



# Welcome!

Susquehanna River Rail Bridge Project

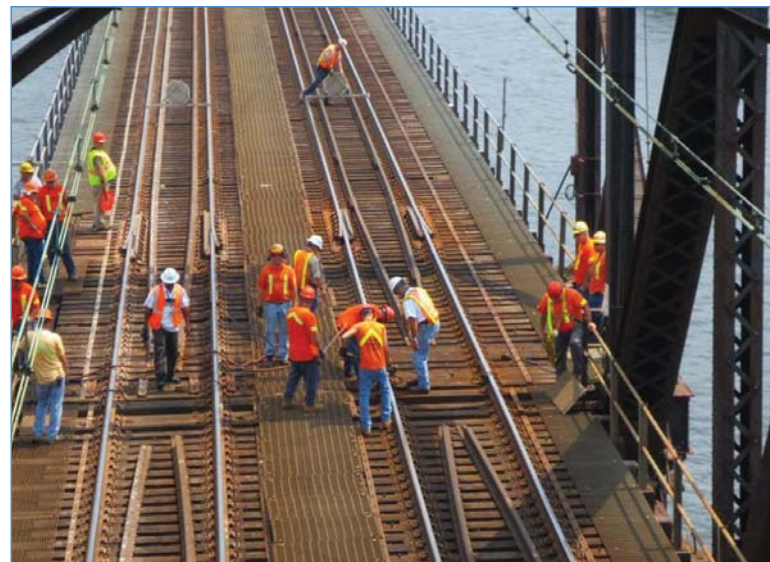
**Public Outreach Information Session**

**April 28, 2014**

# Project Purpose and Need

The problems posed by the existing Susquehanna River Rail Bridge include:

- Functionally obsolete and aging infrastructure;
- Speed and capacity constraints;
- Operational inflexibility;
- Maintenance difficulties;
- Conflicts with maritime uses.



*Amtrak crew manually opening the movable bridge span to accommodate marine traffic.*

# Project Purpose and Need

**The primary purpose of the Susquehanna River Rail Bridge Project is to provide continued rail connectivity along the Northeast Corridor (NEC).**

The project goals include:

- Improve rail service reliability and safety;
- Improve operational flexibility and accommodate reduced trip times;
- Optimize existing and planned infrastructure and accommodate future freight, commuter, intercity, and high-speed rail operations; and
- Maintain adequate navigation and improve safety along the Susquehanna River.



*The Northeast Corridor merges from four tracks to two tracks (heading south from Perryville to Havre de Grace).*

# Existing Bridge Conditions

- The bridge is structurally safe but nearing the end of its useful life.
- Major Rehabs: 1960s, 1985, 1991, 1998
- Bridge Inspections:
  - 1996 Report: Worn/cracked metal pins, loose connections at eyebar members, improper seating of swing span ends.
  - 2013 Report: Section loss, cracks, corrosion, and deteriorations; heavy freight exacerbating wear.
  - Superstructure poor to fair structural condition. Some cracking & moisture leakage in stone abutments and piers.
  - Low bridge fatigue ratings, even at 30 mph. Bridge may have exceeded theoretical fatigue life.



*Existing Susquehanna River Rail Bridge*

# Environmental Considerations

## National Environmental Policy Act (NEPA)

Requires that we do everything possible to protect and enhance the natural, cultural and human environment. A complete study of all reasonable alternatives (including measures to avoid and minimize impacts) must be prepared, and the results must be made available to public officials and citizens before decisions are made.

### Natural Environment

- Geology / Groundwater Resources
- Soils
- Surface Water
- Floodplains
- Wetlands
- Aquatic Life
- Wildlife



### Socio-Economic Environment

- Demographics
- Community Facilities
- Economic Setting and Land Use
- Noise
- Air

#### Section 404 of the Clean Water Act, Nontidal Wetlands Protection Act

Regulates dredge and fill of Waters of the United States. Guidelines published by the Environmental Protection Agency for evaluating alternatives require that the Corps of Engineers evaluate the proposed project for environmental impacts (including historic and rare/threatened/endangered species impacts) and select the least environmentally damaging, practicable alternative.

