US 58 Arterial Preservation Plan – Final Recommendations

March 18, 2018; 5:00 PM – 7:00 PM

Southampton County Office Center; Courtland, VA
Arterial Preservation Program

Background
Summary of Program Goals

• To preserve and enhance the capacity and safety of Virginia’s critical transportation highways:
  • Reduce congestion on arterial mainline
  • Minimize delays
  • Improve safety
  • Limit the number of conflict points
Implementation Strategies

• Integrate program priorities with local economic development goals
• Improve access management
• Educate communities on the benefits of improved mobility
• Inspire coordinated transportation and land use planning efforts
• Eliminate unwarranted traffic signals
• Implement innovative intersection configurations
Why This Matters

• Preparing for future traffic and economic development reduces the need for expensive, disruptive "retrofit" projects
• Route 58 is anticipated to see additional commercial and residential development
• Route 58 provides access to local destinations, the Port of Virginia, and tourist destinations
Arterial Preservation Program

Access Management Overview
Access Management

What is Access Management?
Access management involves the location, spacing, and design of driveways, medians, median openings, traffic signals, and interchanges.

Guiding Principles
• Limit the number of conflict points
• Separate conflict points
  • Reduce the number of median openings
  • Improve driveway design
  • Consolidate driveways to reduce frequency
• Look at conflict points from a network perspective
Conflict Points

FULL UNSIGNALIZED MEDIAN OPENING

- 32 TOTAL CONFLICT POINTS
  - Diverging/Merging
  - Crossing

DIRECTIONAL MEDIAN OPENING

- 10 TOTAL CONFLICT POINTS
  - Diverging/Merging
  - Crossing

RIGHT-IN/RIGHT-OUT DRIVEWAY

- 4 TOTAL CONFLICT POINTS
  - Diverging/Merging
  - Crossing
Access Management Guidelines

VDOT Spacing Standards (35-45 MPH Principal Arterial)
Arterial Preservation Program

Innovative Intersections Overview
Innovative Intersections

- Intersection designs which:
  - Improve safety
  - Reduce delay
  - Increase efficiency
- Can reduce delays and crashes as much as 50%
- Also known as:
  - Alternative
  - Non-traditional
  - Unconventional
  - Reduced Conflict
Innovative Intersection Videos
Arterial Preservation Plan

US 58 Corridor
Study Corridor

US 58 from Suffolk BYP to Brunswick – Greensville County Line (~71 miles)
Study Corridor

• Limited-access bypass segments were considered to be improved and therefore received limited analysis as part of this study.
Project Stakeholders / Working Group

Core Study Team – VDOT and Consultant

- City of Emporia
- City of Emporia
- City of Suffolk
- Greensville County
- Isle of Wight County
- Southampton County
- Port of Virginia
- HRTPO
- HRTAC
- Crater PDC
- City of Franklin
Key issues identified in study corridor

• Safety concerns
  • Lack of adequate shoulders
  • Poor sight distance at intersections in certain locations
  • Poor geometric curves for high-speeds in certain locations (East of Holland BYP)
  • Higher levels of crashes in dense commercial and developed areas
  • Below standard turn lanes

• Operational challenges
  • High number of crossovers and access points
  • Delay in more developed areas

• Maintaining local access
• Future traffic growth
Example recommendations

• There are 110 crossovers and 50 intersections along the corridor

• Recommendations were prepared for each of the above and are available tonight for your review

• After the presentation, you can talk with staff and look up a specific location in the printed copies on the tables
How to Read the Figures

US 58 Arterial Preservation Plan
Crossover #47:
Recommendation: No Recommendation

Crossover #48:
Recommendation: Construct westbound right-turn lane on US 58
Cost: $0.3M to $0.4M

Intersection #24: Drewry Rd with US 58
Recommendation: See Figure 18
Cost: $1.7M to $2.3M

Crossover #49:
Recommendation: Remove crossover
Cost: $0.3M to $0.4M
US 58 Arterial Preservation Plan
Figure 17
Intersections & Median Crossovers
Southampton County

C#47

C#48

C#49

I#24

Intersection #24: Drewry Rd with US 58
Recommendation: See Figure 18
Cost: $1.7M to $2.3M

Crossover #47:
Recommendation: No Recommendation

Crossover #48:
Recommendation: Construct westbound right-turn lane on US 58
Cost: $0.3M to $0.4M

Crossover #49:
Recommendation: Remove crossover
Cost: $0.3M to $0.4M
US 58 Arterial Preservation Plan
Figure 18
Intersection #24: US 58 and Drewry Rd
Southampton County

Recommendation: Reconfigure intersection of US 58 and Drewry Rd to Restricted Crossing U-turn (RCUT). Construct u-turn areas with loops east and west of intersection at Drewry Rd and US 58. Reconstruct all existing turn lanes to VDOT design standards.

ROW Impacts: Minimal land acquisition and disturbance. Will require minimal land acquisition.

Improvement Type: Safety, Travel Time Preservation

Traffic Operations & Safety:
- Minimal Improvements
- Reduced conflict points where vehicles cross paths. Reduced risk of head-on collisions.

Cost: $1.7M to $2.3M
US 58 Arterial Preservation Plan
Figure 18
Intersection #24: US 58 and Drewry Rd
Southampton County

Recommendation: Reconfigure intersection of US 58 and Drewry Rd to Restricted Crossing U-Turn (RCUT). Construct U-turn areas with loops east and west of intersection at Drewry Rd and US 58. Extend existing right turn lanes on US 58 to U-turn areas. Construct acceleration lane for southbound Drewry Rd to westbound US 58. Reconstruct all existing turn lanes to VDOT design standards.

ROW Impacts: Minimal land acquisition and disturbance. Loops and turn lane work may require minimal land acquisition.

