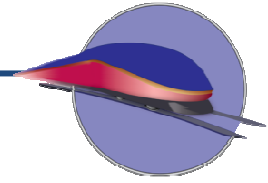


Corridor Program Name: PA - Keystone Corridor - Keystone East Date of Submission: 10/02/09 Version Number: 3

High-Speed Intercity Passenger Rail (HSIPR) Program

Track 2–Corridor Programs:

Application Form



Welcome to the Application Form for Track 2–Corridor Programs of the Federal Railroad Administration’s High-Speed Intercity Passenger Rail (HSIPR) Program.

This form will provide information on a cohesive set of projects—representing a phase, geographic segment, or other logical grouping—that furthers a particular corridor service.

Definition: For purposes of this application, a “Corridor Program” is “a group of projects that collectively advance the entirety, or a ‘phase’ or ‘geographic section,’ of a corridor service development plan.” (*Guidance, 74 Fed. Reg. 29904, footnote 4*). A Corridor Program must have independent utility and measurable public benefits.

In addition to this application form and required supporting materials, applicants are required to submit a Corridor Service Overview.

An applicant may choose to represent its vision for the entire, fully-developed corridor service in one application or in multiple applications, provided that the set of improvements contained in each application submitted has independent utility and measurable public benefits. The same Service Development Plan may be submitted for multiple Track 2 Applications. Each Track 2 application will be evaluated independently with respect to related applications. Furthermore, FRA will make its evaluations and selections for Track 2 funding based on an entire application rather than on its component projects considered individually.

We appreciate your interest in the HSIPR Program and look forward to reviewing your entire application. If you have questions about the HSIPR program or the Application Form and Supporting Materials for Track 2, please contact us at HSIPR@dot.gov.

Instructions for the Track 2 Application Form:

- Please complete the HSIPR Application electronically. See Section G of this document for a complete list of the required application materials.
- In the space provided at the top of each section, please indicate the Corridor Program name, date of submission (mm/dd/yyyy), and an application version number assigned by the applicant. The Corridor Program name must be identical to the name listed in the Corridor Service Overview Master List of Related Applications. Consisting of less than 40 characters, the Corridor Program name must consist of the following elements, each separated by a hyphen: (1) the State abbreviation of the State submitting this application; (2) the route or corridor name that is the subject of the related Corridor Service Overview; and (3) a descriptor that will concisely identify the Corridor Program’s focus (e.g., HI-Fast Corridor-Main Stem).
- Section B, Question 10 requires a distinct name for each project under this Corridor Program. Please the following the naming convention: (1) the State abbreviation; (2) the route or

corridor name that forms part of the Corridor Program name; and (3) a project descriptor that will concisely identify the project's focus (e.g., HI-Fast Corridor-Wide River Bridge). For projects previously submitted under another application, please use the **same name** previously used on the project application.

- For each question, enter the appropriate information in the designated gray box. If a question is not applicable to your Track 2 Corridor Program, please indicate "N/A."
- Narrative questions should be answered within the limitations indicated.
- Applicants must up load this completed and all other application materials to www.GrantSolutions.gov by October 2, 2009 at 11:59 pm EDT.
- Fiscal Year (FY) refers to the Federal Government's fiscal year (Oct. 1- Sept. 30).

Corridor Program Name: PA - Keystone Corridor - Keystone East Date of Submission: 10/2/09 Version Number: 1

A. Point of Contact and Application Information

(1) Application Point of Contact (POC) Name: Toby Fauver		POC Title: Deputy Secretary, Local and Area Transportation		
Applicant State Agency or Organization Name: Pennsylvania Department of Transportation				
Street Address: 400 North Front Street - 8 th Floor	City: Harrisburg	State: PA	Zip Code: 17120	Telephone Number: 717-787-8197
Email: tfauver@state.pa.us		Fax: 717-787-5491		

Corridor Program Name: PA - Keystone Corridor - Keystone East Date of Submission: 10/2/09 Version Number: 1

B. Corridor Program Summary

(1) **Corridor Program Name:** PA- Keystone Corridor - High Speed

(2) **What are the anticipated start and end dates for the Corridor Program?** (mm/yyyy)

Start Date: 02/2010

End Date: 12/2017

(3) **Total Cost of the Corridor Program:** (Year of Expenditure (YOE) Dollars*) \$ 489,785,000

Of the total cost above,, how much would come from the FRA HSIPR Program: (YOE Dollars**) \$ 489,785,000

Indicate percentage of total cost to be covered by matching funds: 0 %

Please indicate the source(s) for matching funds: N/A

* Year-of-Expenditure (YOE) dollars are inflated from the base year. Applicants should include their proposed inflation assumptions (and methodology, if applicable) in the supporting documentation.

** This is the amount for which the Applicant is applying.

(4) **Corridor Program Narrative.** Please limit response to 12,000 characters.

Describe the main features and characteristics of the Corridor Program, including a description of:

- The location(s) of the Corridor Program's component projects including name of rail line(s), State(s), and relevant jurisdiction(s) (include a map in supporting documentation).
- How this Corridor Program fits into the service development plan including long-range system expansions and full realization of service benefits.
- Substantive activities of the Corridor Program (e.g., specific improvements intended).
- Service(s) that would benefit from the Corridor 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 Corridor Program would bring to the fleet plan, schedules, classes of service, fare policies, service quality standards, train and station amenities, etc.
- How the Corridor Program was identified through a planning process and how the Corridor Program is consistent with an overall plan for developing High-Speed Rail/Intercity Passenger Rail service, such as State rail plans or plans of local/regional MPOs.
- How the Corridor Program will fulfill a specific purpose and need in a cost-effective manner.
- The Corridor Program's independent utility.
- Any use of new or innovative technologies.
- Any use of railroad assets or rights-of-way, and potential use of public lands and property.
- Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the Corridor Program.
- Any PE/NEPA activities to be undertaken as part of the Corridor Program, including but not limited to: design studies and resulting program documents, the approach to agency and public involvement, permitting actions, and other key activities and objectives of this PE/NEPA work.

The Keystone Corridor East Improvement Program intends to significantly improve operations on the existing Keystone Service operated by Amtrak between Harrisburg, PA and New York, NY by way of Philadelphia, PA and Lancaster, PA. Stations served in Pennsylvania are: Philadelphia 30th Street Station, Ardmore, Paoli, Exton, Downingtown, Coatesville, Parkesburg, Lancaster, Mount Joy, Elizabethtown, Middletown, and Harrisburg Transportation Center.

The Keystone Corridor was originally built by the Pennsylvania Railroad as a freight operation. Its use has changed over the past 100 years to primarily a passenger rail service. This change in primary function requires the railroad line to be re-built using modern technologies, allowing for flexibility and speed improvements necessary for improving passenger rail service. The Keystone Corridor Improvement Plan serves to upgrade outdated and life-expired infrastructure that will greatly increase the efficiency of the corridor and significantly decrease trip time.

This corridor program consists of Phase I of the Keystone Corridor East Service Development Plan produced in 2009 by the Pennsylvania Department of Transportation (PennDOT). Phase I consists of projects that can occur in the short term (<8 years) and significantly enhance the service quality of the Keystone Corridor. Phase II consists of long range projects intended to increase the overall corridor Maximum operating speed to 125mph, thereby further reducing trip times. Keystone East has been identified as a priority passenger rail corridor in PennDOT's Intercity Freight and Passenger Rail Plan, due out in October 2009, and as such, the improvements made to this corridor are part of a statewide initiative to create reliable, convenient, and safe rail transportation for all.

A major component to the corridor program consists of overhauling major interlockings, and the reactivation of an express/third track (Amtrak Track #2) from Paoli to Atglen, PA (New Park interlocking). Outdated interlockings that do not coincide with current train movements act as the primary limiting factor on travel time in the Keystone Corridor, and train congestion from Paoli to Atglen where there is currently only a two track configuration also delays trains. Reactivating the express/third track will add 19 track miles to Keystone East.

Interlockings will be improved at Zoo to Paxon, Frazer, Glen, Thorn, Caln and State. New interlockings will be installed at Wynnefield, Nova, Villa, and New Paoli and new interlockings at New Park and Leaman will be completed and brought into service. Interlockings at Overbrook, Paoli, Downs, Bryn Mawr, and Park will be retired. Implementation of these improvements will increase track capacity and significantly reduce trip time. The overall number of turnouts will be reduced by 15 as a result of this program.