#### Endangered Species Act

Ensures that actions are not taken to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of such species.

#### Cultural Environment

- Historic Structures
- Archaeological Sites

#### Section 106 of the National Historic Preservation Act

Requires that agencies take into account the effects of a project on properties that are included in or eligible for the National Register of Historic Places.

#### Section 4(f) of the US Department of Transportation Act

Requires that special effort be made to preserve publicly owned public parks and recreation areas, wildlife / waterfowl refuges and historic sites. No project which requires land from these resources may be approved unless 1) there is no feasible and prudent alternative to the use of the land and 2) the action includes all possible planning to minimize harm to the property resulting from such use.

#### Clean Air Act and Clean Air Act Amendments

An air quality analysis must be performed to determine if there are violations of the State or National Ambient Air Quality Standards.

#### Farmland Protection Policy Act

Requires that federal programs minimize conversion of farmland to non-agricultural uses (does not apply to farmland that is zoned or committed (planned) for urban development).

#### Executive Order 12898 (Environmental Justice)

Requires that agencies identify and address disproportionately high and adverse human health or environmental effects on minority or low-income populations.

# Conceptual Alternatives Development

## Designing to Meet Project Purpose and Need

### Rail Connectivity

- Must maintain rail connectivity along the NEC (during construction and operations).
- Must provide sufficient capacity.

### Navigational Requirements

- Must maintain navigation along the Susquehanna River (during construction and operations).

### Logical Termini

- Must have rational end points and consider existing infrastructure.
- USDOT grant defines project limits—NEC from MP 57.3 in Perryville to MP 63.5 in Havre de Grace.

### Feasibility and Constructibility

- Must be feasible and practicable from a construction and engineering perspective.

### Optimize Infrastructure

- Optimize existing infrastructure and accommodate planned infrastructure.

# Conceptual Alternatives Development

## Design Factors

### Geometry

- Reduce curves to enable faster train speed.
- Consider existing NEC and NS's Port Road Route.

### Design Speed

- Consider 120 mph to 160 mph for intercity passenger trains.
- 160 mph preferred speed for intercity passenger trains.

### Bridge Spacing

- Minimize ROW impacts.
- Consider existing swing span.
- Consider constructibility.

### Navigational Clearances

- Accommodate marine traffic with fixed bridge.
- Horizontal clearance maintained or improved.

