of knowledge, skills and abilities required of program personnel, but also what kind of outside assistance would be necessary to analyze proposals and draft contract documents.

What kind of procurement approach should be used to select qualified PPP teams? Public concerns about PPP methods can be mitigated through careful contracts and monitoring. A recent NCHRP report [21] offers a thorough discussion of how the PPP procurement process can be designed and executed in a way that protects the public's interests as it secures the resources of the private sector for projects, including various suggestions for how proposals are structured, solicited, evaluated, awarded and administered.

While many PPP resources focus on procurement processes to attract the private sector, this report concludes that if the procurement process is designed with sufficient and appropriate transparency, then

the PPP process is much more likely to achieve and sustain the public acceptance and political support it needs to be successful.

APPLICABILITY FOR RAIL PROJECTS

General Assessment. A recent Transportation Research Board (TRB) report, Funding Options for Freight Transportation Projects [29] describes a number of freight rail projects funded and implemented through different methods, including some PPPs. The report also summarizes a number of general provisions for public investments in rail transportation projects.

Projects likely to be chosen for public contributions:

- Projects with construction cost beyond the capacity of private infrastructure owners/_operators or local/regional governments;
- Institutionally complex projects, as indicated by the number of public jurisdictions and private sector entities;
- Likely availability and cost of financing in the private credit markets to fund the projects;
- Eligibility for funding through established Federal or state programs (lack of such programs may lead to public funding through PPPs);
- Need for extensive upfront planning (including environmental clearance), coordination and seed money (this is the case for new passenger rail services with revenue risk); and
- Project risks associated with the novelty of organizational or technological solutions (high-risk, high-return projects may need governmental assistance).

Effective public management of a PPP program for high-speed rail would also contain elements of the transport investment programs cited in the TRB study:

- Strong capabilities to evaluate project benefits and shared costs, and standard economic valuation methods.
- Decision-making must be transparent and consistent.
- Decision-making criteria must define when state resources are needed (as opposed to regional or local) and when projects qualify for state funding (even if such projects are not uniformly distributed across the State.
- PPPs can accomplish state goals:
  - Projects which are part of the state transportation planning process;
  - Projects that have measurable external benefits and which would not have been begun or completed without public assistance; and
  - PPPs should be subject to periodic reviews to assess the economic value of the completed projects (compared to estimated value) and the projects' success in meeting other goals.

The California High-Speed Rail Authority [30] has also identified a number of factors that need to be decided for projects to attract private sector investments:

- Firm, dependable public funding commitments;

- Fair and transparent public regulatory requirements;
- Firm public sector support and funding commitments for the project in questions;
- Clear legislation enabling public-private partnerships; and
- Unwillingness by the private sector to accept risks associated with the environmental process, which firms feel is best borne by the public sector.

Practical Examples. PPPs have been used to resolve critical transportation projects such as, access or bottleneck issues, like the Alameda Corridor project in Los Angeles, California; or the Sheffield and Argentine Flyovers in Kansas City, Missouri; resolve community impact issues like the ReTRAC project in Reno, Nevada [31]; improve passenger rail throughput and reduce grade crossing impacts such as the CREATE project in Chicago, Illinois [32]; or provide economic development for endpoints and reduce truck traffic such as the Heartland Corridor project in Ohio, Virginia and West Virginia.

The experience of the Capitol Corridor Joint Powers Authority between San Jose and Sacramento offers lessons for PPPs in passenger rail expansion. The State of California has provided steady funding for additional trainsets, track and signal improvements, dedicated maintenance of way crews and equipment, and operating assistance. As a result, service on the Capitol Corridor has improved frequency (8 daily to 24 daily trains from 1996 to 2009) and reliability of service (current 90 percent On-Time Performance in July 2009), leading to greater ridership (from 463,000 to 1,693,000, from 1996 to 2009). This has required investment in rolling stock, freight rail infrastructure and a commitment from the public and private sectors to improving service levels through careful coordination of service planning, dispatching and maintenance.

3.7 OPERATING PERFORMANCE

A critical feature of High-Speed Rail projects is their need to make an operating profit to qualify for FRA funding under its financial and economic criteria. This is to endure that the project can be franchised to Amtrak or any other operator, and that the project will not need an annual subsidy, but can operate as a commercial entity. The Vision Plan showed in its cash flow analysis that the HRRW High-Speed Rail Corridor met these requirements once speeds were raised above 100 miles per hour.

3.8 SUMMARY

1. The HRRW Corridor is a designated corridor and can receive FRA funding (up to 80 percent) for the development of a high-speed corridor.
2. The HRRW Corridor can receive FRA funding for each of the Blueprint Phases of work from Phase 4-Phase 6. This provides very comprehensive financial support for the implementation of the project.
3. PPP is a mechanism extensively used by VDOT for highway projects. The system can be extended for passenger rail projects, as shown in California, Missouri, Illinois, Florida and Texas. TEMS believes a PPP process can effectively be designed for the HRRW High-Speed Rail Corridor.
4. PPP has the financial capacity to meet local match requirements that are required to match the up to 80 percent Federal funding for the HRRW High-Speed Rail Corridor.
5. For Phase 2 and 3, the HRTPO should request a letter of agreement from FRA documenting the qualification of study expenses towards the future FRA match requirements.

4 INSTITUTIONAL AND ORGANIZATIONAL ISSUES

This chapter addresses the institutional arrangements that will be needed to support the environmental, engineering, implementation and overall management of the Hampton Roads-Richmond-Washington High-Speed Rail Corridor.

4.1 BACKGROUND

Institutional arrangements relate to the organizational structure and agreements between participating entities (e.g., communities, MPO's and TPO's, states, etc.) responsible for undertaking or overseeing project-related activities. Institutional arrangements may take many forms throughout the planning, engineering, construction and operating phases associated with developing the corridor.

This chapter discusses, at a general level, the concept of institutional arrangements and how these arrangements might be developed for the purpose of planning, management and implementation-related activities. This chapter is descriptive as opposed to prescriptive in identifying appropriate and effective institutional arrangements for the HRRW High-Speed Rail Corridor.

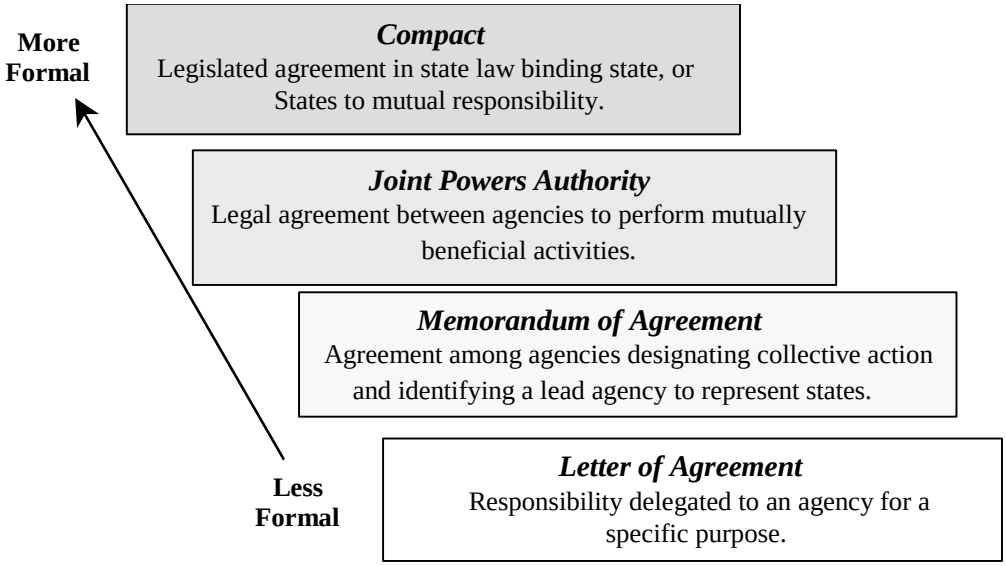
4.2 HAMPTON ROADS-RICHMOND-WASHINGTON CORRIDOR OBJECTIVES

Under various circumstances, institutional arrangements will be needed to provide the structure necessary to achieve the multi-agency objectives stemming from the HRRW High-Speed Rail Corridor. While many of these objectives will be achieved through informal arrangements between participants, achieving others and in particular funding will require specific formal agreements.

