Welcome

Topics to be discussed:

- Project Update – 10 min
- Transit Ridership – 35 min
- Traffic Operations – 35 min
- Draft Project Purpose and Need Language – 10 min
- BRT Running Way Options – 35 min
- Future Meetings & Questions – 10 min
Project Update – Corridor Planning Study

• Conducting a preliminary assessment of a range of conceptual improvements

• Developing recommendations to be used in subsequent phases (i.e., NEPA or MEPA)

• Utilizing the Planning and Environment Linkages (PEL) approach
  • Consider environmental, community, and economic goals early in the transportation planning process
  • Use products developed during PEL to guide the subsequent environmental review process (i.e., NEPA or MEPA)

• For more on PEL, go to: http://environment.fhwa.dot.gov/integ/index.asp
Project Update – Informational Open House Meetings

The Informational Open House meetings postponed, to:

• Allow for greater coordination and input from the CAC Members

• Evaluate and/or incorporate preliminary findings of the City of Rockville and City of Gaithersburg BRT Studies

• Develop preliminary service planning information

• Once new dates are identified, the public will be informed through a series of outreach efforts: “Save The Date” postcard, informational brochure, newspaper ads, project website, and coordination with local civic organizations
CAC Meeting No. 3 Agenda

Topics to be discussed:

• Project Update
• Transit Ridership
• Traffic Operations
• Draft Project Purpose and Need Language
• BRT Running Way Options
• Future Meetings & Questions
Existing and Future No Build Regional Travel Demand

Study Corridor

- By 2040:
  - 44,000 new households (37% growth)
  - 101,000 new residents (33% growth)
  - 86,000 new jobs (31% growth)
## Population Growth

<table>
<thead>
<tr>
<th>Dist</th>
<th>2014</th>
<th>2040</th>
<th>Growth</th>
<th>Percent Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>87,900</td>
<td>101,800</td>
<td>13,900</td>
<td>15.9%</td>
</tr>
<tr>
<td>2</td>
<td>80,200</td>
<td>122,700</td>
<td>42,500</td>
<td>53.0%</td>
</tr>
<tr>
<td>3</td>
<td>48,000</td>
<td>68,000</td>
<td>20,000</td>
<td>41.5%</td>
</tr>
<tr>
<td>4</td>
<td>66,000</td>
<td>76,200</td>
<td>10,200</td>
<td>15.5%</td>
</tr>
<tr>
<td>5</td>
<td>26,000</td>
<td>40,600</td>
<td>14,600</td>
<td>56.2%</td>
</tr>
<tr>
<td>Total</td>
<td>308,100</td>
<td>409,300</td>
<td>101,200</td>
<td>32.9%</td>
</tr>
</tbody>
</table>

Source: MWCOG Round 8.3 Cooperative Land Use Forecasts
### Employment Growth

<table>
<thead>
<tr>
<th>Dist</th>
<th>2014</th>
<th>2040</th>
<th>Growth</th>
<th>Percent Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>94,500</td>
<td>114,100</td>
<td>17,600</td>
<td>20.1%</td>
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<tr>
<td>2</td>
<td>84,600</td>
<td>122,100</td>
<td>37,500</td>
<td>46.7%</td>
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<tr>
<td>3</td>
<td>61,300</td>
<td>78,700</td>
<td>17,400</td>
<td>36.3%</td>
</tr>
<tr>
<td>4</td>
<td>30,600</td>
<td>39,500</td>
<td>8,900</td>
<td>13.4%</td>
</tr>
<tr>
<td>5</td>
<td>9,800</td>
<td>14,800</td>
<td>5,000</td>
<td>19.4%</td>
</tr>
<tr>
<td>Total</td>
<td>282,800</td>
<td>369,200</td>
<td>86,300</td>
<td>28.0%</td>
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</tbody>
</table>

Source: MWCOCG Round 8.3 Cooperative Land Use Forecasts
## Existing Travel Patterns

