

Bus on Shoulder (BOS)

Transportation Planning Board

BOS Task Force Meeting

04/17/2013





SHA/MTA Effort

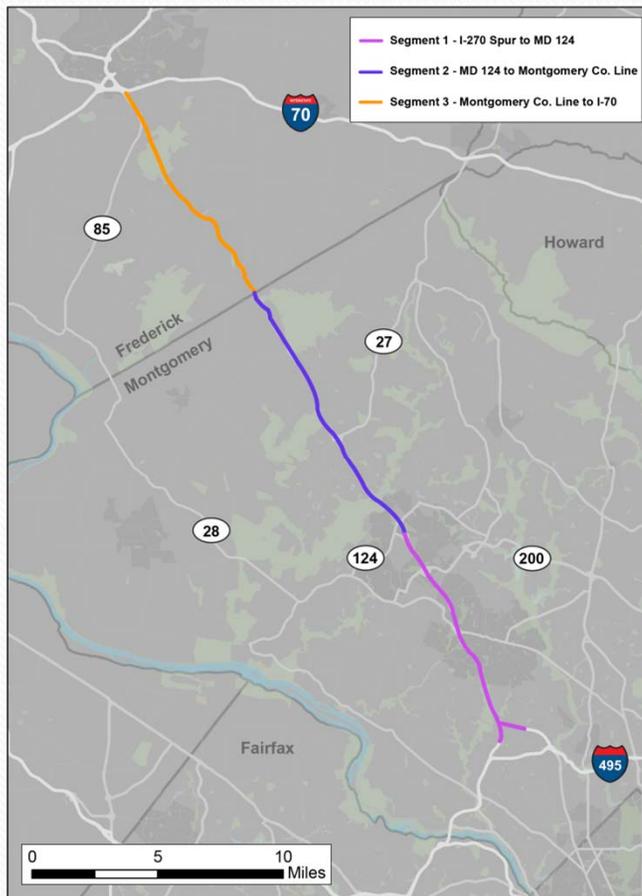
- **Supporting Transportation Planning Board and WashCOG efforts toward a BOS initiative**
- **Evaluating and outlining BOS feasibility on sample corridors**
- **Outlining paths for continued investigation**

What did SHA do?

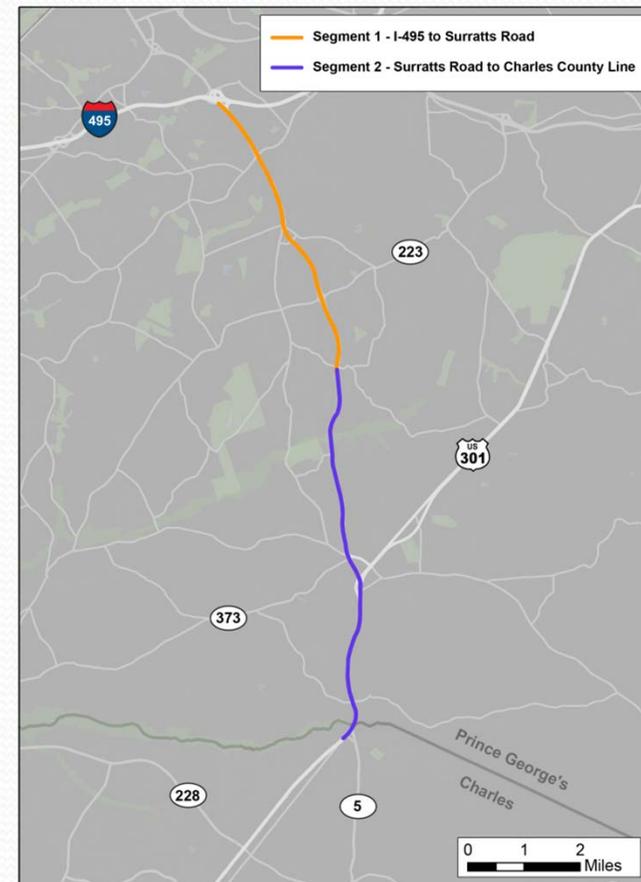
- Identified tools used to for shoulder widths
- Measured shoulder widths
- Worked with other disciplines (Operations, Pavement Design, MTA Commuter Bus) to gain understanding of what would be involved in an effort of this nature

Corridor Overview

I-270 Bus on Shoulder Study Corridors



MD-5/US-301 Bus on Shoulder Study Corridors



Pinch Points/Conflict Points

Defining Pinch Points & Conflict Points as:

