

Narrative Application Form – Individual FD/Construction Part I



High-Speed Intercity Passenger Rail (HSIPR) Program

Applicants interested in applying for funding under the March 2011 Notice of Funding Availability (NOFA) are required to submit the narrative application forms, parts I and II, and other required documents according to the checklist contained in Section 4.2 of the NOFA and the Application Package Instructions available on FRA’s website. All supporting documentation submitted for this FD/Construction project should be listed and described in Section G of this form. Questions about the HSIPR program or this application should be directed to the Federal Railroad Administration (FRA) at HSIPR@dot.gov.

Applicants must enter the required information in the gray narrative fields, check boxes, or drop-down menus of this form. Submit this completed form, along with all supporting documentation, electronically by uploading them to www.GrantSolutions.gov by 8:00 p.m. EDT on April 4, 2011.

A. Point of Contact and Applicant Information

Applicant should ensure that the information provided in this section matches the information provided on the SF-424 forms.

(1) Name the submitting agency: Missouri Department of Transportation		Provide the submitting agency Authorized Representative name and title: Rodney Massman, Administrator of Railroads		
Address 1: P.O. Box 270	City: Jefferson City	State: MO	Zip Code: 65102	Authorized Representative telephone: (573) 751-7476 Authorized Representative email: rodney.massman@modot.mo.gov
Provide the submitting agency Point of Contact (POC) name and title (if different from Authorized Representative): Rodney Massman, Administrator of Railroads		Submitting agency POC telephone: (573) 751-7476 Submitting agency POC email: rodney.massman@modot.mo.gov		
(2) List out the name(s) of additional State(s) applying (if applicable): NA				

B. Eligibility Information

Complete the following section to demonstrate satisfaction of an application’s eligibility requirements.

(1) Select the appropriate box from the list below to identify applicant type. Eligible applicants are listed in Section 3.1 of the NOFA.

- State
- Group of States
- Amtrak
- Amtrak in cooperation with one or more States

If selecting one of the applicant types below, additional documentation is required to establish applicant eligibility. Please select the appropriate box and submit supporting documentation to demonstrate applicant eligibility, as described in Section 3.2 of the NOFA, to GrantSolutions.gov and list the supporting documentation under “Additional Information” in Section G.2 of this application.

- Interstate Compact
- Public Agency established by one or more States

(2) Indicate the planning processes used to identify the proposed FD/Construction project. As defined in Section 3.5.1 of the NOFA, the process should analyze the investment needs and service objectives of the service that the individual project is intended to benefit. Refer to the FD/Construction Application Package Instructions for more information. The appropriate planning document must be submitted with the application package and listed in Section G.2 of this application.

- State Rail Plan
- Service Development Plan (SDP)
- Service Improvement Plan (SIP)
- Statewide Transportation Improvement Plan (STIP)
- Other, please list this document in Section G.2 with “Other Appropriate Planning Document” as the title
- This project is not included in a relevant and documented planning process

(3) Verify the completion of Preliminary Engineering requirements. List the documents that establish completion of Preliminary Engineering for the project covered by this application. Refer to the NOFA and FD/Construction Application Package Instructions for more information. Any document not available online should be submitted with the application package and listed in Section G.2 of this application. If more rows are required, please provide the same information for additional PE requirements in a separate supporting document and list it in Section G.2 of this application.

Documentation	Date of Issue (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link (if available)
2010 Merchants Bridge Evaluation Report	06/2010	<input checked="" type="checkbox"/>	
TRRA Merchants Route HSR Analysis – RTC Simulation	03/2011	<input checked="" type="checkbox"/>	

(4) Verify the completion of NEPA documentation. Indicate the date the document was issued and how the document can be verified by FRA. A NEPA decision document (Record of Decision, Finding of No Significant Impact, or FRA Categorical Exclusion concurrence) is not required for an application but must have been issued by FRA prior to award of a construction grant. Applications that are accompanied by a final NEPA determination will be looked upon favorably during the application review and selection process. Verified documents can be submitted as a supporting document or referenced through an active public URL. Any document not available online should be submitted with the application package and listed in Section G.2 of this application. Refer to the NOFA and FD/Construction Application Package Instructions for more information.

Documentation	Date of Issue (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link (if available)
NEPA Documentation			
<input type="checkbox"/> Categorical Exclusion Documentation (worksheet)		<input type="checkbox"/>	
<input checked="" type="checkbox"/> Environmental Assessment It is expected that this project will require an EA due to the nature of the project.	See attached documents	<input type="checkbox"/>	
<input type="checkbox"/> Final Environmental Impact Statement	/	<input type="checkbox"/>	
Project NEPA Determination			
<input type="checkbox"/> Categorical Exclusion	/	<input type="checkbox"/>	
<input type="checkbox"/> Finding of No Significant Impact	/	<input type="checkbox"/>	
<input type="checkbox"/> Record of Decision	/	<input type="checkbox"/>	

(5) Select and describe the operational independence of the proposed FD/Construction project.¹ Refer to Sections 3.4.4 and 3.5.2 of the NOFA for more information about operational independence and applications related to previously-selected projects.

- This project is operationally independent.
- This project is operationally independent when considered in conjunction with previously selected or awarded HSIPR project(s) (identify previously selected or awarded projects below).
- This project is not operationally independent.

Briefly clarify the response:

A separate project is the North Market Street to Biddle Street track improvements that will enhance the ability to sort trains in and over the bridge. This project also has a preventive maintenance element to it in that if the bridge is not replaced, then heavy maintenance will be required on the bridge, which will frequently delay Amtrak trains.

¹ A project is considered to have operational independence if, upon implementation, it will have tangible and measurable benefits, either independently of other investments or cumulatively with projects selected to receive awards under previous HSIPR program solicitations.

C. FD/Construction Project Summary

Identify the title, location, and other information of the proposed project by completing this section.

