



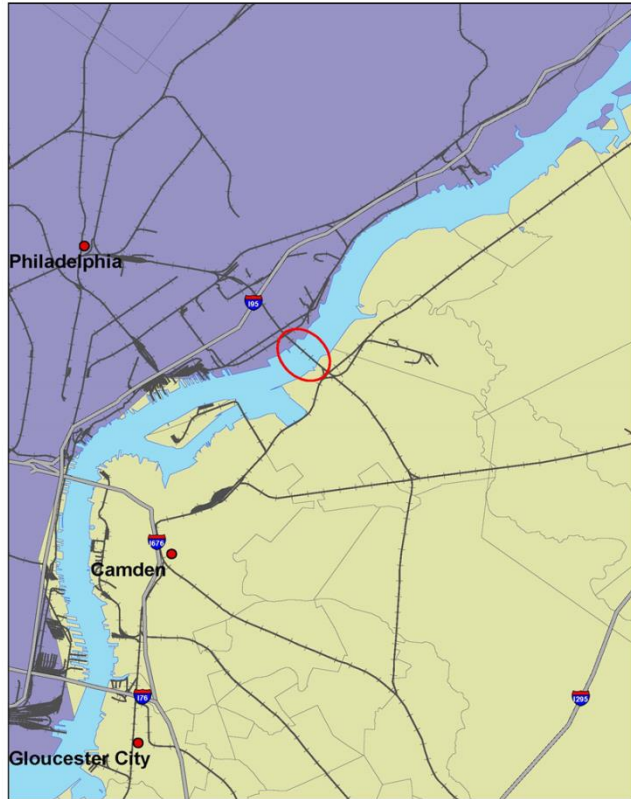
Delair Bridge Span Replacement: Upgrading for the Future of Commerce



Project Overview

- **Project Method:** Accelerated Bridge Construction
- **Obstacles:**
 - Physical and Environmental Constraints
 - Federal Approval Timelines vs. Procurement Limitations
 - Operational and Shared-Use Logistics
- **Results:**
 - Project Completed 11 Months Ahead of Schedule
 - \$14M in Total Budget Savings
 - Reallocation of Federal Cost-Share to Additional Infrastructure Projects

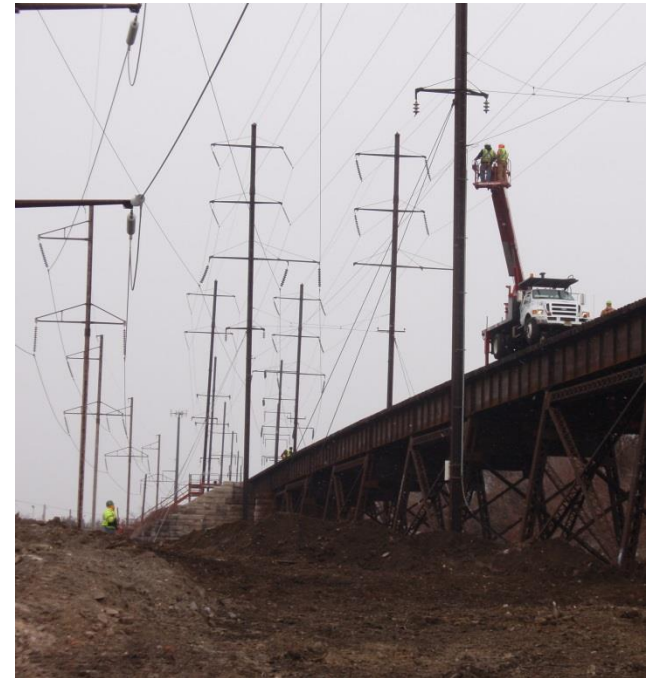
Project Purpose and Need



- Only freight rail access to Southern NJ
- Approach spans not rated for 286K
- Increased safety for employees

Operational Considerations

- Shared Use of Bridge
 - Freight customer needs
 - NJ TRANSIT passenger service
 - Electric transmission service
- 72-Hour Outage Limit
- Winter Black-Out Period