### Grades

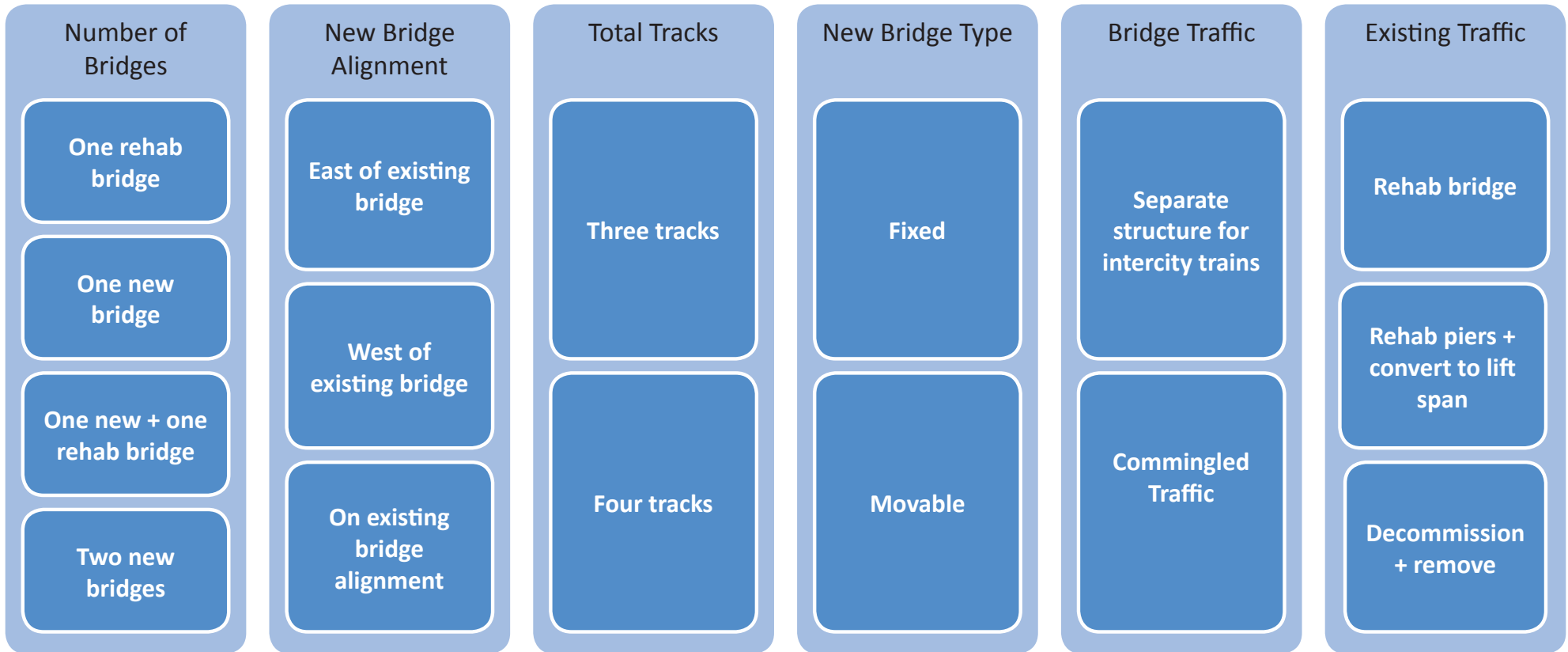
- Higher fixed bridge requires steeper grades.
- Heavy freight trains require lower grades.

### Relationships to other planned projects

- Freight rail improvements.
- MARC Maintenance Facility and Penn Line extension.
- NEC Future Tier I EIS.
- Regional bicycle and pedestrian trails.

