Narrative Application Form – Service Development Program Part II Statement of Work

High-Speed Intercity Passenger Rail (HSIPR) Program

Statement of Work

The quality and completeness of this document will be measured as a Project Readiness evaluation criterion, as outlined in Section 5.2.1 of the NOFA. The applicant must provide a sufficient level of detail regarding scope, schedule, and budget that demonstrates the project is ready to immediately advance to award. Tables have been provided as illustrative examples for capturing data however, applicants can delete or adjust the tables as necessary. This form must be listed in Section H.2 of the Narrative Application Form Part I.

(1) Background. Briefly describe the events that led to the development of this Service Development Program and the issue the program will address. Also describe the transparent, inclusive planning process used to analyze the investment needs and service objectives of the full corridor on which the Service Development Program is located.

Project Identification and Planning

Planning for intercity passenger rail service along this corridor began in the 1990s, where stakeholders identified the lack of passenger rail service as a major impediment to mobility and economic development. In 2001, Amtrak developed a Service Development Plan that identified various options Vermont could consider in an attempt to establish passenger rail service to communities that have not had rail service since 1953. The 2006 Vermont State Rail & Policy Plan identified preservation of existing Amtrak service and new service along the Western Rail Corridor as the highest passenger rail priorities. In addition, the Vermont Rail Advisory Council - established to advise Vermont's Governor on rail policy and projects and composed of both public entity and private railroad members - has recommended numerous projects aimed at improving and establishing passenger rail service along this corridor. At the regional level, the Western Corridor Transportation Plan - developed by communities and regional organizations along the 200-mile corridor - also identified the proposed corridor program as the highest intercity passenger rail priority. At the municipal level, planning and support for intercity passenger rail service has been ongoing. Both the City of Rutland Master Plan (2002) and the Rutland Regional Plan (2008) advocate for and support extended rail service to Burlington. The City of Burlington Municipal Development Plan (2006) was developed with the assumption that intercity passenger rail service along the Western Rail Corridor would be established. Sections of these Plans which reference strategies, recommendations and support are attached.

Since the mid-1990s, the State of Vermont has made significant capital investments along Vermont's Western Rail Corridor that includes the Vermont Railway between Burlington, VT and Hoosick Junction, NY in anticipation of passenger rail service in the corridor. These investments in the past 5 years alone have exceeded $15 million. In addition, Vermont provides Amtrak an annual operating subsidy of $4-5 million to support two intercity passenger rail services in the state. The track and crossing improvements included in this Service Development Program will result in significant on-time-performance and travel time reliability improvements along both the existing Ethan Allen Express route and its extension to Burlington.

Planning for the corridor program has also occurred within a multi-state framework. The corridor program will serve to support intercity passenger rail service through the most populous area of the State of Vermont and further connect vital economic regions of the State to each other and the State of New York. The Ethan Allen Express extension forms one of the six key projects envisioned in the New England Governors' initiative on passenger rail. Announced in July 2009, the Vision for the New England High Speed and Intercity Rail Network - developed by the State DOTs of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut, with collaboration from New York State DOT- entails a coordinated regional strategy for high speed and intercity passenger rail that will connect major cities and airports, and support economic growth throughout the region. The vision lays out key projects that strengthen passenger rail service along new and existing rail corridors. The Ethan Allen Express is further expected to benefit from planned improvements along the Empire Corridor in New York, which will result in improved travel times and better reliability for the entire route. This includes planned double-tracking of a single track bottleneck between the Albany/Rensselaer and Schenectady stations, and improvements to the Canadian Pacific main line between Schenectady and Glens Falls, both of which will enhance capacity and increase track speeds.

Analysis of Investment Needs

Analysis of investment needs is based on the Albany-Bennington-Rutland-Burlington Engineering Study (see attached) and VTrans rail engineering estimates. Agency estimates are also based on construction pricing observed during the Track 1a Vermonter HSIPR construction project. Service objectives include higher operating speeds, improved on-time-performance, and a service extension to Vermont's only metropolitan area.

