Transportation Plan Advisory Committee Meeting

February 2014
Agenda

- Performance of the recommended plan
- Prioritization
- Public comment and discussion
- Next steps
PLAN TRANSPORTATION NETWORKS
Future Baseline

- Includes DDOT’s 6-year TIP
- Does not include regional projects
moveDC Framework for Streets

- Every non-local street must:
  (functional classification of collector or higher)
  - Prioritize pedestrians;
  - Accommodate vehicles and local deliveries; AND
  - Ideally, support
    • One of:
      - PROTECTED bicycle facilities (cycle track or side path)
      - DEDICATED high-capacity transit lane(s)
      - DESIGNATED freight route
    • OR several modes in simpler accommodation
Modal Priorities
(within the cartway)

Legend

Modal Priorities
- **Bicycle**
- **Transit**
- **Freight**
- **Bicycle & Transit**
- **Transit & Freight**
- **Bicycle & Freight**
- **Bicycle, Transit & Freight**
Major Elements
(not shown on maps in next few slides)

- Support major regional core-capacity projects in DC
- Major infrastructure repairs (i.e. S. Capitol Street Bridge)
- Support to WMATA in implementation of their Momentum Plan (other expansions are mapped)
- Commuter rail service expansions
- Efficiency improvement to high-frequency bus corridors
- Preservation of designated freight routes
- Traffic signal optimization and intelligent transportation system updates
- Additional Capital Bikeshare stations citywide
Today’s System

Bicycle Facilities
- Bike Lanes: 52 miles
- Cycle Tracks: 3.5 miles
- Trails: 73 miles

Legend
- Bicycle Facility
- Trail
- Metrorail

Metrorail: 52 miles
Bikeways and Trails

Planned trail system improvements + new trails (61 new miles/135 total future miles)

Cycle tracks
(69 new miles/72 total future miles)

Bike lanes
(83 new miles/136 total future miles)

Legend
- Bicycle Lane
- Cycle Track
- Trail
Commuter Rail & Metrorail

Support to WMATA in implementing:
- New Potomac River Metrorail tunnel between Rosslyn & Georgetown
- New downtown Metrorail loop that separates the Orange/Blue lines and the Yellow/Green lines

Support for:
- Commuter rail service expansions
- Union Station modifications

Legend
- Metrorail
Commuter Rail
Metrorail & Streetcar

Legend

- 22-mile Streetcar Network
- Metrorail

Planned 22-mile streetcar network with 4 miles of extensions
Interconnected high-capacity transit network (not including streetcar):

- 21 miles in dedicated space
- 23 miles in shared lanes
Managed Lanes, Street Reconfigurations, Bridges, and Local Streets

Some high-occupancy vehicle lanes on highways and bridge crossings

Central employment area cordon charge for private vehicle trips

New local street connections in land use change areas and across barriers such as I-395

**Legend**

- Managed Lane Facility
- Street Reconfiguration
- Bridge Rehabilitation/Replacement
- Central Employment Area Cordon Charge
- Local Street
Future System
PLAN PERFORMANCE
Goals

- **Sustainability and Health**: achieve 75% of all District trips by non-auto modes
- **Citywide Accessibility and Mobility**: maximize system reliability and capacity for moving people and goods
- **Neighborhood Accessibility and Connectivity**: support neighborhood vitality and economic development
- **Safety and Security**: achieve zero fatalities and serious injuries on District transportation network
- **Public Space**: reinforce Washington DC's historic landscapes and quality of neighborhood
- **Preservation**: achieve a state of good repair for all District infrastructure
- **Funding and Financing**: invest in transportation to achieve outcomes within plan horizon
Tools

- District-wide Travel Demand Model (DWTDM)
  - Uses trip tables from the MWCOG travel demand model
  - Sub area includes the District and area inside the Capital Beltway

- Mode Choice Post Processing (MCPP)
  - Point value assigned based on presence or proximity of approach features
  - Sum triggers a modification of the trip table