As the HRRW High-Speed Rail Corridor project progresses to more detailed planning – and to pursuing funding, particularly federal funding for implementation – a number of diverse activities will most likely require multi-agency participation and cooperation. As the HRRW High-Speed Rail Corridor is implemented, the need will exist to define the institutional arrangements that will best facilitate the implementation and development of the project, as well as meet the needs of project government and private sector participants including freight and commuter railroads, contractors and local, state and federal funding agencies.

There is a wide range of institutional arrangements that can be made. Exhibit 10 illustrates a continuum and definition of institutional arrangements which range from less formal arrangements such as a letter of agreement to a more formal multi-state legislated compact arrangement. The level of arrangement selected will reflect both the administrative needs of the participants, degree of complexity of the issues involved, and the most pragmatic and effective mechanisms for moving forward.

Exhibit 10: Continuum of Institutional Arrangements



It can be seen in Exhibit 10 that a Multi-state or State Compact provides the most formal and strongest institutional structure, followed by a Joint Powers Authority, Memorandum of Understanding and the least formal, a Letter of Agreement. A Multi-state or State Compact legislates that all the participating authorities are mutually responsible and should participate in the overall corridor's development. If the corridor's development is inhibited or inappropriate, all parties are initially responsible for this and should take action to ensure the proper level of development [5], [33] & [34].

THE ROLE OF THE INTERSTATE COMPACT

Congress has from time to time agreed to allow states, or agencies or authorities created by states, to enter into specific agreements that involve interstate commerce. The consent was granted by ISTEA passed in 1991, further supported in the railroad context as part of the Amtrak Reform and Privatization Act in 1997 and most recently in ARRA, and PRIIA. These acts grant the consent of Congress for states to enter into interstate compacts to promote the provision of high-speed intercity passenger rail service including:

- Retaining existing service or commencing new service;
- Assembling rights-of-way; and
- Performing capital improvements, including:
  - The construction and rehabilitation of maintenance facilities and intermodal passenger facilities
  - The purchase of locomotives
  - Operational improvements, including communications, signals and other systems.

In 2004, Virginia formally joined North Carolina as a partner in the Virginia-North Carolina Interstate High-Speed Rail Compact (the Compact). This compact for the Virginia and North Carolina sections of the Southeast High-Speed Rail (SEHSR) corridor provides that the states (Virginia and North Carolina) join to establish a unified commission (the Commission) to undertake joint planning, coordination and advocacy efforts in support of SEHSR and seek, obtain and provide funding *for those purposes*, and cooperate and

share jointly the administrative and financial responsibilities of operating such a Commission. The Compact describes the manner for its adoption by the two states and provides for broad authority to prepare and lay the groundwork to implement a business plan. While the Compact prescribes that the Virginia commissioners all be General Assembly members (only four of the five North Carolina commissioners are North Carolina General Assembly members), the Compact could be amended to create more of an institutional framework, such as a Virginia policy board consisting of members from Virginia SEHSR localities, which would be charged with implementing not only the development, but also construction, financing, operating and maintenance of the corridor, or with directing an operator which would perform those responsibilities. The policy board could also include other knowledgeable stakeholders who could supply necessary railroading skills, or those skills could be positioned in an advisory board. Because the Compact's authority implicitly includes the HRRW High-Speed Rail Corridor (by virtue of its inclusion in SEHSR corridor designation by FRA), the policy board's composition could be legislated to include representatives from Hampton Roads localities.

The agreed-upon Compact language must be, and to date, has been, adopted identically by each state; however, this means future amendments to the Compact to accommodate Virginia's needs would need to be adopted without change by North Carolina, even if they only dealt with the Compact operations within Virginia. However, each state may enact its own enabling legislation that conforms to or supplements (without actually amending) the compact. External enabling legislation (i.e., which doesn't amend the Compact) may include zoning, labor, safety and the environment. If the SEHSR rail system will be operated by a third party operator, matters such as insurance, bonding authority, rates, tariffs and fares may also be able to be addressed in legislation applicable strictly to the operator, outside of the Compact. But, if the Virginia segments of the SEHSR rail system were to be operated by a policy board reporting to the Commission, then such operational matters would likely have to be addressed in the Compact itself (and thus also be adopted by the North Carolina General Assembly). While the present Compact's Commission has the ability to plan, coordinate, advocate and design a high-speed rail corridor, and provide funding for those limited purposes, if the Compact and its Commission are to be the vehicle for making high-speed rail a reality in Virginia, the creation of a more broad-based and representative policy board, as well as the conversion of a business plan into an operating high-speed rail system, may well require further legislation amending the Compact in both states.

COMPACTS AND SOVEREIGN IMMUNITY

States enjoy sovereign immunity; the ability of states to preclude the institution of a suit against the state without its consent. Some states have waived some of their sovereign immunity in order to conduct business. Waiving of immunity is usually tailored to a specific action, such as contracts, provision of public services or certain types of torts. For example, the State of Maryland waived sovereign immunity with respect to the operations of the Mass Transit Administration.

The nature and extent of liability concerning a compact depends upon the content of the compact agreement, and what level of liability, if any, would be assumed by the state. The determination of how much sovereign immunity is waived is dictated by the terms of the Compact. For example, a state's indemnification limits can be proportional to its financial contribution to operating and capital or to other factors. In the Washington Metropolitan Area Transportation Authority (WMATA) compact, the states assume no direct liability but assume responsibility to finance the organization, with the result that each state indirectly pays for a portion of the liability.

For the HRRW High-Speed Rail Corridor, the states are already joined in a structure (the Compact) that would be recognized by Congress for seeking federal funding for significant infrastructure improvements.

The Compact provides the states with a formal structure that operates across state lines and allow the states to cooperate and share jointly the administrative and financial responsibilities of planning for a high-speed rail system. If the Compact and its Commission become the vehicle through which high-speed rail is operated in Virginia (even if by an operator overseen by the Commission), then sovereign immunity issues should be considered and specifically addressed legislatively by both states.

GUIDING PRINCIPLES IN SELECTING INSTITUTIONAL ARRANGEMENTS

As a general rule, the guiding principles for and ultimately selecting institutional arrangements should facilitate the implementation of the project. In response to the requirement for government efficiency, the overall objective is to achieve project goals and to neither expand nor create new bureaucracies beyond what is needed for the implementation of the project. In addition, foremost among these principles is ensuring that institutional arrangements are designed so that intrusion upon states' powers and immunities is minimized. While the form of arrangement is important, equal attention must also be given to identifying when such multi-institutional arrangements are necessary and what needs to be incorporated into these arrangements. Another guiding principle in selecting institutional arrangements is to determine if existing arrangements are sufficient to meet the current need.