# Conceptual Alternatives Development

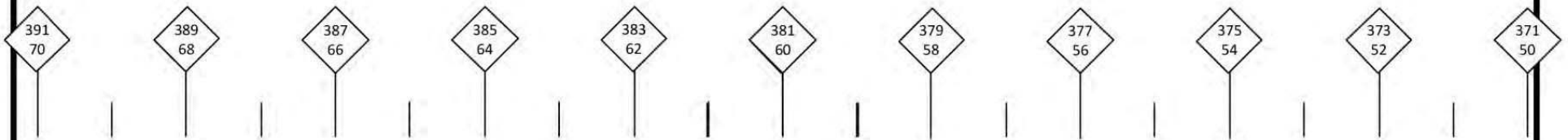
Considered many design permutations



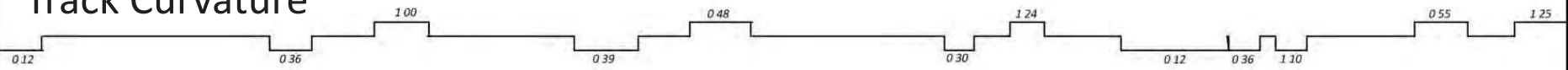


# Existing Speed and Capacity Bottleneck

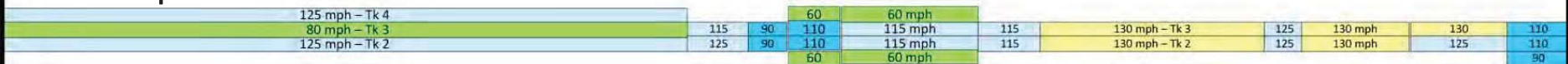
## Milepost



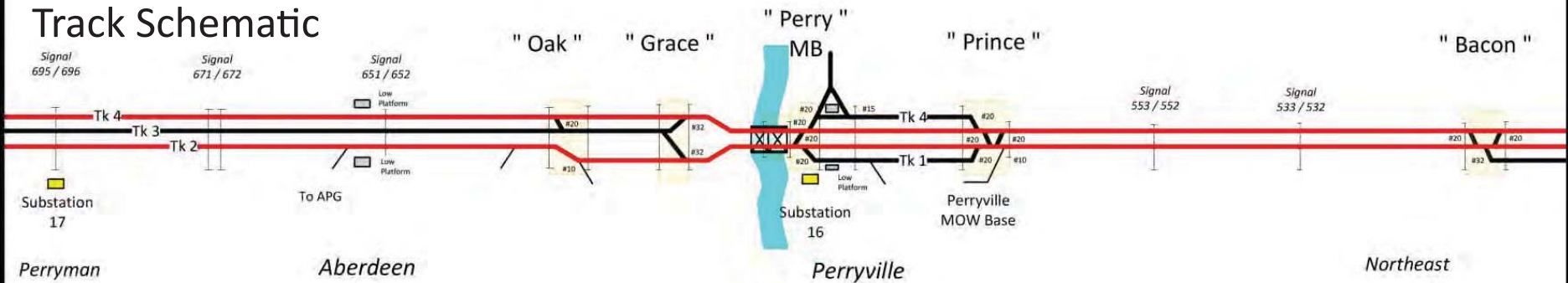
## Track Curvature



## Track Speed

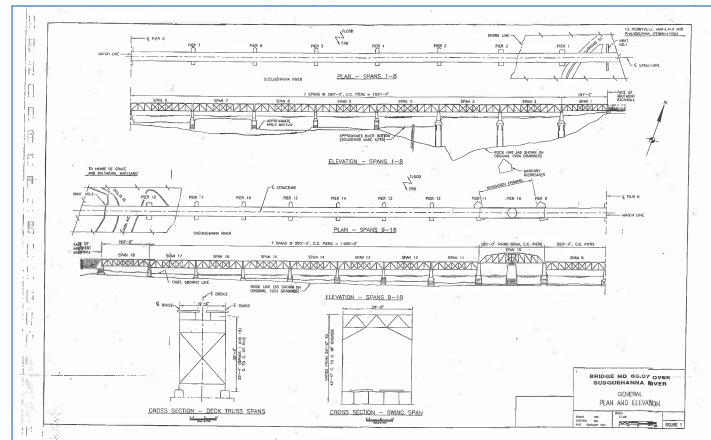
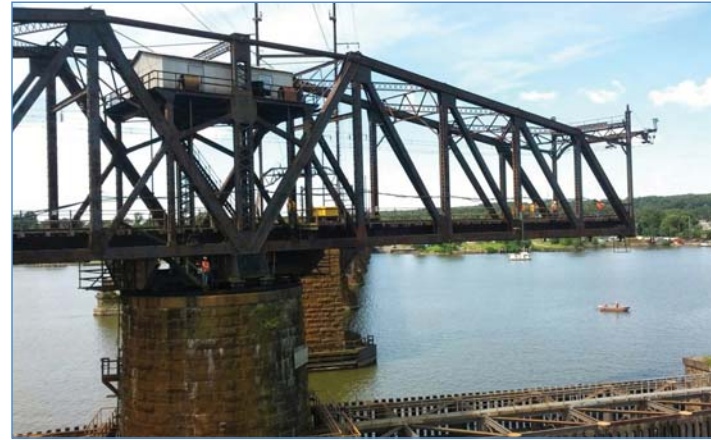


## Track Schematic



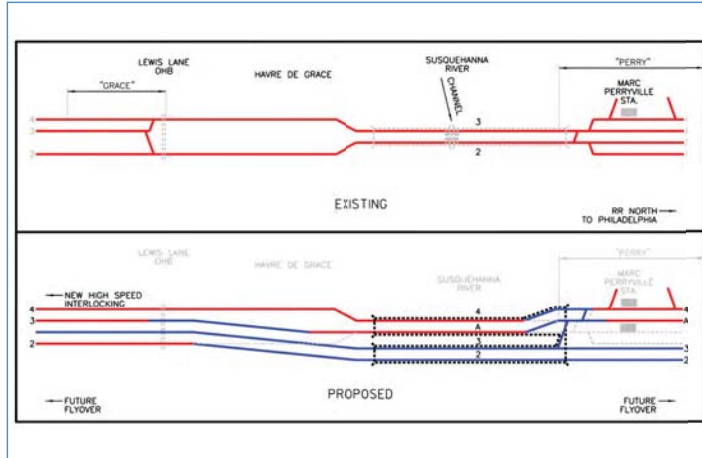
# Existing Susquehanna River Rail Bridge

