Agenda

Planned Corridor Activities
Candidate Improvements
  – Recommendations
Immediate Actions & Status
Next Steps
Time Line/Schedule
Questions
NVTA Route 28 Widening and Improvement Project

– In Loudoun:

  • Route 28 South widening from Sterling Boulevard to the Dulles Toll Road, providing “hot spot” improvements
In Prince William (4 ½ miles):

– Route 28 widening from Linton Hall Road to Fitzwater Drive
  • Includes the realignment of Vint Hill Road

– Route 28 widening from Route 234 Bypass (PWC Pkwy) to Linton Hall Road
In the City of Manassas:

- Route 28 widening from Godwin Drive to the Southern City/Prince William County limits
- Route 28 (Manassas Bypass) Study
NVTA Route 28 Widening and Improvement Project

– In Fairfax:
  • Route 28 North widening from McLearen Road to the Dulles Toll Road
  • Route 28 South widening from the Dulles Toll Road to Route 50; and
NVTA Route 28 Widening and Improvement Project

- Route 28 widening from Prince William County Line to Route 29
  - From 4 lanes to 6 lanes
  - Both directions
- Planned to be in place by 2020
Planned Corridor Activities

Old Centreville Road

Bull Run Bridge, Major Rehab Project

- Existing Rt 28 alternative route
- Work starts in Summer 2016
- Estimated construction cost = $1.9M
- Deck replacement, no additional capacity
- Old Centreville Rd
  - will be reduced to one reversible lane with signalization
- Impact, moves existing bottleneck south
8 Candidates for further analysis

summary:

1. Additional northbound lane(s) - Rt 28
   a. Upperridge through New Braddock
   b. New Braddock to Tallavast
   c. Tallavast through Compton
   d. Additional SB left turn lane Rt 28 at New Braddock Road

2. Sidewalk/path - eastside near Bull Run Bridge

3. Sidewalk/path – westside, Spruce Street to Leland Road
4. Signal warrant study at Phoenix Drive
5. Route 28 Restriping, Northbound, Liberia Ave to Breeden Ave
6. Southbound left-turn bay extension at Liberia Avenue
7. Transportation Demand Management (TDM) to achieve a 3% to 5% reduction
8. Roundabout intersection at Ordway/Compton
Study Analysis elements:

- Developed traffic forecast model for design year 2020
  - Widening of Rt 28 from Upperridge to Bull Run Bridge, in base
- Performed traffic analysis
- Developed benefits using HSIP process
- Developed preliminary design sketches
- Developed cost estimates
- Developed cost-benefit ratio and recommendations
Item 1: Additional Lanes on Route 28

Route 28 Widening

– Widen from existing 4 lanes to 6 lanes
– Bull Run Bridge to Upperridge Drive/Old Centreville Road
Route 28 Widening

– Travel time under existing conditions
  • Expected improvement of 15 minutes (33%) in corridor for AM northbound peak
  • From existing average travel time of 45 mins. to 30 mins.
    – Liberia Avenue to New Braddock Road

– Projected Benefit
  • Additional capacity
  • Needed to keep pace with projected growth
  • 2020 travel time with additional development
    – 4 minutes better than existing (9%)
Two design options were developed

– Option 1 added the sidewalk behind existing guardrail

– Option 2 shifts curb line out, uses median area
Option 1 added the sidewalk behind existing guardrail, 700’ in length
- Impacted PWC Park (slope easements)
- Takes trees
- Easement
- Cost Estimate = $1.7M
  - Construction $1,300,000
  - Engineering $360,000
  - Right-of-way $20,000
Option 2 shifts curb line, use median area, 700’ in length
  – Removes portion of 2-way left turn lane area
  – Little to no impact on PWC Park
  – Cost = $1.1M
    • Construction $870,000
    • Engineering $250,000
    • Right-of-way $0

Option 2 is preferred
  • High safety value, pedestrian/bike system continuity
  • Cost-Benefit ratio of 0.9 to 1
Sidewalk/path - Eastside near Bull Run Bridge