### All Daily Trips, All Trip Purposes

<table>
<thead>
<tr>
<th>From/To</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Corridor Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>92,841</td>
<td>25,450</td>
<td>5,706</td>
<td>2,191</td>
<td>424</td>
<td>126,613</td>
</tr>
<tr>
<td>2</td>
<td>27,474</td>
<td>92,503</td>
<td>18,356</td>
<td>4,729</td>
<td>885</td>
<td>143,946</td>
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<tr>
<td>3</td>
<td>6,651</td>
<td>20,358</td>
<td>51,687</td>
<td>11,156</td>
<td>1,486</td>
<td>91,338</td>
</tr>
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<td>4</td>
<td>4,621</td>
<td>8,542</td>
<td>17,448</td>
<td>61,691</td>
<td>7,382</td>
<td>99,685</td>
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<tr>
<td>5</td>
<td>1,389</td>
<td>2,172</td>
<td>3,008</td>
<td>9,378</td>
<td>26,181</td>
<td>42,128</td>
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<tr>
<td>Corridor Total</td>
<td>132,976</td>
<td>149,025</td>
<td>96,205</td>
<td>89,146</td>
<td>36,358</td>
<td>503,709</td>
</tr>
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</table>

Source: MWCOG Forecasting Model
## Existing Travel Patterns

### Daily Commute Trips

<table>
<thead>
<tr>
<th>From/To</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Corridor Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9,467</td>
<td>3,438</td>
<td>1,143</td>
<td>358</td>
<td>61</td>
<td>14,466</td>
</tr>
<tr>
<td>2</td>
<td>5,048</td>
<td>8,389</td>
<td>2,863</td>
<td>685</td>
<td>118</td>
<td>17,102</td>
</tr>
<tr>
<td>3</td>
<td>1,752</td>
<td>3,024</td>
<td>4,718</td>
<td>1,146</td>
<td>168</td>
<td>10,808</td>
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<tr>
<td>4</td>
<td>1,771</td>
<td>2,289</td>
<td>3,466</td>
<td>4,558</td>
<td>841</td>
<td>12,925</td>
</tr>
<tr>
<td>5</td>
<td>599</td>
<td>641</td>
<td>751</td>
<td>870</td>
<td>1,220</td>
<td>4,081</td>
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<td>Corridor Total</td>
<td>18,638</td>
<td>17,780</td>
<td>12,940</td>
<td>7,617</td>
<td>2,407</td>
<td>59,382</td>
</tr>
</tbody>
</table>

Commute Trips account for only a small portion of trips within the Study Corridor (12%)

Source: MWCOG Forecasting Model
Existing Travel Patterns

- Daily Trips within the Study Corridor:
  - 504,000 in 2014
- Many daily short trips:
  - 325,000 trips within the same district
  - 125,000 trips within the same Transportation Analysis Zone (TAZ)
  - 140,000 non-motorized trips
- Non-commute trips are large majority of percentage of total trips within the study corridor (88% of total)
## 2040 Travel Patterns

All Daily Trips, All Trip Purposes

<table>
<thead>
<tr>
<th>From/To</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Corridor Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>101,942</td>
<td>29,794</td>
<td>6,134</td>
<td>2,086</td>
<td>471</td>
<td>140,426</td>
</tr>
<tr>
<td>2</td>
<td>33,964</td>
<td>143,191</td>
<td>25,101</td>
<td>5,405</td>
<td>1,112</td>
<td>208,773</td>
</tr>
<tr>
<td>3</td>
<td>7,852</td>
<td>28,843</td>
<td>68,343</td>
<td>13,512</td>
<td>1,863</td>
<td>120,412</td>
</tr>
<tr>
<td>4</td>
<td>5,002</td>
<td>10,635</td>
<td>20,008</td>
<td>66,741</td>
<td>7,901</td>
<td>110,287</td>
</tr>
<tr>
<td>5</td>
<td>2,081</td>
<td>3,642</td>
<td>4,662</td>
<td>13,000</td>
<td>35,890</td>
<td>59,275</td>
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<tr>
<td>Corridor Total</td>
<td>150,840</td>
<td>216,105</td>
<td>124,248</td>
<td>100,743</td>
<td>47,236</td>
<td>639,173</td>
</tr>
</tbody>
</table>

