MD 355 - South Corridor Advisory Committee Meeting # 10

Montgomery County RAPID TRANSIT MD 355

Bethesda – Chevy Chase Regional Services Center
Bethesda, Maryland
May 16, 2017
6:30 pm to 8:30 pm
Welcome

Agenda:

- 2017 Public Open House Summary
- Conceptual Alternatives Report
- Refined Alternatives to Advance to Next Phase
- BRT Station Design
- Next Steps
2017 Public Open House Summary

• Winter 2017 Open Houses
  • February 7th – Germantown
    • Montgomery College (Germantown Campus)
    • Over 60 attendees
  • February 8th – Rockville
    • Montgomery County Executive Office Building
    • Over 60 attendees
  • 41 Comments Received
2017 Public Open House Summary (Cont’d)

• Topics Covered
  • Project Planning Process
  • What is BRT?
  • Conceptual Alternatives
    • 3A – Mostly Median from Clarksburg to Grosvenor (via Observation Drive)
    • 3B – Mostly Median from Clarksburg to Bethesda
    • 4A – Mostly Curb from Clarksburg to Grosvenor
    • 4B – Mostly Curb from Clarksburg to Bethesda
  • Qualitative Results of the Analysis
  • BRT Station Design Concepts
2017 Public Open House Feedback

• Safe accommodation of bike lanes within the roadway

• Competition with parallel Metro service
  • Particularly redundant in the southern portion south of Rockville/Shady Grove

• Lane Repurposing
  • Concerns about impact to traffic
  • Pleased with concepts’ attempt to stay within existing roadway

• Sidewalk access to Grosvenor needs improvement

• Adequate coordination between the MD 355 and MD 586 BRT projects

• Corridor should be integrated into the local bus network to provide better door-to-door travel times
2017 Public Open House Feedback (Cont’d)

• Section 1 – Grosvenor to Bethesda
  • Limited opportunities to build BRT infrastructure south of the Beltway without significant impacts
  • Service should continue to Bethesda
  • Consider alternate routing/means to access Bethesda Metro

• Section 7 – Middlebrook Road to Redgrave Place/Clarksburg Outlets
  • Observation Drive may be more beneficial
  • Need to complete construction of unbuilt Observation Drive segments
  • Be mindful of impacts to the Cider Barrel
Questions?

✓ 2017 Public Open House Summary
  ✓ Q&A
  • Conceptual Alternatives Report
  • Refined Alternatives to Advance to Next Phase
  • BRT Station Design
  • Next Steps
Conceptual Alternatives Report
Information Covered in the CA Report and CAC Meetings

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Meeting #</th>
<th>Open House/Report</th>
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<td>2016 Public Open Houses</td>
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<td>2 – Draft Preliminary Purpose and Need</td>
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<td>3 – Environmental Summary</td>
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<td>4 – Conceptual Alternatives</td>
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<td>6 – Public Involvement</td>
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<td>8, 9</td>
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<td>8 – Alternatives Advancing to Next Phase</td>
<td>10</td>
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Questions?

✓ 2017 Public Open House Summary
✓ Conceptual Alternatives Report
  ✓ Q&A
• Refined Alternatives to Advance to Next Phase
• BRT Station Design
• Next Steps
Elements of a BRT Alternative

- **Running way** – A designated facility such as a striped/signed lane or exclusive busway in which the vehicle would travel between stations

- **Station locations** - Specific locations where passengers can access the service and the service can support the local land uses (residential, commercial, etc.)