Route 28 Eastside Sidewalk Near Bull Run Bridge
Route 28 Safety and Operational Study

Option 1
Sidewalk/path - Eastside near Bull Run Bridge

Route 28 Eastside Sidewalk Near Bull Run Bridge
Route 28 Safety and Operational Study
Option 2
Item 3: Sidewalk, Westside Spruce St to Leland Rd

Safety related improvement
– Adds 1,400’ of sidewalk, westside of Route 28
– Addresses pedestrian/bicycles in roadway
Improvement Benefits

– Removes pedestrians/bicycles conflicts from roadway
– Provides pedestrian access to private school
– Design constraints
  • Drainage and slope areas
  • Vegetation
– Cost = $2.5M
  • Construction $1,700,000
  • Engineering $460,000
  • Right-of-way $325,000
– High cost benefit ratio (3 to 1)
Informal
• Bull Run to Orchard Bridge

Missing
• Patton to Yorkshire

Informal
• Yorkshire to Leland
• Spruce to Brown
Warrant analysis
– Data collected
  • March, 2015
– Warrants not met

<table>
<thead>
<tr>
<th>MUTCD Warrants</th>
<th>Warrant Description</th>
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<tbody>
<tr>
<td>Warrant 1</td>
<td>Eight-Hour Vehicular Volume</td>
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<tr>
<td>Warrant 2</td>
<td>Four-Hour Vehicular Volume</td>
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<tr>
<td>Warrant 3</td>
<td>Peak Hour</td>
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<tr>
<td>Warrant 4</td>
<td>Pedestrian Volume</td>
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<tr>
<td>Warrant 5</td>
<td>School Crossing</td>
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<tr>
<td>Warrant 6</td>
<td>Coordinated Signal System</td>
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<tr>
<td>Warrant 7</td>
<td>Crash Experience</td>
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<tr>
<td>Warrant 8</td>
<td>Roadway Network</td>
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<tr>
<td>Warrant 9</td>
<td>Intersect - Near a Grade Crossing</td>
</tr>
</tbody>
</table>
Restriping northbound Route 28

– Liberia Avenue to Breeden Avenue
– Convert outer most northbound lane
  • From its right turn only designation
  • To a through-right designation
– Possible implementation is tied to new signal at Phoenix Drive
– Requires new pavement markings and roadside signing adjustments
Route 28 Restriping, Northbound, Liberia Ave to Breeden Ave

Restripe Route 28 from Liberia Ave. to North of Breeden Ave. Route 28 Safety and Operational Study
Item 5: Route 28 Restriping, NB, Liberia Ave to Breeden Ave

Improvement benefits:

– Additional northbound capacity

– Cost = $170K

• Construction  $135,000
• Engineering  $35,000
• Right-of-way  $0

– Improvement tied to signal warrant at Phoenix Dr

• Safety related to SB lefts crossing three lanes at uncontrolled location
Intersection improvement:

- Additional storage for southbound to eastbound left turn vehicles
Intersection improvement to address:

– SB left turning traffic queuing into SB through lanes during peaks

– Reduction in rear-end accidents

– Requires access changes:
  • Make Kincheloe Drive Right in-out only
  • Shopping center driveway, right out only, possibly support left turn in

– Cost-Benefit ratio of 15 to 1

– Cost = $250K
  • Construction $190,000
  • Engineering $55,000
  • Right-of-way $0
Item 7: Transportation Demand Management (TDM)

TDM strategies to reduce demand

- Existing programs to leverage
  - MWCOG’s Commuter Connections
    - Pool Rewards, Rideshare matching
    - Private sector alternatives

- Targeted program, peak hour reductions
  - 3% to 5% overall
  - Reducing vehicle miles of travel (VMT) by 0.4%
  - Reducing vehicles hours traveled (VHT) by 1%

- Cost
  - $100 to $130 per month per carpool
  - Approximately $500K to $800K for 5 years
Old Centreville Road

– Serves as a parallel alternative route
– Address off-set intersection in close proximity to the of Compton Road and Route 28

– Roundabout would:
  • Re-align the approaches to intersect at 90 degrees
  • Change the intersection control from minor street stop to a roundabout operation.
  • Increase the approach geometry for the intersection of Compton Road with Route 28
    – Dual lefts, a through lane and a right turn lane.