Zoo to Paxon consists of several individual interlockings that work together to coordinate train movements in and out of Philadelphia 30th St. Station. Zoo-D1 interlockings currently consists of 1950's era double slip switches, which are complicated to operate and maintain. Zoo-D1 will be rationalized with 4 #10 turn outs to ease operations. Some catenary reprofiling and minor track realignment will be necessary. Zoo-JO and Zoo-38th St Interlockings are equally complicated and need to be updated with centrally controlled electric switches and slight track realignment to provide for faster time between Philadelphia and Overbrook.

Wynnefield Interlocking will be constructed to replace outdated and cumbersome Overbrook. Interlockings at Villa and Nova will be constructed to improve train movements near Villanova Station. Due to their proximity to curves, neither can be constructed as universal interlockings, and the two will act together to accomplish this action. Once Villa and Nova are installed, Bryn Mawr will be retired.

Paoli Interlocking, (MP 19.2 to MP 20.2), is the west end of the four track territory which extends west from Overbrook. Paoli is controlled by an adjacent tower with electro-pneumatic technology, and will change to electric central control. A universal interlocking with #20 turnouts will be constructed east of Paoli, called New Paoli, and the old Paoli interlocking west of the station will be retired. Track #1 will be lined directly into #2 east of the station allowing for a faster move for express trains. In addition, the current Paoli Substation is outdated and costly to repair. As a result, the Paoli substation will be relocated to a nearby site, improving the efficiency of the Keystone Corridor electrical system and providing for future growth.

Between Paoli and Glen the express/third track (track #2) has been removed but the right of way is intact, catenary work will be required. Fraser and Glen, (MP 23.9 and 25.4), are two adjacent interlockings bracketing SEPTA's Fraser shop complex. Fraser Interlocking will be reconfigured to #15 crossovers permitting the reconstruction of track #2. Glen Interlocking permits access to the west end of the Fraser shop. Glen Interlocking will be reconfigured to allow the continuation of track #2. The existing crossovers will be upgraded to three #32.7 This will allow express trains to divert to and from the center tracks.

Thorn Interlocking will be rationalized with #20 turnouts to allow for the continuation of track #2 to beyond Parkesburg. New Caln interlocking will be built to accommodate Track #2 and existing Caln will be retired. Park Interlocking (MP 43.9) will be replaced by New Park Interlocking (MP 46.3). New Park will be configured to allow for access to the express track, consisting of three #32.7 turnouts. After the construction on New Park, Park Interlocking will be retired. Finally, State interlocking will be modified to reflect modern train movements.

The ABS and Centralized Control project includes the implementation of signal upgrades for the Keystone Corridor between Cork (MP68.1) and Zoo (MP1.9) near Philadelphia, PA. The current signal system is an Automatic Block Signal (ABS) system for single direction traffic. This change, in conjunction with cab signals, allows trains to operate in either direction on all tracks and eliminate potential delays caused by reverse train moves under the current signal system. Amtrak is using cab signals inside the locomotives and eliminating wayside signals except interlocking signals which will remain in service. Amtrak is upgrading the signal equipment control houses to include PLC controls and electronic track circuits.

Amtrak has completed signal work from Harrisburg east toward Lancaster and is planning to extend this system east toward Philadelphia. Amtrak signal maintainers are replacing the existing signal houses that have old electro-mechanical relays with new PLC controls. This approach eliminates the "vintage" relays that are difficult to replace and availability of spare parts is diminishing with new equipment.

Centralized Control is the remote control of train movements from a centralized control center. Amtrak has a centralized control

center in 30th Street Station called Centralized Electric and Traffic Control (CETC) which controls train movements and power for the Mid-Atlantic region of the Northeast Corridor. Currently the Keystone Corridor is not integrated into the computer system at CETC. The Keystone Corridor is controlled at local towers with orders relayed by phone from CETC. The towers also have radio contact with train crews and CETC. Amtrak’s goal is to integrate the Keystone Corridor into CETC’s computer control system and eliminate the local tower operations. This would consolidate control for the Keystone Corridor and achieve a level of control consistent with operations on the Northeast Corridor.

In addition to track improvements, the Keystone Corridor East Improvement Program includes two station projects. Most stations on the Keystone Corridor are badly in need of renovation, and most do not meet ADA requirements, but at this time only two have surfaced as sufficiently advanced to be included in the corridor program. High level platforms will be installed at Exton Station, decreasing excessive dwell times that occur during peak hours where platforms are currently low-level and short (less than 150 ft).

Ardmore Station is also in need of renovation. A separate venture has been undergoing for some time to create a fully integrated Transit Oriented Development (TOD) at Ardmore, and final designs are currently being completed. This corridor program is requesting funding for 500 ft high-level platforms to upgrade the current deficient platforms. Work will continue using outside funds for the station refurbishment, parking structure, and other TOD amenities.

In Track 1a, Pennsylvania applied for funding to close the last three public highway-rail at-grade crossings to create a sealed corridor, a goal of PennDOT, Amtrak, and the Federal Railroad Administration. The project consists of constructing a bridge and closing the grade crossing at Newcomer Road, constructing an overpass over the railroad at Eby Chiques Road, and eliminating the grade crossing at Irishtown Road by creating parallel roads to alternate crossings. Should this project receive funding in Track 1a, it will be removed from the corridor program.

The Keystone Service will largely remain unchanged as a result of the corridor program. As trip times will be reduced, schedules will be adjusted to reflect the changes, however train times will remain nearly every hour to provide for convenient and memorable service. An additional service frequency is planned upon project completion that can be accomplished with existing rolling stock, however no funding is requested for the additional frequency in this corridor program application and the implementation of such will remain in the hands of PennDOT and Amtrak and a new operating agreement. Fares will remain unchanged as a result of the corridor program, and will only increase as a result of typical inflation and operating cost increases.

The investments planned are of moderate cost when compared to the nearly 15 minutes in trip time reduction that will be realized upon project completion. The increased service quality will assist in drawing patrons to rail travel and removing them from overburdened highway networks, and the benefits of the investment will far outweigh the initial investment. In addition, no further improvements outside of this corridor program are required to see substantial service quality improvement. This meets the fundamental definition of independent utility.

Amtrak has agreed to work cooperatively with PennDOT to ensure successful project implementation. As many of the projects are in Amtrak’s long-term capital program, funds will be diverted from that fund to assist in force-account support for the planned improvements. Amtrak will be the owner of the infrastructure improvements, and Amtrak forces will complete most of the work, subject to agreement negotiations upon receipt of grant award.

The Southeastern Pennsylvania Transportation Authority (SEPTA) operates commuter service within the Keystone Corridor, and as such, has a long history of working cooperatively with PennDOT and Amtrak to complete improvements to shared infrastructure. A more detailed list of capital contributions both expended and planned is listed later in the application.

PE/NEPA activities will need to be completed for nearly all of the planned improvements. Track 1b applications were submitted for the Interlocking Improvements, reactivation of express/third track, and ABS and Centralized Control from Lancaster to Philadelphia. Upon grant receipt, PE/NEPA will be completed within one year. A corridor Environmental Assessment was prepared in 2009 that includes all proposed projects. Appropriate levels of projects specific NEPA will be completed before FD/CST begins.

(5) Describe the service objective(s) for this Corridor Program (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Additional Service Frequencies | <input checked="" type="checkbox"/> Increased Average Speeds/Shorter Trip Times |
| <input checked="" type="checkbox"/> Improved Service Quality | <input type="checkbox"/> New Service on Existing IPR Route |
| <input checked="" type="checkbox"/> Improved On-Time performance on Existing Route | <input type="checkbox"/> New Service on New Route |
| <input type="checkbox"/> Reroute Existing Service | <input type="checkbox"/> Other (Please Describe): |

(6) Right-of-Way-Ownership. Provide information for all railroad right-of-way owners in the Corridor Program area. Where railroads currently share ownership, identify the primary owner. *If more than three owners, please detail in Section F of this application.*

Type of Railroad	Railroad Right-of-Way Owner	Route Miles	Track Miles	Status of agreements to implement projects
Amtrak	Amtrak	105	250	Master Agreement in Place
Class 1 Freight	N/A	N/A	N/A	Master Agreement in Place
Class 1 Freight	N/A	N/A	N/A	Master Agreement in Place

(7) Services. Provide information for all existing rail services within Corridor Program boundaries (freight, commuter, and intercity passenger). *If more than three services, please detail in Section F of this application.*

Type of Service	Name of Operator	Top Speed Within Boundaries		Number of Route Miles Within Boundaries	Average Number of Daily One-Way Train Operations within Boundaries ¹	Notes
		Passenger	Freight			
Commuter	Southeastern Pennsylvania Transportation Authority (SEPTA)	70		35	86	Trains originate at different points along the Keystone Corridor, from Thorndale to 30th Street Station
Freight						
Freight						

(8) Rolling Stock Type. Describe the fleet of locomotives, cars, self-powered cars, and/or trainsets that would be intended to provide the service upon completion of the Corridor Program. *Please limit response to 2,000 characters.*

Amtrak Keystone service will remain unchanged as a result of this project. Current rolling stock consists of AEM 7 locomotives, Amfleet 2 coaches, and Metroliner cab cars. The typical configuration for the Keystone Corridor consists of 1 locomotive, 4 coaches, and 1 cab car.