<p>(1) Provide a clear, concise, and descriptive project name. Use identifiers such as State abbreviations, major cities, infrastructure, and tasks of the individual project (e.g., “DC-Capital City to Dry Lake Track Improvements”). Please limit the response to 100 characters.</p> <p>MO-CHI to STL Corridor–Merchants Bridge</p>								
<p>(2) If the applicant submitted an application for this project, or a project within the scope, that was not selected, indicate the solicitation under which that application was submitted. Check all that apply.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> ARRA – Track 1</td> <td style="width: 50%; border: none;"><input type="checkbox"/> FY 2010 Service Development Program</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> ARRA – Track 2</td> <td style="border: none;"><input type="checkbox"/> FY 2010 Individual Project – PE/NEPA</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> FY 2009 – Track 4</td> <td style="border: none;"><input type="checkbox"/> FY 2010 Individual Project – FD/Construction</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> FY 2009 Residual</td> <td style="border: none;"><input checked="" type="checkbox"/> N/A</td> </tr> </table>	<input type="checkbox"/> ARRA – Track 1	<input type="checkbox"/> FY 2010 Service Development Program	<input type="checkbox"/> ARRA – Track 2	<input type="checkbox"/> FY 2010 Individual Project – PE/NEPA	<input type="checkbox"/> FY 2009 – Track 4	<input type="checkbox"/> FY 2010 Individual Project – FD/Construction	<input type="checkbox"/> FY 2009 Residual	<input checked="" type="checkbox"/> N/A
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<input type="checkbox"/> ARRA – Track 2	<input type="checkbox"/> FY 2010 Individual Project – PE/NEPA							
<input type="checkbox"/> FY 2009 – Track 4	<input type="checkbox"/> FY 2010 Individual Project – FD/Construction							
<input type="checkbox"/> FY 2009 Residual	<input checked="" type="checkbox"/> N/A							
<p>(3) Indicate the activity(ies) proposed in this application. Check all that apply.</p> <p><input checked="" type="checkbox"/> Final Design <input checked="" type="checkbox"/> Construction</p>								
<p>(4) Indicate the anticipated duration, in months, for the proposed FD/Construction project. Consider that American Recovery and Reinvestment Act funding must be obligated by September 30, 2017.</p> <p>Number of Months: 72</p>								
<p>(5) Specify the anticipated HSIPR funding level for the proposed FD/Construction project. This information must match the SF-424 documents, and dollar figures must be rounded to the nearest whole dollar. All applicants are encouraged to contribute non-Federal matching funds. FRA will consider matching funds in evaluating the merit of the application. See Section 3.3 of the NOFA for further information regarding cost sharing.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #1a3d54; color: white;"> <th style="padding: 5px;">HSIPR Federal Funding Request</th> <th style="padding: 5px;">Non-Federal Match Amount</th> <th style="padding: 5px;">Total Project Cost</th> <th style="padding: 5px;">Non-Federal Match Percentage of Total</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">\$90,000,000</td> <td style="padding: 5px;">\$60,000,000</td> <td style="padding: 5px;">\$150,000,000</td> <td style="padding: 5px;">40 %</td> </tr> </tbody> </table>	HSIPR Federal Funding Request	Non-Federal Match Amount	Total Project Cost	Non-Federal Match Percentage of Total	\$90,000,000	\$60,000,000	\$150,000,000	40 %
HSIPR Federal Funding Request	Non-Federal Match Amount	Total Project Cost	Non-Federal Match Percentage of Total					
\$90,000,000	\$60,000,000	\$150,000,000	40 %					

(6) Indicate the source, amount, and percentage of non-Federal matching funds for the proposed FD/Construction project.
 The sum of the figures below should equal the amount provided in Section C.5. Click on the gray boxes to select the appropriate response from the lists provided in type of source, status of funding, and type of funds. Dollar figures must be rounded to the nearest whole dollar. Also, list the percentage of the total project cost represented by each non-Federal funding source. Provide supporting documentation that will allow FRA to verify each funding source, any documentation not available online should be submitted with the application package and listed in Section G.2 of this application.

Non-Federal Match Funding Sources	Type of Source	Status of Funding ²	Type of Funds	Dollar Amount	% of Total Project Cost	Describe Any Supporting Documentation to Help FRA Verify Funding Source
Terminal Railroad Association of St. Louis (TRRA)	New	Budgeted	Private	\$ 60,000,000	40 %	Missouri Highways and Transportation Commission and TRRA Memorandum of Understanding (MOU attached)
Sum of Non-Federal Funding Sources				\$ 60,000,000	40 %	N/A

(7) Indicate whether the proposed activities in this application are also included as a component project or phase in a Service Development Program application submitted concurrently.

- Yes, all of the activities in this application have also been submitted as a component project or phase of a Service Development Program application.
- Yes, some of the activities within this application have also been submitted as a component project or phase of a Service Development Program application.
- No, this application and its proposed activities have not been submitted as a component project or phase of a Service Development Program application.

(8) Indicate the name of the corridor where the project is located and identify the start and end points as well as major integral cities along the route.

St. Louis, Missouri, to Chicago, Illinois, Union Pacific main corridor with this section on Terminal Railroad of St. Louis. This is a federally designated high-speed rail corridor.

(9) Describe the project location, using municipal names, mileposts, control points, or other identifiable features such as longitude and latitude coordinates. If available, please provide a project GIS shapefile (.shp) as supporting documentation. This document must be listed in Section G.2 of this application.

The west terminus of the Merchants Bridge (TRRA MP 6.43 / Lat 38 40 20 N, Lon 90 11 39 W) is located in the City of St. Louis, Missouri. The east terminus of the Merchants Bridge (TRRA MP 7.27 / Lat 38 40 34 N, Lon 90 10 48 W) is located in the city of Venice, Illinois. The bridge is located north of downtown St. Louis at Upper Mississippi River Mile 183.2 (center of bridge at Lat 38 40 28 N, Lon 90 11 12 W).

² The following categories and definitions are applied to funding sources:

Committed: Committed sources are programmed capital funds that have all the necessary approvals (e.g., statutory authority) to be used to fund the proposed project without any additional action. These capital funds have been formally programmed in the State Rail Plan and/or any related local, regional, or state capital investment program or appropriation guidance. Examples include dedicated or approved tax revenues, state capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed project, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project.

Budgeted: This category is for funds that have been budgeted and/or programmed for use on the proposed project but remain uncommitted (i.e., the funds have not yet received statutory approval). Examples include debt financing in an agency-adopted capital investment program that has yet to be committed in the near future. Funds will be classified as budgeted when available funding cannot be committed until the grant is executed or due to the local practices outside of the project sponsors' control (e.g., the project development schedule extends beyond the State Rail Program period).

Planned: This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, requests for state/local capital grants, and proposed debt financing that has not yet been adopted in the agency's capital investment program.

(10) Provide an abstract outlining the proposed FD/Construction project. Briefly summarize the project narrative provided in the Statement of Work in 4-6 sentences. Capture the major milestones, outcomes, and anticipated benefits that will result from the completion of the individual project.

This project would replace the Merchant’s Bridge on the existing St. Louis to Chicago Amtrak corridor. The bridge was built in the 1890s and is in need of replacement. If it is not replaced, extreme measures of maintenance will be required to keep it in operational condition. There are currently two bridges used by Amtrak into St. Louis – the McArthur Bridge, which is the main artery used by Amtrak for its Chicago to St. Louis route (approximately 80 percent of the time currently) and this bridge, which is used as an alternate route. The overall plan for Chicago to St. Louis Amtrak routes, however, show this bridge to be more of an equalizer in terms of total traffic expected in that when train speeds increase and more frequencies are eventually added, this project will benefit more and more of the Amtrak traffic on this corridor.