(2) Scope of Activities. Clearly describe the scope of the proposed Service Development Program and identify the general objective and key deliverables.

The Ethan Allen Express Improvements and Extension Service Development Program consists of track and crossing improvements along the existing Ethan Allen Express Amtrak route from the New York-Vermont State Line to Rutland, VT, and an extension of that service from Rutland, VT to Burlington, VT. Improvements will be initiated at MP 84.1 of the Clarendon & Pittsford Railroad (CLP) in Vermont, continuing on the CLP to MP 99.79 (R&W junction), then north along the Vermont Railway at that switch with continued improvements between MP 53.72 to MP 121.91. The extension of the Ethan Allen Express from its current termination point in Rutland will include an additional stop at a temporary station in Middlebury, VT and its termination will be at the Main Street Landing station in Burlington. The Town of Middlebury is currently undertaking a planning process to determine the permanent location of their station.

The general objective is to link Vermont's only metropolitan area with Albany, NY and New York City, NY, via intercity passenger rail service and provide service to communities currently unserved in both Vermont and New York State. Outcomes include higher operating speeds, improved on-time-performance, mode integration, economic competitiveness, livability, and environmental benefits (energy and emissions) as documented in the HSIPR Narrative Application Part I and attached supporting documentation.

Key deliverables (all part of Phase I) include the following:

- Preliminary Engineering Drawings (12/31/2011)
- Final Design Drawings, refined schedule/cost refinement (12/31/2004)
- Construction (8/01/2014)

Please consult the attached Scope of Work/PE Documentation for more detail on these deliverables.

(2a) General Objectives. Provide a general description of the work to be accomplished through this grant, including program work effort, location, and other parties involved. Describe the end-state of the program, how it will address the need identified in Background (above), and the outcomes that will be achieved as a result of the program, such as;

- Service(s) that would benefit from the Service Development Program, the stations that would be served, and the State(s) where the service operates;
- Anticipated service design of the corridor or route with specific attention to any important changes that the Service Development Program would bring to the fleet plan, schedules, classes of service, fare policies, service quality standards, train and station amenities, etc.; and
- Other rail services, such as commuter rail and freight rail that will make use of, benefit from, or otherwise be affected by, the Service Development Program.

Services to Benefit from SDP

The service that will benefit from the improvements is the Ethan Allen Express Amtrak Route. While improvements that are part of this Service Development Program will occur in Vermont, from the Vermont-New York State Line and Burlington, VT, the service will operate through New York State. Stations served include Rutland, Middlebury and Burlington.

Anticipated Service Design

The current Ethan Allen Express route would be extended northward over the Vermont Railway from Rutland to serve Middlebury, VT and Burlington, VT. The service is proposed to run as a single daily roundtrip between New York and Burlington. Slight modifications will be made to the schedule to accommodate the extended segment (see sample in chart below).

Table 1. Sample Ethan Allen Extension Service Timetable

Trains to New York					Trains to Vermont
Mo-Sa	**Sun**		Station		**Daily**
11:27 A	3:32 P	Dp	Burlington, VT	Ar	10:44 P
12:22 P	4:27 P	Dp	Middlebury, VT	Dp	9:58 P
1:05 P	5:10 P	Ar	Rutland, VT	Dp	9:05 P
1:20 P	5:25 P	Dp		Ar	8:50 P
1:40 P	5:45 P	Dp	Fair Haven, VT	Dp	8:21 P
2:25 P	6:30 P	Dp	Ft. Edward, NY	Dp	7:36 P
2:45 P	6:50 P	Dp	Saratoga, NY	Dp	7:16 P
3:20 P	7:25 P		Schenectady, NY		6:48 P
3:45 P	8:05 P	Ar	Albany, NY	Dp	6:25 P
4:00 P	8:20 P	Dp		Ar	6:10 P
6:25 P	10:50 P	Ar	New York, NY	Dp	3:45 P

Source: Ethan Allen Express Improvements & Extension Service Development Plan

Implementation of this service can be accomplished with minimal impact on operating costs. The train's operating crews, which originate in Albany, will be able to complete the entire trip within the current Hours of Service rules.

