Citizens Advisory Group
Meeting No. 1
May 28, 2015
Agenda

1. Welcome
2. Overview
3. Public Kick-off Meeting
4. Transit Data Analysis
5. Physical Conditions Assessment
6. Next Steps
OVERVIEW
Study Area

Primary Study Area
• 16th Street NW from H Street to Arkansas Avenue

Secondary Study Area
• Bounded by 14th Street, 18th Street, Taylor Street and H Street
Lane Configurations

Reversible lane
Goals

• Improve travel for persons using public transit
• Develop alternatives based on public and stakeholder input
• Evaluate alternatives in terms of their benefits to transit users, possible impacts on other users of the corridor, and safety
Objectives

1. Improve transit service reliability and travel times by identifying and addressing sources of problems

2. Prioritize transit while maintaining operations for those traveling by other modes

3. Improve rider comfort and safety

4. Accommodate current unmet passenger demand for public transit service

5. Develop an implementation plan that includes costs estimates
Metrics

1. Improve transit service reliability and travel times
   • Reduction in end-to-end travel/segment-by-segment travel time
   • Improvement in on-time performance
   • Reduction in dwell time
   • Reduction in dwell time as a percentage of run time

2. Optimize operations
   • Multimodal level of service, travel time, queuing, person throughput

3. Improve rider comfort and safety
   • Load factor
   • Number of bus stops at uncontrolled intersections
   • Pedestrian crossing improvements
4. Accommodate unmet passenger demand
   • Service capacity

5. Develop a feasible solution
   • Cost
   • Implementation time
   • Consistency with bus operating parameters (e.g., bus widths, turning radii, dynamic envelope, and others)
   • Management and enforcement requirements
Outcomes We Are Seeking

- Preferred set of improvements
- Concept design
- Build on measures implemented to date
PUBLIC KICKOFF MEETING
What Are Problems?

Most Noted Issues:

- Bus Bunching (31 flags)
- Overcrowding on the Bus (29 flags)
- Bus Passes by the Stop (23 flags)
- Traffic Congestion (17 flags)
Where Are Problems?

Most Noted Intersections:
- U Street NW (22 flags)
- Euclid Street NW (19 flags)
- Park Road NW (15 flags)
- Irving Street NW (10 flags)
Where Are Problems

### Issues Encountered Along 16th Street NW

<table>
<thead>
<tr>
<th>Cross Streets</th>
<th>Lack of Parking Enforcement</th>
<th>Traffic Congestion</th>
<th>Over-crowding on Bus</th>
<th>Over-crowding at Bus Stop</th>
<th>Pedestrian Safety Accessing Stop</th>
<th>Bus Conflicts with Bicycles</th>
<th>Bus Bunching</th>
<th>Bus Passes Stop</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>U St</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Euclid St</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>19</td>
<td></td>
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<tr>
<td>Irving St</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Park Rd</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>Total in Corridor</strong></td>
<td><strong>7</strong></td>
<td><strong>17</strong></td>
<td><strong>29</strong></td>
<td><strong>12</strong></td>
<td><strong>5</strong></td>
<td><strong>8</strong></td>
<td><strong>31</strong></td>
<td><strong>23</strong></td>
<td><strong>132</strong></td>
</tr>
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</table>
What Is Important?

- Bus Arriving on Time (46 dots)
- Travel Time on the Bus (37 dots)
- Enough Room on the Bus to Sit or Stand Comfortably (33 dots)
- Room to Board the First Arriving Bus (22 dots)
Key Takeaways

**Strong Support**
- Additional Service
- Enforcement
- Signal Optimization and Priority
- Dedicated Bus Lanes

**Limited Concern**
- On-street Parking
TRANSIT ANALYSIS
Time-Distance: AM Peak SB

Bus bunching prior to study area

Gap in bus service

Bus passing

Slow down in bus speed
**Time-Distance: PM Peak NB**

- **Slow travel time I St – M St due to high boardings**
- **Overlapping S9 service**
- **Bus bunching and pass by**
- **Slow down in bus speed**
Travel Speed* – Southbound

Legend

- 0.0 - 4.0 MPH
- 4.1 - 8.0 MPH
- 8.1 - 12.0 MPH
- 12.1 - 16.0 MPH
- 16.1 - 20.0 MPH
- 20.1+ MPH

* Includes dwell time
Travel Speed* – PM Peak NB

Legend
- 0.0 - 4.0 MPH
- 4.1 - 8.0 MPH
- 8.1 - 12.0 MPH
- 12.1 - 16.0 MPH
- 16.1 - 20.0 MPH
- 20.1+ MPH

* Includes dwell time
Average Travel Speed - SB

Miles Per Hour

EARLY AM | AM PEAK | MIDDAY | PM PEAK | EARLY PM
---------|---------|--------|---------|---------
10.7     | 8.7     | 9.0    | 9.3     | 9.9
7.7      | 8.7     | 8.2    | 9.9     | 9.9

