Route 29 Corridor Assessment Update
Development of Possible Solutions

Public Workshop #3
October 27, 2016

Purpose of Developing Possible Solutions

Recap of where we’ve been and timeline for moving forward
Purpose of Developing Possible Solutions

Support corridor goals and objectives to

- Promote a safe transportation system on Route 29
- Promote an effective transportation system on Route 29
- Promote a transportation system compatible with existing and future land uses

Identify a wide range of possible solutions and

- Discuss tradeoffs
- Discuss costs and funding options
- Make recommendations for implementation

Solution Development Process

1. Identify local priorities based on past studies and public comments:
   - Concern with congestion along the northern segments (approaching the U.S. Route 460 interchange)
   - Safety is a consistent concern, particularly when traffic waiting to turn is backed up into the travel lanes
   - Access to/from side driveways can be challenging, especially with heavy traffic volumes
   - Land use and transportation planning should be coordinated
2. Research previous studies and current transportation designs to identify possible solutions

3. Evaluate potential solutions according to
   - Selected Performance Measures
   - Costs
   - Anticipated change with current Route 29 conditions

**Solution Development Process**

**ISSUES**
- Roadway and intersection designs based on earlier standards and previous zoning
- Numerous parcels with limited frontage on Route 29
- Frequent median crossovers without turn lanes
- High number of driveways and access points along the corridor
- High volume of heavy trucks

**RECOMMENDATIONS**
- Address high crash rate areas
- Selective closure of median crossovers
- Apply access management principles to current and future development
- Consider installation of frontage roads
- Identify options for new/enhanced local street connections
- Consider options for traffic signal functions and locations

**Summary of Findings**
### Route 29 Bypass Discussion

**ISSUES**
- The Route 29 Bypass has been studied and discussed for several decades
- Planning level cost estimate of at least $100 million dollars (2016)
- Limited funding opportunities
- This project would not score well versus other projects in competitive funding sources (i.e. Smart Scale)

**RECOMMENDATIONS**
- Route 29 Bypass was dropped from consideration as a feasible short to mid-term (5-15 years) solution for improving the corridor

---

### Solution Elements Matrix (handout)

<table>
<thead>
<tr>
<th>Solution Elements</th>
<th>Emphasis Area / Theme</th>
<th>Planning Level Cost Range Per Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial Capacity and Throughput</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corridor Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;SMART&quot; and Alternative Transportation Solutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closure of median crossovers</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Existing median crossover modification: left-in only with right-out</td>
<td>++</td>
<td>–</td>
</tr>
<tr>
<td>Restricted crossing U-turn (RCUT)</td>
<td>++</td>
<td>–</td>
</tr>
<tr>
<td>New turn lanes and improvements in existing turn lanes.</td>
<td>++</td>
<td>–</td>
</tr>
<tr>
<td>Signal modification: Flashing Yellow Arrow (FYA)</td>
<td>++</td>
<td>–</td>
</tr>
<tr>
<td>Median current Transportation Corridor Overlay District</td>
<td>++</td>
<td>–</td>
</tr>
<tr>
<td>Reduction in existing speed limits along the corridor</td>
<td>–</td>
<td>++</td>
</tr>
<tr>
<td>Roadway realignment/access modification: Anstey Road, Leland Road, Rangson Street, Lawyers Road</td>
<td>++</td>
<td>–</td>
</tr>
<tr>
<td>Two-way left-turn lane (798.7L)</td>
<td>++</td>
<td>–</td>
</tr>
<tr>
<td>Continuous right-turn lane</td>
<td>++</td>
<td>–</td>
</tr>
<tr>
<td>Future traffic signals</td>
<td>--</td>
<td>++</td>
</tr>
<tr>
<td>Traffic Management System (TMS)</td>
<td>--</td>
<td>++</td>
</tr>
<tr>
<td>Multi-modal services: sidewalks and shared-use paths</td>
<td>--</td>
<td>++</td>
</tr>
</tbody>
</table>

**Emphasis Area Key:**
- Solution element is included in emphasis area
- + Moderate improvement in current conditions (or very good alignment with funding sources)
- ++ Minor improvement in current conditions (or good alignment with funding sources)
- +++ Minor reduction in current conditions
- ++++ Moderate reduction in current conditions
- – Change from current conditions
- –– Moderate reduction in current conditions
- -- – Change from current conditions and/or alignment with funding source will depend upon specification