(9) Intercity Passenger Rail Operator. If applicable, provide the status of agreements with partners that will operate the benefiting high-speed rail/intercity passenger rail service(s) (e.g., Amtrak). If more than one operating partner is envisioned, please describe in Section F.

Name of Operating Partner: Amtrak

Status of Agreement: Final executed agreement on project scope/outcomes

¹ One round trip equals two one-way train operations.

(10) Master Project List. Please list all projects included in this Track 2 Corridor Program application in the table below. If available, include more detailed project costs for each project as a supporting form (see Section G below).

Project Name	Project Type	Project Description	Project Start Date (mm/yyyy)	Estimated Project Cost (Millions of YOE Dollars, One Decimal)		Was this Project included in a prior HSIPR application? Indicate track number(s).	Are more detailed project costs included in the Supporting Forms?
				Total Cost	Amount Applied For		
PA-Keystone Corridor- Grade Crossings	Final Design/C	Close three remaining public grade crossings on the Keystone Corridor from Harrisburg, PA to Philadelphia, PA.	02/2010	20.0	20.0	1A	Yes
PA-Keystone Corridor-Zoo - Caln ILs	PE/ NEPA	Upgrade existing Interlockings, install new Interlockings, and retire Interlockings to replace outdated components and facilitate higher speeds.	02/2010	7.0	7.0	1B	No
PA-Keystone Corridor-Interlocking Design	Final Design	Final Design for all Interlocking projects: Zoo to Paxon, Wynnefield, Overbrook, Nova, Villa, Bryn Mawr, New Paoli, Paoli, Frazer, Glen, Downs, Thorn, New Caln, Caln, Park, and State.	02/2010	18.5	18.5		No
PA-Keystone Corridor-Zoo to Paxon IL	Construction	Upgrade existing Interlockings to replace outdated components and facilitate higher speeds. PE/NEPA will soon be underway.	09/2010	27.0	27.0		No
PA-Keystone Corridor-Wynnefield IL	Construction	Install new universal interlocking at Wynnefield to replace retiring Overbrook Interlocking. PE/NEPA will soon be underway.	09/2012	22.5	22.5		No
PA-Keystone Corridor- Overbrook IL	Construction	Retire outdated Overbrook Interlocking when new Wynnefield Interlocking has been installed and activated. PE/NEPA will soon be underway.	09/2012	1.8	1.8		No
PA-Keystone Corridor-Nova IL	Construction	Install new interlocking at Villanova Station to replace retiring Bryn Mawr interlocking. PE/NEPA will soon be underway.	09/2012	13.5	13.5		No
PA-Keystone Corridor-Villa IL	Construction	Install new interlocking at Villanova Station to replace retiring Bryn Mawr interlocking. PE/NEPA will soon be underway.	09/2012	13.5	13.5		No
PA-Keystone Corridor- Bryn Mawr IL	Construction	Retire outdated Bryn Mawr interlocking when new	09/2012	1.8	1.8		No

		Villa and Nova Interlockings are installed and activated. PE/NEPA will soon be underway.					
PA-Keystone Corridor- New Paoli IL	Construction	Install new interlocking at New Paoli to replace retiring Paoli Interlocking. PE/NEPA will soon be underway.	09/2013	22.5	22.5		No
PA-Keystone Corridor-Paoli IL	Construction	Retire outdated Paoli Interlocking when New Paoli Interlocking is installed and activated. PE/NEPA will soon be underway.	09/2013	1.8	1.8		No
PA-Keystone Corridor- Frazer IL	Construction	Upgrade existing Frazer Interlocking to replace outdated components and facilitate higher speeds. PE/NEPA will soon be underway.	09/2013	13.5	13.5		No
PA-Keystone Corridor- Glen IL	Construction	Upgrade existing Glen Interlocking to replace outdated components and facilitate higher speeds. PE/NEPA will soon be underway.	09/2013	9.0	9.0		No
PA-Keystone Corridor- Downs IL	Construction	Retire outdated Downs Interlocking, no replacement interlocking is required. PE/NEPA will soon be underway.	09/2013	1.8	1.8		No
PA-Keystone Corridor- Thorn IL	Construction	Reconfigure existing Thorn Interlocking to replace outdated components and facilitate higher speeds. PE/NEPA will soon be underway.	09/2014	13.5	13.5		No
PA-Keystone Corridor- New Caln IL	Construction	Install New Caln Interlocking to replace outdated existing Caln and facilitate higher speeds.	09/2014	9.0	9.0		No
PA-Keystone Corridor- Caln IL	Construction	Retire outdated Caln Interlocking once New Caln Interlocking has been installed and activated.	09/2014	1.8	1.8		No
PA-Keystone Corridor-New Park IL	Construction	Finish installing remaining components of New Park Interlocking to bring into service. PE/NEPA is complete and track structure has been installed.	02/2014	5.0	5.0		No
PA-Keystone Corridor- Park IL	Construction	Retire outdated Park Interlocking once New Park Interlocking has been installed and activated.	02/2014	1.8	1.8		No
PA-Keystone Corridor- Leaman IL	Construction	Finish installing remaining components of Leaman Interlocking to bring into service. PE/NEPA is complete and track structure has been installed.	02/2010	1.0	1.0		No

PA-Keystone Corridor-State IL	Construction	Upgrade existing State Interlocking to replace outdated components and facilitate higher speeds. PE/NEPA will soon be underway.	09/2014	7.2	7.2		No
PA-Keystone Corridor- Paoli Substation	PE/ NEPA	Install new substation at Paoli to replace outdated current substation.	02/2010	0.7	0.7		No
PA-Keystone Corridor-Paoli Substation CST	Final Design/C	Install new substation at Paoli to replace outdated current substation.	02/2011	7.0	7.0		No
PA-Keystone Corridor-ABS/Central Control	PE/ NEPA	Install new universal signaling system from Lancaster to Philadelphia.	02/2010	1.5	1.5	1B	No
PA-Keystone Corridor-ABS/CC Install	Final Design/C	Install new universal signaling system from Lancaster to Philadelphia.	09/2010	70.0	70.0		No
PA-Keystone Corridor-Express/Third Track	PE/ NEPA	Return express/3 rd Track to service from Paoli to Atlgen. Requires upgrading some existing track and laying additoanl track in existing right-of-way.	02/2010	2.0	2.0	1B	No
PA-Keystone Corridor-Express/3 rd Track CST	Final Design/C	Return express/3 rd Track to service from Paoli to Atlgen. Requires upgrading some existing track and laying additoanl track in existing right-of-way. PE/NEPA will soon be underway.	09/2011	75.0	75.0		No
PA-Keystone Corridor-Ardmore Station	Final Design/C	Install 500ft high-level platforms, station building, and pay for a portion of the planned parking structure at Ardmore Transit Center. PE/NEPA is complete.	09/2010	32.0	32.0		No
PA-Keystone Corridor- Exton Station PE	PE/ NEPA	PE to install 500ft high-level platforms and station building at Exton to comply with ADA requirements.	02/2010	1.5	1.5		No
PA-Keystone Corridor-Exton Station	Final Design/C	Install 500ft high-level platforms and station buildings at Exton to comply with ADA requirements.	02/2011	15.0	15.0		No

Note: In addition to **program** level supporting documentation, all applicable **project** level supporting documentation is required prior to award. If project level documentation is available now, you may submit it; however, if it is not provided in this application, this project may be considered as a part of a possible Letter of Intent but will not be considered for FD/Construction grant award until this documentation has been submitted.