4.3 VIRGINIA-NORTH CAROLINA INTERSTATE HIGH-SPEED RAIL COMPACT

Since 1995, the HRRW High-Speed Rail Corridor has been a designated FRA corridor. At that time it was added to the Southeast High-Speed Rail corridor, which had previously been established by the federal government in 1992. The Compact was established in 2004 to oversee implementation of the SEHSR in Virginia and North Carolina. To date, the focus of the Virginia-North Carolina Interstate High-Speed Rail Compact has been on high-speed rail in the corridor between Washington, DC and Atlanta, while only conventional rail has been given serious consideration between Hampton Roads and a junction with the Washington, DC – Atlanta high-speed rail line.

While activities to date have been limited with respect to providing high-speed rail service to Hampton Roads, a Multi-state Compact has significant planning authority, which includes providing a mechanism for Federal funding of high-speed rail development, and for coordinating Federal, State and local efforts to establish high-speed rail service.

Previous studies confirm that for high-speed rail development, a multi-state compact can achieve all of the categories of implementation; this includes project planning, business arrangements, implementation, and policy and operational oversight. See Exhibit 11.

Exhibit 11: Multi-state Compact Activities by Category

Project Planning	Business Arrangements	Policy Oversight Arrangements
▪ Hire consultants ▪ Oversee project planning ▪ Conduct environmental review ▪ Garner project support	▪ Federal grant activities ▪ Major procurements ▪ System construction ▪ Outsourcing decisions	▪ Train operator oversight ▪ Capital investments ▪ Service quality standards ▪ Receipt of revenue ▪ Payment to contractors ▪ Disbursements to states

4.3.1 PROJECT PLANNING

Project planning requires arrangements that support joint funding and collective oversight of the planning process among the participants. An institutional arrangement defined and formulated by a joint, signed letter, or contract by each of the participating states and/or agencies typically proves sufficient to successfully proceed with corridor project planning. An institutional arrangement for the collective governance of many of the activities involved would enhance the effectiveness of project oversight, as well as provide more efficient, comprehensive project management. It is important that policy governance be defined as more than just advisory. The governing entity must have authority for direct action. It is anticipated that all these objectives could be met through an interstate compact, although the terms of the existing Compact, as presently written, are insufficient for the construction and operation phases of system development.

The participants in a broadly drafted Compact could enter into agreements to establish the contractual arrangements necessary to achieve intercity high-speed rail service within the jurisdictions of the contracting states. Contracts can be negotiated quickly and without further legislative approval. It is flexible in design, allowing participants to tailor legal arrangements to their needs and project-specific objectives.

4.3.2 BUSINESS ARRANGEMENTS

Business arrangements entail contractual agreements with lending institutions, investors, suppliers, contractors and freight and commuter railroads. Contract provisions must be drafted to protect the interest of participants, define fiduciary responsibilities and achieve objectives according to a schedule and within limits of affordability. Likewise, investors and contractors will seek clarity regarding identification of the contracting entity and financial responsibility. The federal government, in particular, will require that a Designated Recipient (a state or interstate compact) be named in the submitted grant applications to receive grant funds and be responsible for protecting and maintaining the federal assets resulting from the project.

4.3.3 POLICY OVERSIGHT ARRANGEMENTS

Institutional arrangements must identify the responsibilities of the states – or the Compact Commission, if given the authority – in deciding or delegating policy and broad service delivery issues. These arrangements must also outline responsibilities for management oversight of the rail operator, including periodic review of operating performance and contractor performance.

The establishment and authority of a policy oversight entity could also be an appropriate subject to be addressed in the Compact. Such a policy board would interact with the rail operator through the provision of required funds and the specification of service plans:

- The policy board would follow all the normal procedures of a governmental entity by allocating funds for the greatest public benefit; allowing public participation in all decision-making; and by making complete and detailed financial disclosure.
- The rail service provider would operate in a commercial environment as a strictly private sector, for-profit business enterprise. The service provider would make its decisions on a commercial basis, and would be allowed to protect the confidentiality of its proprietary business data.

It is essential to the future of the HRRW High-Speed Rail project to separate the policy board's requirement for service and funding oversight from the operator's business requirements to be profitable. As pointed out by the Amtrak Reform Council in 1997, the current Amtrak structure by combining governmental and non-governmental functions in a single entity does not do this. Amtrak might serve as an operator of the system, but authority and control over the allocation of capital dollars should be vested in the states (or in this case, the policy board created by the Compact Commission) and the FRA, rather than in the operator.

While some of the HRRW High-Speed Rail Corridor activities (e.g., planning) can be accomplished by the individual participants (e.g., HRTPO), others will require more sophisticated institutional arrangements. These institutional arrangements will range from informal cooperative state or local authority agreements, to complex arrangements. Informal agreements are adequate for planning, but as the system moves towards implementation, more formalized arrangements become absolutely necessary. Exhibit 12 provides a table of required project actions and potential types of institutional arrangements. The exhibit shows that project activities relating to planning can be accomplished through cooperative agreements and memoranda of agreement, but that steps to develop Federal Government funding require a more formal arrangement.

Exhibit 12: Actions and Potential Institutional Arrangements

Potential Actions and Responsibilities	*Informal Cooperative Agreement*	*Multi-State Contract*	*Multi-State Compact*
Level of Institutional Action Required			
Agency Approval	X	X	X
Legislative Approval			X
Arrangements Supporting Planning Activities			
System Plan	X	X	X
Service Plan	X	X	X
Service Standards	X	X	X
Arrangements Supporting State Management Activities			
Stakeholder Support	X	X	X
Procurements		X	X
System Construction Oversight		X	X
Vendor Selection		X	X
System Implementation Oversight		X	X
Full Time Administrative Support		X	X
System Accounting		X	X
Arrangements Supporting State Financial			
Federal Grant Applications and Awards		X	X
Capital Program Development/Monitoring		X	X
Multi-State Cost Sharing		X	X
Multi-State Revenue Distribution		X	X

As the project moves toward activities involving funding, procurement and construction, more formal arrangements are required.

The existence of the Virginia-North Carolina High-Speed Rail Interstate Compact provides an effective vehicle for implementing these responsibilities. Pertinent provisions of Chapter 662 of the 2004 Virginia Acts of Assembly, setting forth the terms of the Compact, include:

COMPACT ESTABLISHED.

Pursuant to the invitation in 49 U.S.C. § 24101 Interstate Compacts, in which the United States Congress grants consent to states with an interest in a specific form, route, or corridor of intercity passenger rail service (including high-speed rail service) to enter into interstate compacts, there is hereby established the Virginia-North Carolina Interstate High-Speed Rail Compact.

AGREEMENT.

The Commonwealth of Virginia and the State of North Carolina agree, upon adoption of this compact:

1. To study, develop, and promote a plan for the design, construction, financing, and operation of interstate high-speed rail service through and between points in the Commonwealth of Virginia and the State of North Carolina and adjacent states;

2. To coordinate efforts to establish high-speed rail service at the federal, state, and local governmental levels;

3. To advocate for federal funding to support the establishment of high-speed interstate rail service within and through Virginia and North Carolina and to receive federal funds made available for rail development; and

4. To provide funding and resources to the Virginia-North Carolina High-Speed Rail Compact Commission from funds that are or may become available and are appropriated for that purpose.