## Movable Swing Span

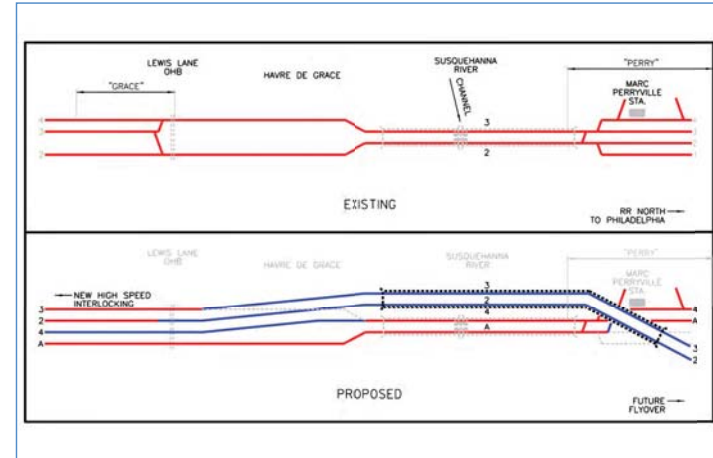


# Conceptual Track Schematics

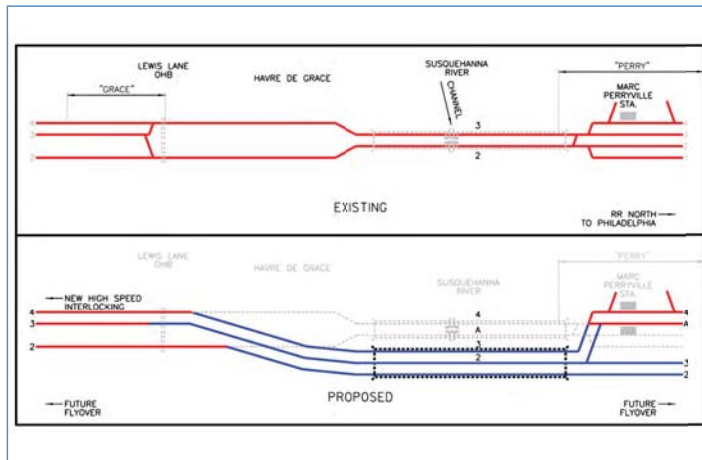
## Track Schematic 1



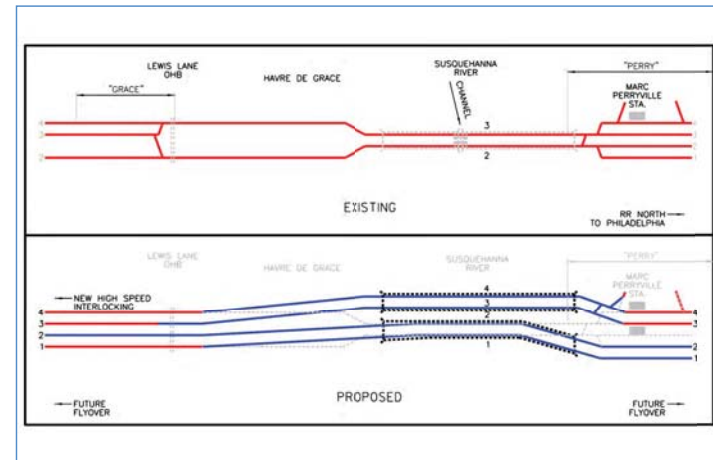