In narrative form, please describe the sequencing of the projects listed in Question 10. Which activities must be pursued sequentially, which can be done at any time, and which can be done simultaneously? Please limit response to 4,000 characters.

Traditionally, Amtrak prefers to start projects at Philadelphia and move west along the Keystone Corridor, however this method is in no way required by Amtrak and improvements may be made in any order deemed to be most beneficial to the corridor. Interlockings are listed above in order from west to east, but each can occur independent of each except where a retiring interlocking requires a replacement to be constructed, these circumstances are noted above. The installation of Automatic Block Signaling (ABS) and Centralized Control can be installed during work on the express/third track and interlocking improvements, but cannot be activated until those projects are completed. PE/NEPA activities must occur before Final Design and Construction projects are initiated, as the proposed project start dates imply. The Paoli substation

relocation can occur at any time, as can the Exton and Ardmore Station projects.

C. Eligibility Information

(1) Select applicant type, as defined in Appendix 1.1 of the HSIPR Guidance:
 State
 Amtrak

If one of the following, please append appropriate documentation as described in Section 4.3.1 of the HSIPR Guidance:
 Group of States
 Interstate Compact
 Public Agency established by one or more States
 Amtrak in cooperation with a State or States

(2) Establish completion of all elements of a Service Development Plan. Note: One Service Development Plan may be referenced in multiple Track 2 Applications for the same corridor service.
Please provide information on the status of the below Service and Implementation Planning Activities:

	Select <u>One</u> of the Following:			Provide Dates for all activities:	
	No study exists	Study Initiated	Study Completed	Start Date (mm/yyyy)	Actual or Anticipated Completion Date (mm/yyyy)
Service Planning Activities/Documents					
Purpose & Need/Rationale	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009
Service/Operating Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009
Prioritized Capital Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009
Ridership/Revenue Forecast	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009
Operating Cost Forecast	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009
Assessment of Benefits	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009
Implementation Planning Activities/Documents					
Program Management Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009
Financial Plan (capital & operating – sources/uses)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009
Assessment of Risks	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/2009	10/2009

(3) Establish Completion of Service NEPA Documentation (the date document was issued and how documentation can be verified by FRA). The following are approved methods of NEPA verification (in order of FRA preference): 1) References to large EISs and EAs that FRA has previously issued, 2) Web link if NEPA document is posted to a website (including www.fra.gov), 3) Electronic copy of non-FRA documents attached with supporting documentation, or 4) a hard copy of non-FRA documents (large documents should not be scanned but should be submitted to FRA via an express delivery service). See HSIPR Guidance Section 1.6 and Appendix 3.2.9.

Note to applicants: Prior to obligation of funds for FD/Construction activities under Track 2, all project specific documents will be required (e.g. Project NEPA, Financial Plan, and Project Management Plan).

Documentation	Date (mm/yyyy)	Describe How Documentation Can be Verified
Non-tiered NEPA EA	09/2009	EA Attached
Tier 1 NEPA EA		
Tier 1 NEPA EA		

(4) Indicate if there is an environmental decision from FRA (date document was issued and web hyperlink if available)

Documentation	Date (mm/yyyy)	Hyperlink (if available)
Finding of No Significant Impact	Anticipated 02/2010	
Finding of No Significant Impact		
Finding of No Significant Impact		

Corridor Program Name: PA - Keystone Corridor - Keystone East Date of Submission: 10/02/09 Version Number: 1

D. Public Return on Investment

(1) 1A. Transportation Benefits. See HSIPR Guidance Section 5.1.1.1. Please limit response to 8,000 characters.

How is the Corridor Program anticipated to improve Intercity Passenger Rail (IPR) service? Describe the overall transportation benefits, including information on the following (*please provide a level of detail appropriate to the type of investment*):

- Introduction of new IPR service: Will the Corridor Program lead directly to the introduction of a new IPR service that is not comparable to the existing service (if any) on the corridor in question? Describe the new service and what would make it a significant step forward in intercity transportation.
- IPR network development: Describe projected, planned, and potential improvements and/or expansions of the IPR network that may result from the Corridor Program, including but not limited to: better intermodal connections and access to stations; opportunities for interoperability with other services; standardization of operations, equipment, and signaling; and the use of innovative technologies.
- IPR service performance improvements (*also provide specific metrics in table 1B below*): Please describe service performance improvements directly related to the Corridor Program, as well as a comparison with any existing comparable service. Describe relevant reliability improvements (e.g., increases in on-time performance, reduction in operating delays), reduced schedule trip times, increases in frequencies, aggregate travel time savings (resulting from reductions to both schedule time and delays, e.g., expressed in passenger-minutes), and other relevant performance improvements.
- Suggested supplementary information (*only when applicable*):
 - Transportation Safety: Describe overall safety improvements that are anticipated to result from the Corridor Program, including railroad and highway-rail grade crossing safety benefits, and benefits resulting from the shifting of travel from other modes to IPR service.
 - Cross-modal benefits from the Corridor Program, including benefits to:
 - ✓ Commuter Rail Services – Service improvements and results (applying the same approach as for IPR above).
 - ✓ Freight Rail Services – Service performance improvements (e.g., increases in reliability and capacity), results (e.g. increases in ton-miles or car-miles of the benefiting freight services), and/or other congestion, capacity or safety benefits.
 - ✓ Congestion Reduction/Alleviation in Other Modes; Delay or Avoidance of Planned Investments – Describe any expected aviation and highway congestion reduction/alleviation, and/or other capacity or safety benefits. Also, describe any planned investments in other modes of transportation (and their estimated costs if available) that may be avoided or delayed due to the improvement to IPR service that will result from the Corridor Program.

While this corridor program does not lead to the introduction of new Intercity Passenger Rail service, it does lead to significant improvements in service quality on an established and historically successful corridor. The Keystone Corridor is considered an extension to the successful North East Corridor (NEC) and as such all trains are electrically driven and are interoperable with services on the NEC. The significant improvements in service quality realized by the Keystone Corridor East improvement program, mainly seen in the reduction of travel time and increase in on-time performance, will enhance the competitiveness of the corridor by outperforming automobile travel, making rail a feasible and logical transportation mode within the region.

The planned installation of Automatic Block Signaling and Centralized Control from Lancaster (Cork) to Philadelphia (Zoo) will establish the use of Rule #561 (cab no wayside) along the entire Keystone Corridor. Control will be transferred from local towers to Centralized Electric and Traffic Control (CETC) in Philadelphia which provides the dispatching for the North East Corridor. Integrating the Keystone Corridor into CETC will create a fully integrated rail network covering most

of the Northeast United States, allowing for the coordination of train movements and possibly decreasing delays system-wide.

Trip time savings resulting from the corridor program are estimated to be nearly 15 minutes, reducing express trains from 95 to 80 minutes from Harrisburg to Philadelphia, while comparable automobile trip times remain at approximately 110 minutes. The 40 minute time savings by train from automobile travel will increase the viability and competitiveness of the Keystone Corridor, creating a service that few other corridors can match. Detailed information about trip time reduction, assumptions, and methodology is available in the Service Development Plan (SDP).

Interlocking improvements from Zoo to Caln are comprised of new interlocking installations and reconfigurations. The project will improve rail operations by reducing passenger and freight delays due to the current inefficient interlocking configuration. By reconfiguring old and installing new interlockings, travel times and reliability (measured through on-time performance) will improve throughout the Keystone Corridor, as well as increase passenger operational capacities and provide greater dispatching flexibility. Increased capacities could lead to further service expansion.

The Express/Third Track project area from Paoli to New Park Interlocking (formerly Atglen) is comprised of a mix of double/triple track configurations. However, all tracks are not in service and this project will build or reinstall a continuous express/third track between Paoli and New Park Interlocking. The project would improve rail operations by reducing passenger delays due to the current inefficient track configuration and old equipment. By providing a third track at this section of the railroad, travel times and reliability (measured through on-time performance) would improve throughout the Keystone Corridor, as well as increase passenger operational capacities and providing greater dispatching flexibility. Increased capacities could lead to further service expansion.