- GIS-based spatial analysis
## Network Capacity Change

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Change in Capacity (%) from existing network</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approach 1</td>
</tr>
<tr>
<td>Roadway</td>
<td></td>
</tr>
<tr>
<td>-3%</td>
<td>-6%</td>
</tr>
<tr>
<td>High Capacity Transit (Metrorail, Surface, Water Taxi)</td>
<td>67%</td>
</tr>
<tr>
<td>Bicycle Facilities (Trail, Cycle Track, Sidepath, Bike Lane)</td>
<td>143%</td>
</tr>
<tr>
<td>Total (all facilities)</td>
<td>18%</td>
</tr>
</tbody>
</table>
## Mode Share (District-District trips)

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>Future Baseline</th>
<th>Approach 1</th>
<th>Approach 2</th>
<th>Approach 3</th>
<th>moveDC Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorized (Drive)</td>
<td>41.1%</td>
<td>38.4%</td>
<td>35.6%</td>
<td>35.2%</td>
<td>35.8%</td>
</tr>
<tr>
<td>Transit</td>
<td>20.9%</td>
<td>24.7%</td>
<td>24.8%</td>
<td>24.1%</td>
<td>23.3%</td>
</tr>
<tr>
<td>Non Motorized</td>
<td>38.0%</td>
<td>36.9%</td>
<td>39.6%</td>
<td>40.6%</td>
<td>40.9%</td>
</tr>
</tbody>
</table>

**Notes**

1. Mode share shown in the above table is for daily trips that start and end in the District
2. Transit is Bus, Streetcar, High Capacity Transit, Metrorail, Commuter Rail, and Water Transit
3. Non-motorized is Walking and Biking
4. Columns may not total 100% due to rounding
## Total Daily Trips (District-District)

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>Future Baseline</th>
<th>Net vs. Future Baseline</th>
<th>moveDC Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Approach 1</td>
<td>Approach 2</td>
</tr>
<tr>
<td>Motorized (Drive)</td>
<td>756,000</td>
<td>-52,000</td>
<td>-106,000</td>
</tr>
<tr>
<td>Transit</td>
<td>384,000</td>
<td>69,000</td>
<td>70,000</td>
</tr>
<tr>
<td>Non Motorized</td>
<td>698,000</td>
<td>-23,000</td>
<td>26,000</td>
</tr>
</tbody>
</table>

**Notes**
1. Trips shown in the above table is for trips that start or end in the District
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## Mode Share (to/from District)

<table>
<thead>
<tr>
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<th>Approach 3</th>
<th>moveDC Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorized (Drive)</td>
<td>64.7%</td>
<td>60.8%</td>
<td>58.2%</td>
<td>57.4%</td>
<td>58.8%</td>
</tr>
<tr>
<td>Transit</td>
<td>26.9%</td>
<td>29.6%</td>
<td>31.5%</td>
<td>31.6%</td>
<td>30.5%</td>
</tr>
<tr>
<td>Non Motorized</td>
<td>10.0%</td>
<td>9.6%</td>
<td>10.3%</td>
<td>10.9%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

**Notes**

1. Mode share shown in the above table is for daily trips that start or end in the District
2. Transit is Bus, Streetcar High Capacity Transit, Metrorail, Commuter Rail, and Water Transit
3. Non-motorized is Walking and Biking
4. Columns may not total 100% due to rounding
## Total Daily Trips (to/from District)

<table>
<thead>
<tr>
<th>Travel Mode</th>
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<th>Net vs. Future Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Approach 1</td>
</tr>
<tr>
<td>Motorized (Drive)</td>
<td>1,480,000</td>
<td>-90,000</td>
</tr>
<tr>
<td>Transit</td>
<td>615,000</td>
<td>64,000</td>
</tr>
<tr>
<td>Non Motorized</td>
<td>229,000</td>
<td>-10,000</td>
</tr>
</tbody>
</table>

**Notes**

1. Trips shown in the above table is for trips that start or end in the District
2. Transit is Bus, Streetcar High Capacity Transit, Metrorail, Commuter Rail, and Water Transit
3. Non-motorized is Walking and Biking
## Vehicular Performance