## Track Schematic 2



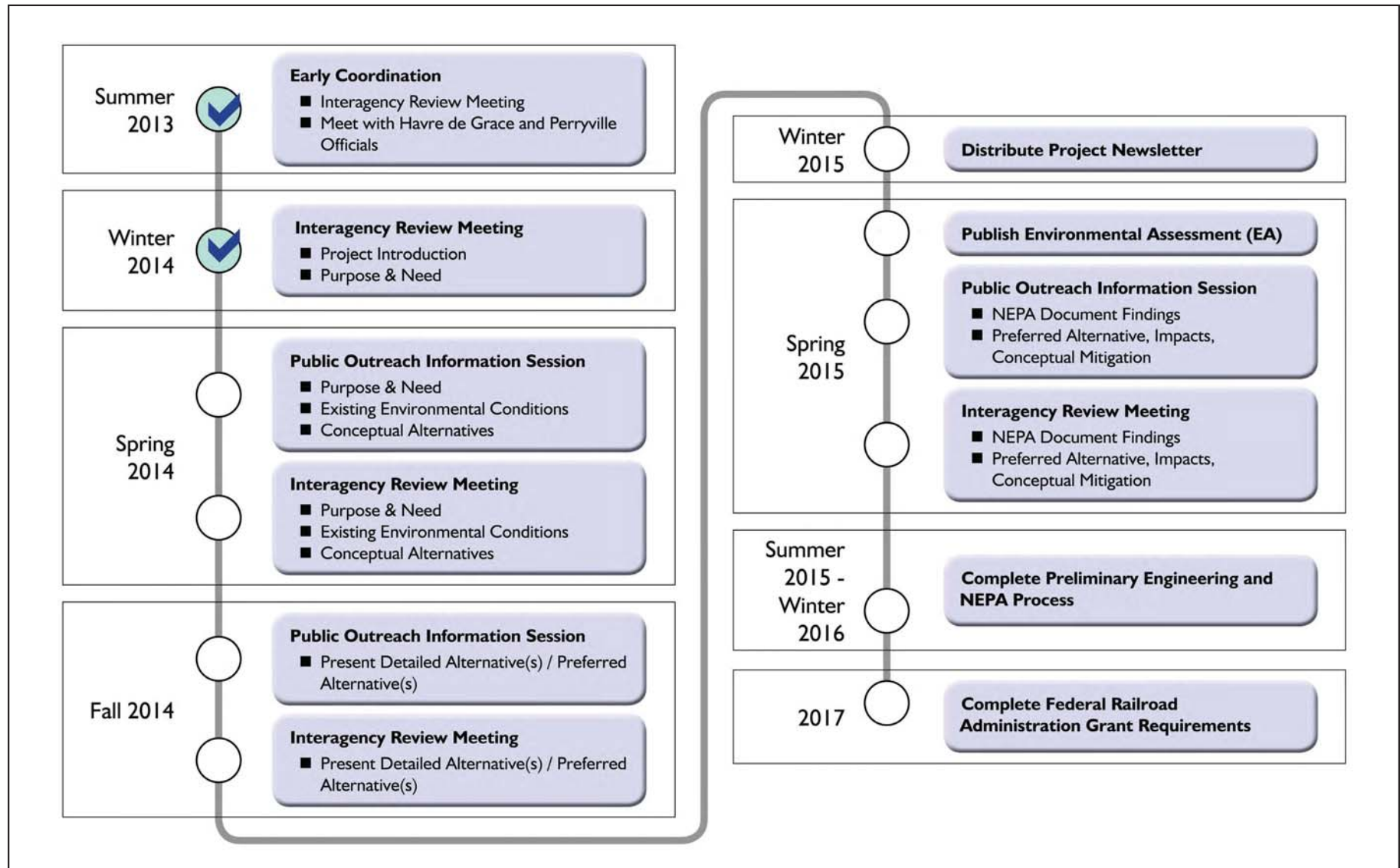
## Track Schematic 3



## Track Schematic 4



# Anticipated Project Schedule

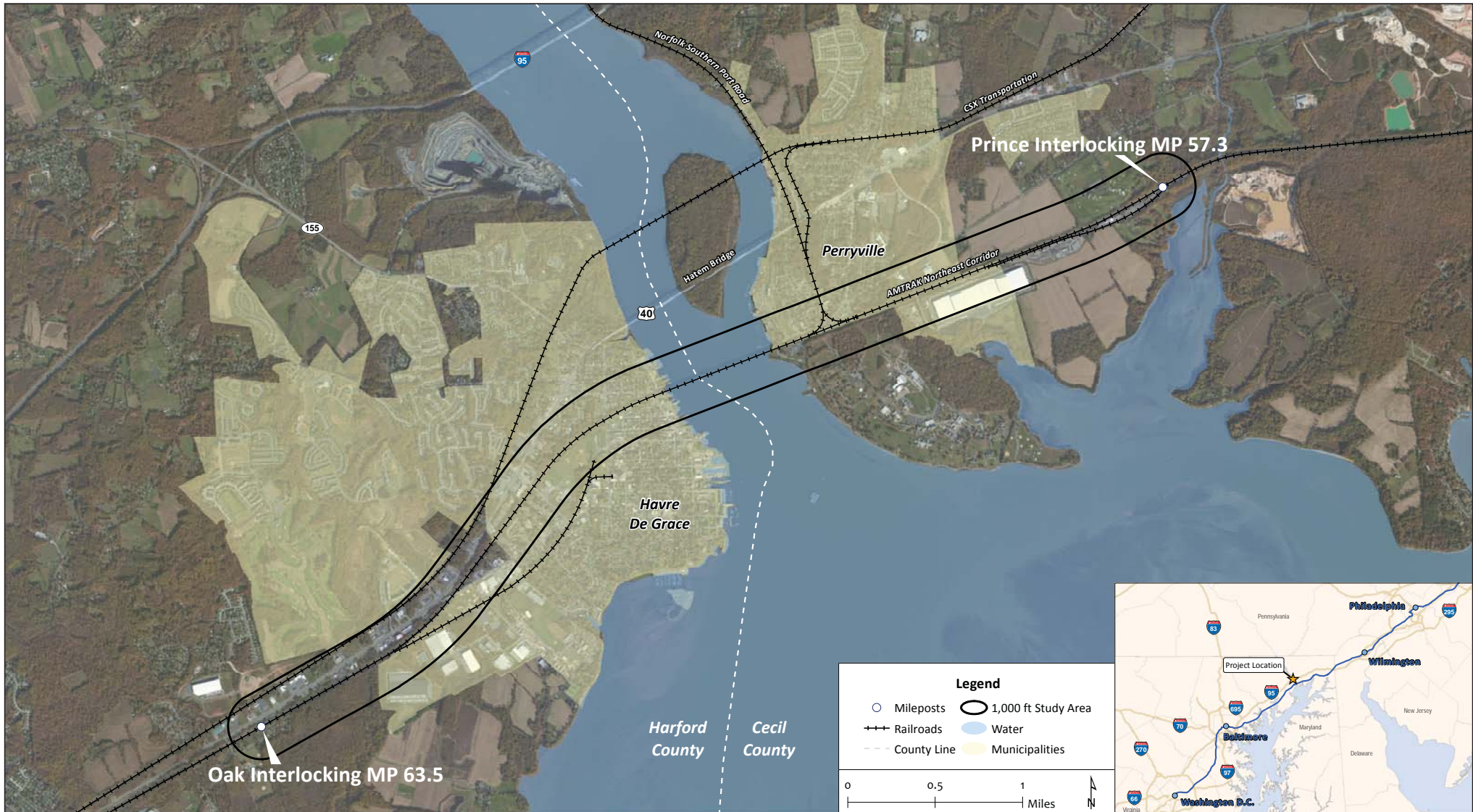


# Stay Connected

- Visit the project website at [www.susrailbridge.com](http://www.susrailbridge.com) to get project updates, learn more about the project, submit a comment, or join the project mailing list.
- Send a letter to:  
Susquehanna River Rail Bridge  
PO Box 68  
Elkton, MD 21922