(11) Indicate the type of expected capital investments included in the proposed FD/Construction project. Check all that apply.

- Communication, signaling, and control
- Electric traction
- Grade crossing improvements
- Major interlocking
- Positive Train Control
- Rolling stock acquisition
- Rolling stock refurbishments
- Station(s)
- Structures (bridges, tunnels, etc.)
- Support facilities (yards, shops, administrative buildings)
- Track rehabilitation and construction
- Other (please describe)

(12) Indicate the anticipated service outcomes of the proposed FD/Construction project. Check all that apply.

- Additional service frequencies
- Service quality improvements
- Increased average speeds/shorter trip times
- Improved operational reliability on existing route
- Improved on-time performance on existing route
- Other (please describe)

Briefly clarify the response(s) if needed:

(13) Provide the following information about job creation through the life of the proposed FD/Construction project. Please consider construction, maintenance, and operations jobs.

Anticipated number of <u>annual</u> onsite and other direct jobs created (on a 2080 work-hour per year, full-time equivalent basis).	FD/ Construction Period	First full Year of Operations	Fifth full Year of Operations
	250	1	1
Indicate the anticipated fiscal year.	N/A	2017	2022

(14) Quantify the applicable service outcomes of the proposed FD/Construction project. Provide the current conditions and anticipated service outcomes. Future state information is required only for the service outcomes identified in Section C.11.

	Frequencies ³	Scheduled Trip Time (round-trips, in minutes)	Average Speed (mph)	Top Speed (mph)	Reliability – Provide Either On-Time Performance Percentage or Delay Minutes
Current	4	670	55	79	73%
Future	4	544	62	110	85%

³ Frequency is measured in daily round-trip train operations. One daily round-trip operation should be counted as one frequency.



(15) Indicate if any FD or Construction activities that are part of this proposed project are underway or completed. Check all that apply.

- | | |
|---|--|
| <input type="checkbox"/> Final Design activities are complete. | <input type="checkbox"/> Construction activities are complete. |
| <input checked="" type="checkbox"/> Final Design activities are in progress. | <input type="checkbox"/> Construction activities are in progress. |
| <input type="checkbox"/> No Final Design activities are in progress or completed. | <input checked="" type="checkbox"/> No Construction activities are in progress or completed. |

Describe any activities that are underway or completed in the table below. If more space is necessary, please provide the same information for additional activities underway or completed in a supporting document and list in Section G.2 of this application.

Activity	Description	Completed? (If yes, check box)	Start Date (mm/yyyy)	Actual or Anticipated Completion Date (mm/yyyy)
Project Estimate	Evaluation of costs	<input checked="" type="checkbox"/>	06/2010	06/2010
TRRA Merchants Route HSR Analysis – RTC Simulation	Evaluation of benefits of track efficiency for both Amtrak and freight trains	<input checked="" type="checkbox"/>	03/2011	03/2011
Plan and Profile Plan Sheet	Depiction of the design plan and profile of the bridge.	<input checked="" type="checkbox"/>	03/2011	03/2011

D. Infrastructure Owner(s) and Operator(s)

Address the section below with information regarding railroad infrastructure owners and operators of the proposed FD/Construction Project. Applicants that own and/or control the infrastructure to be improved by the project or have a service outcomes agreement in place with the infrastructure owning railroad for the proposed project, or an executed agreement that could be amended with the infrastructure owning railroad for a project(s) located on the same corridor as the proposed project, will be looked upon favorably during the application review and selection process.

(1) Provide information regarding Right-of-Way Owner(s). Where railroads currently share ownership, identify the primary owner. Click on the gray boxes to select the appropriate response from the lists of railroad type, right-of-way owner and status of agreement. If the Right-of-Way Owner is not included on the prepopulated list, select “Other” and type the name in the adjacent text box within that field. Should the application have more than five owners, please provide the same information for additional owners in a separate supporting document and list it in Section G.2 of this application.

Type of Railroad	Right-of-Way Owner	Route-Miles	Track-Miles	Status of Agreement to Implement
Terminal Railroad	Terminal Railroad Association of St. Louis – see Section F(1) of this application for ownership history	0.88	1.76	Preliminary Executed Agreement/MOU

(2) Name the Intercity Passenger Rail Operator and provide the status of agreement. If applicable, provide the status of the agreement with the partner that will operate the planned passenger rail service (e.g., Amtrak). Click on the gray box to select the appropriate response from the status of agreement list. Should the proposed service have more than three operators, please provide the same information for additional operators in a separate supporting document and list it in Section G.2 of this application.

Name of Rail Service Operator	Status of Agreement
Amtrak	Yearly operating agreement with the Illinois DOT

(3) Provide information about the existing rail services within the project boundaries (e.g., freight, commuter, and intercity passenger). Click on the gray boxes to select the appropriate response from the list of types of service. If the Name of Operator is not included in the prepopulated list, select “Other” and type the name in the adjacent text box within that field.

Type of Service	Name of Operator	Top Existing Speeds Within Project Boundaries (mph)		Number of Route-Miles Within Project Boundaries (miles)	Average Number of Daily One-Way Train Operations ⁴ within Project Boundaries
		Passenger	Freight		
Freight	Terminal RR-- St. Louis	0	20	0.88	6
Freight	Norfolk Southern	0	20	0.88	15
Freight	BNSF	0	20	0.88	2
Intercity Passenger	Amtrak	20	0	0.88	1

⁴ One daily round-trip operation should be counted as two daily one-way train operations.

(4) Estimate the share of benefits that will be realized by non-intercity passenger rail services and select the approximate cost share to be paid by the beneficiary.⁵ Click on the gray boxes to select the appropriate response from the lists of type of beneficiary, expected share of benefits, and approximate cost share. If more than three types of non-intercity passenger rail are beneficiaries, please provide additional information in a separate supporting document, and list it in Section G.2 of this application.

Type of Non-Intercity Passenger Rail	Expected Share of Benefits	Approximate Cost Share
Freight	Greater than 50%	26-50%

⁵ Benefits include service improvements such as increased speed or on-time performance, improved reliability, and other service quality improvements.

E. Additional Response to Evaluation Criteria

Respond to each of the following evaluation criteria in the gray text boxes provided to demonstrate how the proposed FD/Construction project will achieve these benefits.