Ridership increases are anticipated due to the improved trip time and increased scheduled operating speeds from 60mph to 70mph associated with this corridor program. Ridership increases may also occur as a result of increasing the corridor on-time performance, from 88% in 2008 to 90% in 2018. In the first year after project implementation (2018), ridership is projected to increase from 1,183,821 in 2008 to 1,480,700, an increase of 25%. This ridership forecast includes both project related ridership increases and baseline increases. By 2023, the fifth year of project implementation, ridership will be at 1,637,900, an increase of 10.6% from 2018. Finally, in 2030 ridership is projected to be at 1,768,600, an 8.0% increase from 2023. Additional service metrics are available below, and methodologies and assumptions used in creating service metrics can be found in the Keystone Corridor East Service Development Plan.

This project also improves safety conditions. The implementation of reverse signaling capabilities by installing automatic block signaling and providing centralized control decreases the likelihood of conflicting train movements occurring in the Keystone Corridor. The reactivation of the express/third track provides for faster Amtrak trains to avoid slower trains and decreases congestion on the corridor. The largest safety improvements are seen by the removal of all public at-grade crossings. Removing places where vehicles and trains can interact is paramount to safety on a high speed rail corridor, and a goal of PennDOT, Amtrak, and the Federal Railroad Administration. Overall transportation safety benefits by shifting travel from modes with higher rates of accidents.

1B. Operational and Ridership Benefits Metrics: In the table(s) below, provide information on the anticipated levels of transportation benefits and ridership that are projected to occur in the corridor service or route, following completion of the proposed Corridor Program.

Note: The “Actual—FY 2008 levels” only apply to rail services that currently exist. If no comparable rail service exists, leave column blank.

Corridor Program Metric	Actual – FY 2008 levels	Projected Totals by Year		
		First full year of operation	Fifth full year of operation	Tenth full year of operation
Annual passenger-trips	1,183,821	1,480,700	1,637,900	1,768,600 (2030)
Annual passenger-miles (millions)	105.5	132.3	147.1	159.7
Annual IPR seat-miles offered (millions)	375.7	404.4	404.4	404.4
Average number of daily round trip train operations (typical weekday)	13	14	14	14
On-time performance (OTP) ² — percent of trains on time at endpoint terminals	88	90	90	90
Average train operating delays: minutes of en-route delays per 10,000 train-miles ³	409.5	341.3	341.3	341.3
Top passenger train operating speed (mph)	110	110	110	110
Average scheduled operating speed (mph) (between endpoint terminals)	60	70	70	70

² 'On-time' is defined as within the distance-based thresholds originally issued by the Interstate Commerce Commission, which are: 0 to 250 miles and all Acela trains—10 minutes; 251 to 350 miles—15 minutes; 351 to 450 miles—20 minutes; 451 to 550 miles—25 minutes; and 551 or more miles—30 minutes.

³ As calculated by Amtrak according to its existing procedures and definitions. Useful background (but not the exact measure cited on a route-by-route basis) can be found at pages E-1 through E-6 of Amtrak's May 2009 Monthly Performance Report at <http://www.amtrak.com/pdf/0905monthly.pdf>

(2) A. Economic Recovery Benefits: Please limit response to 6,000 characters. For more information, see Section 5.1.1.2 of the HSIPR Guidance.

Describe the contribution the Corridor Program is intended to make towards economic recovery and reinvestment, including information on the following:

- How the Corridor Program will result in the creation and preservation of jobs, including number of onsite and other direct jobs (on a 2,080 work-hour per year, full-time equivalent basis), and timeline for achieving the anticipated job creation.
- How the different phases of the Corridor Program will affect job creation (consider the construction period and operating period).
- How the Corridor Program will create or preserve jobs or new or expanded business opportunities for populations in Economically Distressed Areas (consider the construction period and operating period).
- How the Corridor Program will result in increases in efficiency by promoting technological advances.
- How the Corridor Program represents an investment that will generate long-term economic benefits (including the timeline for achieving economic benefits and describe how the Corridor Program was identified as a solution to a wider economic challenge).
- If applicable, how the Corridor Program will help to avoid reductions in State-provided essential services.

According to the Executive Office of the President, Council of Economic Advisors, the standard for estimating job creation (based on a 2,080 hr/yr full-time basis) is \$92,000 of government spending creates 1 job. Following this rule, this corridor improvement will generate 4,464 jobs over all phases of the program, including PE/NEPA and Final Design/Construction, and 4,326 jobs for Final Design/Construction.

The corridor improvements will likely result in addition created jobs after the construction period, particularly if service is increased as Amtrak and PennDOT have planned, although no commitment has been made for this long term goal.

Intercity passenger rail investments can increase the economic output of the region by encouraging business development, attracting tourism, increasing land values and development activity near stations. It has been found that rail and transit infrastructure investments yield three to four times more economic output in the local economy.

Central to the focus of the ARRA legislation, is the rapid mobilization of the U.S. workforce and the creation of new high paying jobs. Investment in rail transportation infrastructure has been shown to create significant employment benefits. The U.S. DOT has reported that an investment in public transportation creates almost 20% more jobs than the same investment in building roads or highways would.

Technological advances will be realized through the implementation of this corridor program, the most significant of which will be changing from electro-pneumatically controlled interlockings to centrally control electric interlockings. This technological advance greatly increases the efficiency of the corridor and will serve as a model for other corridors to implement such systems.

A central tenet to the current administration’s goals for America is to reduce dependence on foreign oil. The service quality improvements resulting from the corridor program will provide a viable alternative to automobile travel within Pennsylvania. The Keystone Service is completely electrified; meaning at no time is it dependent on using fossil fuels for power locomotives. This fact, combined with taking automobiles off of the road, will contribute to the goal of reducing dependence of foreign oil.

2B. Job Creation. Provide the following information about job creation through the life of the Corridor Program. Please consider construction, maintenance and operations jobs.

Anticipated number of onsite and other direct jobs created (on a 2080 work-hour per year, full-time equivalent basis).	FD/ Construction Period	First full year of operation	Fifth full year of operation	Tenth full year of operation
	4,326	5	5	5

(3) Environmental Benefits. *Please limit response to 6,000 characters.*

How will the Corridor Program improve environmental quality, energy efficiency, and reduce in the Nation's dependence on oil? Address the following:

- Any projected reductions in key emissions (CO₂, O₃, CO, PM_x, and NO_x) and their anticipated effects. Provide any available forecasts of emission reductions from a baseline of existing travel demand distribution by mode, for the first, fifth, and tenth years of full operation (*provide supporting documentation if available*).
- Any expected energy and oil savings from traffic diversion from other modes and changes in the sources of energy for transportation. Provide any available information on changes from the baseline of the existing travel demand distribution by mode, for the first, fifth, and tenth years of full operation (*provide supporting documentation if available*).
- Use of green methods and technologies. Address green building design, "Leadership in Environmental and Energy Design" building design standards, green manufacturing methods, energy efficient rail equipment, and/or other environmentally-friendly approaches.

This project will encourage the development of high speed rail which has the ability to have profound positive effects on the environment. Improvements to passenger rail service encourage wider use of intercity passenger rail and a divert auto trips and commuter air trips to rail service. Environmental benefits can result from a reduction in the number and share of trips that are made by automobiles and airplanes that are less efficient than passenger rail in terms of per capita emissions and energy use. Diverting trips from automobiles to passenger rail may also lead to reductions in congestion and delay on heavily traveled highway corridors resulting in a reduction of emissions and wasted fuel from slow-moving or idling vehicles. The decrease in energy use caused by the growing ridership of greater energy efficient trains ultimately leads to a reduction in dependence on foreign oil, a key goal of the current state and federal administrations.

Specific environmental benefits were conducted using the project Keystone Corridor East Ridership for 2018, 2023, and 2030 using PennDOT's PAQONE environmental modeling software. In 2018, the following reductions will be seen: VMT -28,673,302; VOC -4,439.84 kg/year; NO_x -5,162.48 kg/year; CO -107,808.72 kg/year; PM_{2.5} -345.03 kg/year; SO₂ -233.04 kg/year. In 2023, the following reductions will be seen: VMT -45,533,920; VOC -5,675.16 kg/year; NO_x -5,931.49 kg/year; CO -157,728.00 kg/year; PM_{2.5} -547.25; SO₂ -370.09 kg/year. Finally, in 2030 the following reductions were forecasted: VMT -59,551,260; VOC-7,189.68 kg/year; NO_x -6,918.52; CO -202,617.19; PM_{2.5} -715.49; SO₂ -484.02 kg/year.