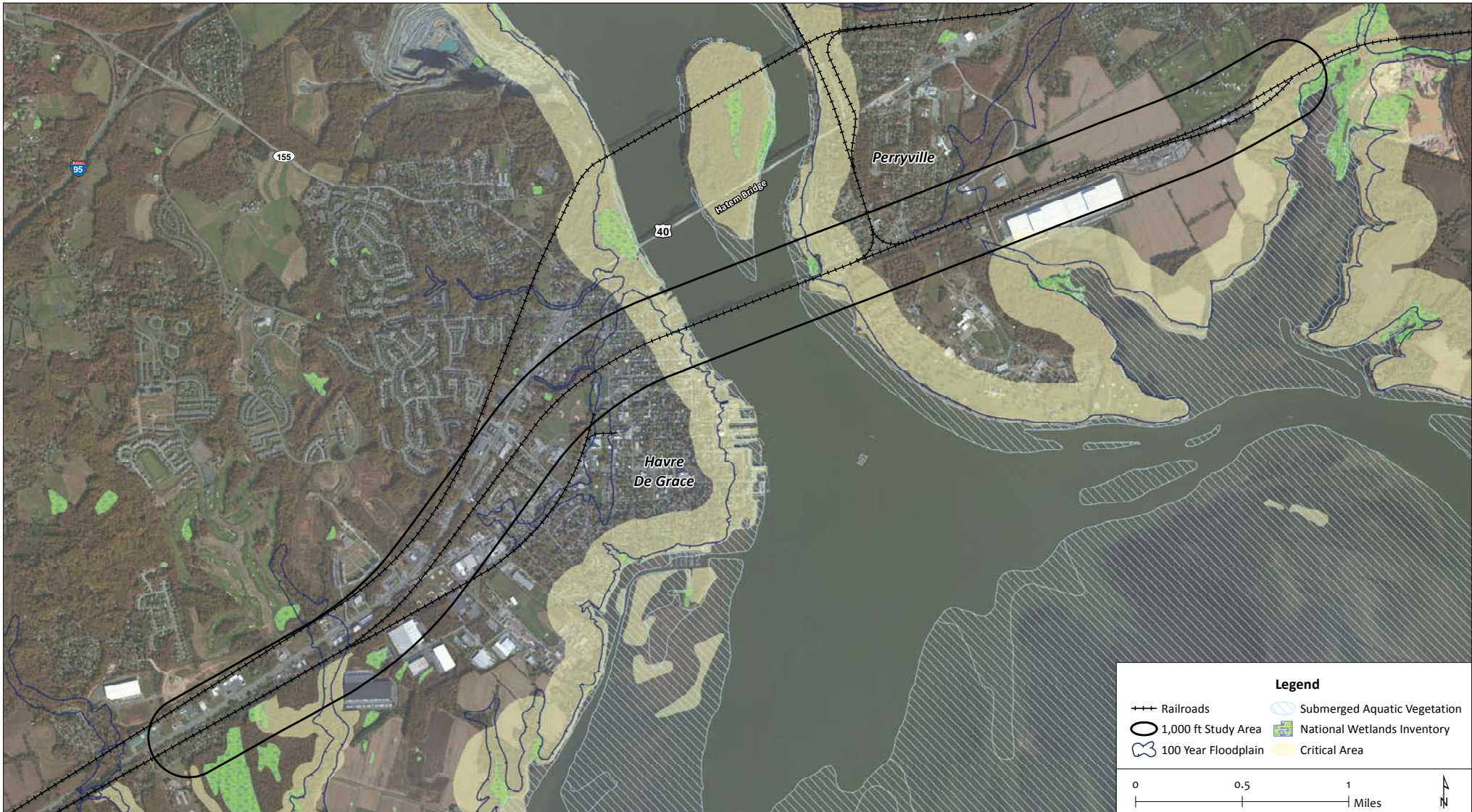


# Project Location



# Natural Resources

*Coordinating with resource agencies to identify species or habitats of concern*



# Parks, Historic Places, and Community Facilities





# Parks, Historic Places, and Community Facilities