Funding Mechanism, Approvals, and Issues

- USDOT TIGER Grant: 50% Cost Share
- Notice to Proceed with Construction Contingent Upon:
 - NEPA
 - Section 106
 - Other state/federal permits and coordination
- Buy America Requirement for Steel
 - Seasonal order placement

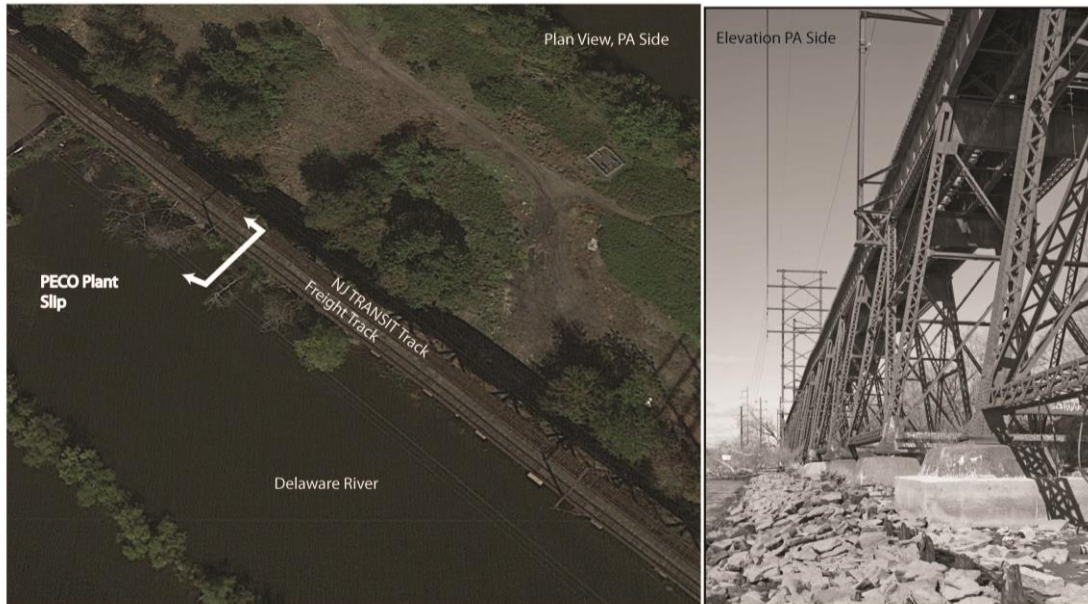


Expediting Environmental Approvals

- Facilitate Procurement to Keep Schedule
- Plan of Action:
 1. Optimize avoidance alternatives
 2. Team meetings in the field
 3. Negotiate concurrent review

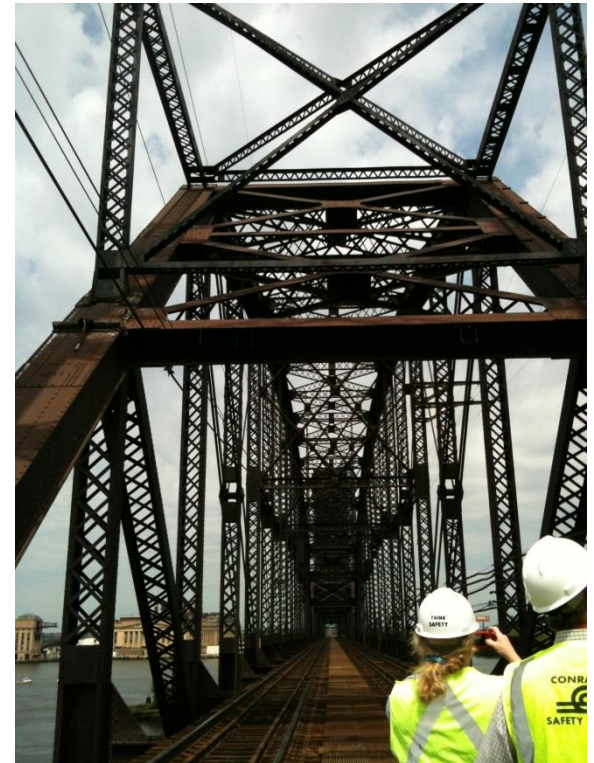
1. Optimize Avoidance Alternatives

- PA Span replacement over water
- Eliminate USACE permit processing
- Use land-based approach
- Means and methods described in bid package