**Cost Estimate Key:**
- $ ≤$50,000
- $50,001 - $775,000
- $775,001 - $1,500,000
- ≥ $1,500,001

* Continuous improvement throughout most of corridor.
Potential Solution: Closure of Select Median Crossovers

- Would bring crossovers into compliance with current VDOT standards for minimum spacing between crossovers and intersections
  - Reduces number of vehicular movements within a defined area
  - Helps reduce crashes
  - Redirects travelers currently using these medians to nearby intersections (or other crossovers)

- Proposed at 8 locations

Depending on location, closure of median crossover may be combined with:
- Addition of new access point nearby (e.g. near Leland Road)
- New alignment to connect with an existing nearby access point (e.g. for Rangoon Street)

Potential Solution: Existing Median Crossover Modification

- Left-in only at median crossings along Route 29 to side streets

- Provides for safer configuration by eliminating left-out maneuvers from side streets (right-in/right-out only)
  - Reduces number of conflicts
  - Helps to reduce crashes
  - Maintains partial access
  - Redirects travelers currently using these medians to nearby intersections (or other crossovers)

- Proposed at 3 locations
Potential Solution: Restricted Crossing U-Turn Intersection (RCUT)

- Allows left turns from Route 29 onto the side street
  - Reduces number of movements through a median crossing
  - Helps to reduce crashes
- No left turns allowed from the side streets onto Route 29
  - Upstream/downstream U-turn areas would be needed to change direction on Route 29
- 4 specific areas where this could be implemented (Moorman Mill Road, Patterson Road, Lynbrook Drive, and Hyland Drive)

Potential Solution: Add/Extend Turn Lanes at Intersections and Median Crossings

- Turn lanes built to VDOT standards increase storage space for turning vehicles
  - Helps to reduce crashes
  - Helps improve through-travel time and flow
- 16 areas where existing left turn lanes could be extended
- 8 areas where new left turn lanes could be added
- 5 areas where existing right turn lanes could be extended
- 4 areas where new right turn lanes could be added
Potential Solution: Install Flashing Yellow Left Turn Arrow Traffic Signals

- Flashing Yellow Left Turn Signals are a new way to display permitted (yielding) indications
  - Safer
  - Allows for more efficient signal operations

- Proposed Flashing Yellow Arrow installation at the Calohan Road and Route 29 intersection

Potential Solution: Modify Corridor Overlay District (zoning changes)

- Further strengthen the existing Corridor Overlay District to minimize access points and encourage lot consolidation and shared entrances

- Expand the minimum lot frontage to 200 feet in width

- Expand the minimum lot size to 1 acre
Potential Solution: Reduction in Existing Speed Limits

- Many public comments focused on speeding issues and their concern for safety
- Proposed change from 60 MPH to 55 MPH from Colonial Highway (Route 24) to Calohan Road
- Proposed change from 60 MPH to 45 MPH from Calohan Road to Lawyers Road
- Proposed change from 45 MPH to 35 MPH from Lawyers Road to the U.S. Route 460 interchange
- Other reductions were considered

Potential Solution: Roadway Realignment/Access Modification

- Anstey Road
- Leland Road
- Lawyers Road
- Rangoon Street
Potential Solution: Two-Way Left-Turn Lane (TWLTL)

- Provides maximum access
- Can be unsafe
- Does not conform to VDOT Access Management Regulations

Potential Solution: Continuous Right Turn Lane

- Provides for deceleration lane into multiple adjacent driveways
Potential Solution: Future Traffic Signals

- Possible locations when warranted in the future:
  - Moorman Mill Road
  - Patterson Road
  - Lynbrook Road
  - Hyland Drive

- Introduces delay on Route 29

- Provides more direct and efficient access to development on Route 29

Potential Solution: Traffic Management System

- Red Light Cameras
- Speed Enforcement Cameras
- Updated Signal System to include video of intersections
Potential Solution:
Multi-Modal Services: Sidewalks and Shared-Use Paths

- Sidewalks
  - 5' wide
- Shared-use paths
  - 10' wide
- Implement from North to South as density warrants

QUESTIONS AND COMMENTS