Source: MWCOG Forecasting Model
2040 Travel Patterns

Daily Commute Trips

<table>
<thead>
<tr>
<th>From/To</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Corridor Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10,922</td>
<td>4,357</td>
<td>1,276</td>
<td>326</td>
<td>74</td>
<td>16,955</td>
</tr>
<tr>
<td>2</td>
<td>6,737</td>
<td>16,563</td>
<td>4,704</td>
<td>858</td>
<td>186</td>
<td>29,049</td>
</tr>
<tr>
<td>3</td>
<td>2,148</td>
<td>4,660</td>
<td>7,157</td>
<td>1,520</td>
<td>273</td>
<td>15,757</td>
</tr>
<tr>
<td>4</td>
<td>1,757</td>
<td>2,676</td>
<td>3,587</td>
<td>5,460</td>
<td>1,108</td>
<td>14,589</td>
</tr>
<tr>
<td>5</td>
<td>892</td>
<td>1,133</td>
<td>1,250</td>
<td>1,546</td>
<td>2,064</td>
<td>6,886</td>
</tr>
<tr>
<td>Corridor Total</td>
<td>22,456</td>
<td>29,390</td>
<td>17,974</td>
<td>9,711</td>
<td>3,705</td>
<td>83,236</td>
</tr>
</tbody>
</table>

Commuter Trips account for only a small portion of trips within the Study Corridor (13%)

Source: MWCOG Forecasting Model
2040 Travel Patterns

- Daily Trips within the Study Corridor:
  - 639,000 in 2040
  - 27% increase over 2014
- Many daily short trips:
  - 28% increase in trips within the same district
  - 27% increase in trips within the same TAZ
  - 62% increase in non-motorized trips
- Non-commute trips remain large majority of future trips (87%)
- The most growth in travel is associated with district 2
Transit Service (No-Build)

• Three backbone Ride On services on MD 355
  • Ride On 75: Montgomery County Correctional Facility to Germantown TC
  • Ride On 55: Germantown TC to Rockville Metro
  • Ride On 46: Shady Grove Metro to Medical Center Metro

• Future 2040 Transit Network includes:
  • Purple Line – Bethesda to New Carrollton
  • Corridor Cities Transitway (CCT) – Shady Grove to Comsat
Transit Ridership

<table>
<thead>
<tr>
<th>Route</th>
<th>Existing Daily Ridership (Weekday)</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>3,683</td>
</tr>
<tr>
<td>55</td>
<td>7,920</td>
</tr>
<tr>
<td>75</td>
<td>479</td>
</tr>
</tbody>
</table>

- Bus Ridership Forecast to Increase by 40% by 2040
- Significant increases in Metrorail boardings
  - 58% increase for northern Red Line stations (White Flint north)
  - 27% increase for southern Red Line stations (Grosvenor south)

Source: RideON, RideChecks and MWCOG Forecasting Model
Transit Accessibility

- Measure of number of jobs accessible by transit within a given time
- Transit accessibility to jobs:
  - Higher in Southern portion of Corridor
  - Highest accessibility clustered near Metrorail stations
Transit Accessibility

• Proposed BRT:
  – 31 stations
  – 21 miles

• Potential to improve transit accessibility:
  – Districts 4 and 5 north of Metrorail
  – Between existing Metrorail stations
Regional Demand Summary

• Significant growth in population and employment in the corridor

• Strong existing and future transit ridership in the corridor (bus, Metrorail, CCT)

• Potential travel markets for BRT:
  • Local trips within the corridor
  • Potential Metrorail feeder service from northern districts

• BRT to provide improved transit options and accessibility for County residents
Questions
CAC Meeting No. 3 Agenda

Topics to be discussed:

• Project Update
• Transit Ridership
• Traffic Operations
• Draft Project Purpose and Need Language
• BRT Running Way Options
• Future Meetings & Questions
# Existing and Future No-Build Traffic Volumes