S1/S2/S4 | S9
Average Travel Speed - NB

Miles Per Hour

<table>
<thead>
<tr>
<th>Time</th>
<th>S1/S2/S4</th>
<th>S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>EARLY AM</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>AM PEAK</td>
<td>9.5</td>
<td>10.2</td>
</tr>
<tr>
<td>MIDDAY</td>
<td>8.5</td>
<td>10.9</td>
</tr>
<tr>
<td>PM PEAK</td>
<td>8.1</td>
<td>8.9</td>
</tr>
<tr>
<td>EARLY PM</td>
<td>7.3</td>
<td>8.4</td>
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</table>
Boardings/Alightings – SB AM Peak

**S1, S2, S4**

**Boardings**

**WEEKDAY AM PEAK - SOUTHBOUND**

- 0.0 - 1.0: 4.1 - 6.0
- 1.1 - 2.0: 6.1 - 8.0
- 2.1 - 4.0: 8.1+ boardings

**Alightings**

**WEEKDAY AM PEAK - SOUTHBOUND**

- 0 - 1.0: 4.1 - 6.0
- 1.1 - 2.0: 6.1 - 8.0
- 2.1 - 4.0: 8.1+ alightings
Boardings/Alightings – NB PM Peak

S1, S2, S4

Boardings
WEEKDAY PM PEAK - NORTHBOUND
- 0.0 - 1.0
- 1.1 - 2.0
- 2.1 - 4.0
- 4.1 - 6.0
- 6.1 - 8.0
- 8.1+ boardings

Alightings
WEEKDAY PM PEAK - NORTHBOUND
- 0.0 - 1.0
- 1.1 - 2.0
- 2.1 - 4.0
- 4.1 - 6.0
- 6.1 - 8.0
- 8.1+ alightings

S9
On-Board Data Collection

Average S1, S2, S4 Southbound AM Peak

- Bus Stop Dwell Time: 25%
- Signal or Stop Time: 27%
- Other Delays: 2%
- Running Time: 46%

Average S9 Southbound AM Peak

- Bus Stop Dwell Time: 16%
- Signal or Stop Time: 41%
- Other Delays: 3%
- Running Time: 40%

<table>
<thead>
<tr>
<th>Category</th>
<th>Average</th>
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<tr>
<td>Bus Stop Dwell Time</td>
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<tr>
<td>Signal or Stop Time</td>
<td>0:05:56</td>
</tr>
<tr>
<td>Other Delays</td>
<td>0:00:21</td>
</tr>
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<td>Running Time</td>
<td>0:10:07</td>
</tr>
<tr>
<td>Total Trip Time</td>
<td>0:22:22</td>
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</tbody>
</table>

Average S9 Southbound AM Peak

<table>
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<tr>
<th>Category</th>
<th>Average</th>
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<tbody>
<tr>
<td>Bus Stop Dwell Time</td>
<td>0:03:22</td>
</tr>
<tr>
<td>Signal or Stop Time</td>
<td>0:08:16</td>
</tr>
<tr>
<td>Other Delays</td>
<td>0:00:43</td>
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<tr>
<td>Running Time</td>
<td>0:08:32</td>
</tr>
<tr>
<td>Total Trip Time</td>
<td>0:20:52</td>
</tr>
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</table>
On-Board Data Collection

AVERAGE OBSERVED LOADING TIME
SOUTHBOUND - AM PEAK

- 0 - 5 seconds
- 6 - 10 seconds
- 11 - 15 seconds
- 16 - 20 seconds
- 21 - 25 seconds
- 26+ seconds

AVERAGE OBSERVED LOADING TIME
NORTHBOUND - PM PEAK

- 0 - 5 seconds
- 6 - 10 seconds
- 11 - 15 seconds
- 16 - 20 seconds
- 21 - 25 seconds
- 26+ seconds
PHYSICAL CONDITIONS
Physical Conditions

- Roadway and sidewalks in good condition overall
- Parking restrictions signage not uniform and conflicting, damaged and obstructed signs
Physical Conditions

- Bus stop signs not at optimal or compliant location
- Bus Stop No Parking Zones not in compliance with zone clearance distances and/or correct signage
Physical Conditions

- For stops where intended ADA landing area is at the shelter, bus shelters did not meet mandatory ADA ‘8 foot available sidewalk width’ for boarding/unloading

- Trash bins, vendor boxes, and tree locations create accessibility obstructions
NEXT STEPS
Timeline

1. CAG Meeting No. 2 – July 2015
2. Alternatives Development – Summer 2015
3. CAG Meeting No. 3 Early Fall 2015
4. Pop-ups – Early Fall 2015
5. Public Meeting – Late Fall 2015
Stay Connected

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Project Website
bit.ly/16thStreetBus