(1) Project Readiness

Describe the feasibility of the proposed FD/Construction project to proceed promptly to award, including addressing:

- The applicant's progress, at the time of application, in reaching compliance with NEPA for the proposed project. Although a NEPA decision document (Record of Decision, Finding of No Significant Impact, Categorical Exclusion determination) is not required at the time of application, applications for Individual FD/Construction Projects that are accompanied by a final NEPA determination will be looked upon favorably during the application review and selection process;
- The applicant's progress, at the time of application, in reaching final service outcomes agreements (where necessary) with key project partners. Applicants that own and/or control the infrastructure to be improved by the project or have a service outcomes agreement in place with the infrastructure owning railroad for the proposed project, or an executed agreement that could be amended with the infrastructure owning railroad for a project(s) located on the same corridor as the proposed project, will be looked upon favorably during the application review and selection process; and
- The quality and completeness of the project's Statement of Work, including whether the Statement of Work provides a sufficient level of detail regarding scope, schedule, and budget to immediately advance the project to award.

Because this project is critically linked with the North Market Street to Biddle Street project, it is expected that both the final environmental analysis and the beginning work on this project will start roughly at the same time the North Market Street to Biddle goes into construction. The railroad understands how critical these projects are to each other and how much the functionality of one is to the other.

MoDOT was successful in securing a previous grant from the Federal Railroad Administration, Intercity Passenger Rail Program, Grant No. 6048 of \$3,292,684 to construct a new siding at Shell Spur on the same Union Pacific-Amtrak corridor of this project. The Shell Spur award was made September 30, 2008, and construction began May 29, 2009. Work was completed in December 2009. Successful implementation and completion of the Shell Spur project demonstrates MoDOT's ability to administer these grants effectively. The award was matched to a \$5 million state appropriation. An MOU and a later multifaceted agreement were signed in 2009 with the Union Pacific Railroad to facilitate the project. A grant agreement was also signed with the FRA. Also three shovel-ready projects were awarded to MoDOT in 2010 on the first round of applications, and these projects are in the pre-construction stage. In addition, the SOA was signed by MoDOT and UP in March 2011 and continued negotiations are pending with Amtrak and FRA.

Both application and the current grant oversight are efforts on behalf of many areas of expertise in the Missouri Department of Transportation. These areas include, but are not limited to, environmental, design, controller's office, transportation planning, governmental relations and multimodal operations. The key stakeholder/project driver in MoDOT is the railroad section. Each of these units also interfaces with Union Pacific and the actual contractor in order to solve problems and expedite solutions.

Both Missouri and Illinois are increasing their participation in upgrading their passenger rail programs and have been successful in securing service outcomes agreements with their respective railroad hosts. This project will require extensive collaboration with the hosts and with Illinois DOT. Illinois DOT has submitted a letter of support on behalf of this project.

There is no known funding risk if approved per the cost-sharing terms with the Terminal Railroad per the MOU. The project can be completed in a six-year construction timeframe, so barring extreme unforeseen 'acts of God,' such as earthquakes, tornados, floods or fires, there are no schedule risks. Amtrak has shown no propensity to discontinue service as long as there is state financial support on this route. Many communities have invested substantial funds in their train stations and have a vested interest in ensuring the route's success, so there is no substantial risk of cities discontinuing support of their station stops.

If this application is approved, MoDOT will appreciate an expedited completion of the grant agreement, so the project can be quickly started. MoDOT will require minimal technical assistance similar to the FRA assistance requested during the successful implementation of the application for an intercity passenger rail grant in 2008 and the 2009 second round of applications.

(2a) Transportation Benefits

Describe the transportation benefits that will result from the proposed FD/Construction project and how they will be achieved in a cost-effective manner, including addressing:

- Generating improvements to existing high-speed and intercity passenger rail service, as reflected by estimated increases in ridership, increases in operational reliability, reductions in trip times, additional service frequencies to meet anticipated or existing demand, and other related factors;
- Generating cross-modal benefits, including anticipated favorable impacts on air or highway traffic congestion, capacity, or safety, and cost avoidance or deferral of planned investments in aviation and highway systems;
- Creating an integrated high-speed and intercity passenger rail network;
- Encouragement of intermodal connectivity and integration, including a focus on convenient connection to local transit and street networks, as well as coordination with local land use and station area development;
- Ensuring a state of good repair of key intercity passenger rail assets;
- Promoting standardized rolling stock, signaling, communications, and power equipment;
- Improved freight or commuter rail operations, in relation to proportional cost-sharing (including donated property) by those other benefiting rail users;
- Equitable financial participation from benefiting entities in the project's financing;
- Encouragement of the implementation of positive train control (PTC) technologies (with the understanding that 49 U.S.C. 20147 requires all Class I railroads and entities that provide regularly scheduled intercity or commuter rail passenger services to fully institute interoperable PTC systems by December 31, 2015); and
- Incorporating private investment in the financing of capital projects or service operations.

There are many transportation benefits associated with this project as the St. Louis to Chicago corridor is already a designated high-speed rail corridor (see attached U.S. map). In St. Louis, there are connections to five Amtrak trains to Chicago, two trains to Kansas City, one to San Antonio and one Amtrak bus connector to Carbondale, Illinois. These connections are based in the recently expanded St. Louis Gateway Center, which makes it possible to house all services in one building. Also at the center are several intercity bus services, city bus service and MetroLink light rail system, which connects to the airport and many other areas of St. Louis metro region.

Passenger numbers are currently increasing on the St. Louis to Chicago routes. These numbers increased 10 percent from fiscal year 2008 to fiscal year 2009 and by nearly again the same number in fiscal year 2010. They are also expected to significantly increase with a reliable on-time performance – something that has been sought for many years. There is no commuter rail service on the line. Amtrak service to Chicago is expected to

increase in the future from five frequencies a day to eight when fully implemented.

In addition, positive train control (PTC) will be installed over the new bridge at the control point of West Approach (CP TA007), which is at the west end of the overall project area. PTC will also be installed at all adjacent control points to the Merchants Bridge: West SH (CP TA008), Bremen Avenue (CP TA006) and May Street (CP TA600) as required by 49 U.S.C. 20147. PTC refers to technology that will eventually be used on this line that is capable of preventing train-to-train collisions, over speed derailments and casualties or injuries to roadway workers. It is a process by which the train can detect speed reductions and the train will automatically slow down or come to a complete stop if the engineer does not respond in a timely manner.

The proposed upgrades listed in this grant application will allow for the upgrades of signalized circuitry on these projects and a smoother transition from the standardized signal systems to the new circuitry that is compatible with PTC equipment. Therefore, such upgrades will encourage the railroads to take a more immediate role in implementing PTC on the corridor, permitting freight and passenger trains to interact within a safer environment, especially in congested areas such as St. Louis.