<table>
<thead>
<tr>
<th>Roadway Sections (North to South)</th>
<th>2015 Average Daily Volumes (counted)</th>
<th>2040 Average Daily Volumes (projected)</th>
<th>Total Average Traffic Growth 2015 to 2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD 121 to MD 27</td>
<td>7,700 – 22,200</td>
<td>8,600 – 25,300</td>
<td>13%</td>
</tr>
<tr>
<td>MD 27 to MD 124</td>
<td>21,200 – 39,800</td>
<td>23,500 - 45,900</td>
<td>13%</td>
</tr>
<tr>
<td>MD 124 to I-370</td>
<td>26,500 - 43,900</td>
<td>33,000 - 53,700</td>
<td>23%</td>
</tr>
<tr>
<td>I-370 to MD 28</td>
<td>41,400 - 50,600</td>
<td>50,100 - 61,000</td>
<td>21%</td>
</tr>
<tr>
<td>MD 28 to I-495</td>
<td>40,800 – 60,800</td>
<td>51,200 – 73,325</td>
<td>23%</td>
</tr>
<tr>
<td>I-495 to MD 410</td>
<td>28,800 – 67,800</td>
<td>33,800 – 80,200</td>
<td>18%</td>
</tr>
</tbody>
</table>
**What is Level of Service (LOS)?**

Level of Service is a quantitative measure of traffic operational conditions. Ranges of operation are defined for each type of roadway section (signalized intersections, freeways, ramp junctions and weaving sections) and are related to the amount of traffic demand at a given time as compared to the capacity of that type of roadway section.

Six levels of service are defined for each type of roadway section and are given letter designations from A to F, with A representing good operating conditions and F representing unsatisfactory operating conditions.

### Intersection

- **Highly stable, free-flow condition with little or no congestion**
  - Delay: <10 seconds/vehicle

- **Stable, free-flow condition with little congestion**
  - Delay: 10 to 20 seconds/vehicle

- **Free-flow condition with moderate congestion**
  - Delay: 20 to 35 seconds/vehicle

- **Approaching unstable condition with increasing congestion**
  - Delay: 35 to 55 seconds/vehicle

- **Unstable, congested condition**
  - Delay: 55 to 80 seconds/vehicle

- **Stop and go**
  - Delay: >80 seconds/vehicle

### Roadway

- **Free flowing**
  - Uninterrupted vehicle

- **Stable flow**
  - Other vehicles are more noticeable

- **Stable flow**
  - Vehicle operations affected by other vehicles

- **High density free flow**
  - Operation of vehicle is affected by other vehicles

- **High density traffic flow, nearing capacity**
  - Operating conditions are extremely poor

- **Forced or breakdown flow**
  - Amount of traffic exceeds capacity
## Existing and Forecast No-Build Level of Service

<table>
<thead>
<tr>
<th>MD 355 Intersections</th>
<th>2015 AM LOS (Delay in seconds)</th>
<th>2015 PM LOS (Delay in seconds)</th>
<th>2040 AM LOS (Delay in seconds)</th>
<th>2040 PM LOS (Delay in seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD 121 (Clarksburg Rd)</td>
<td>D (53)</td>
<td>E (57)</td>
<td>E (66)</td>
<td>E (76)</td>
</tr>
<tr>
<td>MD 27 (Ridge Rd)</td>
<td>D (47)</td>
<td>E (70)</td>
<td>D (47)</td>
<td>F (81)</td>
</tr>
<tr>
<td>MD 118/Germantown Rd</td>
<td>D (47)</td>
<td>E (61)</td>
<td>E (65)</td>
<td>E (78)</td>
</tr>
<tr>
<td>Middlebrook Rd</td>
<td>D (45)</td>
<td>E (76)</td>
<td>E (57)</td>
<td>F (107)</td>
</tr>
<tr>
<td>MD 124 (Mont. Vil. Ave)</td>
<td>E (58)</td>
<td>F (97)</td>
<td>E (65)</td>
<td>F (107)</td>
</tr>
<tr>
<td>Shady Grove Road</td>
<td>F (96)</td>
<td>E (77)</td>
<td>F (120)</td>
<td>F (87)</td>
</tr>
<tr>
<td>Gude Drive</td>
<td>F (81)</td>
<td>D (54)</td>
<td>F (105)</td>
<td>E (76)</td>
</tr>
<tr>
<td>MD 28 (Veirs Mill Rd)</td>
<td>C (34)</td>
<td>D (39)</td>
<td>D (38)</td>
<td>D (40)</td>
</tr>
<tr>
<td>Twinbrook Parkway / Rollins Ave</td>
<td>C (21)</td>
<td>C (34)</td>
<td>C (25)</td>
<td>D (36)</td>
</tr>
<tr>
<td>MD 547 (Strathmore Ave)</td>
<td>C (34)</td>
<td>D (50)</td>
<td>D (45)</td>
<td>E (69)</td>
</tr>
<tr>
<td>Cedar Lane</td>
<td>E (62)</td>
<td>F (105)</td>
<td>D (36)</td>
<td>E (71)</td>
</tr>
<tr>
<td>Jones Bridge Rd / Center Drive</td>
<td>D (49)</td>
<td>D (55)</td>
<td>E (70)</td>
<td>E (59)</td>
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<tr>
<td>MD 410 WB / MD 187 WB</td>
<td>D (54)</td>
<td>E (56)</td>
<td>E (72)</td>
<td>F (88)</td>
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</table>
## Speeds and Travel Time (Southbound)