- **Service plan** - The way in which BRT operates including service frequency, hours of service, routing and connecting services
### Conceptual Alternatives – Running Way

Alternatives Considered

- Alternative 1: No-Build
- Alternative 2: Transportation System Management (TSM)

Moving forward to next phase of study

<table>
<thead>
<tr>
<th>BRT Alternatives</th>
<th>Primary Running Way</th>
<th>Northern Limit</th>
<th>Southern Limit</th>
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<tbody>
<tr>
<td>3A</td>
<td>Median</td>
<td>Clarksburg Outlets</td>
<td>Grosvenor Metrorail</td>
</tr>
<tr>
<td>3B</td>
<td></td>
<td>Redgrave Pl. (Clarksburg)</td>
<td>Bethesda Metrorail</td>
</tr>
<tr>
<td>4A</td>
<td>Curb</td>
<td>Redgrave Pl. (Clarksburg)</td>
<td>Grosvenor Metrorail</td>
</tr>
<tr>
<td>4B</td>
<td></td>
<td>Redgrave Pl. (Clarksburg)</td>
<td>Bethesda Metrorail</td>
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Alternatives Advancing for Detailed Analysis

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Primary Running Way</th>
<th>Alignment</th>
<th>Northern Limit</th>
<th>Southern Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No-build</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>2</td>
<td>TSM</td>
<td>Along MD 355</td>
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</tr>
<tr>
<td>3C</td>
<td>Median</td>
<td>Along MD 355 and Observation Drive (Section 7)</td>
<td>Clarksburg Outlets</td>
<td>Bethesda Metrorail Station</td>
</tr>
<tr>
<td>4C*</td>
<td>Curb</td>
<td>Along MD 355 and Observation Drive (Section 7)</td>
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* The option of routing the BRT in the curb along MD 355 from Redgrave Place to Middlebrook Road (Section 7) may be considered if the widening of MD 355, as envisioned in the County’s Master Plan of Highways and Transitways, is pursued as a separate project.
Alternative 2: TSM

- Transportation Systems Management will be defined in the next phase
- Would optimize existing system
- Could include such enhancements as:
Key Takeaways Used to Refine BRT Alternatives

• Median vs. Curb in Sections 2, 4 and 6 will influence running way decisions for Sections 1, 3 and 5

• Median running BRT along MD 355 results in faster travel times

• Curb running BRT along MD 355 results in fewer impacts and lower costs

• Higher ridership along Observation Drive
  • 50% more riders in Section 7 compared with the MD 355 alignment

• Approximately 15% of total corridor ridership is generated at stations south of Grosvenor Metrorail Station

• Lane repurposing in Section 3 has the greatest overall negative impact on traffic

• Operating in mixed traffic in Section 1 has the least impact on overall person throughput (County to study additional, potential mitigation strategies with lane repurposing conditions)
ALTERNATIVE 3C

SECTION 2, 4 & 6

TWO DEDICATED MEDIAN BRT LANES WHERE FEASIBLE

LEGEND
RETRO STATION
BRT STATION
EXISTING LANE
PROPOSED LANE
MIXED TRAFFIC

SECTION 1
BETHESDA
FROM BETHESDA METRO TO TUCKERMAN LN (~3.2 MILES)

SECTION 2
WHITE FLINT / ROCKVILLE
FROM TUCKERMAN LN TO DODGE ST (~4.1 MILES)

SECTION 3
ROCKVILLE TOWN CENTER
FROM DODGE ST TO COLLEGE PKWY (~1.8 MILES)

SECTION 4
ROCKVILLE / SHADY GROVE
FROM COLLEGE PKWY TO SUMMIT AVE (~3.2 MILES)

SECTION 5
GAITHERSBURG
FROM SUMMIT AVE TO MD 124 (~1.4 MILES)

SECTION 6
MONTGOMERY VILLAGE / GERMANTOWN
FROM MD 124 TO MIDDLEBROOK RD (~3.2 MILES)

SECTION 7
GERMANTOWN / CLARKSBURG
FROM MIDDLEBROOK RD TO CLARKSBURG OUTLETS (~6.1 MILES)

SCALE
1"=5,000'

SECTION 1
SOUTHBOUND
NORTHBOUND

SECTION 2
SOUTHBOUND
NORTHBOUND

SECTION 3
SOUTHBOUND
NORTHBOUND

SECTION 5
SOUTHBOUND
NORTHBOUND

SECTION 7
SOUTHBOUND
NORTHBOUND

MIXED TRAFFIC / TSM*
ONE DEDICATED MEDIAN BRT LANE
LANE REPURPOSING - ONE DEDICATED MEDIAN BI-DIRECTIONAL BRT LANE
MIXED TRAFFIC / TSM*