See the attached findings from the TRRA Merchante Route HSR Analysis using the RTC simulation results analysis dated March 2011 on specific improvements to on-time performance expected as a result of this project.

Train traffic capacity will be increased with this project in several ways. First, the new bridge structure will be designed to today's standard for load-carrying capacity at Coopers E80 rating or better. This will eliminate the current restrictions on most heavy loads and allow concurrent passage of two trains equipped with six axle locomotives. Second, the new west approach to the main bridge will be designed to accommodate larger turnouts. This will remove the current 15 mph speed restriction on the westbound main and the 20 mph speed restriction on the eastbound main, allowing the track speed to be increased to 30 mph for Amtrak trains. The increased rail capacity will further open options for both Amtrak and freight trains.

St. Louis is an important east-west gateway for special dimensional loads such as military equipment, transformers, wind turbines and pressure vessels. Horizontal and vertical clearance will also be improved to allow passage of wider and/ or taller special dimensional loads that are currently prohibited and rerouted elsewhere.

Additional safety benefits will be realized due to less blocked highway grade crossings in the area. Safety will also be improved by upgrading the navigation lights on the new bridge that identify pier locations, preferred main channel and secondary channel, for the safe passage of barges and other water craft on the Mississippi River.

Terminal Railroad Association of St. Louis is contributing 40 percent of the costs for the project improvements. This is the second project that MoDOT is doing in cooperation with the Terminal Railroad, and the TRRA has been an effective and interested partner in immediately committing the required monies. The final parts of the corridor run on terminal railroads in both St. Louis and Chicago, so the better relationship there is with the terminals – the better the line will run and the more effective the Amtrak trains will be at getting through on time. The RTC modeling completed on this project also shows a positive effect on the St. Louis to Chicago trains. The first project with a terminal railroad in Missouri, when completed successfully and begins to show operational benefits, will positively affect the health of future projects and how they are implemented, and will provide a major “how-to” guide and pathway to future projects benefitting not only

Missouri's projects, but the Illinois trains that terminate in St. Louis.

(2b) Other Public Benefits

Describe the other public benefits that will result from the proposed FD/Construction project and how they will be achieved in a cost-effective manner, including addressing:

- The extent to which the project is expected to create and preserve jobs and stimulate increases in economic activity;
- Promoting environmental quality, energy efficiency, and reduction in dependence on oil, including the use of renewable energy sources, energy savings from traffic diversions from other modes, employment of green building and manufacturing methods, reductions in key emissions types, and the purchase and use of environmentally sensitive, fuel-efficient, and cost-effective passenger rail equipment; and
- Promoting coordination between the planning and investment in transportation, housing, economic development, and other infrastructure decisions along the corridor, as identified in the six livability principles developed by DOT with the Department of Housing and Urban Development and the Environmental Protection Agency as part of the Partnership for Sustainable Communities, which are listed fully at <http://www.dot.gov/affairs/2009/dot8009.htm>.

Rail travel consumes less energy per passenger mile than car or air travel. By diverting 10 percent of the freight moved on highways to rail, the nation could save as much as one billion gallons of fuel annually. Amtrak is committed to a 6 percent reduction in carbon dioxide emissions by voluntarily committing to meet greenhouse gas emission reduction targets. Please reference the additional analysis report on environmental impacts specific to this project, which is attached.

In addition, one of the goals of the High-Speed Intercity Passenger Rail is to improve dependability and speed of Amtrak service between St. Louis and Chicago. This service connects 11 diverse communities including St. Louis and Chicago, the Illinois state capital and several popular historic towns. Improving the service will synergistically support the existing transportation systems providing intermodal access to an abundance of work- and tourist-related locations within these 11 communities. There is no intercity bus service on the same parameters as the Amtrak service, so there is a need for the passenger rail service.

The Gateway Transportation Center in downtown St. Louis combines access from Amtrak to the local transit systems (light rail and bus), taxis and intercity buses.

This Terminal Railroad project will also increase the ability to sort freight and passenger trains in and out of the St. Louis area. Project construction is located in the economically distressed area of St. Louis, which will increase jobs in the construction industry. Total project investment is \$150 million and is estimated to create 250 jobs in the construction phase and one job in the operations phase on average annually. As materials are made, bought and consumed for this project, a need for additional resources will occur that will provide opportunities for U.S. manufacturing firms to increase their production of these items. The sources of supply for these items and the procurement contracts covering their acquisition and installation will include "Buy America" provisions and requirements, which will help support the U.S. industry as a whole.

(3) Project Delivery Approach

Describe the risk associated with the delivery of the proposed FD/Construction project within budget, on time, and as designed, including addressing:

- The timeliness of project completion and the realization of the project's benefits;
- The applicant's financial, legal, and technical capacity to implement the project;
- The applicant's experience in administering similar grants and projects;
- The soundness and thoroughness of the cost methodologies, assumptions, and estimates;
- The thoroughness and quality of the project management documentation;
- The timing and amount of the project's future noncommitted investments;
- The adequacy of any completed engineering work to assess and manage/mitigate the proposed project's engineering and constructability risks; and
- The sufficiency of system safety and security planning.

The factors that were considered include the experience of the Terminal Railroad in completing former construction tasks, of which it has a good history, and also the fact that the Terminal Railroad is governed and has the backing of five major Class I railroads in its daily operations. Likewise, MoDOT oversees rail projects in many different areas and has had a long experience in dealing with such issues. The Terminal Railroad is well-suited to continue its reputation as an even-handed solver of bottleneck train problems in the St. Louis area. The work completed so far includes estimates and descriptions of work needed from site preparation to utilities. It also includes many areas of signal work necessary for intergrated train operations and shows the background work that has been done to keep the project from adversely affecting any current train traffic.

Safety and system security planning is a priority for TRRA and remains so in this project. The TRRA has a safety record that is extremely thorough. Safety is also always a top priority for any MODOT project. The synopsis of the process used by agencies similar to TRRA and in which MODOT oversees in other areas to ensure that planned and scheduled internal safety reviews are performed to evaluate compliance with all safety protocols for all track improvement projects, and would be required to be used on this project, includes: (i) identification of functions subject to review; (ii) responsibility for scheduling reviews; (iii) process for conducting reviews, including the development of checklists and procedures, and issuing of findings; (iv) review of reporting requirements; (v) tracking the status of implemented recommendations; and (vi) coordination with the Grantee Agency (MODOT) and the Grantor Agency (FRA). The TRRA's internal incident plan is attached. Amtrak also has its own system safety plan, and the Class I Railroads that support TRRA also have their own plans. A further description of the measures, controls and assurances in place to ensure that safety principles, requirements and representatives are included in the process will be developed in conjunction with MODOT's final signing of the grant agreement for this project.