Improvement Type: Safety, Travel Time Preservation

Traffic Operations & Safety:

<table>
<thead>
<tr>
<th>Traffic Operations</th>
<th>Minimal Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>Reduced conflict points where vehicles cross paths. Reduced risk of head-on collisions.</td>
</tr>
</tbody>
</table>

Cost: $1.7M to $2.3M
Option #1: Continuous Green-T

**Southampton County**

**Recommendation:** Reconfigure crossover at Southampton Highschool and US 58 to Continuous Green-T (CGT). Extend all existing turn lanes on US 58 to VDOT design standards.

**ROW Impacts:** Little to no land acquisition as the majority of work will occur in the existing ROW.

**Improvement Type:** Safety, Travel Time Preservation

**Traffic Operations & Safety:**
- **Traffic Operations**
  - CGT improves delay for westbound US 58 turning movements from Southampton High School
- **Safety**
  - CGT reduces conflict points for vehicles traveling westbound US 58

**Cost:** $0.9M to $1.2M
US 58 Arterial Preservation Plan
Figure 27
Crossover #73
Option #2: New Access Road
Southampton County

Recommendation: Remove crossover and left-turn on US 58 westbound across from Southampton High School. Construct new road around school in the southwest corner.

ROW Impacts: Significant land acquisition and disturbance will be required to construct new road.

Improvement Type: Safety, Travel Time Preservation

Traffic Operations & Safety:

- Traffic Operations: Increased capacity for vehicles exiting the school going westbound US 58 and onto Meherrin Rd.
- Safety: Eliminates weave section between Meherrin Ramp onto US 58 westbound. Reduced risk of crashes since new road intersects with lower speed and volume Meherrin Road. Reduced cut-through traffic through bus loading area.

Cost: $3.1M to $4.0M

Legend:
- Standard Movements
- Rerouted Movements Entering High School
- Rerouted Movements Exiting High School
Figure 29
Crossovers #76 to #79: Option 1

Southampton County

Recommendation: Widen eastbound US 58 lanes to construct continuous right-turn lane through to the intersection of Story Station Rd and US 58. Removal and realignment of traffic markings on eastbound US 58 will be necessary to accommodate right-turn lane. Reconfigure the three crossovers to directional medians.

ROW Impacts: Minimal land acquisition as most of the widening is within ROW.

Improvement Type: Safety, Travel Time Preservation

Traffic Operations & Safety:

- Traffic Operations: Less stops and slow-downs caused by vehicles turning right on eastbound US 58.

- Safety: Providing a right-turn lane decreases the risk and frequency of rear-end crashes. Directional medians reduce the number of permitted movements, thus decreasing number of conflicts that may occur.

Cost: $3.7M to $4.9M
US 58 Arterial Preservation Plan
Figure 31
Crossovers #76 to #79: Option 2
Southampton County


ROW Impacts: Significant land acquisition and disturbance will be required to realign US 58 and frontage road extension to Old Bridge Rd.

Improvement Type: Safety, Travel Time Preservation

Traffic Operations & Safety:

- **Traffic Operations**: CGT improves delay for westbound US 58 turning movements from frontage road

- **Safety**: Realignment eliminates multiple commercial access points reducing conflicts from turning vehicles. Realignment also permits safer travel of higher speeds; CGT reduces conflict points for vehicles traveling westbound US 58

Cost: $8.7M to $11.4M
US 58 Arterial Preservation Plan
Figure 32
Intersection #35: US 58 and Story Station Rd
Southampton County

Recommendation: Reconfigure main intersection of US 58 and Story Station Rd to signalized Restricted Crossing U-Turn (RCUT). Construct U-turn areas east and west of existing intersection.

ROW Impacts: Little to no land acquisition as the majority of work is within the existing ROW.

Improvement Type: Congestion, Safety, Travel Time Preservation

Traffic Operations:

<table>
<thead>
<tr>
<th></th>
<th>Total Intersection Delay (s)</th>
<th>AM</th>
<th>PM</th>
</tr>
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<tbody>
<tr>
<td>Existing Conditions</td>
<td>18.2 - B</td>
<td>19.6 - B</td>
<td></td>
</tr>
<tr>
<td>2040 No Build Conditions (Conventional Intersection)</td>
<td>19.4 - B</td>
<td>23.5 - C</td>
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</tr>
<tr>
<td>2040 Build Conditions</td>
<td>14.0 - B</td>
<td>12.0 - B</td>
<td></td>
</tr>
</tbody>
</table>

Cost: $1.2M to $1.8M
US 58 Arterial Preservation Plan
Figure 34
Intersection #38: US 58 and Camp Pkwy
Southampton County

Recommendation: Reconfigure intersection of US 58 and Camp Pkwy to signalized Continuous Green T (CGT)

ROW Impacts: Little to no land acquisition as the majority of work within the existing ROW.

Improvement Type: Congestion, Safety, Travel Time Preservation

Traffic Operations:

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<tr>
<td>(Conventional Intersection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2040 Build Conditions</td>
<td>12.0</td>
<td>9.4</td>
</tr>
</tbody>
</table>

Cost: $0.8M to $1.2M
Next Steps

• Review meeting input and finalize study report
  • Report will be available on study website once complete

• Work with City & County officials to implement solutions
  • Identify priorities & seek funding
  • Concepts do not advance without local support
  • No date has been established for construction
  • Recommendations will be implemented as opportunity and funding permits
How to find more information

• Arterial Preservation Program Website
  http://www.virginiadot.org/programs/vdot_arterial_preservation_program.asp

• Innovative Intersections Website
  http://www.virginiadot.org/innovativeintersections/

• US 58 Project Web Page
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