<table>
<thead>
<tr>
<th>Roadway Sections (North to South)</th>
<th>2015 Average Speed (mph) SB (AM/PM)</th>
<th>2040 Average Speed (mph) SB (AM/PM)</th>
<th>2015 Average Travel Time (min) SB (AM/PM)</th>
<th>2040 Average Travel Time (min) SB (AM/PM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD 121 to MD 27</td>
<td>16 / 34</td>
<td>14 / 30</td>
<td>12.2 / 5.7</td>
<td>14.1 / 6.3</td>
</tr>
<tr>
<td>MD 27 to Professional Dr</td>
<td>27 / 28</td>
<td>24 / 27</td>
<td>7.1 / 6.8</td>
<td>8.0 / 7.0</td>
</tr>
<tr>
<td>Professional Dr to I-370</td>
<td>19 / 21</td>
<td>14 / 18</td>
<td>11.7 / 10.9</td>
<td>15.7 / 12.0</td>
</tr>
<tr>
<td>I-370 to Edmonston Dr</td>
<td>17 / 19</td>
<td>13 / 15</td>
<td>15.6 / 13.8</td>
<td>20.5 / 17.0</td>
</tr>
<tr>
<td>Edmonston Dr to Twinbook Pkwy</td>
<td>26 / 21</td>
<td>26 / 14</td>
<td>3.0 / 3.9</td>
<td>3.1 / 5.8</td>
</tr>
<tr>
<td>Twinbrook Parkway to MD 547</td>
<td>22 / 15</td>
<td>20 / 9</td>
<td>5.1 / 7.2</td>
<td>5.5 / 12.9</td>
</tr>
<tr>
<td>MD 547 to Pooks Hill Rd</td>
<td>21 / 22</td>
<td>12 / 18</td>
<td>4.2 / 3.9</td>
<td>7.5 / 4.7</td>
</tr>
<tr>
<td>Pooks Hill Rd to MD 410</td>
<td>14 / 11</td>
<td>9 / 6</td>
<td>9.4 / 11.6</td>
<td>15.0 / 20.6</td>
</tr>
<tr>
<td><strong>Total Corridor</strong></td>
<td><strong>19 / 20</strong></td>
<td><strong>14 / 15</strong></td>
<td><strong>68.3 / 63.8</strong></td>
<td><strong>89.4 / 86.3</strong></td>
</tr>
</tbody>
</table>
## Speeds and Travel Time (Northbound)