Other Rail Services

Freight rail service will benefit from shorter travel times and increased service reliability along the entire route between Whitehall, Rutland and Burlington. Travel time savings over the 67.7 mile route between Rutland and Burlington and savings over the 15.7 State Line-Rutland segment are expected to amount to 30-45 minutes. The impact is expected to amount to an increase of 4.44 million ton-miles on a basis of 226.27 million in 2015. By 2030, this gain is forecasted to be 6.13 million ton-miles.

Increasing freight speeds from 15MPH to 30 MPH will also decrease overall inventory carrying costs (capital lock up). This is net of the decreased speed when compared to truck freight for diverted volumes.

(2b) Description of Work. Provide a detailed description of the work to be accomplished through this grant by phase, component project, or major task (e.g., FD and Construction) including the geographical and physical boundaries of the program. Address the work in a logical sequence that would lead to the anticipated outcomes and the end state of the activities.

- Include a description of the activities and the measurable outcomes of each phase or group of activities
- Substantive activities of the Service Development Program (e.g., specific capital investments proposed);
- The location(s) of the Service Development Program's component projects, including name of rail line(s), State(s), and relevant jurisdiction(s) (include a map in supporting documentation);
- Any use of new or innovative technologies; and
- Any use of railroad assets or rights-of-way, and potential use of public lands and property.

Activities and Outcomes

The Ethan Allen Express Improvements and Extension Service Development Program consists of track and crossing improvements along the existing Ethan Allen Express Amtrak route from the New York-Vermont State Line to Rutland, VT, and an extension of that service from Rutland, VT to Burlington, VT. Improvements will be initiated at MP 84.1 of the Clarendon & Pittsford Railroad (CLP) in Vermont, continuing on the CLP to MP 99.79 (R&W junction), then north along the Vermont Railway at that switch with continued

improvements between MP 53.72 to MP 121.91. The extension of the Ethan Allen Express from its current termination point in Rutland will include an additional stop at a temporary station in Middlebury, VT and its termination will be at the Main Street Landing station in Burlington. The Town of Middlebury is currently undertaking a planning process to determine the permanent location of their station.

Measureable outcomes include: higher operating speeds, improved on-time-performance, and a service extension to Vermont's only metropolitan area. Benefits include intercity passenger rail service to currently underserved and unserved communities, improved system performance, mode integration, economic competitiveness, livability, and environmental benefits (energy and emissions)

Substantive Activities

Ethan Allen Express Improvements & Extension Project
Vermont Agency of Transportation
Clarendon & Pittsford Railroad (CLP)

Project Location
From the Town of Fair Haven, Rutland County, Vermont (Mile Post 84.1) to the Town of Rutland, Rutland County, Vermont (Mile Post 99.79)

Project Description
The proposed project consists of upgrading the CLP mainline to FRA Class 3 Standards (60 MPH Passenger & 40 MPH Freight) from Fair Haven, VT (MP 84.1) to Rutland, VT (MP 99.79). The project includes cross tie replacement, rail replacement, track surfacing, turnout construction, grade crossing surface improvements, and warning signal improvements. All of the proposed work lies entirely within the existing railroad right of way.