All efforts will be made to be environmentally conscious during the construction process. Amtrak has established methodologies for identifying hazardous materials during the construction process and disposing them in an earth-conscious way. As all development will occur in existing Amtrak ROW or on Amtrak owned property, no significant environmental impact is anticipated. More information on environmental impacts is available in PennDOT's 2009 Keystone Corridor East High Speed Rail Program Environmental Assessment.

All Keystone trains are electrically operated and produce little to no emissions. Efforts will be made during this corridor program to improve portions of the electrical system to provide greater efficiency and decrease wasted energy. Green building designs, specifically in terms of LEED certified buildings, will be considered for station projects at Ardmore and Exton. Where appropriate and feasible, green technologies will be used throughout the corridor.

(4) Livable Communities Corridor Program Benefits Narrative. *(For more information, see Section 5.1.1.3 of the HSIPR Guidance, Livable Communities).* *Please limit response to 3,000 characters.*

How will the Corridor Program foster Livable Communities? Address the following:

- Integration with existing high density, livable development: Provide specific examples, such as (a) central business districts with walking/biking and (b) public transportation distribution networks with transit-oriented development.
- Development of intermodal stations: Describe such features as direct transfers to other modes (both intercity passenger transport and local transit).

Livable communities encourage development that accommodates a range of transportation options. Neighborhoods that are designed with a mix of employment, housing and retail within walking distance of transit stations can increase the number of trips made by transit, bicycle, and on foot, thereby reducing single occupant auto trips. Resulting modal shifts can decrease congestion, reduce air and noise pollution, and improve the general mobility of our population. Promoting Livable Communities also works to preserve natural lands and critical environmental areas, protect water and air quality, and reuse already-developed areas. They conserve resources by reinvesting in existing infrastructure and reclaiming historic buildings.

Nearly all Keystone East stations are located in their respective Central Business Districts (CBD). Stations located in CBDs encourage higher rail ridership by providing destinations within a small distance where people regularly converge. CBD locations also encourage higher multi-modal transportation connections with local transit, walking, and biking to destinations. Specifically, the stations in Harrisburg, Middletown, Elizabethtown, Mount Joy, Lancaster, Parkesburg, Coatesville, Downingtown, Paoli, and Ardmore are all located in the vicinity of their respective CBD's. The stations at Exton and Philadelphia 30th Street are located near their respective CBD, and a quick connection may be made.

The Ardmore Station project integrates directly with a privately funded Transit Oriented Development (TOD). The development features a walkable community with a mixed use design. By implementing the Ardmore Station project a successful TOD case study will be established that can be used by other municipalities along the Keystone Corridor.

Several stations along the Keystone Corridor feature multi-modal connections. Three stations, Harrisburg Transportation Center, Lancaster Station, and Philadelphia 30th Street station provide direct connections with regional transportation options and local bus service. Most other stations have a local transit stop in the general vicinity of the Amtrak station.

The project encourages wider use of passenger rail for travel to/from and within the region. Increased passenger rail ridership will increase patronage and the likelihood of success of this project. Increased rail ridership leads to development that is integrated with the corridor, creating the climate for livable communities.

Corridor Program Name: PA - Keystone Corridor - Keystone East Date of Submission: 10/02/09 Version Number: 2

E. Application Success Factors

(1) Project Management Approach and Applicant Qualifications Narrative. *Please provide separate responses to each of the following. Additional information on program management is provided in Section 5.1.2.1 of the HSIPR Guidance, Project Management.*

1A. Applicant qualifications.

Management experience: Does the applicant have experience in managing rail investments and Corridor Programs of a similar size and scope to the one proposed in this application?

Yes - Briefly describe experience (brief project(s) overview, dates)

No- Briefly describe expected plan to build technical and managerial capacity. Provide reference to Project Management Plan.

Please limit response to 3,000 characters.

The Commonwealth of Pennsylvania has a 20 year history of working closely with Amtrak to undertake significant rail improvement projects for the benefit of the Keystone Corridor. The largest project undertaken was a joint venture by Amtrak and the Commonwealth from April 2002 to October 2006 with a total cost of \$145.5 million. Some projects in the improvement program consisted of: installation of concrete ties and continuous welded rails in a significant portion of the corridor, buildings and bridge improvements, communications and signals upgrades, and electric traction upgrades. In addition, PennDOT has recently begun improving stations along the corridor, construction is underway in Lancaster and Elizabethtown, station planning is occurring at Middletown and Mount Joy, and several more station improvement projects will begin in the next few years, independent of the HSIPR Program.

1B. Describe the organizational approach for the different Corridor Program stages included in this application (e.g., final design, construction), including the roles of staff, contractors and stakeholders in implementing the Corridor Program. For construction activities, provide relevant information on work forces, including railroad contractors and grantee contractors. *Please limit response to 3,000 characters.*

Amtrak Engineering and the Commonwealth of Pennsylvania through PennDOT will follow proven Project Management Principles in development of all phases of project implementation, from preliminary engineering and NEPA documentation through final design and construction and project close-out. Keystone East improvements would be completed in a very timely manner.

The Amtrak Engineering Department has been managing large programs since 1976. These include the initial Northeast Corridor Improvement Program, and more recently the North End Electrification Program. The combined PennDOT and Amtrak Engineering departments are responsible for keeping infrastructure in a state of good repair; this includes design, maintenance, construction and inspection of Amtrak's physical infrastructure, including track, signals, electric traction, tunnels, and bridges on Amtrak owned right of way and stations and facilities along the right of way. The Commonwealth, in conjunction with Amtrak, will provide project management, as the project will include the services of outside consultants directly reporting to the Commonwealth/Amtrak. Managed consulting services include design, engineering, construction, quality control, and safety.

Amtrak Engineering and PennDOT partners will follow proven Project Management Principles. The State has the lead over projects and assumes project risk. Amtrak is the intended partner, subject to agreements. Preliminary Engineering, NEPA documentation, and Final design will be completed by in-house PennDOT and Amtrak staff and/or professional design consultants under the direction of PennDOT/Amtrak. Many projects will be constructed with Amtrak construction teams, particularly C&S, T&E, and Track projects. For those projects that need not be constructed by Amtrak, construction bid documents will be advertised using PennDOT's Engineering and Construction Management System (ECMS). PennDOT will contract with the lowest responsible bidder. Amtrak will participate with design reviews and force account activities, such as catenary pole relocation and flagging/watchmen services. Local officials and the general public will be informed on construction progress through standard communications and information posted on PennDOT's website.

1C. Does any part of the Corridor Program require approval by FRA of a waiver petition from a Federal railroad safety regulation? (Reference to or discussion of potential waiver petitions will not affect FRA's handling or disposition of

such waiver petitions).

- YES- If yes, explain and provide a timeline for obtaining the waivers
 NO

Please limit response to 1,500 characters.

1D. Provide a preliminary self-assessment of Corridor Program uncertainties and mitigation strategies (consider funding risk, schedule risk and stakeholder risk). Describe any areas in which the applicant could use technical assistance, best practices, advice or support from others, including FRA. *Please limit response to 2,000 characters.*

Based on an FTA risk management foundation, Risk Assessment identifies solution-related risks and managing them through risk transfer, risk mitigation, or risk acceptance. The Project Management Control (PCO) will develop, implement, and maintain project risk management plans that will assist the project team in mitigating risks to promote project success.

Grantee Risk: Risk that awardee will be unable to complete the project as planned.

Mitigation: Management Approach along with strong historical expertise mitigates this to LOW

Funding Risk: Inability to properly manage funds during project lifecycle.

Mitigation: PCO Financial Management and Commonwealth/Amtrak Financial Department capabilities provide oversight to mitigate this to LOW.

Schedule Risk: Inability to manage the project according to schedule.

Mitigation: Depth of Commonwealth/Amtrak management expertise and PCO mitigates this to LOW.

Stakeholder Risk: Inability to manage the stakeholders during project.

Mitigation: PCO communication methodologies and Amtrak oversight mitigates this to LOW.

The elements of the Risk Management Plan are as follows:

Identify Risk. Proactively identify, define, and begin mitigating risks before they negatively impact the project, and to incorporate this information into the project-management process.