<table>
<thead>
<tr>
<th>Roadway Sections (North to South)</th>
<th>2015 Average Speed (mph) NB (AM/PM)</th>
<th>2040 Average Speed (mph) NB (AM/PM)</th>
<th>2015 Average Travel Time (min) NB (AM/PM)</th>
<th>2040 Average Travel Time (min) NB (AM/PM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD 121 to MD 27</td>
<td>32 / 30</td>
<td>31 / 28</td>
<td>5.9 / 6.3</td>
<td>6.1 / 6.7</td>
</tr>
<tr>
<td>MD 27 to Professional Dr</td>
<td>27 / 23</td>
<td>27 / 15</td>
<td>7.0 / 8.4</td>
<td>7.1 / 12.5</td>
</tr>
<tr>
<td>Professional Dr to I-370</td>
<td>27 / 22</td>
<td>16 / 15</td>
<td>8.4 / 10.2</td>
<td>14.3 / 15.1</td>
</tr>
<tr>
<td>I-370 to Edmonston Dr</td>
<td>23 / 18</td>
<td>18 / 13</td>
<td>11.4 / 14.4</td>
<td>14.3 / 20.0</td>
</tr>
<tr>
<td>Edmonston Dr to Twinbook Pkwy</td>
<td>27 / 16</td>
<td>26 / 9</td>
<td>3.0 / 4.9</td>
<td>3.1 / 9.2</td>
</tr>
<tr>
<td>Twinbrook Parkway to MD 547</td>
<td>20 / 20</td>
<td>18 / 20</td>
<td>5.6 / 5.6</td>
<td>6.2 / 5.5</td>
</tr>
<tr>
<td>MD 547 to Pooks Hill Rd</td>
<td>18 / 16</td>
<td>16 / 5</td>
<td>4.6 / 5.0</td>
<td>5.2 / 16.8</td>
</tr>
<tr>
<td>Pooks Hill Rd to MD 410</td>
<td>24 / 6</td>
<td>23 / 6</td>
<td>5.4 / 20.5</td>
<td>5.7 / 23.3</td>
</tr>
<tr>
<td><strong>Total Corridor</strong></td>
<td><strong>25 / 17</strong></td>
<td><strong>20 / 11</strong></td>
<td><strong>51.3 / 75.3</strong></td>
<td><strong>62.0 / 109.1</strong></td>
</tr>
</tbody>
</table>
## MD 355 Crash History

<table>
<thead>
<tr>
<th>Roadway Sections (North to South)</th>
<th>Total Crashes (2011 to 2013)</th>
<th>Crashes Per Mile</th>
<th>High Crash Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD 121 to MD 27</td>
<td>109</td>
<td>33</td>
<td>Opposite Direction, Rear End, Left Turn</td>
</tr>
<tr>
<td>MD 27 to Great Seneca Creek</td>
<td>193</td>
<td>66</td>
<td>Left Turn, Angle</td>
</tr>
<tr>
<td>Great Seneca Creek to I-370</td>
<td>382</td>
<td>94</td>
<td>Opposite Direction, Left Turn, Pedestrian</td>
</tr>
<tr>
<td>I-370 to MD 28</td>
<td>339</td>
<td>97</td>
<td>Left Turn, Pedestrian</td>
</tr>
<tr>
<td>MD 28 to MD 547</td>
<td>444</td>
<td>114</td>
<td>Left Turn, Angle</td>
</tr>
<tr>
<td>MD 547 to I-495</td>
<td>132</td>
<td>101</td>
<td>Opposite Direction</td>
</tr>
<tr>
<td>I-495 to Cedar Lane</td>
<td>94</td>
<td>127</td>
<td>Sideswipe</td>
</tr>
<tr>
<td>Cedar Lane to Woodmont Ave</td>
<td>112</td>
<td>144</td>
<td>Rear End, Left Turn, Pedestrian</td>
</tr>
<tr>
<td>Woodmont Ave to MD 410</td>
<td>112</td>
<td>122</td>
<td>Rear End, Sideswipe, Left Turn, Angle, Pedestrian</td>
</tr>
</tbody>
</table>
Questions
CAC Meeting No. 3 Agenda

Topics to be discussed:

• Project Update
• Transit Ridership
• Traffic Operations
• Draft Project Purpose and Need Language
• BRT Running Way Options
• Future Meetings & Questions
Draft Project Purpose Language

The purpose of this project is to provide a new higher speed, high frequency, all day transit service along the MD 355 corridor between the Bethesda Metrorail Station and Redgrave Place in Clarksburg that will:

- Enhance transit connectivity and multi-modal integration along the corridor as part of a coordinated regional transit system;
- Improve the ability for buses to move along the corridor (bus mobility) with improved operational efficiency, on-time performance/reliability, and travel times;
- Address current and future bus ridership demands;
- Attract new riders and provide improved service options for existing riders as an alternative to congested automobile travel through the corridor;
- Build upon previous Montgomery County Bus Rapid Transit studies;
- Support approved Master Planned residential and commercial growth along the corridor;
- Improve transit access to major employment and activity centers;
- Achieve Master Planned non-auto driver modal share; and
- Provide safe multi-modal access to transit
Draft Project Need Language

• Four specific needs for the project have been identified by the study team:

➢ **System connectivity** – A high-quality, continuous transit connection is needed from Bethesda to Clarksburg that can support the surrounding mixed used development along the corridor.