Scope of Work

- Replace15,700 cross ties between MP 84.1 and MP 99.79
- Replace 21,200 tons of ballast, align and surface track between MP 84.1 and MP 99.79
- Replace jointed rail with Continuous Welded Rail (7.52 miles) at the following locations:
  - MP 85.05 to MP 90.40
  - MP 91.00 to MP 91.17
  - MP 96.60 to MP 98.60

- Grade crossing surface improvements at the following mile posts:

MP 85.07	MP 85.95	MP 90.77
MP 85.32	MP 87.69	MP 91.17
MP 85.72	MP 90.40	MP 91.39

- Flashing lights upgrade to LED at:
  MP 96.42 MP 97.91

- New Gates:

MP 85.07	MP 85.95	MP 90.40	MP 97.23	MP 99.70
MP 85.32	MP 87.69	MP 90.77	MP 97.26	
MP 85.46	MP 89.42	MP 91.17	MP 97.41	
MP 85.72	MP 90.14	MP 91.39	MP 98.18	

- Train Detection upgrades at:
  MP 97.91

VERMONT AGENCY OF TRANSPORTATION
CLARENDON & PITTSFORD MAINLINE TRACK PROGRAM FOR STIMULUS FUNDING
FAIR HAVEN, VT TO RUTLAND, VT (M.P. 84.10 to M.P. 99.79)
60 MPH PASSENGER SERVICE & 40 MPH FREIGHT SERVICE

Work Item	Unit	Quantity	UnitCost	Work Item Total	TOTAL Actual	TOTAL Rounded	Notes
Track Construction							
Furnish and install crossties	Ea	15700	$ 80	$ 1,256,000			
Furnish and place ballast surface course	Ton	21200	$ 30	$ 636,000			
Surface existing track	TrkMi	16	$ 10,000	$ 160,000			
Furnish and install continuous welded rail	TrkMi	7.52	$ 720,000	$ 5,414,400			
					$ 7,466,400		
Turnout Construction							
Furnish and install no. 10 turnouts	Ea	3	$ 100,000	$ 300,000			
					$ 300,000		
Grade Crossing Construction							
Furnish and install new reconstructed grade crossing	TrkFt	497	$ 3,600	$ 1,789,200			
					$ 1,789,200		
Train Control							
Grade crossing warning signal improvements (LED flashing lights)	LS	1	$ 17,000	$ 17,000			
Grade crossing warning devices improvements (New gates)	LS	1	$ 2,550,000	$ 2,550,000			
Train detection upgrade	LS	1	$ 50,000	$ 50,000			
					$ 2,617,000		
				SUBTOTAL	**$ 12,172,600**		
Administration (2.5%)			$ 304,315				
				SUBTOTAL	**$ 12,476,915**		
Engineering (15%)			$ 1,825,890				
				SUBTOTAL	**$ 14,302,805**		
Contruction Engineering (8%)			$ 973,808				
				SUBTOTAL	**$ 15,276,613**		
Contingency Items (10%)			$ 1,527,661				
				SUBTOTAL	**$ 16,804,274**		
				GRAND TOTAL	**$ 16,804,274**		

Ethan Allen Express Improvements & Extension Project
Vermont Agency of Transportation
Vermont Railway (VTR)

Project Location
From the Town of Rutland, Rutland County, Vermont (Mile Post 53.72) to the City of Burlington, Chittenden County, Vermont (Mile Post 121.91)

Project Description
The proposed project consists of infrastructure improvements necessary to the Northern Subdivision mainline to support FRA Class 3 Standards (60 MPH Passenger & 40 MPH Freight) from Rutland, VT (MP 53.72) to Burlington, VT (MP 121.91). Upgrading several passing sidings will be necessary to provide enhanced meet/pass capabilities to help alleviate future train congestion. The project includes cross tie replacement, rail replacement, track surfacing, turnout construction, grade crossing surface improvements, and warning signal improvements. All of the proposed work lies entirely within the existing railroad right of way.

