**WELCOME**

I-395 SEMINARY ROAD RAMP — TRAFFIC ANALYSIS FOR THE CONVERSION FROM HOV TO HOT

### Goals of tonight’s meeting

To provide information and gain public input:
- Traffic analysis findings
- Safety findings

Opportunities to provide formal comment for the public record:
- Submit written comments on the comment sheet
- Ask questions following the presentation

### Project goals

To develop a transportation solution that:
- ✓ Encourages greater use of existing interstate network and capacity
- ✓ Reduces congestion on the general purpose lanes
- ✓ Improves safety
- ✓ Improves network reliability and provide predictable travel choice
**PROJECT BENEFITS**

- **Expanded travel choices**
  - The Project utilizes existing infrastructure to provide an alternative choice for single or double occupancy vehicles – post-conversion HOV3+ will travel free 24/7
  - Analysis shows utilization of the ramp increases when converted from HOV to HOT

- **Improved safety**
  - Overall estimated crash rate reduction across general purpose and HOT ramps

- **Improved reliability**
  - Reduces congestion on I-395 general purpose lanes
  - Increased ability for the interstate network to handle crashes and other congestion events

- **To repurpose underutilized infrastructure**
  - The ramp is underutilized today, carrying only 49 – 61% of forecasted volumes for 2015

- **Improved operations on local streets**
  - The increase in volumes on the HOT ramp exceeds the decrease in volumes on the general purpose lanes, indicating cars are being drawn from local streets to the HOT Lanes (see figure)
  - No impact or small reductions in traffic volumes on local streets

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### Anticipated traffic volumes on the NB ramps during the AM peak period

<table>
<thead>
<tr>
<th></th>
<th>2020 No Build/HOV</th>
<th>2020 Build/HOT</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td></td>
</tr>
<tr>
<td>GP AM</td>
<td>1,470</td>
<td>1,310</td>
</tr>
<tr>
<td>HOV/HOT AM</td>
<td>135</td>
<td>230</td>
</tr>
<tr>
<td>Local Streets AM</td>
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</tbody>
</table>
**Existing infrastructure**
- Ramp constructed by VDOT in 2012, opened in 2016
- No additional civil construction required

**Signage and pavement marking changes**
- No new signage or digital messaging boards
- Seminary Road: 4 sign removals, 5 sign overlays, 2 sign replacements, and 2 sets of pavement message replacements
- I-395 Northbound General Purpose Lanes: 4 sign removals, 1 sign overlay, 3 sign replacements, and 2 sets of pavement message replacements

<table>
<thead>
<tr>
<th>TASKS</th>
<th>LATE 2019</th>
<th>EARLY 2020</th>
<th>MID 2020</th>
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<tbody>
<tr>
<td>Public meeting</td>
<td></td>
<td>December 9th</td>
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<td>Public comment period closes</td>
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<td>December 31st</td>
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<td>Traffic analysis input from the City of Alexandria</td>
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<td>Traffic analysis and NEPA approval from FHWA</td>
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<tr>
<td>Traffic analysis approval from VDOT</td>
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<tr>
<td>Target ramp conversion</td>
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<td>October 1</td>
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*VDOT* Virginia Department of Transportation
Study area and data collection

✓ Study area limits and intersections were delineated in coordination with VDOT, FHWA, and the City of Alexandria

✓ Further traffic counts in a wider area were completed to inform the larger analysis of local streets

✓ Data was collected during October and November 2018

✓ Automatic traffic recorder and turning movement counts were collected for the study area

✓ 70+ intersections were studied
EXISTING CONDITIONS

- Utilizing existing infrastructure
- The ramp is underutilized, and currently carrying only 49-61% of the traffic forecasted for 2015 in the peak hour
EXPRESS LANES NETWORK

- Opened November 17, 2019
- Extended existing 95 Express lanes from near Edsall Road to the D.C. line
- $15M annual transit investment
- Reversible in peak direction
- HOV-3+ travel free 24/7 with E-ZPass Flex in HOV ON mode
- The Seminary south-facing HOV ramp is a reversible access point that connects to the 395 Express Lanes
TRAFFIC OPERATIONAL ANALYSIS KEY FINDINGS

✓ Traffic volumes from general purpose lanes and local arterials move to the HOT lanes
✓ No adverse impacts on intersections in 2020 and 2040
✓ No adverse impacts on speeds along local streets in 2020 and 2040
✓ Findings do not change materially with and without the road diet along Seminary Road
✓ Ramp is underutilized today currently carrying only 49 – 61% of forecasted volumes for 2015
✓ Converting to HOT, volumes expected to be lower than original forecasts

Seminary Ramp Volumes (AM Peak Hour)

- Existing Counts
- 2019 Study (IMR)
- 2019 Study (IMR)
- 2012 Study (IMR)

Seminary Ramp Volumes (PM Peak Hour)

- Existing Counts
- 2019 Study (IMR)
- 2019 Study (IMR)
- 2012 Study (IMR)
Based on crash analysis, estimate less than 1 crash per year along the south facing HOV ramp.

Converting ramp from HOV to HOT increases traffic on HOT ramp and decreases traffic on general purpose (GP) ramp, therefore the estimated crash rate reduction on GP ramp is greater than the crash rate increase on the ramp operating as HOT.

In summary, estimate a net reduction in crashes on the corridor.

Crash analysis performed using last 5 years (2014-2018) data for freeway, ramps & arterials within the IMR Study Area crash rates compared with statewide and crash modification factors used to predict future crash frequency.

*Includes all on- and off-ramps within the IMR Study Area.
EXTENDED STUDY AREA TRAFFIC ANALYSIS

AM PEAK HOUR 2020 — HOV vs. HOT

HOT scenario

- Increase in HOT ramp volume is greater than the decrease in the general purpose ramp volume
- Traffic shifts from general purpose lanes to HOT and from local streets to HOT
- Traffic filters from local streets south of Alexandria to I-495 general purpose lanes

Legend

- Increase
- Decrease
- No Material Change
EXTENDED STUDY AREA TRAFFIC ANALYSIS

PM PEAK HOUR 2020 — HOV vs. HOT

**HOT scenario**
- Increase in HOT ramp volume is greater than the decrease in the general purpose ramp volume
- Traffic shifts from general purpose lanes to HOT and from local streets to HOT
- Small movement of traffic from local streets to interstate network

**Legend**
- Increase
- Decrease
- No Material Change