NEPA requirements have always been of critical importance to MODOT in the relaying of its projects from the design stage to the construction stage. The NEPA requirements will be aggressively pursued to fulfill all FRA requirements.

(4) Sustainability of Benefits

Identify the likelihood of realizing the proposed FD/Construction project's benefits, including addressing:

- The applicant's financial contribution to the project;
- The quality of a financial planning documentation that analyzes the financial viability of the HSIPR service that will benefit from the project;
- The availability of any required operating financial support, preferably from dedicated funding sources;
- The quality and adequacy of project identification and planning; and
- The reasonableness of estimates for user and non-user benefits for the project.

The HSIPR project that will benefit from this planning is the St. Louis to Chicago Amtrak service, which has been in existence for 31 years and continues to thrive. Recent increases in on-time performance and in passenger increases in numbers have made it a route with a promising future. Although it is funded by the state's general revenue and even though Missouri has had an extremely tight budget the last few years, there is no reason to expect that the service will not continue, especially as other projects to improve on-time service come on line and further support its funding. TRRA will commit to maintain the Merchants Bridge for the next 20 years upon completion of this project.

The TRRA is committed by its MOU and also by its parent companies to the success of this project. The TRRA maintains that this project should not only improve Amtrak on-time performance, but it will also significantly improve the traffic capacity capability of the Merchants Bridge to handle additional passenger trains, thereby making the solution for all parties better and more comprehensive. The improvements to be realized by this project and other projects proposed for this corridor, such as the Biddle to North Market Second Main Project, are part of the infrastructure strategy for the St. Louis Terminal to support up to 18 daily St. Louis – Chicago passenger trains.

The freight benefits will, over a number of years and along with future projects for both the Missouri and the Illinois services for passenger trains, show how the additional capacity provided helps remove freight trains from former bottlenecks and puts them on a track to success with fewer problems in accessing stations. As the frequencies on both the Illinois and the Missouri services may be expected to increase in the future, the types of access and infrastructure improvements sought, such as the existing project, will be the type of projects with the most delivery at the least cost.

F. Statement of Work

The Statement of Work (SOW) is a required document. This must be submitted using the Narrative Application Form Part II. Statement of Work available on FRA's website to provide the required information. 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.

Please provide the SOW as a separate document and list it in Section G.2 of this application.

The SOW is a description of the work that will be completed under the grant agreement and must address the background, scope, and schedule, and include a high-level budget of the proposed project.

- (1) The SOW is required for a complete application package.
- (2) The SOW should contain sufficient detail so that both FRA and the applicant can:
 - a. Understand the expected outcomes of the work to be performed by the applicant, and
 - b. Track applicant progress toward completing key project tasks and deliverables during the period of performance.
- (3) The SOW should clearly describe project objectives, but allow for a reasonable amount of flexibility regarding how the objectives will be accomplished. It is important to describe the overall approach to and expectations for project/activity completion.
- (4) If the SOW describes work for phases and/or groups of component projects, the larger program should be explained in the background section of the SOW. The remainder of the SOW should be limited to describing the activities that directly contribute to the combined FRA and applicant effort which is funded under the grant agreement.

G. Optional Supporting Information

Provide a response to the following questions, as necessary, for the proposed FD/Construction project.

(1) Please provide any additional information, comments, or clarifications, and indicate the section and question number that being addressed (e.g., Section E.2). Completing this question is optional.

(2) Please provide a document title, filename, and description for all optional supporting documents. Ensure that these documents are uploaded to GrantSolutions.gov with the narrative application form and use a logical naming convention.

Document Title	Filename	Description and Purpose
2010 Merchants Bridge Evaluation	Final 2010 MBE Report.pdf	Summary of previous studies and reports with recommendations and estimates for replacement
TRRA Merchants Route HSR Analysis – RTC Simulation	TRRA SPCSL Merchants Route RTC Summary 033011 v2.ppt	Evaluates impact to all passenger and freight trains in area
2011 MOU for HSIPR Projects	TRRA MOU N. Market and Merchants.pdf	Commitment to HSIPR applications from MoDOT and TRRA
System Safety Plan	Internal_Incident_Plan.pdf	Demonstrates safety measures of TRRA
TRRA System Map	TRRA Control Points.pdf	Provides layout of TRRA control points
Project Drawings	Plans of Proposed Track.pdf	Provides layout and general description of project.
Project Estimate	Third Main Track Estimate 072810.pdf	Identifies itemized costs of project.
Support letter from East West Gateway, a Metropolitan Planning Organization	East West Gateway Letter of Support-TRRA project.pdf	Demonstrates support of local planning organization.
2011 Support letter from East West Gateway, a Metropolitan Planning Organization	2011 EWGW Support_Ltr.pdf	Demonstrates support of local planning organization.
Support Letter from City of St. Louis	City of St. Louis.pdf	Demonstrates City’s support for project.
MOU between MHTC and Terminal Railroad	MOU withTerminal_08_02_10_revise d.doc	Demonstrates support of project by both parties.
System Safety Plan	Internal_Incident_Plan.pdf	Demonstrates safety measures of TRRA.
2011 Amtrak Support Letter	2011_Amtrak_Support_Ltr.pdf	Provides support from Amtrak for project.
2011 UP Support Letter	2011_UP_Support_Ltr.pdf	Provides support from Union Pacific for project.
2011 Project Map	2011_HSIPR_Project_Map.pdf	Identifies Location of projects for 2011 application.
Topographical map	Terminal RR Topo Map with Intro Letter.pdf	Demonstrates location of existing track.

Introductory letter from MoDOT Director	1Intro LETTER signed by KKeith.pdf	Cover letter for the HSIPR projects signed by MoDOT Interim Director
Overview of 2011 Projects	2Project Overview.pdf	Overview of Projects
HSIPR Projects Division of Costs	3HSIPR RAIL PROJECTS DIVISION OF COSTS Mar29 2011.docx	HSIPR Projects Division of Costs
Project Map and Partner Signature Map	4 2J011_HSIPR_Project_Map.pdf	Detailed project map and same map with signatures of support
Project Map and Partner Signature Map	SProject Map and Partner Signature Map.pdf	Detailed project map and same map with signatures of support
MOU between 4 states for joint application	6 State Equipment MOU.pdf	Demonstrates support of project by all parties.
Support Letter from UP for 2011 Applications	7 2011_UP_Support_Ltr.pdf	Provides support of projects for application
MoDOT/UP/Amtrak SOA	8Preliminary Executed SOA with UP.pdf	Identifies Service Outcomes for completion of projects
Multi State Governors MOU	9Multi - StateGovernorsMOUSigned.pdf	Demonstrates commitment to High Speed Rail
Map of High Speed Rail	10US Federally Designated High Speed Rail Corridor Map.pdf	Identifies High Speed Rail Corridors
Letters of Reduced	11Complete Letters of Support-reduced.pdf	Letters of Support
Rail Capacity Analysis I & II	12Rail Capacity Analysis ReportsI and II.pdf	Rail Capacity Analysis Reports I and II
2009, 2010 and 2011 Economic Studies	13Economic Studies by MERIC.pdf	HSIPR Statewide and Lonterm Impacts Study prepared by MERIC
Mo Passenger Rail Schedule	14MO Passenger Rail Schedule.pdf	Missouri Passenger Rail Schedule
Mo Intercity Bus Stops	15Intercity Bus Stops.pdf	Missouri Intercity Bus Stops
Statewide Transportation Improvement Plan	16MHTC Auth on Corridor Improvement Projects STIP 2011-2015.pdf	Projects identified in Statewide Transportation Improvement Plan