2. Team Meeting in the Field

- Resolve SHPO Issues Simultaneously
- Describe Span Replacement Methods
- Identify off-site impacts



3. Negotiate Concurrent Review

- Atypical, complicated NEPA
- No environmental impacts except historic architecture
 - Section 106 critical path
 - No bearing on other environmental categories
- FRA agreed to review CED while SHPO prepared Section 106

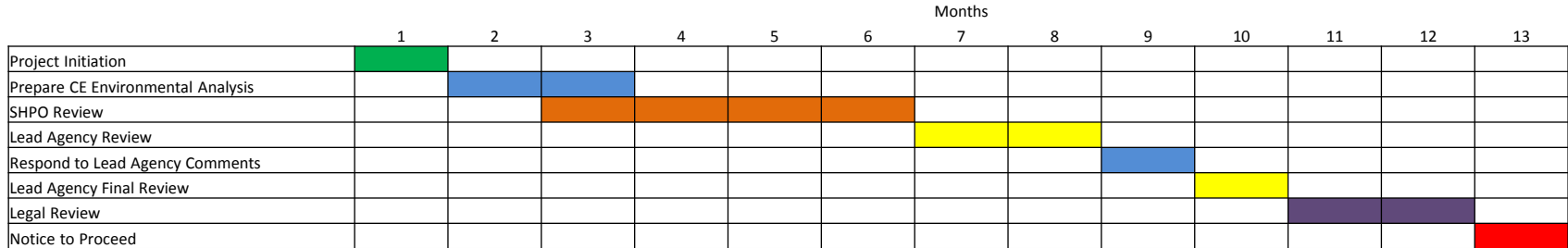


U.S. Department
Of Transportation

**Federal Railroad
Administration**

NEPA Schedule Comparison

Typical Sequential Processing



Negotiated Concurrent Review Processing



Procurement

- Environmental compliance informed bid package
- Advertised widely to meet DBA goals
- Negotiated “best value” assessment
 - Provided methodology
 - Kept evaluation records
 - Safety record

	BID PRICE	TECHNICAL APPROACH	SAFETY exp/PAST PERE	TOTAL
[Redacted]	40.0	14.2	18.3	72.5
[Redacted]	31.3	13.3	16.7	61.3
(Non-Response)				
[Redacted]	27.6	9.2	9.2	46.0
[Redacted]	22.5	10.8	10.8	44.1
[Redacted]	20.7	14.2	15.0	49.9
(Buy American?)				
[Redacted]	18.2	6.7	7.5	34.4
[Redacted]	15.5	10.0	9.2	34.7

Engineering and Design Challenges

- 114-year-old As-Builts
- Modular Construction Required Precision
- Pre-outage Coordination
 - PECO, Amtrak, NJ TRANSIT, freight customers
 - 8 weeks between outages
 - Shortened to 4 weeks

Span Replacement Process

- Between Outages Replace Rivets with Bolts
- Within 72 Hours
 - Cut out old span
 - Replace with new span
 - Replace rail

Typical Span Replacement





Span 35 Replacement

- Catenary Pole Mid-Span
- Method
 - Use Two Cranes and Flatbed Rail Car
 - Occupy NJ TRANSIT Tracks

