US 29
Corridor Planning Study
Planning Board Meeting

Montgomery County
RAPID TRANSIT

February 16, 2017
Conceptual Alternatives

- **Alternative A:**
  - Intermittent Curbside Business Access Transit Lanes (BAT)* in South
  - Median Shoulder BRT Lanes in North

- **Alternative B:**
  - Intermittent Curbside Managed Lanes (HOV2+/BAT)** in South
  - Bus on Outside Shoulder in North

- **Alternative B Modified:**
  - Intermittent Curbside Managed Lanes (HOV2+/BAT)** in South
  - Median Shoulder BRT Lanes in North

*BAT Lane = BRT buses, local buses, right turning traffic

**HOV2+/BAT Lane = Vehicles with 2 or more persons, BRT buses, local buses, right turning traffic
Alternative A
Alternative B
Alternative B Modified
Alternative B and B Modified

A Comparison of Subtle Differences
2040 Total Daily Boardings and Travel Demand

<table>
<thead>
<tr>
<th>Total Daily Transit Boardings</th>
<th>Total Daily BRT Boardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-Build</td>
<td>Alt A</td>
</tr>
<tr>
<td>28,500</td>
<td>34,900</td>
</tr>
</tbody>
</table>

- **Transit**: Total daily transit boardings increase between 18 percent and 22 percent over No-Build conditions.

- Vehicle Miles Traveled are reduced under all three conceptual build alternatives.

- Person Miles Traveled are increased under all three conceptual build alternatives.

- **Vehicles**: A 60 percent or greater increase in HOVs and a decrease in SOVs are projected during the peak hours with Alternatives B and B Modified.
## 2040 Estimated Project Costs

<table>
<thead>
<tr>
<th></th>
<th>Right-of-Way ($M)</th>
<th>Bus Procurement ($M)</th>
<th>Construction ($M)</th>
<th>Annual Operating ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative A</strong></td>
<td>$2 to $3</td>
<td>$21</td>
<td>$80 to $112</td>
<td>$9 to $10</td>
</tr>
<tr>
<td><strong>Alternative B</strong></td>
<td>$2 to $5</td>
<td>$17</td>
<td>$60 to $108</td>
<td>$8 to $9</td>
</tr>
<tr>
<td><strong>Alternative B Modified</strong></td>
<td>$2 to $3</td>
<td>$19</td>
<td>$77 to $106</td>
<td>$9 to $10</td>
</tr>
</tbody>
</table>

- Costs are approximate and based on 2015/2016 dollars.
- Right-of-Way costs in Alternative B are higher due to additional storm water management costs.
- Forecasted ridership levels for Alternative B indicate that fewer buses and reduced operating times are required; therefore, operations costs are lower compared to Alternatives A and B Modified.
2040 Traffic Operations Performance Measures

The traffic operations analysis covered the following key performance measures, among others:

• Corridor Travel Time
• Person Throughput at Select Locations
• Miles of Level of Service (LOS) at ‘E’ or ‘F’
• Intersections Operating at LOS ‘E’ or ‘F’
2040 Corridor Travel Time

- Mixed results between the build alternatives and No Build; Alternative A had the slowest travel times.

- Alternative A had the slowest AM Peak travel time for cars and trucks as well as for BRT, even slower than No Build.

- Alternative B and Alternative B Modified offered the fastest BRT and local bus AM peak travel times; B Modified had the fasted PM time for buses.

- Alternative B and Alternative B Modified offered the fastest HOV PM peak travel times.

- AM Weighted Person Travel Time was fastest with No Build; slowest with Alternative A.
2040 Person Throughput

- AM person throughput is higher with Alternatives B and B Modified than for Alternative A or the No Build
- PM person throughput is higher for No Build at southern end of corridor than for the other alternatives
- PM person throughput is higher for all three build alternatives at the north end of corridor than the No Build
2040 Traffic Performance

- Alternative B Modified improvements to LOS in the PM Peak may be attributed to fewer vehicles accessing the corridor in the north.

- Latent demand for the three build alternatives increases due to fewer vehicles accessing the network.
Overall the analysis shows the following:

- Improved Transit Travel Time
- Improved Person Throughput
- Potential Increase in Delays for Cars and Trucks
- Potential Increase in Latent Demand

Additional analysis to improve traffic performance:

- Adjustments to the Limits and Transitions of the BAT lane or Managed lane
- Operating the BRT in Mixed-traffic
- Alternative Bus Routings
- Roadway Capacity Improvements
Questions?