COMMISSION ESTABLISHED; APPOINTMENT AND TERMS OF MEMBERS; CHAIRMAN; REPORTS; COMMISSION FUNDS.

The Virginia-North Carolina High-Speed Rail Compact Commission is hereby established as a regional instrumentality and a common agency of each signatory party, empowered in a manner hereinafter set forth to carry out the purposes of the Compact.

The Virginia members of the Commission shall be appointed as follows: three members of the House of Delegates appointed by the Speaker of the House of Delegates, and two members of the Senate appointed by the Senate Committee on Rules. The North Carolina members of the Commission shall be composed of five members as follows: two members of the Senate appointed by the General Assembly upon recommendation of the President Pro Tempore of the Senate, two members of the House of Representatives appointed by the General Assembly upon recommendation of the Speaker of the House of Representatives, and one appointed by the Governor.

The chairman of the Commission shall be chosen by the members of the Commission from among its membership for a term of one year, and shall alternate between the member states.

The Commission shall meet at least twice each year, at least once in Virginia and once in North Carolina, and shall issue a report of its activities each year.

The Commission may utilize, for its operation and expenses, funds appropriated to it therefore by the legislatures of Virginia and North Carolina or received from federal sources.

This act became effective upon its enactment by the Commonwealth of Virginia and the State of North Carolina, and in accordance with federal law authorizing the compact, in 2004.

This grant of authority provides a sound starting point for the Virginia-North Carolina Interstate High-Speed Rail Compact to act as the development authority for the HRRW High-Speed Rail Corridor. It should be noted that it is critical that the Compact Commission's powers be substantially expanded so that it can effectively function as an oversight organization. As the project moves beyond planning, funding, coordination and advocacy into the realms of construction, financing, operation and maintenance of a high-speed rail line, greater authority will be needed.

4.4 HAMPTON ROADS-RICHMOND-WASHINGTON CORRIDOR INSTITUTIONAL ARRANGEMENT RECOMMENDATION

From the literature and legislative text reviewed for the HRRW High-Speed Rail Corridor applicability, the following common elements and benefits were identified:

- The administrative and operational efficiency of the transportation system is enhanced through a formal coordinating arrangement, particularly as it relates to coordination with private and public funding entities and managing contractor activity.
- A single managing entity enhances system recognition by the public and in building and sustaining broad stakeholder support.
- Inherent to the institutional arrangement are shared service-delivery decisions and mutual transportation and financial benefits.
- The absence of physical ownership of the system right-of-way does not preclude establishing a formal board under the auspices of the existing Compact, for planning, funding, and coordination and development purposes.
- These institutional arrangements can serve as a forum for not only continuing planning and service design, but also, with some amendment, for the development, construction, financing, operation and maintenance of the HRRW Corridor.

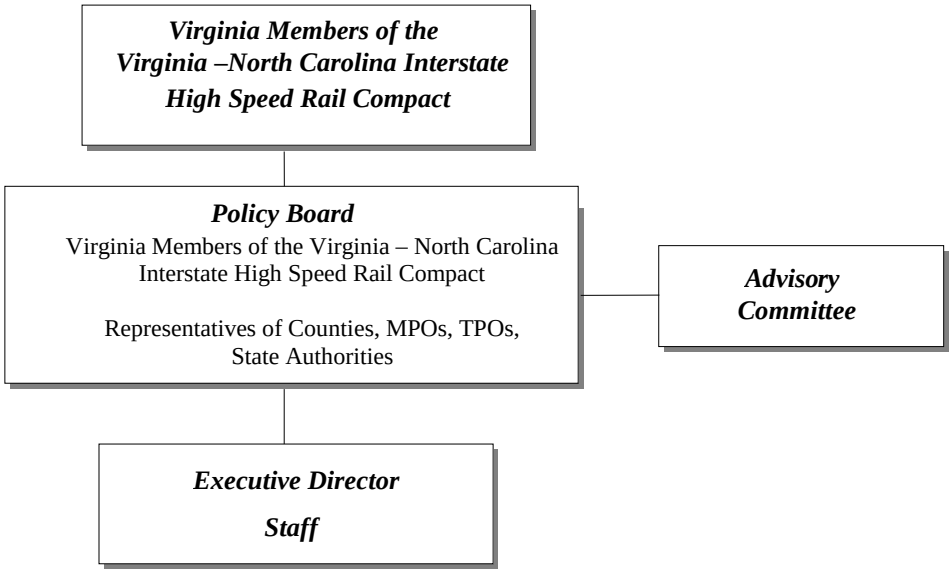
At this stage in the HRRW High-Speed Rail Corridor planning process, establishing a formal managing entity through the Compact would provide increased focus, visibility and support for the project.

The Virginia members of the Compact should be granted the authority to appoint a policy board of a sufficient size (or within a size range), comprised of representatives from the localities along the corridor and possibly also including persons possessing the skills and knowledge needed to conduct or adequately oversee the construction, financing, operation and maintenance of, or the performance of those tasks by a third-party operator of, the high-speed rail line in Virginia. (As noted above, the members bringing planning and railroad skills could alternatively comprise an advisory committee to the policy board, rather than be board members.) The policy board would be the entity to formally and collectively set policies, priorities and direct actions, e.g., financial, service related, etc., and provide ongoing implementation and operations-related oversight.

4.4.1 EXAMPLE: POSSIBLE ORGANIZATIONAL ARRANGEMENT

By amending the Compact as proposed above, the Virginia members of the Compact could be given the authority (1) to hire and pay an executive director and support staff and (2) to appoint and convene a policy board to serve as a board of directors for the HRRW High-Speed Rail Corridor Program. Voting members of the policy board would consist of representatives of jurisdictions and MPO/TPO's in the Corridor and from Virginia state government. Additional persons with the requisite skill sets for the project could either be appointed to the policy board or to an advisory committee. Additional voting (or perhaps non-voting) members could be included on the policy board such as representatives of Washington, DC. As shown in Exhibit 13, supporting the policy board would be a small technical staff and possibly an advisory committee.

**Exhibit 13: Example Institutional Arrangement –
Hampton Roads-Richmond-Washington High-Speed Rail Corridor Authority**



4.4.2 HIGH-SPEED RAIL POLICY BOARD RESPONSIBILITIES

The policy board, using its proposed expanded authority, would coordinate and direct all activities in the HRRW High-Speed Rail Corridor. Its responsibilities would include:

- Securing project funding (including any private financing) and serving as the designated recipient for federal assets
- Performing financial activities, including coordination of grant-related activities, management of system revenues, calculation and collection of state financial support, distribution of system revenue
- Solicitation and selection of contractors for construction projects, system operations and maintenance, and station and on-board services
- Monitoring and enforcing service standards
- Performing operations oversight
- On-going coordinated system planning
- Assisting states in generating stakeholder support
- Coordinating state project activities and related transportation projects and services

A key responsibility of the policy board would involve the flow of federal funds to support system construction and managing system generated revenue.