Span 35 Replacement





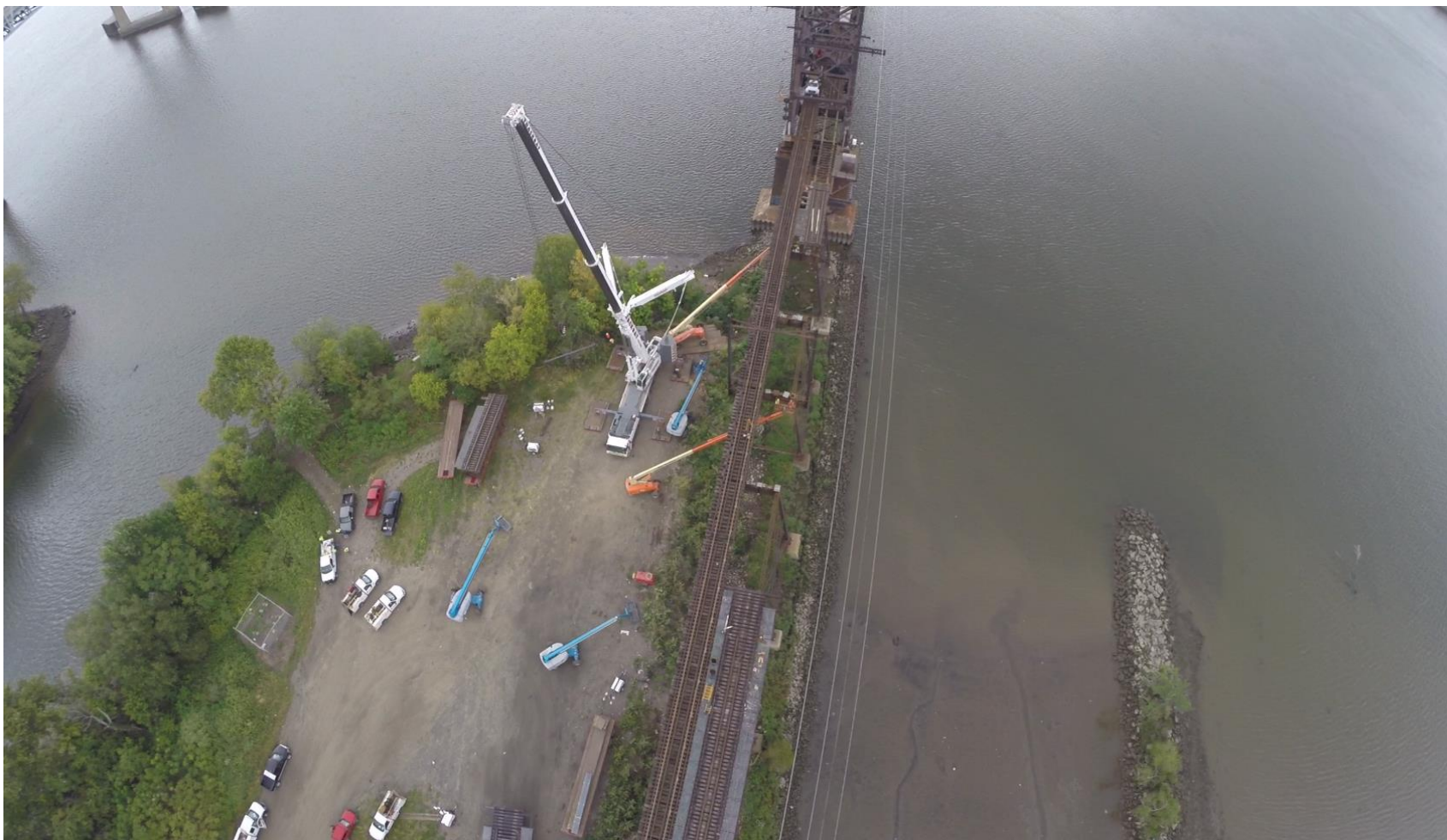
Span 52 Replacement

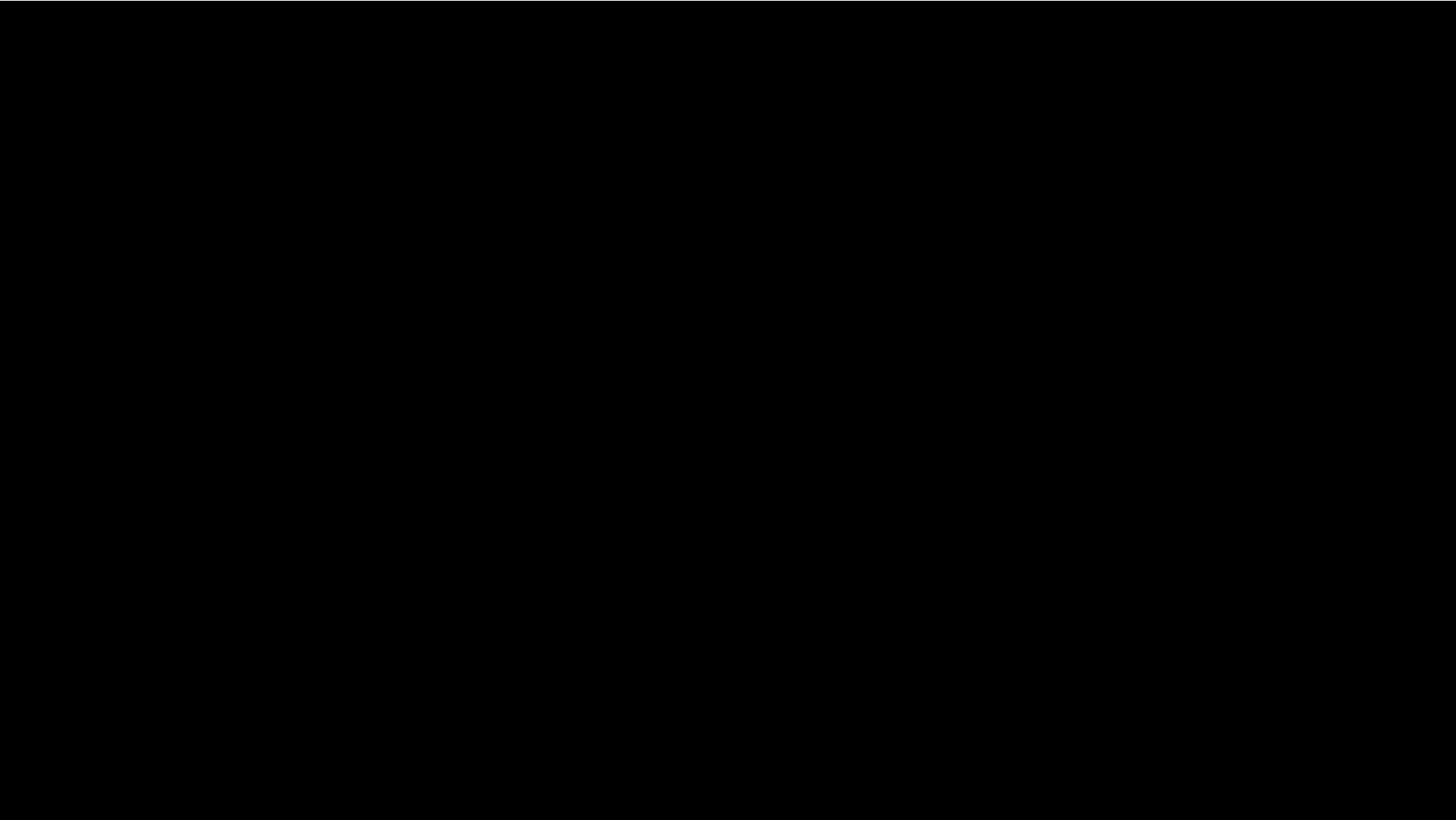
- Span closest to Delaware River
- Critical C&S Platform Attached to Existing Span
- Stay upland of USACE jurisdictional boundary
- Method:
 - One 500-ton Crane, Fully Extended Boom
 - Construct Span in the Field
 - Reduce Total Spans Replaced to Six

Span 52 Replacement



Span 52 Replacement





Project Conclusion

- Projected Completion Date: December 2015
- Substantially Complete: October 2014
- Total Budget: \$11.8M
- Federal Funds Reallocated: \$ 5.6M

Unallocated funds applied to unfunded grant projects.