Scope of Work

- Replace 40,850 cross ties between MP 53.72 and MP 121.91
- Replace 52,400 tons of ballast, align, and surface track between MP 53.72 and MP 121.91
- Replace jointed rail with Continuous Welded Rail at the following locations:
    - MP 56.20 to MP 60.00
    - MP 70.00 to MP 83.40
    - MP 87.00 to MP 100.00
    - MP 113.40 to MP 115.60
    - MP 120.12 to MP 120.42

- Upgrade and extend passing sidings:
    - MP 65.10 - Florence Siding
    - MP 76.35 - Leicester Siding

- Grade crossing surface improvements at the following mile posts:

MP 56.06	MP 69.67	MP 79.40	MP 95.27	MP 105.68	MP 115.11
MP 56.62	MP 70.66	MP 80.77	MP 98.06	MP 106.35	MP 120.12
MP 64.08	MP 77.34	MP 84.28	MP 99.78	MP 107.91	MP 120.42
MP 65.14	MP 77.68	MP 92.55	MP 101.39	MP 109.71	

- Flashing lights upgrade to LED at:

MP 53.72	MP 99.78	MP 107.91	MP 118.49	MP 121.64
MP 55.76	MP 100.04	MP 109.71	MP 120.12	MP 121.72
MP 95.27	MP 105.68	MP 115.11	MP 120.42	

- New Gates at:

Spruce St.	MP 55.26	MP 65.14	MP 77.68	MP 98.06	MP 121.91
Granger St.	MP 56.06	MP 69.67	MP 79.40	MP 101.39	
Forest St.	MP 56.62	MP 70.66	MP 80.77	MP 102.36	
MP 54.72	MP 63.48	MP 76.32	MP 84.28	MP 106.35	
MP 54.75	MP 64.08	MP 77.34	MP 92.55	MP 107.91	

- Train Detection upgrades at:

MP 53.72	MP 95.27	MP 100.04	MP 121.64
MP 55.76	MP 99.78	MP 105.68	MP 121.72

VERMONT AGENCY OF TRANSPORTATION
VERMONT RAILWAY MAINLINE TRACK PROGRAM FOR STIMULUS FUNDING
RUTLAND, VT TO BURLINGTON, VT (M.P. 54.50 TO M.P. 121.91)
60 MPH PASSENGER SERVICE & 40 MPH FREIGHT SERVICE

Work Item	Unit	Quantity	UnitCost	Work Item Total	TOTAL Actual	TOTAL Rounded	Notes
Track Construction							
Furnish and install crossties	EA	40850	$ 80	$ 3,268,000			
Furnish and place ballast surface course	Ton	52400	$ 30	$ 1,572,000			
Surface existing track	TrkMi	52.4	$ 10,000	$ 524,000			
Furnish and install continuous welded rail	TrkMi	32.7	$ 720,000	$ 23,544,000			
Install track -- jointed rail	TrkFt	7500	$ 150	$ 1,125,000			
Track Siding (installed)	TrkFt	11000	$ 220	$ 2,420,000	**$ 32,453,000**		
Turnout Construction							
Furnish and install no. 10 turnouts	Ea	42	$ 100,000	$ 4,200,000			
Furnish and install no. 15 turnouts	Ea	2	$ 175,000	$ 350,000			
					$ 4,550,000		
Grade Crossing Construction							
Furnish and install new reconstructed grade crossing	TrkFt	1286	$ 3,600	$ 4,629,600			
					$ 4,629,600		
Train Control							
Grade crossing warning signal improvements (LED Flashing Lights)	LS	1	$ 86,000	$ 86,000			
Grade crossing warning devices improvements (New Gates)	LS	1	$ 3,900,000	$ 3,900,000			
Train detection upgrade	Ea	1	$ 400,000	$ 400,000			
					$ 4,386,000		
				SUBTOTAL	**$ 46,018,600**		
Administration (2.5%)			$ 1,150,465				
				SUBTOTAL	**$ 47,169,065**		
Engineering (15%)			$ 6,902,790				
				SUBTOTAL	**$ 54,071,855**		
Construction Engineering (8%)			$ 3,681,488				
				SUBTOTAL	**$ 57,753,343**		
Contingency Items (10%)			$ 5,775,334				
				SUBTOTAL	**$ 63,528,677**		
				TOTAL	**$ 63,528,677**		

Location of Component Projects

The Service Development Program for the Ethan Allen Express Improvements and Extension is located along the New York-Vermont State Line to Burlington Vermont. Major integral cities along the route where the proposed improvements will occur include Rutland, VT, Middlebury, VT and Burlington, VT. Major integral cities along the entire Ethan Allen Express Route include New York, NY, Albany, NY and Saratoga Springs, NY.

