King St. (Route 7) over I-395 Bridge Rehabilitation

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Purpose & Agenda

Purpose

Review the project with community stakeholders & obtain feedback for preparing the final design

Agenda

• Existing Condition Summary
• Scope of Repair Work
• Stages of Construction for Superstructure Work
• Stages of Construction for Substructure Repair Work
• Safety Improvements
• Cost and Schedule
Location Map

Bridge Location
Existing Bridge

- Built in 1970
- 5 spans totaling 410-feet in length
- Rolled steel girders on a curved alignment
- 6 lanes of traffic with raised median
- Deck CR 6 (Good)
- Superstructure CR 5 (Fair)
- Substructure CR 4 (Poor)
- Classified as Structurally Deficient
Existing Bridge Deck Condition
Existing Superstructure Condition
Existing Substructure Condition
Scope of Bridge Repair Work

• Replace the existing bridge railings.

• Repair Bridge Deck including closing of the Bridge deck expansion joints at all piers and reconstructing deck expansion joints at the abutments.

• Mill Bridge deck and install Impressed Current Cathodic Protection (ICCP) System with concrete overlay.

• Clean and paint Steel beams. Replace all bearing assemblies.

• Repair deteriorated concrete in pier caps, bearing pedestals, pier columns and abutments.

• Install Impressed Current Cathodic Protection (ICCP) System in all pier caps.

• Treat all pier columns and abutments with Electrochemical Chloride Extraction (ECE).

• Minor bicycle and pedestrian improvements
Transverse Section

Existing Bridge

Proposed Bridge (2’-0” increase in shoulder width on each side)
Bridge Railing Replacement

- **Stage I** - Remove raised median (WBL) during night time closures. (Estimated Duration: 4 nights)

- **Stage II** - Remove raised median (EBL) during night time closures. (Estimated Duration: 4 nights)

Full traffic capacity (pedestrian and vehicles) will be maintained for Stages I through IV during peak hours.
Bridge Railing Replacement

- **Stage III** - Replace WBL railing by shifting traffic lanes to right.
  (Estimated Duration: 6 weeks)

- **Stage IV** - Replace EBL railing by shifting traffic lanes to left.
  (Estimated Duration: 6 weeks)

Full traffic capacity (pedestrian and vehicles) will be maintained for Stages I through IV during peak hours.
• Stage V – Close King Street westbound lanes & I-395 ramp to westbound King Street to traffic for multiple weekends for deck joint closure/reconstruction, and deck Mill & Overlay with ICCP System. (Estimated Duration: 5 weekends)
Construction Detour
(King St. WBL Roadway Closure)

Closure of WB King Street lanes & I-395 ramp to WB King Street
Stage VI – Close King Street eastbound lanes & I-395 ramp to eastbound King Street to traffic for multiple weekends for deck joint closure/reconstruction, and deck Mill & Overlay with ICCP System. (Estimated Duration: 5 weekends)
Construction Detour
(King St. EBL Roadway Closure)

Closure of EB King Street lanes & I-395 ramp to EB King Street
Substructure Repair Work
(I-395 Lane Shifts and Shoulder Closures)

Estimated Duration: 25 days for each Abutment
50 days for each Pier
120 days for ECE curing period (No MOT)
4 night time lane and shoulder closures for demobilization
Bicycle & Pedestrian Improvements

• Replacement of bridge railings will increase outside shoulder widths to 4’-0” which allows future on road bike accommodation.

• Reconstruct existing 4’-0” wide median sidewalk to an 8’-0” wide sidewalk centered in the median.

• Provide ADA-compliant curb ramps and pedestrian signals at Menokin Drive connecting the median sidewalk to the sidewalk on the south side of King Street.

• Provide a new pedestrian crossing of westbound King Street at the existing 30th Street South intersection, including a potential HAWK (High-intensity Activated Crosswalk) or coordinated traffic signal.

• Widen the existing sidewalk along westbound King Street between 30th Street South and Park Center Drive.

• Reconstruct the curb ramps and pedestrian signals at the King Street / Park Center Drive intersection.

• Upgrade the existing roadway lighting system to current standards.
Bicycle & Pedestrian Improvements

- Reconstruct Curb Ramps and Pedestrian Signals at Park Center Dr
- Provide new pedestrian crossing of WB King St at 30th Street S.
- Widen the existing Sidewalk between 30th St S. and Park Center Dr
- Widen Median Sidewalk from 4’ to 8’ approaching the bridge
- Provide ADA Curb Ramps and Pedestrian Signals at Menokin Dr
Environmental and Cultural Resources Summary

- Anticipate project will meet NEPA criteria for a Programmatic Categorical Exclusion in accordance with 23 CFR 771.117
Costs

• Engineering $1.4 Million
• Construction $10.4 Million (unfunded)
• Total $11.8 Million

Schedule

• Final Design Fall 2016 to Summer 2017
• Public Information Meeting could occur in Winter 2017
• Advertise Project as early as October 2017 if construction funding becomes available
• Construction: 20 to 24 months (8 to 9 months for top side King St. Work)
QUESTIONS & COMMENTS

Send comments via email or comment form until December 9th to:

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Project website:

http://www.virginiadot.org/projects/northernvirginia/rt_7_over_i-395.asp