- **Pinch Points** are traffic congestion points, intersections, bridges or short lengths of road at which a traffic bottleneck exists slowing down the broader network. **(Ex. Bridges)**
- **Conflict Points** are points at which a highway user crossing, merging with, or diverging from a road or driveway conflicts with another highway user using the same road or driveway. **(Ex. Ramps, Intersections)**

I-270

Planning Level - Inventory

- **City of Frederick to I-495 Beltway (Montgomery County)**
(approx. 31 miles)
- **As-Builts**
 - Bridge crossings and piers
 - Older plans and typical sections
- **Aerial Imagery**
 - I-270 Corridor from City of Frederick to I-495 Beltway
- **Planimetrics**
 - Available throughout the sections of the corridor

Aerial View – I-270

- **Segment 1**
 - **I-270 Spur to MD 124**
- **Segment 2**
 - **MD 124 to Montgomery County Line**
- **Segment 3**
 - **Montgomery County Line to I-70**

Summary of I-270

- **Segment 1 (I-495 to MD 124)**
 - **Conflict Pts. (Ramps) – 9; Bridge Pinch Pts. – 5**
- **Segment 2 (MD 124 to Mont. Co. Line)**
 - **Conflict Pts. (Ramps) – 8; Bridge Pinch Pts. – 4**
- **Segment 3 (Mont. Co. Line to I-70)**
 - **Conflict Pts. (Ramps) – 5; Bridge Pinch Pts. – 8**
- **Total Conflict Points – 22**
- **Total Bridge Pinch Points – 17 (widened or lengthened)**

MD 5 - Branch Avenue

Planning level – Inventory

- I-495 to Waldorf - Prince Georges Co. and Charles Co. (approximately 12 miles)
- As-Builts
 - Old plans and typical sections (1967)
- Aerial Imagery
 - MD 5 imagery from I-495 Beltway to US 301 Split
- Planimetrics
 - MD 5 Project Planning Study currently underway

Aerial View – MD 5

- **Segment 1**
 - I-495 to Surratts Road
- **Segment 2**
 - Surratts Road to Charles County Line

Summary of MD 5 – Branch Ave.

- **Segment 1 (I-495 to Surratts Road)**
 - **Conflict Pts. (At Grade Intersections, Ramps) – 12**
- **Segment 2 (Surratts Road to Charles Co. Line)**
 - **Conflict Pts. (At Grade Intersections, Ramps) – 8**
 - **Conflict Pts. (Multiple Driveway Connections) – 6**
 - **Bridge Pinch Pts. – 3**
- **Total Conflict Points – 26**
- **Total Bridge Pinch Points – 3 (widened or lengthened)**

Challenges & Considerations

- **Monocacy Battlefield on I-270 (historic)**
- **Bridge Reconstruction along the corridor (costs)**
- **Existing Strength and Shoulder Width (10')**
- **MTA Commuter Bus Size – 10'-2" (mirror to mirror)**
- **Environmental Site Design (New Construction or Reconstruction)**
- **Entrance and Exit Ramps along corridors**
- **Expanding Existing Bus Service (added trips, additional park & ride facilities, etc.)**
- **Potential cost/mile: \$3 - \$6 million (this does not include major costs such as: ROW, Bridge Reconstruction)**



MTA Commuter Bus Peak Hour Service

Peak AM hrs. 5:30 – 9:00

Peak PM hrs. 2:30 - 6:30

I-270

Routes	Roadway Segments Used	Peak AM buses	Peak PM buses
201	between MD 124 & I-370	10	10
202	between MD 124 & I-370	3	3
204	between MD 80 & I-370	4	5
205	between MD 118 & I-370	3	3
991	between MD 85 & I-370	11	15
		31	36

MD 5

Routes	Roadway Segments Used	Peak AM buses	Peak PM buses
903	between Waldorf and I-495	7	9
905	between Waldorf and I-495	22	22
909	between Waldorf and I-495	4	5
		33	36



Next Steps

- **SHA will continue to support the BOS initiative**
- **Local governments would need to communicate to SHA that a comprehensive BOS planning effort is a local transportation priority**



Next Steps cont.

- **Potential Planning Efforts could include:**
 - **Further investigation of shoulder strength (e.g. pavement coring, ground penetrating radar, etc..)**
 - **Evaluation of MTA Commuter Bus service needs**
 - **Identification of priority areas (e.g. Germantown to Shady Grove, MD 228 to Prince Georges County Line)**
 - **Evaluation of other traffic congestion management efforts (e.g. Transit Signal Prioritization, queue jumping)**
 - **Develop major quantity costs for accuracy (cost per mile assumptions made)**