<table>
<thead>
<tr>
<th></th>
<th>Future Baseline</th>
<th>Net vs. Future Baseline</th>
<th>moveDC Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Approach 1</td>
<td>Approach 2</td>
</tr>
<tr>
<td><strong>Vehicle Miles Traveled (VMT)</strong></td>
<td>10.45 million</td>
<td>-0.57 million (5%)</td>
<td>-1.14 million (11%)</td>
</tr>
<tr>
<td><strong>Vehicle Hours Traveled (VHT)</strong></td>
<td>389,000</td>
<td>-25,000 (6%)</td>
<td>-43,000 (11%)</td>
</tr>
<tr>
<td><strong>Delay (Hours)</strong></td>
<td>30,000</td>
<td>-2,000 (7%)</td>
<td>-1,000 (3%)</td>
</tr>
</tbody>
</table>

Note: These values are for the Districtwide Travel Demand Model area (inside the Capital Beltway)
Vehicular Volume to Capacity
Future Baseline
a.m. Peak Period

V/C Ratio

- **0.00 to 0.75**
- **0.75 to 1.25**
- **1.25 to 2.00**
- **2.00 and above**
Vehicular Volume to Capacity
moveDC Plan
a.m. Peak Period

V/C Ratio

- Green: 0.00 to 0.75
- Yellow: 0.75 to 1.25
- Red: 1.25 to 2.00
- Purple: 2.00 and above
Vehicular Volume to Capacity
Future Baseline
p.m. Peak Period

V/C Ratio
- 0.00 to 0.75
- 0.75 to 1.25
- 1.25 to 2.00
- 2.00 and above
Vehicular Volume to Capacity
moveDC Plan
p.m. Peak Period

V/C Ratio

- 0.00 to 0.75
- 0.75 to 1.25
- 1.25 to 2.00
- 2.00 and above
Non-Auto Mode Share Goal

- Modeled mode share primarily reflects infrastructure investment
- moveDC policies should push us further toward our goal
- What else would help get us to the Sustainable DC goal of 75% of all District trips by non-auto modes?
  - In the District:
    • Expand the cordon charge area
    • More managed lanes
    • More dedicated transit lanes
    • Freeway removal
    • Land use policy
  - In the Region:
    • More commuter rail
    • More transit
    • More bike/pedestrian facilities
    • More pricing (facilities & areas)
    • TDM
    • Land use policy
    • Expand transit fare subsidy

<table>
<thead>
<tr>
<th>Trip Type</th>
<th>Non-Auto Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>District-District Daily Trips</td>
<td>64.2%</td>
</tr>
<tr>
<td>To/From/Within District Daily Trips</td>
<td>51.4%</td>
</tr>
</tbody>
</table>
## moveDC Plan Network Coverage

<table>
<thead>
<tr>
<th>Facility</th>
<th>% of 2040 Population with Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sidewalk on at least 1 side of every street</td>
<td>100%</td>
</tr>
<tr>
<td>Bike facility within a 2-minute ride (protected, bike lane)</td>
<td>97%</td>
</tr>
<tr>
<td>Protected bike facility within a 2-minute ride (trails, sidepaths, cycle tracks)</td>
<td>80%</td>
</tr>
<tr>
<td>High Capacity Transit within a 7.5-minute walk</td>
<td>54%</td>
</tr>
<tr>
<td>Metrorail within a 7.5-minute walk</td>
<td>22%</td>
</tr>
</tbody>
</table>
### Mobility Index

**moveDC Plan**

<table>
<thead>
<tr>
<th>Mobility Index</th>
<th>% of 2040 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Mobility</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>42%</td>
</tr>
<tr>
<td></td>
<td>26%</td>
</tr>
<tr>
<td>High Mobility</td>
<td>21%</td>
</tr>
</tbody>
</table>

**Legend**

- Low Mobility
- High Mobility
## Modal Coverage

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Percent of 2040 Population with Access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approach 1</td>
</tr>
<tr>
<td>Metrorail Station Entrance within 7.5-minute walk</td>
<td>18%</td>
</tr>
<tr>
<td>High-Capacity Transit Stop within 7.5-minute walk</td>
<td>54%</td>
</tr>
<tr>
<td>Trail within a 2-minute ride</td>
<td>42%</td>
</tr>
<tr>
<td>Cycle Track within a 2-minute ride</td>
<td>10%</td>
</tr>
<tr>
<td>Bike Lane within a 2-minute ride</td>
<td>77%</td>
</tr>
<tr>
<td>Sidewalk Present</td>
<td>100%</td>
</tr>
</tbody>
</table>
Multimodal Travelsheds