4.4.3 STAFF RESPONSIBILITIES

A small staff led by an Executive Director would support both the Compact Commission and the policy board. Staff responsibilities and activities would include:

- Commission support
- Policy board support
- Carry out Commission and board policy
- System-wide budgeting
- Fund management and accounting
- Corridor advocacy
- Construction management
- Service operator oversight
- Operations planning
- Contract management
- Ongoing system evaluation

Project staff size is intended to remain small, and given the changing nature of the project's focus – particularly during the implementation years – it is conceivable that staffing size and responsibilities will be modified periodically to reflect project and system needs. Alternative staffing arrangements could theoretically include the hiring of staff, engaging contract management and rotating of staffing responsibility to each member state, but such an arrangement would be much less desirable, as it would likely generate serious problems with continuity. Exhibit 14 describes these alternate potential staffing arrangements.

Exhibit 14: Alternative Staffing Arrangements

Hire Board Staff	Contract Management	Rotating State Responsibility
Three full-time employees as core: ▪ Executive Director ▪ Secretarial support ▪ Consultant support as needed ▪ Increase permanent staff size as needed ▪ Secure office space/ equipment ▪ Salaries/Benefits ▪ Directly supervised by Board	▪ Firm hired for Board services, program management and oversight ▪ Senior consultant assigned to direct efforts ▪ Staff expands and shrinks in response to project needs ▪ Skills of staff modified to best respond to project needs ▪ Contracting mechanisms used by state to retain consultant ▪ Office space and equipment optional	▪ Executive Director with core staff provided by state ▪ Increase direct involvement of states ▪ Requires dedicated full-time state employee for one year ▪ Potentially requires shifting of financial, contractual responsibilities annually

4.5 SUMMARY

The HRRW High-Speed Rail Corridor project is a complex undertaking that is developing a proposed high-speed passenger rail system which will greatly enhance travel options throughout eastern Virginia. While some advanced planning, funding, implementation and operating activities will be performed by individual participants, many activities will require multi-state and multi-jurisdiction coordination. Ongoing partnership is integral to the successful implementation and operation of the project.

- Additional analysis of arrangements and substantial discussion among the participating agencies is required to effectively define institutional arrangements for the project and the passenger rail system that will ensue.

The implementation of the HRRW High-Speed Corridor project should remain under the overall authority of the Virginia-North Carolina Interstate High-Speed Rail Compact. This Compact's authority extends to cover portions of three key geographic segments of the SEHSR corridor:

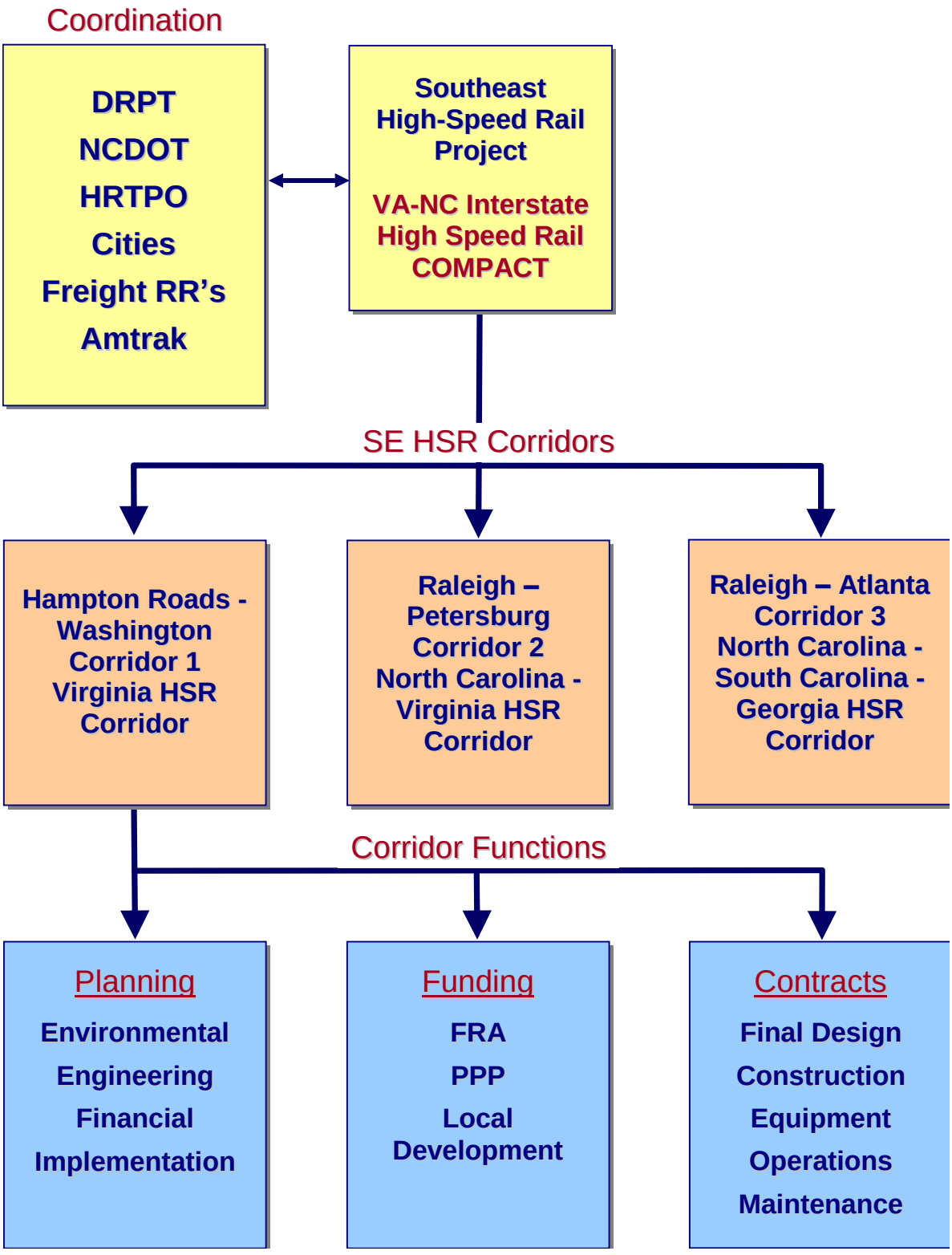
- Petersburg-Raleigh Corridor
- Raleigh-Atlanta Corridor
- Hampton Roads-Richmond-Washington Corridor

The Virginia-North Carolina Interstate High-Speed Rail Compact grants shared authority to both Virginia and North Carolina for all high-speed rail activities in their segments of the SEHSR corridor. Existing responsibilities include planning, funding, coordinating and development. However, the Compact may need to be amended to grant the Virginia members of the Commission, and a policy board reporting to them, full responsibility for service between Hampton Roads, Richmond and Washington for the construction and operation of the system (in 5-10 years' time.) The policy board could include the Virginian members of the Compact Commission, but would also include members of corridor jurisdictions, MPO/TPO's and Virginia state government representatives. It could also include additional technical advisors, or they could be appointed members of a separate advisory committee.

The policy board could be served by a technical staff that would include an Executive Director, who would provide day to day leadership for the project. Under the authority of the policy board, the technical staff could ensure the effective planning, funding and contracting necessary to implement the project. See Exhibit 15. The technical staff could be an extension of existing DRPT passenger rail planning responsibilities or it could be a special, dedicated, high-speed rail staff:

- DRPT has wide responsibilities for current Freight Rail, Commuter Rail and Amtrak planning implementation and operation that requires the full attention of its existing staff.
- To provide a direct focus on the HRRW High-Speed Rail Corridor, a specific project technical team could be created to implement the policy and objectives of the policy board. This staff would vary with the implementation process, beginning with an Executive Director during the planning stages and additional staff being added as the project proceeds from planning to engineering, design and construction.