– Cost-Benefit ratio of 8 to 1
Intersection improvement to address:

- Address intersection spacing between Ordway Road and Route 28, more queuing space
- Congestion reduction at Ordway Road/Compton Road/Route 28
  - LOS A/B
- Address queuing on EB leg of Ordway Rd/Compton Rd/Route 28
- Cost = $6.1M
  - Construction $4,700,000
  - Engineering $925,000
  - Right-of-way $580,000
Route 28 widening north of Bull Run
  – Fairfax County and NVTA underway

Sidewalks
  – Sidewalk/path – westside Spruce St to Leland Rd
  – Sidewalk/path - eastside near Bull Run Bridge
    • Part of completion of pedestrian/bicycle plan

SB Left-Turn Bay Extension at Liberia Ave
Roundabout Intersection at Ordway Rd/Compton Rd
VDOT On-Going Recommendation Implementation

– Signal retiming on Route 28
  • Upperridge Road to Bull Run – completed
  • Bull Run to Manassas Drive – completed

– Liberia Avenue retiming – data collection phase
  • Portner Avenue
  • Mathis Avenue
  • Route 28
  • Manassas Junction
  • Euclid Avenue
## VDOT Traffic Engineering Activities:

<table>
<thead>
<tr>
<th>Cross Street</th>
<th>#</th>
<th>Candidate Improvement</th>
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</thead>
<tbody>
<tr>
<td>Machen Rd</td>
<td>2</td>
<td>Add “Right Lane Must Turn Right” sign and pavement markings to the southbound lanes 100-150 ft. south of the intersection (to supplement existing sign and pavement markings downstream) Currently under review including pedestrian crossing operations</td>
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<tr>
<td>New Braddock Rd</td>
<td>7</td>
<td>EB center signal head serving thru-left lane should be four-section signal head Review pedestrian crossing operations</td>
</tr>
<tr>
<td>Compton Rd</td>
<td>14</td>
<td>Install supplemental signal head on Ordway Rd EB approach</td>
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<tr>
<td>Rugby Rd</td>
<td>17</td>
<td>Install intersection warning signs with road name plaque</td>
</tr>
<tr>
<td>Rugby Rd</td>
<td>20</td>
<td>Relocate school pedestrian crossing sign SB Rt 28</td>
</tr>
<tr>
<td>Maplewood Dr</td>
<td>21</td>
<td>Install advance “Next Signal” guide signing</td>
</tr>
<tr>
<td>Manassas Plz / Browns Ln</td>
<td>23</td>
<td>Install advance “Next Signal” guide signing</td>
</tr>
<tr>
<td>Old Centreville / Blooms Quarry Ln</td>
<td>25</td>
<td>Install intersection warning signs for SB with road name plaque</td>
</tr>
<tr>
<td>Orchard Bridge Dr</td>
<td>Citizen</td>
<td>Review and adjust southbound left turn indications to address visibility comments from citizens, alignment or replacement possible.</td>
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**Note:**

- New Braddock Rd EB center signal head serving thru-left lane should be four-section signal head. Review pedestrian crossing operations.
- Orchard Bridge Dr Citizen: Review and adjust southbound left turn indications to address visibility comments from citizens, alignment or replacement possible.
Next Steps

Steering Committee comment and approval

Second round of citizen input meetings

Finalize recommendations and report

Seek funding to implement recommendations
Study Time Line

Technical Committee Meeting  May 22, 2015
Steering Committee Meeting  May 29, 2015
Public Meeting 2  Summer 2015
Final Report (after comment period)  Summer 2015
Study Complete  Summer 2015
• Questions / Comments?