- Analysis of multimodal travel within the District given a set travel time
- Based on representative points around the District
30-minute Travelshed
Downtown

Legend
- ★ Origin Point
- 30-Minute Travelshed
- Walking
- Red: Transit (HCT, Streetcar, Metrorail)
- Biking
30-minute Travelshed
Eastern

Legend

🌟 Origin Point
30-Minute Travelshed
Walking
Transit (HCT, Streetcar, Metrorail)
Biking
30-minute Travelshed
Northern

Legend
- **Origin Point**
- **30-Minute Travelshed**
- **Walking**
- **Transit (HCT, Streetcar, Metrorail)**
- **Biking**
30-minute Travelshed
Southern

Legend

★ Origin Point
30-Minute Travelshed
Walking
Transit (HCT, Streetcar, Metrorail)
Biking
30-minute Travelshed
Northwestern

Legend

- ★ Origin Point
- 30-Minute Travelshed
- Walking
- Transit (HCT, Streetcar, Metrorail)
- Biking
30-minute Travelshed
Western

Legend

⭐ Origin Point

30-Minute Travelshed

Walking

Transit (HCT, Streetcar, Metrorail)

Biking
FUNDING & PRIORITIZATION
This provides a preliminary overview of revenue assumptions, probable cost estimates, and financial forecasts in 2014 dollars. All values are subject to change during the remainder of the moveDC planning process. Since this is a planning level funding exercise, all funding programs, projects, and assumptions will have to be re-evaluated in subsequent planning and project development.
Prioritization Framework and Priorities

- MAP-21 performance measures
- moveDC goals and performance measures
- Public process input
- Implementation reality
- Politics and organizational purview
- Regional priorities
Scoring Projects & Policies

1. Objective criteria and weighting factors
   - Qualitative and quantitative evaluation measures
   - Information derived from spatial analysis and modeling
   - Weighted

2. Subjective criteria and weighting factors
   - Political, organizational, and policy questions and considerations
   - Questions/measures defined by the agency
   - Weighted
1. Calculate objective and subjective ratings
2. Sort projects
3. Group projects within score ranges
<table>
<thead>
<tr>
<th>Objective Categories and Measures</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sustainability &amp; Health (16 points)</td>
<td>Non-Auto Mode Split</td>
</tr>
<tr>
<td></td>
<td>Park &amp; Green Space Access</td>
</tr>
<tr>
<td></td>
<td>Active Transportation Benefits</td>
</tr>
<tr>
<td>2. Citywide Mobility (12 points)</td>
<td>Person-Capacity</td>
</tr>
<tr>
<td></td>
<td>Freight Accommodation</td>
</tr>
<tr>
<td></td>
<td>Regional Integration</td>
</tr>
<tr>
<td></td>
<td>Address Deficiency</td>
</tr>
<tr>
<td>3. Neighborhood Connectivity (12 points)</td>
<td>Transportation Coverage</td>
</tr>
<tr>
<td></td>
<td>Transportation Choice</td>
</tr>
<tr>
<td></td>
<td>Population &amp; Job Centers</td>
</tr>
<tr>
<td></td>
<td>Economic Challenge &amp; Redevelopment Areas</td>
</tr>
<tr>
<td>4. Safety &amp; Security (15 points)</td>
<td>User Safety</td>
</tr>
<tr>
<td></td>
<td>Emergency Redundancy</td>
</tr>
<tr>
<td></td>
<td>Sidewalk</td>
</tr>
<tr>
<td>5. Public Space (6 points)</td>
<td>Protects Important Corridors and Landscapes</td>
</tr>
<tr>
<td></td>
<td>Functional, beautiful, walkable</td>
</tr>
<tr>
<td>6. Preservation &amp; Maintenance (30 points)</td>
<td>State of Good Repair</td>
</tr>
<tr>
<td>7. Funding &amp; Financing (9 points)</td>
<td>Readiness</td>
</tr>
<tr>
<td></td>
<td>Revenue Source</td>
</tr>
<tr>
<td></td>
<td>PPP Potential</td>
</tr>
<tr>
<td></td>
<td>Cost*</td>
</tr>
</tbody>
</table>

* Cost is often used as a tie break instead of as a measure
PUBLIC COMMENT/DISCUSSION