Amtrak Operating Agreement	17Amtrak Operating Agreement.pdf	Amtrak Operating Agreement
Amtrak-MoDOT MOU	18Amtrak-MoDOT MOU.pdf	Amtrak-MoDOT MOU
Kansas City Terminal Memorandum of Understanding	19Kansas_City_Terminal_MOU.pdf	Commitment to application by MoDOT and KCT
Terminal Railroad Association of St. Louis Memorandum of Understanding	20STLTerminal-MoDOT MOU.pdf	Commitment to application by MoDOT and TRRA
Terminal Railroad Association of St. Louis Memorandum of Understanding	21TRRA MOU N. Market and Merchants.pdf	Commitment to application by MoDOT and TRRA
UP Memorandum of Understanding	22UP-MODOT MOU signed copy.pdf	Commitment to application by MoDOT and UP
UP Track Layout	23UP Track Layout.pdf	UP Track Layout
1996 Agreement	24-1996 agreement between MODOT and UP to preserve 3 more slots.pdf	1996 Agreement between MoDOT and UP to preserve 3 more slots
Amtrak Support Letter for Merchants and N Market	25 Amtrak Support for Merchants and N. Market	Amtrak Support Letter
Shell Spur Agreement	26Shell SpurAgreement.pdf	Shell Spur Agreement

Narrative Application Form Individual FD/Construction 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 G.2 of the Narrative Application Form Part I.

- (1) **Background.** Briefly describe the events that led to the development of this FD/Construction project and the issue the project 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 individual FD/Construction project is located.

Since 1889, the Terminal Railroad Association of St. Louis (TRRA) has played a vital role in the railroad operations and growth of the St. Louis metropolitan area. The association was originally created to satisfy the need for an efficient, safe and economical method of interchanging rail traffic at the railroad hub of St. Louis, Missouri, and more than 120 years later continues to make the same commitment. The company’s present-day owners are the Union Pacific Railroad (UPRR), BNSF Railway (BNSF), CSX Transportation (CSXT), Canadian National Railroad (CN) and Norfolk Southern Corporation (NS).

The Merchants Bridge is a key route for the Terminal Railroad, Norfolk Southern, Union Pacific, BNSF Railway and Amtrak. It is a critical link in the transcontinental railroad system. It affords access to industrial districts located in East St. Louis, Granite City, Sauget and Cahokia in Illinois, and St. Louis City and St. Louis County in Missouri and serves as a connection for the aforementioned rail lines. This bridge was a vital link during the high-water conditions in 1993, remaining open to provide access to serve customers and provide a detour route to other users to keep the rail traffic flowing continuously through the St. Louis Gateway. Traffic includes coal, ore and unit grain trains; mixed freight and auto transports; Road Railer units; cuts of cars in transit from one yard to another; and Amtrak.

The Merchants Bridge is located north of downtown St. Louis. It crosses at Upper Mississippi River Mile 183.2, between Venice, Illinois and north St. Louis, Missouri. This double-track railroad structure was completed in 1890. It has three main river spans, each consisting of a 518-foot through truss span, supported on limestone and granite piers founded on bedrock. Three 125-foot deck trusses, supported on steel towers atop cylindrical concrete piers, flank the main river spans on each side. (Removed and replaced in 2005.) The remainder of the bridge, which was originally constructed as a timber trestle, was replaced in the early 1900s with steel built-up girder spans supported on steel towers with pile-supported pedestals. The four main river pier foundations were constructed using the pneumatic caisson method. The majority of the masonry piers, including the upper and lower faces and copings, are

constructed of limestone. The total lengths of the east and west approaches are 1,190 feet and 1,604 feet, respectively. Current track centers are at 12 feet.

The Illinois channel span, which is the primary channel used for navigational purposes, has a horizontal clearance of 505 feet and a vertical clearance of 83 feet minus St. Louis gage. This typically provides for no less than 50 foot of vertical clearance at high water. The bridge also carries a number of utilities across the river. These include overhead power lines and fiber optic cables. The Merchants Bridge was originally designed to carry two tracks of traffic approximately equivalent to Cooper’s E 25 train load. Such loads are significantly lighter than today’s design loads (E80) and typical current railroad traffic (approximately E 72). The steel used for the main truss members has a specified minimum yield stress of 38,000 pounds per square inch.

Current restrictions limit traffic operations on the main spans of the Merchants Bridge. The two main tracks carried by the Merchants Bridge are within the Merchants Subdivision and connect the control points of Bremen Avenue (CP TA006) to the west and West SH (CP TA008) to the east. At the west end of the bridge, there is a control point, West Approach (CP TA007), with a crossover between the two main tracks and a turnout on the westbound main leading to the single track West Belt Industrial Lead and the control point of May Street (CP TA600). There is a 15-mph speed restriction on the westbound main and a 20-mph speed restriction on the eastbound main due to existing small turnouts that cannot be improved without significant modification to the existing bridge structure. The following types of equipment may not meet or pass any of these types of equipment on adjacent tracks within the superstructure of the main spans to prevent concentrated loading.

1. 6-axle locomotives in excess of 400,000 pounds.
 2. Loaded rail cars having six or more axles
 3. Any rail car or piece of equipment that exceeds 286,000 pounds – normal rail operations require 315,000-pounds capacity for all traffic
 4. Loads exceeding 11-foot, 6-inch wide require adjacent track to be clear of any other trains
- Overhead clearance on the bridge was modified in 1986 to allow for the passage of typical rail traffic, including high double-stack container cars and high auto-rack cars. However, the structure continues to provide substandard lateral and vertical clearances according to current AREMA standards. The current maximum allowable load width is 13 foot, 9 inches.

This bridge has been listed as a critical structure for Department of Homeland Security planning since it is a vital link for interstate commerce and passenger service through the St. Louis Gateway.