➢ **Mobility** – Traffic congestion currently impedes bus and rider mobility and results in unpredictable bus service, longer travel times, and delayed schedules. A more reliable, shorter travel time, and on time performance transit service is needed.

➢ **Transit demand/attractiveness** – Transit demand and ridership in the MD 355 corridor continues to grow. A high-quality transit service is needed to maintain current transit riders and attract new riders.

➢ **Livability** – Transit improvements are needed throughout the MD 355 corridor to create a transportation network that enhances choices for transportation users and promotes positive effects on the surrounding communities and residents’ quality of life.
CAC Meeting No. 3 Agenda

Topics to be discussed:

• Project Update
• Transit Ridership
• Traffic Operations
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• BRT Running Way Options
• Future Meetings & Questions
### BRT Features

<table>
<thead>
<tr>
<th>Running Way</th>
<th>Service Plan</th>
<th>Stations</th>
<th>Vehicles</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed traffic</td>
<td>Circulator</td>
<td>Branded stop</td>
<td>Standard</td>
<td>Vehicle guidance</td>
</tr>
<tr>
<td>Separate roadway</td>
<td>Limited stops</td>
<td>Branded shelter</td>
<td>Standard with brand</td>
<td>Traffic signal priority</td>
</tr>
<tr>
<td>Dedicated lanes: New lanes or repurposing existing lanes</td>
<td>Express</td>
<td>Shared with Local bus</td>
<td>Stylized</td>
<td>Bridgeplates</td>
</tr>
<tr>
<td>Median or curb lanes</td>
<td>Combination of route types</td>
<td>Rail-like station</td>
<td>30, 40 and 60 lengths</td>
<td>Real-time Passenger info</td>
</tr>
<tr>
<td>Queue jumps/ bypasses</td>
<td>Reconfigured network</td>
<td>Multimodal terminal</td>
<td>Guided/ unguided</td>
<td>Active electronic suspension</td>
</tr>
<tr>
<td>Tunnel segments</td>
<td>Minimal brand</td>
<td></td>
<td></td>
<td>CNG</td>
</tr>
<tr>
<td>Shared or semi-exclusive lanes</td>
<td>Family of brands</td>
<td></td>
<td>Hybrid-electric</td>
<td>Vehicle location</td>
</tr>
<tr>
<td>Shared HOV or bus-only highway lanes</td>
<td>Complete brand marketing campaign</td>
<td></td>
<td>Advanced</td>
<td>Pre-payment fare collection</td>
</tr>
</tbody>
</table>

Select one or more from each column
BRT Running Way Options

• Six BRT Running Way options have been identified for consideration
• The proposed six options can be mixed and matched along different segments of the corridor to best fit within the surrounding area
• Location and dimensions of proposed roadway elements will vary throughout the corridor
• The following typical sections represent six options, illustrating the interaction between vehicles and the BRT, as they could generally be applied throughout the corridor

• NOT EVERY OPTION IS APPROPRIATE FOR EVERY SEGMENT OF THE MD 355 CORRIDOR
BRT Running Way Options

Summary of Options

• Option 1 – BRT in Mixed Traffic
• Option 2 – BRT Queue Jump Lanes
• Option 3* – One-Way, Reversible, Dedicated BRT Lane
• Option 4* – Bi-directional, Dedicated BRT Lane
• Option 5* – Dedicated BRT Median Lanes
• Option 6* – Dedicated BRT Curb Lanes

* Types Vary – Could be achieved through additional lane(s) or lane repurposing
BRT Running Way Options

Option 1 – BRT in Mixed Traffic

- Could include enhancements to existing WMATA and Ride-On bus services via system operational improvements, and minor facility improvements such as transit signal priority
- Could include considerations for enhanced transit service with limited stops
BRT in Mixed Traffic - City of Brampton, Canada
BRT Running Way Options

Option 2 – BRT Queue Jump Lanes

• Could include upgrades to existing WMATA and Ride On bus service via system operational improvements, and minor facility improvements such as transit signal priority and BRT queue jump lanes
• Could include considerations for enhanced transit service with limited stops
BRT Running Way Options

Option 2 – BRT Queue Jump Lanes

Approaching BRT vehicle may get a green light if it is behind schedule.