Exhibit 15: Hampton Roads-Richmond-Washington High-Speed Rail Corridor Coordination Diagram



5 BLUEPRINT PROGRAM

5.1 INTRODUCTION

This report anticipates that Hampton Roads in conjunction with communities along the HRRW High-Speed Rail Corridor will adopt and advance a high-speed rail vision and strategic plan to bring High-Speed Rail service to the corridor. To guide the program and realize the public and private benefits of high-speed rail service, Hampton Roads must recognize the need to work with all the communities along the corridor, and to organize its capabilities at a state, regional, corridor and city level.

5.2 THE BLUEPRINT PLAN

The Blueprint Plan sets out a 15-20 year program (2010-2030) to bring High-Speed Rail to the HRRW High-Speed Rail Corridor. It provides the steps that are required to implement the program the short and long run timing of steps, key milestones, critical actions and funding news. It identifies issues that will need to be addressed. Exhibit 16, on page 46, provides the activities for the completion of needed Blueprint studies.

The following are the phases of studies that will need to be undertaken (with a preliminary timeline):

- Phase 1 and 1(B): Vision Plan/Blueprint – January 2010 to December 2010
- Phase 2: Strategic Plan – January 2011 to December 2011
- Phase 3: Service Development Plan Application – January 2012 to May 2012
- Phase 4: Environmental PEIS/FONSI/EA/EIS – October 2012 to June 2020
- Phase 5: Construction and Testing: June 2020 to June 2025
- Phase 6: Operation: June 2025-2030

Each Phase of the study depends on specific steps that need to be taken to ensure that the following work phases can be effectively implemented. In particular, it is essential that the policy board be given additional authorities in order to implement Phases 5 and 6.

Step 1 - Phase 1, 1(B), 2: These phases can be completed by HRTPO with internal financial resources. This work consists of Business, Vision, Strategic planning designed to provide a basis for understanding the High-Speed Rail opportunity, the level of ridership and revenues, the operating and capital costs and the potential for federal, state and local contributions to the building of the system and its operation. Key evaluation criteria are the Federal Railroad Administration (FRA) public-private partnership measures designed to show both the financial potential for a franchised operation, and the economic potential for the region in terms of both Cost Benefit and Net Present Values (NPV) returns. Key deliverables in this step include –

Vision Plan

This study was designed to identify if there was a case for developing High-Speed Rail between Hampton Roads and Richmond and Washington. The results of the study show the strong case for developing options for both the Southside (Norfolk Southern/Route 460) and the Peninsula (CSXT/I-64).

Blueprint Study

This study which is currently being completed is designed to identify a "Blueprint" of activity and funding needed to implement High-Speed Rail. The Blueprint provides a 12 to 20 year assessment of the activities, institutional arrangements, funding and implementation milestones needed to develop High-

Speed Rail. It is to provide a clear picture of the role that Hampton Roads will play in the process as one of the key advocates for High-Speed Rail.

Strategic Study

This study will supplement the Vision Plan by providing a more detailed analysis of ridership, revenue, train operations, right-of-way issues, and the financial and economic returns associated with the project.

Step 2 – Phase 3: While the Business, Vision, and Strategic Plans developed in Phases 1 and 2 provide the first screening of High-Speed Rail projects, Phase 3 is concerned with making a specific application for Federal funds. Initially, in the first two USDOT FRA funding application cycles, the output of Phases 1 and 2 of this study process would have provided FRA with sufficient information to make an award. For example, this was the type of information used by the Midwest and Ohio high-speed rail projects to make a funding application and they have received substantial awards based on Business/Vision Plans.

However, recently the USDOT FRA has made it known that it requires not just a Service Development Plan (SDP), but additional Engineering (5 percent) and Service NEPA in order to make an application for Federal funds. As a result, TEMS is suggesting that supplemental engineering analysis and environmental scoping should be completed in addition to the Phase 2 of the Strategic Plan to allow a May 2012 application for High-Speed Rail funding for a full Environmental Analysis for the HRRW Corridor.

It is estimated that this work (Phase 2 and Phase 3) will require a budget of $600,000 to complete both the Phase 2 ($300,000) and Phase 3 ($300,000) work.

Step 3 – In order to be able to use the Phase 2 and 3 studies to apply for FRA funding for Phase 4, it will be essential for HRTPO and DRPT to organize an effective state applicant. There are several models that can be used:

- Virginia Department of Transportation (VDOT)/Virginia Department of Rail and Public Transportation (DRPT): Many states are the sponsoring agents for their internal High-Speed Rail corridors. Examples include: Illinois, Michigan, and New York.
- High-Speed Rail Authority: Given the comprehensiveness and complexity of High-Speed Rail versus Transit operations, some states like Florida, California, and Ohio have used special High-Speed Rail authorities to pursue the implementation of high-speed rail corridors.
- Compacts: The FRA legislation allows multi-state compacts to apply for and be the implementation agency for FRA funds. As described in Section 5, such a compact has to qualify for funding and has to be able to show the political, technical, legal, and funding potential.

Key deliverables in this step include –

Service Development Plan (SDP)

A key milestone in the process is to develop a SDP to use to apply for Federal funds. In order to apply for High-Speed Rail funds, the Strategic Plan, which would previously have met the needs of FRA for an SDP up to July 2010, needs to be supplemented by additional engineering (concept level) and environmental (service NEPA) scoping study. To apply for FRA planning funding, this document will need to be submitted by May 2012. This would provide the case for the HRRW Corridor receiving funding for the required environmental and engineering work.

Hampton Roads needs to work with both DRPT and the Southeast High-Speed Rail Compact in order to identify the most cost effective process for developing funding for High-Speed Rail in the HRRW Corridor.

Step 4 – Phase 4: This requires significant funding for the Environmental and Engineering work. This should be funded by FRA and local match money. It is estimated that up to $8-10 million may be needed with $6-8 Million from FRA, and $1 to $2 Million from local sources. The objective of this phase is to obtain a Record of Decision (ROD) from the FRA. This would allow the corridor program to be fully developed and to organize for construction and eventual operation of the system.

It is anticipated that this work will build on both the existing Draft Environmental Impact Statement (DEIS) for Hampton Roads-Richmond-Washington, the conventional train services studies of DRPT, and the Southeast High-Speed Rail Environmental Impact Study for the Washington-Richmond-Raleigh corridor, and could be advanced within the existing legislative authorities of the SEHSR compact.

The technical team for the HRRW Corridor would liaise with each planning team to ensure coordination integrated development proposals, and the ability to ensure a smooth transition program. This would include working with the freight railroads, Amtrak, and other potential rail owners and stakeholders.

Key deliverables in this step include –

Draft Environmental Impact Statement (DEIS)/Final Environmental Impact Statement (FEIS)

As required, a series of environmental products will be prepared that lead to Findings of No Significant Impact (FONSI), Categorical Exclusion (CE) or following an EIS a Record of Decision (ROD). These documents will include an Alternative Analysis, Conceptual Engineering and Costs, Operations Plans and Costs, and Financial and Economic Assessments.