(2) Scope of Activities. Clearly describe the scope of the proposed FD/Construction project and identify the general objective and key deliverables.

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

This project includes replacement of the bridge, approaches, track and signal improvements on the Terminal Railroad Merchants Bridge route spanning the Mississippi River at Upper Mississippi River Mile 183.2 between St. Louis, Missouri, and Venice, Illinois.

This project would replace the Merchants Bridge on the existing St. Louis to Chicago Amtrak corridor. The bridge was built in the 1890s and is in extreme need of replacement. If it is not replaced, extreme measures of maintenance will be required to keep it in operational condition. There are currently two bridges used by Amtrak into St. Louis – the McArthur Bridge, which is the main artery used by Amtrak for its Chicago to St. Louis route (approximately 80 percent of the time currently) and this bridge, which is used as an alternate route. The overall plan for Chicago to St. Louis Amtrak routes, however, show this bridge to be more of an equalizer in terms of total traffic expected in that when train speeds increase and more frequencies are eventually added, this project will benefit more and more from the Amtrak traffic that is on this corridor.

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

The work includes construction of a new bridge consisting of the 1,604-foot Missouri approach to the west, three thru-truss main river spans totalling 1,554 feet, and the 1,190-foot Illinois approach to the east. Approximately 4,500 feet of new double track, one #15 crossover and one #15 single turnout will be installed on the bridge. Signal improvements include new dual-control switch machines, two color light signal assemblies and new signal control cabling, connected to the control point of West Approach (CP TA008).

The installation of the new #15 turnouts will allow the speed for Amtrak trains on the Merchants Bridge route to increase from 15 mph to 30 mph. The new bridge will be designed and built to meet today's design loads (E80) and typical current railroad traffic (approximately E72). This will eliminate current weight restrictions on passing trains with six-axle locomotives and short, wheel-base ore cars. The existing bridge and approaches are built on 12 foot track centers. The track centers of the proposed new bridge and approaches will be designed for the maximum allowable track centers up to 14 feet. The horizontal clearance of the main spans will be improved for the maximum allowable width depending on design restrictions imposed by the existing pier caps. Dependent on final design of the bridge, the horizontal clearance is estimated to increase by at least two feet, allowing loads up to 16-foot wide. The vertical clearance for loads will also be improved to no less than 23-foot tall.

The new Merchants Bridge will benefit all Amtrak trains coming from Chicago into St. Louis. This includes the Amtrak *Lincoln Service* trains (four in, four out, daily), as well as the Amtrak *Texas Eagle* train (one in, one out, daily). The *Texas Eagle* goes through St. Louis into Southeast Missouri, stopping at Poplar Bluff, before continuing on to San Antonio, Texas. The proposed project will improve through-train velocity in St. Louis by allowing the NS, BNSF, UP and TRRA to pass two trains simultaneously on the bridge, thereby reducing delays to Amtrak trains due to cross traffic and train ahead.

These benefits will be even more important in the future with the expectation of additional Amtrak trains on both Illinois and Missouri routes, the return of freight traffic to pre-recession levels and the capability to better accommodate future growth, as well as, seasonal surges in traffic volumes. The improved fluidity of train movements will improve public safety by reducing potential train blockage of highway grade crossings west of the bridge on the TRRA and NS approaches and east of the bridge on the TRRA approaches.

MoDOT will perform all tasks required for the project through a coordinated process with Illinois Department of Transportation (IDOT), the railroad owner (Terminal Railroad Association of St. Louis), the operator (Amtrak) and

the FRA. The Terminal Railroad, in coordination with subordinates and MODOT/IDOT, will perform or contract final design (100 percent design) of the bridge, track and signal improvements. The new bridge and approaches will be located in the same location, so no new right of way acquisition is necessary. Final Engineering Drawings will be furnished to the FRA after the final design check is complete. In addition, route and aspect charts depicting the proposed signal configuration for the project and adjacent blocks will also be provided.

Terminal Railroad and qualified contractors will perform all necessary bridge, track and signal construction work. Items of work include the following.

- Property, Utilities and Permitting
- Site Preparation, Construction and Roadbed
- Engineering/Design/Analysis Bridge and Structure
- Modification of existing bridge piers
- Track Engineering/Geotechnical/Supervision
- Track Work
- Signal Work – West Approach (CP TA008)

The project will take approximately 72 months, beginning in 2011 or as soon as the grant agreement is executed. Upon award of the project, MoDOT will monitor and evaluate the project’s progress through the administration of regular progress meetings scheduled throughout the project duration. Topics of discussion may include: review of construction activities, field observations, identification of problems incurred and decisions/fixes for those problems, identification of potential future problems that could impede progress and proposed corrective measures to regain projected schedule, review of project schedule and progress, and review of billing invoices. There will be continued communication by all parties involved.

(2c) Deliverables. Describe the work products of the project to be completed to FD, or constructed in accordance with the FD 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 project tasks.

	Deliverable	Task
1	Final Design	Engineering
2	ROW Acquisitions and Closures	Agreements for obligation of funds
3	Permitting	Engineering
4	UPRR Bridge Material Fabrication & Delivery	Engineering
5	On-Site Bridge Construction	Engineering
6	On-Site Track Construction	Engineering
7	Construction Engineering and Flagging	Engineering

(3) **Project Schedule.** In the table below, estimate the approximate duration for completing each task in months. For total project duration, reference Section C.4 in the Narrative Application Form Part I.

	Task	Duration		
		Start Month	to	End Month
1	FD/Engineering	June 2011	to	May 2012
2	Construction	June 2012	to	December 2016
	Total project duration	72 months		

(4) **Project Cost Estimate/Budget.** Provide a high-level cost summary of FD/Construction work in this section, using the FD/Construction Application Package Instructions, the HSIPR Individual Project Budget and Schedule form, and the Narrative Application Form Part I 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 Individual Project Budget and Schedule form, and Section C of the Narrative Application Form Part I. If there is any discrepancy between the Federal funding amounts requested in this section, the SF-424 form, the HSIPR Individual Project Budget and Schedule form, or Section C 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 of the proposed FD/Construction project 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 proposed FD/Construction project shall be borne by the Grantee.

FD/Construction Project Overall Cost Summary			
#	Task	Cost in FY11 Dollars	
1	FD/Engineering	\$ 5,250,000	
2	Construction	\$ 144,750,000	
	Total FD/Construction project cost	\$ 150,000,000	
Federal/Non-Federal Funding			
		Cost in FY11 Dollars	Percentage of Total Activities Cost
	Federal funding request	\$ 90,000,000	60 %
	Non-Federal match amount	\$ 60,000,000	40 %
	Total FD/Construction project cost	\$ 150,00	100 %