BRT uses special lane to bypass stopped cars.

Transit signal priority

Queue jump

Widened sidewalk at BRT station means bus does not have to wait to merge back into travel lane to leave station.
BRT Queue Jump
BRT Running Way Options

Option 3 – One Way, Reversible, Dedicated BRT Lane

- Would provide new BRT service in addition to the existing local bus service.
- Peak direction BRT buses in the one-way reversible lane would stop at new BRT stations, while off-peak direction BRT buses will operate in mixed traffic and could use existing bus stops retrofitted for BRT.
- Directionality of the dedicated BRT lane would be determined by peak-hour demand.
- Reversible lane could be implemented in the median or curb lane via an additional lane or repurposing of an existing travel lane.

Type A: Additional lane is included to accommodate the dedicated BRT lane
BRT Running Way Options

Option 3 – One Way, Reversible, Dedicated BRT Lane

**Type B:** Existing travel lane is repurposed* to accommodate the dedicated BRT lane

* A lane that is converted from an existing use to use by buses or other transit vehicles. Existing uses can include: travel lanes, parking, shoulder, etc.
BRT Running Way Options

Option 4 – Bi-directional, Dedicated BRT Lane

- Would provide new BRT service in addition to the existing local bus service
- Buses in bi-directional lanes would stop at new BRT stations
- In a bi-directional system BRT buses share a single lane that will have passing zones to maintain operation
- Bi-directional lanes could be implemented in the median or curb lane via an additional lane or repurposing of an existing travel lane

**Type A:** Additional lane is included to accommodate the dedicated BRT lane
BRT Running Way Options

Option 4 – Bi-directional, Dedicated BRT Lane

**Type B:** Existing travel lane is repurposed* to accommodate the dedicated BRT lane

*A lane that is converted from an existing use to use by buses or other transit vehicles. Existing uses can include: travel lanes, parking, shoulder, etc.*
Bi-Directional Lane – Eugene, Oregon
Bi-Directional Lane – Eugene, Oregon
BRT Running Way Options

Option 5 – Dedicated Median BRT Lanes

- Would provide new BRT service in addition to the existing bus service
- BRT would operate in dedicated lanes located in the median with new stations and implemented via additional lanes or repurposing of existing travel lane(s)

**Type A:** Additional lanes are included to accommodate the dedicated BRT lanes
BRT Running Way Options

Option 5 – Dedicated Median BRT Lanes

Type B: Existing travel lanes are repurposed* to accommodate the dedicated BRT lanes

* A lane that is converted from an existing use to use by buses or other transit vehicles. Existing uses can include: travel lanes, parking, shoulder, etc.
Dedicated Median BRT Lanes
BRT Running Way Options

Option 6 – Dedicated Curb BRT Lanes

- Would provide new BRT service in addition to the existing local bus services
- BRT would operate in dedicated lanes located curbside with new stations and implemented via additional lanes or repurposing of existing travel lane(s)
- The curbside lane could be shared with existing bus services, vehicles making right turns, and those merging to and from MD 355

Type A: Additional lanes are included to accommodate the dedicated BRT lanes
BRT Running Way Options

Option 6 – Dedicated Curb BRT Lanes

**Type B:** Existing travel lanes are repurposed* to accommodate the dedicated BRT lanes

* A lane that is converted from an existing use to use by buses or other transit vehicles. Existing uses can include: travel lanes, parking, shoulder, etc.
Dedicated Curb BRT Lanes
BRT Running Way Options

Summary of Options

• Option 1 – BRT in Mixed Traffic
• Option 2 – BRT Queue Jump Lanes
• Option 3* – One-Way, Reversible, Dedicated BRT Lane
• Option 4* – Bi-directional, Dedicated BRT Lane
• Option 5* – Dedicated BRT Median Lanes
• Option 6* – Dedicated BRT Curb Lanes

* Types Vary – Could be achieved through additional lane(s) or lane repurposing
Questions
CAC Meeting No. 3 Agenda

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Future Meeting Schedule

- Next CAC Meeting: To Be Determined
- Informational Open House Meetings: Fall 2015
Questions