Assess, Analyze, and Prioritize Risk. For each risk identified, prioritize and evaluate the probability of occurrence and impact to the project and will input this information into risk-status reports and graphs.

Mitigation Actions. Risk control plan includes a series of risk-mitigation activities that facilitate risk-status reporting.

Monitor and Document. In risk monitoring, the risk is reviewed and reassessed to determine the progress made against the risk-control plan and to identify any new risks or risk constraints affecting the risk level.

(2) Stakeholder Agreements Narrative. *Additional information on Stakeholder Agreements is provided in Section 5.1.2.2 of the HSIPR Guidance.*

Under each of the following categories, describe the applicant's progress in developing requisite agreements with key stakeholders. In addition to describing the current status of any such agreements, address the applicant's experience in framing and implementing similar agreements, as well as the specific topics pertaining to each category.

2A. Ownership Agreements – Describe how agreements will be finalized with railroad infrastructure owners listed in the “Right-of-Way Ownership” and “Service Description” tables in Section B. If appropriate, “owner(s)” may also include operator(s) under trackage rights or lease agreements. Describe how the parties will agree on Corridor Program design and scope, benefits, implementation, use of Corridor Program property, maintenance, scheduling, dispatching and operating slots, Corridor Program ownership and disposition, statutory conditions and other essential topics. Summarize the status and substance of any ongoing or completed agreements. *Please limit response to 3,000 characters.*

An agreement has been entered between PennDOT and Amtrak agreeing to the project scope and outcomes and cost overruns. Amtrak will retain ownership of all improvements, and agree to fund a portion fo the cost overruns. Please see attached agreement for further information.

2B. Operating Agreements – Describe the status and contents of agreements with the intended operator(s) listed in “Services” table in the Application Overview section above. Address Corridor Program benefits, operation and financial conditions, statutory conditions, and other relevant topics. *Please limit response to 3,000 characters.*

An operating agreement is currently in place between the Commonwealth of Pennsylvania, through PennDOT, and Amtrak to operate the Keystone Service between Harrisburg, PA and Philadelphia, PA. Amtrak and PennDOT have a long standing history of sharing operating costs for the Keystone Service, with Pennsylvania contributing over \$70 million in operating assistance over the past 15 years. The service is successful, and the Commonwealth is committed to continue to support the corridor in the years to come. Attached is the current operating agreement for the Keystone Corridor. A separate agreement has been made for the ownership and operation of the proposed improvement, and is referenced above. The Keystone Service, through the Commonwealth's support, operates within the budget and there are no deficits.

2C. Selection of Operator – If the proposed operator railroad was not selected competitively, please provide a justification for its selection, including why the selected operator is most qualified, taking into account cost and other quantitative and qualitative factors, and why the selection of the proposed operator will not needlessly increase the cost of the Corridor Program or of the operations that it enables or improves. *Please limit response to 3,000 characters.*

Current service does not require new operator.

2D. Other Stakeholder Agreements – Provide relevant information on other stakeholder agreements including State and local governments. *Please limit response to 3,000 characters.*

No additional stakeholder agreements outside of the existing Amtrak-PennDOT agreement is required. All project are in existing Amtrak Right-of-way or are currently owned by Amtak.

2E. Agreements with operators of other types of rail service - Are benefits to non-intercity passenger rail services (e.g., commuter, freight) foreseen? Describe any cost sharing agreements with operators of non-intercity passenger rail service (e.g., commuter, freight). *Please limit response to 3,000 characters.*

The Keystone Corridor East program primarily benefits intercity passenger rail, the main function of the corridor, but some benefits will be seen for the Commuter Rail operator between Thorndale and Philadelphia, the Southeastern Pennsylvania Transportation Authority (SEPTA). SEPTA, while not directly contributing funds to match this corridor program, has a long standing history of corridor investments. From FY 2005-2010, SEPTA has allocated \$128.1 million to station projects in the corridor. Station projects include the Exton Station parking expansion, assistance for the Ardmore Transit Center, and the planned commitment of funds for the new Paoli Transportation Center. In addition, SEPTA has allocated \$101.4 million to infrastructure improvements, including "K" interlocking

improvements, the installation of continuous welded rail and concrete ties from Philadelphia to Paoli, 30th street substation, and other improvements. With this history of significant contributions, it is clear that SEPTA has participated fairly in its use of the Keystone Corridor and will continue to do so in the future. Attached is a full list and project description of SEPTA allocated funds for the Keystone Corridor.

(3) Financial Information

3A. Capital Funding Sources. Please provide the following information about your funding sources (if applicable).

Non FRA Funding Sources	New or Existing Funding Source?	Status of Funding ⁴	Type of Funds	Dollar Amount (millions of \$ YOE)	% of Program Cost	Describe uploaded supporting documentation to help FRA verify funding source
	New	Committed				
	New	Committed				
	New	Committed				
	New	Committed				

⁴ Reference Notes: 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. legislative referendum) to be used to fund the proposed phase 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 CIP or appropriation. 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 phase, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed phase.

Budgeted: This category is for funds that have been budgeted and/or programmed for use on the proposed phase but remain uncommitted, i.e., the funds have not yet received statutory approval. Examples include debt financing in an agency-adopted CIP that has yet to be committed in their near future. Funds will be classified as budgeted where available funding cannot be committed until the grant is executed, or due to the local practices outside of the phase sponsor's control (e.g., the phase 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 CIP.

3B. Capital Investment Financial Agreements. Describe any cost sharing contribution the applicant intends to make towards the Corridor Program, including its source, level of commitment, and agreement to cover cost increases or financial shortfalls. Describe the status and nature of any agreements between funding stakeholders that would provide for the applicant's proposed match, including the responsibilities and guarantees undertaken by the parties. Provide a brief description of any in-kind matches that are expected. *Please limit response to 3,000 characters.*

The Commonwealth of Pennsylvania through PennDOT has a long standing relationship with Amtrak in subsidizing operating costs along with capital improvement projects along the Keystone Corridor. PennDOT has invested a significant amount of funding over the past 20+ years supporting improvements to the Keystone Corridor. In 2006, Amtrak and the Commonwealth completed a \$145.5M infrastructure program upgrade consisting of bridge repairs, addition of new power substations, installation of continuous welded rail and concrete ties, and improved communication and signaling systems. PennDOT contributed ~ \$73M of the \$145.5M project cost. Results of this program increased travel speeds to 110 MPH and reduced travel time on selected express trains to 95 minutes, regular trains reduced to 105 minutes. Ridership along this corridor continues to grow (870,000 passengers 2006 - 1.2M passengers 2009).

The Keystone Service is state supported, and the Commonwealth of Pennsylvania accounts for 51% of the cost to run the service. Since 1992, the Commonwealth has contributed nearly \$71 million in operating assistance for the Keystone Service. PennDOT has also offered assistance to other agencies seeking to integrate operations with the Keystone Corridor, most notably Red Rose Transit for their multi-modal project with the Lancaster Station, currently underway. PennDOT has committed \$2.6M in assistance for the project. PennDOT has also assisted the Harrisburg Redevelopment Authority in their efforts to upgrade the Harrisburg Transportation Center for \$600,000.

In addition to PennDOT's significant contributions to the Keystone Corridor, the Southeastern Pennsylvania Transportation Authority (SEPTA) has also made significant contributions to the success of the corridor. From FY 2005-2010, SEPTA has allocated \$128.1 million to station projects in the corridor. Station projects include the Exton Station parking expansion, assistance for the Ardmore Transit Center, and the planned commitment of funds for the new Paoli Transportation Center. In addition, SEPTA has allocated \$101.4 million to infrastructure improvements, including "K" interlocking improvements, the installation of continuous welded rail and concrete ties from Philadelphia to Paoli, 30th street substation, and other improvements. With this history of significant contributions, it is clear that SEPTA has participated fairly in its use of the Keystone Corridor and will continue to do so in the future. Attached is a full list and project description of allocated funds for the Keystone Corridor.

3C. Corridor Program Sustainability and Operating Financial Plan.

Please report on the Applicant's projections of future financial requirements to sustain the service by completing the table below (in YOY dollars) and answering the following question. Describe the source, nature, share, and likelihood of each identified funding source that will enable the State to satisfy its projected financial support requirements to sustain the operation of the service addressed in this Corridor Program. *Please limit response to 2,000 characters.*

PennDOT is committed to the success of the Keystone Corridor, and has traditionally committed to pay 51% of operating costs for the Keystone Corridor. This funding level will continue, and projections are available below. PennDOT has no outstanding debt current or projected and has statutory permission to assist in funding Intercity Passenger Rail Programs under Act 44.