Key outputs of the environmental and engineering process will be a series of technical reports including the Draft EIS and Final EIS documents, as well as local planning documents for station area development. During this process the freight railroads will be engaged for discussions of infrastructure needs, capacity analysis, operating procedures, track maintenance, and other right-of-way issues.

Finally, discussions will begin with local and system development teams who will compete to provide joint development funding and train operations under specific agreements. The character of these agreements may well be a Build, Own, Operate, Transfer-Finance (BOOT-F) franchise. This provides the franchisee with the ability to BOOT-F the high-speed rail system. If this is done in conjunction with Federal finance of part of the funding plan, a true PPP agreement will be needed.

These deliverables provide the foundation for Final Design and Construction.

Station Area Plans

A critical step in the process is to develop Station Area Plans for the selected High-Speed Rail stations. The joint development potential at such stations can be considerable if the proposed station is effectively integrated into the surrounding community. Joint Development can become a very important component of the local match funding process. Local Station Area Plans will be carried out by local communities and can contribute to the local match money.

Implementation Plan

This plan will layout the planning, design and construction process for the High-Speed Rail System. It will provide the milestones, development guidelines and organizational needs for the implementation process. It will identify organizational relationships, the character of the contract and execution process.

Step 5 – Phase 5: The character and capital cost of the proposed high-speed rail system has not yet been defined in the Phase 1 Vision Plan, but it is considered it could (depending on which option 110-mph or 150-mph is eventually selected) cost between $3 and $6 Billion (in 2010 dollars) in line with corridors in Florida, Ohio, and the Midwest. Two methods of funding are being considered, but the FRA is likely to fund 80% or $2 to $5 Billion, while local contributions or a PPP could provide the $0.5 to $1.0 Billion match. The key factor in developing local match can include the fare-box, rights-of-way, joint development, station parking, and station rents and fees. This can contribute 20 to 50 percent of project costs, and thus provide the local match.

Step 6 – Phase 6: The operation of High-Speed Rail could and should be franchised to Amtrak or a private sector operator. This ensures that the most efficient service provider is selected and that a high level of customer care is offered. In the event of a PPP being established to implement a High-Speed Rail project, it is likely that it will provide the local match. If a BOOT-F is used, the franchise will be initially held by the PPP group, but after an agreed period (e.g., 20 years) would be transferred to the public sector body. At this point, the corridor could be refranchised or a public body could be appointed to oversee, run and manage the system.

Responsibilities would include contracts to operate and maintain the system (infrastructure/equipment), provide station and onboard food services, and run and maintain stations.

5.3 WORK PLAN

A work plan has been developed showing the timing of the development plan for High-Speed Rail in the HRRW Corridor. See Exhibit 17 on page 47 for further details on the work plan.

It can be seen that the five phases of work will take up to 15-30 years to implement with full operations beginning as soon as 2025. The first three phases of work can be completed by mid 2012, and given an SDP application for Environmental Study money it is possible that the environmental work could commence in October/November 2012. Given its complexity, Phase 4 the Environmental Process (and Final Design) could take up to 8 years, although a key objective of the HRTPO High-Speed Rail team would be to work with the FRA to streamline the process. It is recognized by the FRA that its first two years of High-Speed Rail Development were less than perfect due to the exigencies of beginning the process. The FRA is now committed to improving and speeding up the process. California and Florida with extremely complicated proposals have been able to complete EIS projects in less than five years and are hoping to have trains operational on key segments in 2020.

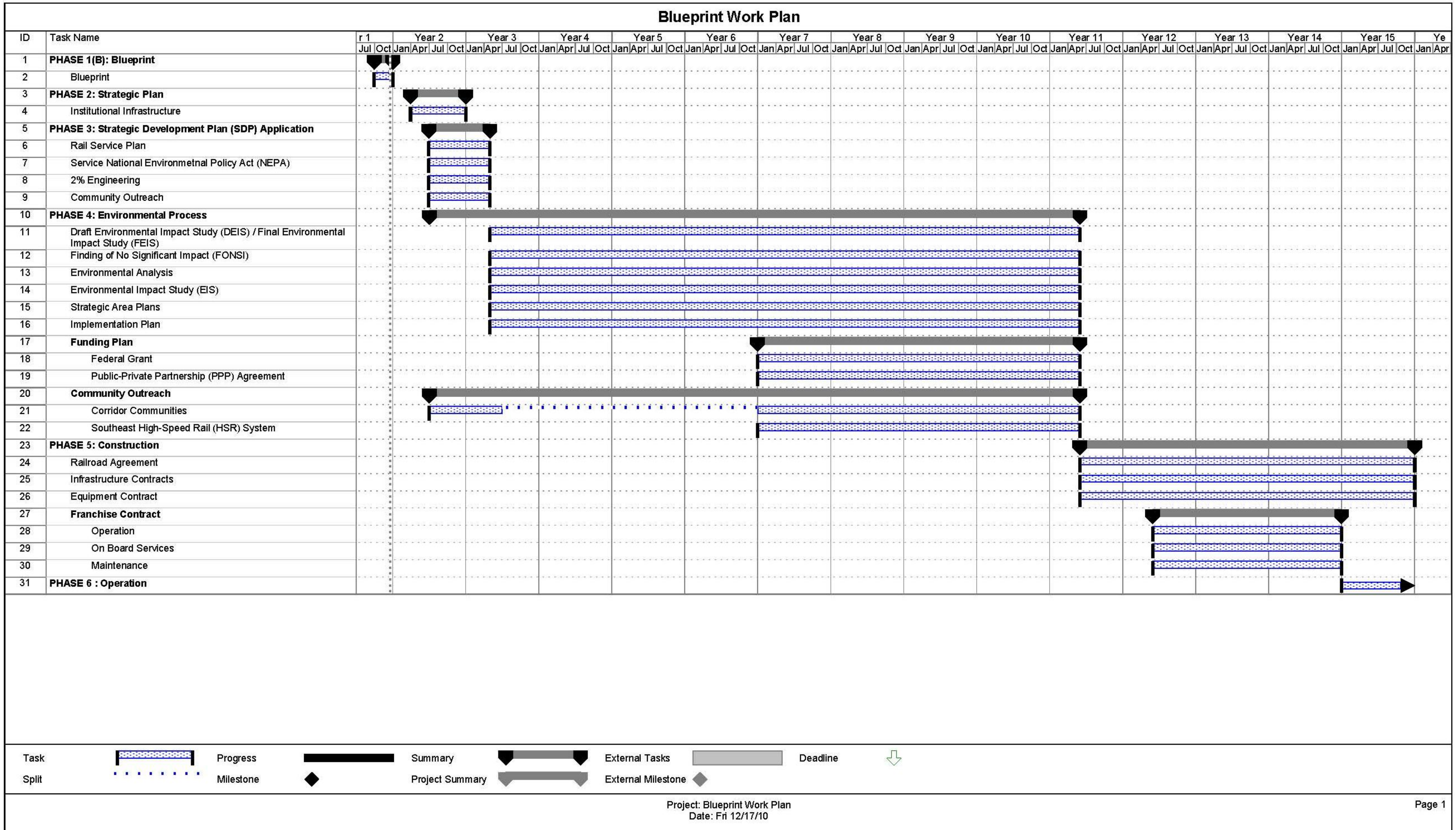
Because of the contingency for the Environmental Process, the construction process which might typically take 2 to 3 years has been extended to five years to allow a further buffer in the process.