OPPORTUNITIES TO IMPLEMENT TSM STRATEGIES QUEUE JUMPS AND TRANSIT SIGNAL PRIORITIES WILL BE INVESTIGATED IN THE NEXT PHASE.
Alternatives Screening and Selection Process

1. Identify Constraints

2. Comparative Screening

3. Detailed Analysis / Selection

Current Phase
Complete
Spring 2017

Recommend Alternatives for Detailed Analysis

Public Input

Approximately 2 years

CAC Input

Montgomery Countymd.gov/brt
Analyzing the Refined Alternatives in the Next Phase

• Will be a balancing act

• How do the potential benefits compare to what is required to realize those benefits?

• Can any of these challenges be mitigated and/or contained?

• Is there a “sweet spot”?
Questions?

- 2017 Public Open House Summary
- Conceptual Alternatives Report
- Refined Alternatives to Advance to Next Phase
  - Q&A
  - BRT Station Design
  - Next Steps
Station Design - Background

MCDOT is designing stations for the County’s future BRT network.

The stations will have **interchangeable, flexible components**, that can be adapted for all corridors.

This work is being done with a grant from the Metropolitan Washington Council of Governments’ Transportation/Land-Use Connections Program, in partnership with architecture firm ZGF.
Station Design - Agenda

• Introduction – Design Goals
• Station Design - Best Practice Examples
• MCDOT BRT Stations – Types and Amenities
• Previous Community Input
• Design Opportunities – Local Materials & Sustainability
• The Station Family – Adaptation to Capacity and Context
• Questions & Comments
Station Design - Goals

1. Easy to Find and Use
2. Accessible
3. Safe and Comfortable
4. Adaptable and Context Sensitive
5. Maintainable
6. Good Life-Cycle Investment

Basic Rider Comfort =
User Information
Weather Protection / Rain and Wind
Seating
Station Design – Best Practices

SCALE, FORM, IMAGE & ENCLOSURE
Station Design – Best Practices

**MATERIAL**
- Vancouver, Canada
- Cebu, Philippines
- Las Vegas, Nevada

**LIGHTING**
- Grand Rapids, MI

**PUBLIC ART**
- Portland, Oregon
- Liverpool, United Kingdom
Station Design - Types

**STATION PLATFORM TYPES**

There are two station platform types:
- Side-loading - which may be accessed directly from a sidewalk
- Center-loading - which may be located in a roadway median

**SIDE-LOADING PLATFORMS**

SECTION DIAGRAM

**CENTER-LOADING PLATFORMS**

SECTION DIAGRAM

Adjacent Conditions Vary
Station Design – Amenities

Station Capacity

Station Context

Menu

Legend

Additional Base Condition
Base Condition
Optional/Specific to Site Conditions

Additive
Subtractive

Additional Base Condition
Base Condition
Optional/Specific to Site Conditions

Additive
Subtractive
Station Design – Community Input

February 7
Open House
Germantown

February 8
Open House
Rockville
Design Features – Local Materials

- Historically Quarried Stone in Montgomery County
- Seneca Red Sandstone (far left)
- Sykesville Gneiss (left)
- Potomac Marble (above)
Design Features – Sustainability

Energy Production - PV

Stormwater Management & Enhanced Landscape
Station Family

Type 1
Urban Streetfront – Shared Sidewalk
1 Marker +
1 Potential Small Canopy
Station Family

Type 2

1 Marker +
1 Small Canopy
& Landscape
Station Family

Type 3

1 Marker +
1 Large Canopy
& Landscape
Type 4

1 Marker +
2 Large Canopies
& Landscape
Station Family

**Type 5**
Double Station – High Capacity

2 Markers + 4 Canopies & Landscape
Station Family

Type 6

Center Station
2 Markers +
2 Canopies & Landscape
Next Steps

• Next phase to be lead by Montgomery County Department of Transportation.
• MDOT will continue to be a key stakeholder in the project
• Detailed analysis of the refined BRT alternatives as well as No-build and TSM
• CACs will continue to meet
Additional Questions