Note: Please enter supporting projections in the Track 2 Application Supporting Forms, and submit related funding agreements or other documents with the Supporting Materials described in Part G of this Track 2 Application. The numbers entered in this table must agree with analogous numbers in the Supporting Forms.

Funding Requirement (as identified on the Supporting Form)	Projected Totals by Year (\$ Millions Year Of Expenditure (YOE)* Dollars - One Decimal)			
	Baseline Actual-FY 2009 Levels (State operating subsidy for FY 2009 if existing service)	First full year of operation	Fifth full year of operation	Tenth full year of operation
Indicate the Fiscal Year	2009	2018	2023	2030
Surplus/deficit after capital asset renewal charge ⁵	-\$8,162,503		-\$18,230,912	-\$19,025,664
Total Non-FRA sources of funds applicable to the surplus/deficit after capital asset renewal	\$8,162,503		\$18,230,912	\$19,025,664
Funding Requirements for which Available Funds Are Not Identified	\$0	0	\$0	\$0
<p>* Year-of-Expenditure (YOE) dollars are inflated from the base year. Applicants should include their proposed inflation assumptions (and methodology, if applicable) in the supporting documentation.</p> <p>Note: Data reported in this section should be consistent with the information provided in the Operating and Financial Performance supporting form for this application.</p>				
<p>(4) Financial Management Capacity and Capability – Provide audit results and/or other evidence to describe applicant capability to absorb potential cost overruns, financial shortfalls identified in 3C, or financial responsibility for potential disposition requirements (include as supporting documentation as needed). Provide statutory references/ legal authority to build and oversee a rail capital investment. <i>Please limit response to 3,000 characters.</i></p> <p>The Pennsylvania Department of Transportation has a healthy financial status with no outstanding debt. Attached is a copy of PennDOT's balance sheet, showing available funds for FY 2008. FY 2009 information will be available upon request in the future.</p> <p>In addition to PennDOT's healthy financial status, legislative authority has been give to PennDOT through Act 44 to "... Provide financial assistance for an efficient and coordinated intercity common carrier surface transportation program, consisting of both intercity passenger rail service and intercity bus service transportation, with the intent of sustaining strong intercity connections..." (15 Pa. C.S.Section1516 Part C)</p>				
<p>(5) Timeliness of Corridor Program Completion – Provide the following information on the dates and duration of key activities, if applicable. For more information, see Section 5.1.3.1 of the HSIPR Guidance, Timeliness of Corridor Program Completion.</p>				
Final Design Duration:		36 months		
Construction Duration:		60 months		

⁵ The "capital asset renewal charge" is an annualized provision for **future** asset replacement, refurbishment, and expansion. It is the annualized equivalent to the "continuing investments" defined in the FRA's Commercial Feasibility Study of high-speed ground transportation (*High-Speed Ground Transportation for America*, September 1997, available at <http://www.fra.dot.gov/us/content/515> (see pages 5-6 and 5-7).

Rolling Stock Acquisition/Refurbishment Duration:	N/A months
Service Operations Start date:	N/A (mm/yyyy)
<p>(6) If applicable, describe how the Corridor Program will promote domestic manufacturing, supply and industrial development, including furthering United States-based equipment manufacturing and supply industries. Please limit response to 1,500 characters.</p> <p>Best efforts will be made to acquire all construction materials domestically, locally if possible. Amtrak's interlocking installation procedures call for domestic production of all interlockings and on-site installation in modular format. Most if not all materials can be manufactured domestically, thereby creating jobs in other sectors.</p>	
<p>(7) If applicable, describe how the Corridor Program will help develop United States professional railroad engineering, operating, planning and management capacity needed for sustainable IPR development in the United States. Please limit response to 1,500 characters.</p> <p>This project, in addition to the other applications Pennsylvania has submitted, will help create a workforce of trained and experienced railroad engineers, management professionals, and construction workers. The experience gained by this project and others will help create a community of experienced railroad professionals that will assist in the development of a comprehensive national railroad network to rival those overseas.</p>	

Corridor Program Name: PA - Keystone Corridor - Keystone East Date of Submission: 10/02/09 Version Number: 1

F. Additional Information

- (1) Please provide any additional information, comments, or clarifications and indicate the section and question number that you are addressing (e.g., Section E, Question 1B). *This section is optional.*

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G. Summary of Application Materials

Note: In addition to the requirements listed below, applicants must comply with all requirements set forth in the HSIPR Guidance and all applicable Federal laws and regulations, including the American Recovery and Reinvestment Act of 2009 (ARRA) and the Passenger Rail Investment and Improvement Act of 2008 (PRIIA).

Application Forms	Required for Corridor Programs	Required for Projects [See Note Below]	Reference	Comments
<input checked="" type="checkbox"/> This Application Form	✓		HSIPR Guidance Section 4.3.3.3	
<input checked="" type="checkbox"/> Corridor Service Overview (Same Corridor Service Overview may be used for multiple applications)	✓		HSIPR Guidance Section 4.3.3.3	
Supporting Forms (Forms are provided by FRA on Grant Solutions and the FRA website)	Required for Corridor Programs	Required for Projects [See Note Below]	Reference	Comments
<input checked="" type="checkbox"/> General Info	✓	✓	HSIPR Guidance Section 4.3.5	FRA Excel Form
<input checked="" type="checkbox"/> Detailed Capital Cost Budget	✓	✓	HSIPR Guidance Section 4.3.5	FRA Excel Form
<input checked="" type="checkbox"/> Annual Capital Cost Budget	✓	✓	HSIPR Guidance Section 4.3.5	FRA Excel Form
<input type="checkbox"/> Operating and Financial Performance and Any Related Financial Forms	✓		HSIPR Guidance Section 5.3.5	FRA Excel Form
<input checked="" type="checkbox"/> Program or Project Schedule	✓	✓	HSIPR Guidance Section 4.3.5	FRA Excel Form

Supporting Documents <i>(Documents to be generated and provided by the applicant)</i>	Required for Corridor Programs	Required for Projects [See Note Below]	Reference	Comments
<input checked="" type="checkbox"/> Map of Corridor Service	✓		Corridor Service Overview Question B.2	
<input checked="" type="checkbox"/> Service Development Plan	✓		HSIPR Guidance Section 1.6.2	
<input checked="" type="checkbox"/> “Service” NEPA	✓		HSIPR Guidance Section 1.6.2	
<input checked="" type="checkbox"/> Project Management Plan	✓		HSIPR Guidance Section 4.3.3.2	
<input checked="" type="checkbox"/> “Project” NEPA (Required before obligation of funds)		✓	HSIPR Guidance Section 1.6.2	
<input checked="" type="checkbox"/> PE Materials	✓	✓	HSIPR Guidance Section 1.6.2	
<input checked="" type="checkbox"/> Stakeholder Agreements	✓	✓	HSIPR Guidance Section 4.3.3.2	
<input checked="" type="checkbox"/> Financial Plan	✓	✓	HSIPR Guidance Section 4.3.3.2	
<input checked="" type="checkbox"/> Job Creation	✓	✓	HSIPR Guidance Section 1.6.2	
Standard Forms <i>(Can be found on the FRA website and www.forms.gov)</i>	Required for Corridor Programs	Required for Projects [See Note Below]	Reference	Comments

<input checked="" type="checkbox"/> SF 424: Application for Federal Assistance	✓		HSIPR Guidance Section 4.3.3.3	Form
<input type="checkbox"/> SF 424C: Budget Information-Construction	✓		HSIPR Guidance Section 4.3.3.3	Form
<input checked="" type="checkbox"/> SF 424D: Assurances-Construction	✓		HSIPR Guidance Section 4.3.3.3	Form
<input checked="" type="checkbox"/> FRA Assurances Document	✓		HSIPR Guidance Section 4.3.3.3	Form
<p>Note: Items checked under “Corridor Programs” are required at the time of submission of this Track 2 Corridor Programs application. Items checked under “Projects” are optional at the time of submission of this Track 2 Corridor Programs application, but required prior to FD/Construction grant award.</p>				

PRA Public Protection Statement: Public reporting burden for this information collection is estimated to average 16 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for this information collection is **2130-0583**.