High-Speed Rail operations could begin as early as 2025 on specific segments, e.g., Norfolk-Petersburg or Newport News-Richmond with a full system capability between 2025 and 2030.

Exhibit 16: Blueprint Timetable and Milestones

	Phase 1(B): Blueprint	Phase 2	Phase 3	Phase 4: Environmental	Phase 5: Construction & Testing	Phase 6: Operation
Steps	Step 0	Step 1	Step 2 & 3	Step 4	Step 5	Step 6
Timeline	Evaluate Timetable, Institutional Structure, Funding, Implementation.	Complete Strategic Plan / Service Development Plan (SDP) Extra Studies for SDP: -- FRA - Track 2 ---► -- Ridership ---► -- 2% Engineering ---► -- Environmental Scoping, ---► -- National Environmental Policy Act (NEPA) ---►	SDP Application Preparation	6 - 8 years Environmental Final Environmental Impact Study (FEIS) and Final Design	2 - 5 years	Begin High-Speed Rail (HSR) Service
Milestones	Blueprint Report	Hampton Roads - Richmond - Washington DC Strategic Report	SDP Application	Draft Environmental Impact Study (DEIS) - Final Environmental Impact Study (FEIS) Public Private Partnership (PPP) Franchise	System Development	High-Speed Rail (HSR) Operations
Critical Actions		-- Develop HSR institutional Structure -- Complete Strategic Report -- Apply for SDP Funding		-- Develop local funding to match FRA -- Develop PPP Agreements -- Work with FRA to streamline EIS process	Contract for System Development Staff Training	Franchise Operations Marketing Program
Funding	HRTPO $85,000 Local Sources None Federal Government None	Base Study - $300,000 (Strategic Plan) SDP Studies - $300,000 (Engineering, Environmental) Community Outreach Develop Corridor Support for HSR Discuss SDP Application with FRA		Environmental Oversite $ 1 - 2 million (Corridor Communities) 20% Match PPP / Joint Development $ 4 - 6 million 80% Grant FRA	Part of Local Services $ 0.5 to 1.0 billion - Local / PPP $ 2 to 5 billion	Franchise Operation Franchise Operation
Issues		-- Institutional Infrastructure for HSR -- Funding for New FRA Requirements -- Inclusion of Corridor Communities		-- FRA Requirements for EIS --Streamlining of Process -- PPP Agreements - Boot - F (Build Own Operate Transfer - Finance)	-- Railroad Support -- Right of Way Acquisition	-- Modal Integration Joint Development and TOD

Exhibit 17: Blueprint Work Plan



5.4 COMMUNITY OUTREACH

As the project moves beyond Phases 1-3, it will be essential for the implementing agency to link up with the communities of the corridor to carryout Corridor Outreach from Hampton Roads to Washington with stakeholders and the general public. As part of this process, consideration will need to be given to public concerns, environmental constraints and issues such as environmental justice. This would best be performed with leadership of a formal HRRW Corridor High-Speed Rail "Authority". This "Authority" which can be anyone of the institutional structures defined in Step 3, should be the same organization making application for Federal funding.

5.5 SUMMARY

1. The High-Speed Rail Project will take 15 to 20 years to complete.

2. To implement the project beyond Phase 2/3 a High-Speed Rail applicant must be designated for the corridor to obtain funding for Phases 4 work and beyond.

3. Beyond Phase 3, Community Outreach is needed for the whole corridor. This could be tied into the Environmental Analysis work of Phase 4.

6 CONCLUSION

The analysis of the potential and needs of the Hampton Roads-Richmond-Washington High-Speed Rail Corridor suggests:

1. The HRRW Corridor is an FRA designated corridor and as such is a candidate for immediate high-speed rail funding.
2. While the HRTPO has the ability to fund the next phase of planning studies, a specific institutional structure must be put in place to obtain USDOT FRA funding to move the project forward into detailed engineering, environmental, design and operations.
3. The Virginia-North Carolina Southeast High-Speed Rail Compact is the mechanism designated by the State of Virginia for High-Speed Rail Planning, and is responsible for development of the HRRW Corridor.
4. One of the most convenient and effective ways to focus attention on the HRRW High-Speed Rail Corridor and ensure it implementation, is to use the Southeast High-Speed Rail Compact as an overarching authority for a Virginia led HRRW High-Speed Rail Corridor. It already has the specific authorities for planning the development of the corridor.
5. The HRRW Corridor project will need to be managed by a technical staff led by an Executive Director and staff. It is proposed that to ensure sufficient focus, the staff would fulfill the day-to-day management, organization and implementation of the program for the HRRW High-Speed Rail project.
6. The attached Blueprint provides a provisional timetable and cost estimates for implementing the project.

GLOSSARY

ADA	Americans with Disabilities Act
ARRA	American Recovery and Reinvestment Act of 2009
BAFO	Best & final offer
BOO	Build-Own-Operate
BOOT	Build-Own-Operate-Transfer
BOOT-F	Build, Own, Operate, Transfer-Finance
BOT	Build-Operate-Transfer
BTO	Build-Transfer-Operate
CE	Categorical Exclusion
CEN	Conceptual Engineering
CEQ	Council on Environmental Quality's
CM	Construction Manager
CM@R	Construction Manager at Risk
CREATE	Chicago Region Environmental and Transportation Efficiency
DB	Design-Build
DBB	Design-Bid-Build
DBF	Design-Build-Finance
DBFO	Design-Build-Finance-Operate
DBFOM	Design-Build-Finance-Operate-Maintain
DBOM	Design-Build-Operate-Maintain
DC	District of Columbia
DEIS	Draft Environmental Impact Study
DOT	Department of Transportation
DRPT	Virginia Department of Rail and Public Transport
EA	Environmental Assessment
EIS	Environmental Impact Statement
FD	Final Design
FEIS	Final Environmental Impact Study
FONSI	Finding of No Significant Impact
FOX	Florida Overland eXpress
FRA	Federal Railroad Administration
FY	Fiscal Year
HRRW	Hampton Roads-Richmond-Washington
HRTPO	Hampton Roads Transportation Planning Organization
HSIPR	High-Speed Intercity Passenger Rail
HSR	High-Speed Rail
HST	High-Speed Train
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
LOI	Letter of Intent
MPO	Metropolitan Planning Organization

NCDOT	North Carolina Department of Transportation
NCHRP	National Cooperative Highway Research Program
NEC	Northeast Corridor
NEPA	National Environmental Policy Act
NPV	Net Present Values
OMB	Office of Management and Budget
PE	Preliminary Engineering
PEIS	Programmatic Environmental Impact Statement
PPP	Public-Private Partnership
PPTA	Public Private Transportation Act
PRIIA	Passenger Rail Investment and Improvement Act of 2008
ReTRAC	Reno Transportation Rail Access Corridor
ROD	Record of Decision
RR	Railroad
SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users
SDP	Service Development Plan
SEHSR	Southeast High-Speed Rail
SEHSR	Southeast High-Speed Rail
SJ63	Senate Joint Resolution 63
STRACNET	Strategic Rail Corridor Network
TEA-21	Transportation Equity Act for the 21st Century
TEMS	Transportation Economics & Management Systems
TIGER	Transportation Investment Generating Economic Recovery
TPO's	Transportation Planning Organization
TRB	Transportation Research Board
USDOT	United States Department of Transportation
VDOT	Virginia Department of Transportation
WMATA	Washington Metropolitan Area Transportation Authority

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