The project originates at the New York-Vermont State Line (MP 84.1 of the CLP) then proceeds to Rutland (MP 99.79 of the CLP) where it will interchange with the Vermont Railway (VTR) at MP 53.72 and then north to Burlington (MP 121.9 of the VTR). Both a project location map and regional service map are attached to this application.

Railroad Assets and Right-of-Way

Proposed improvements as part of this Service Development Plan are contained within the railroad right-of-way, with no impacts to private lands anticipated. Public assets utilized include the Rutland Rail Station (municipal) and the Vermont Railway right-of-way, which is owned by the State of Vermont.

(2c) Deliverables. Describe the work products of the program that were provided to FRA during the application process or will be completed as a part of this grant. In the table provided, list the deliverables, both interim and final, that are the outcomes of the phases and/or component projects. The table below should match the information provided in Sections D.14 and D.15 of the Narrative Application Form Part I.

The following work documents (all part of Phase I) will be completed as part of this grant:

- Preliminary Engineering Drawings (12/31/2011)
- Final Design Drawings, refined schedule/cost refinement (12/31/2004)
- Construction (8/01/2014)

(3) Project Schedule. In the table below, estimate the approximate schedule for completing each phase. If there is only one phase, estimate the duration for each component task. For total project duration, reference Section D.3 of the Narrative Application Form Part I.

	Phase or Component Project	Duration		
		Start Month	to	End Month
1	Replace cross ties, ballast, track surfacing and alignment, replace jointed rail with continuously welded rail; provide passing sidings; grade crossing surface improvements, new and upgraded flashing lights.	06/01/2011	to	8/01/2014
2			to	
3			to	
	Total Duration	*36 months*		

(4) Project Cost Estimate/Budget. Provide a high-level cost summary for the phases, if applicable, of Service Development Program work in this section, using the Service Development Application Package Instructions, Narrative Application Form Part I, and the HSIPR Service Development Program Budget and Schedule form as references. The figures in this section of the Statement of Work should match exactly with the funding amounts requested in the SF-424 form, the HSIPR Service Development Program Budget and Schedule form, and in Section D of the Service Development Program Narrative Application Form. If there is any discrepancy between the Federal funding amounts requested in this section, the SF-424 form, the HSIPR Service Development Program Budget and Schedule form, or Section D of the Narrative Application Form Part I, the lesser amount will be considered as the Federal funding request. Round to the nearest whole dollar when estimating costs.

The total estimated cost for the proposed Service Development Program is provided below, for which the FRA grant will contribute no more than the Federal funding request amount indicated. Any additional expense required beyond that provided in this grant to complete the Service Development Program project shall be borne by the Grantee.

Service Development Program Overall Cost Summary		
#	Phase	Cost in FY11 Dollars
1	Replace cross ties, ballast, track surfacing and alignment, replace jointed rail with continuously welded rail; provide passing sidings; grade crossing surface improvements, new and upgraded flashing lights.	$ 80,332,951
2		$ 00,000
3		$ 00,000
	Total program cost	$ 80,332,951

Federal/Non-Federal Funding			
		Cost in FY11 Dollars	Percentage of Total Program Cost
	HSIPR Federal funding request	$ 65,332,951	81 %

	Non-Federal match amount	$ 15,000,000	19 %
	Total program cost	$ 80,332,951	100 %