

Bus On Shoulder (BOS)

Transportation Planning Board
BOS Task Force Meeting
01/23/2013



What tools does SHA have to determine shoulder widths?

- GIS (Geographic Information Systems)

- Environmental Features
(Wetlands/Streams/SWM/Sensitive and Endangered Species/etc..)

- As Builts

- determine shoulder depths
- existing shoulder widths
- existing bridge overpasses

- Aerial Imagery

- 2 - Dimensional aerial images that provides detailed scaling.
- SHA has aerial mapping for the entire state

What tools does SHA have to determine shoulder widths? cont.

- Planimetrics

- Detailed geographic features represented in a 2-dimensional surface

- Topography

- Contour lines

- Field Measurements

- Field review and spot check different locations along the corridor for accuracy

- Bike Shoulder Surveys

- Bike shoulder survey was conducted recently.
- Gives ranges of acceptable bike shoulder widths throughout the region

MD 5 - Branch Avenue

(initial corridor review)

Planning level – Inventory

- Ex. Surratts Road to Brandywine Road (approx. 3.5 miles)
 - Measurements taken every 500 feet in the northbound and southbound directions (outside shoulder only)
- 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

Data

(MD 5 Branch Ave. – Prince George's County)

Surratts Rd to Brandywine Rd - approx. 3.5 miles

- Surratts Road to Burch Hill Road

- 3 NB and 3 SB data points did not meet standards

- Burch Hill Road to Moores Road

- 4 NB and 3 SB data points did not meet standards

- Moores Road to Brandywine Road

- 4 NB and 3 SB data points did not meet standards

Note:

Merge areas, turn lanes near intersections and bridge crossings can cause shoulders to be below standards (10 ft. min.) in some cases.

Example:

Surratts Road Intersection to Burch Hill Road Intersection

Surratts Road Intersection

Northbound (MD 5)	Southbound (MD 5)
10.0 ft.	8.2 ft. (merge)
8.6 ft. (turn lane)	11.5 ft.
10.3 ft.	10.8 ft.
10.1 ft.	9.6 ft.
11.2 ft.	10.3 ft.
11.4 ft.	10.0 ft.
12.4 ft.	10.2 ft.
12.4 ft.	10.1 ft.
11.7 ft.	10.1 ft.
11.4 ft.	12.1 ft.
10.5 ft.	11.1 ft.
9.4 ft. (bridge)	13.2 ft.
10.9 ft.	12.6 ft.
4.9 ft. (merge)	1.4 ft. (turn lane)

to
↑
from

from
↓
to

Notes:

- Some locations did not meet 10 ft. minimum standards **(red)**
- Several locations will need further evaluation **(yellow)**
- Bridge overpass heading NB reduced the shoulder width to 9.4 ft. **(orange)**
- Merge lanes and turn lanes account for reduced shoulder widths near intersections
- Shoulder deterioration could be factor

Burch Hill Road Intersection

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 sections of the corridor

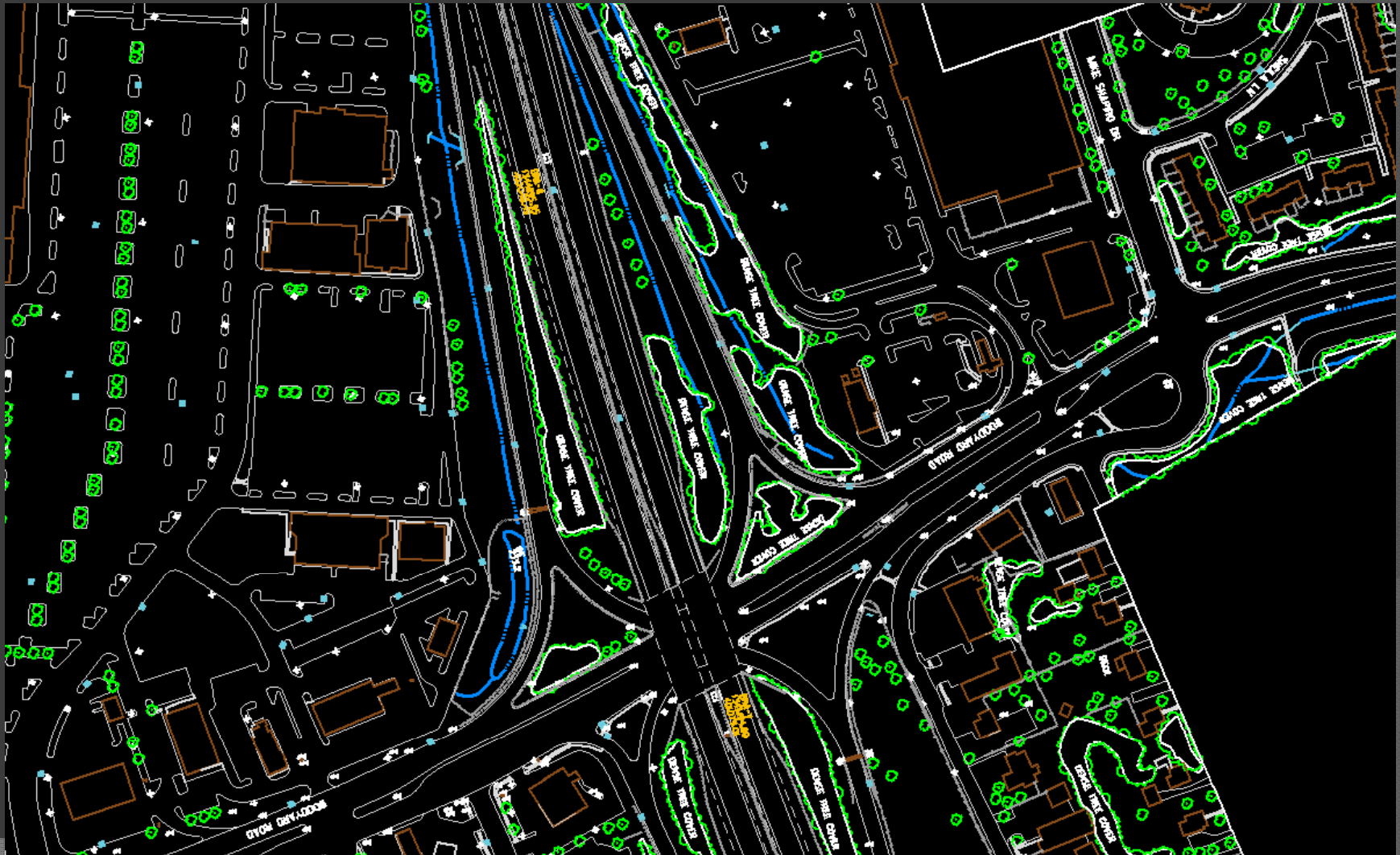
Aerial Imagery

I-270 (I-370 Shady Grove)



Planimetrics

(Coventry Road Intersection – MD 5 Branch Ave.)



Critical Factors to Consider

Planning Level

- Pinch Points at Bridges (*shoulder width < 10 ft*)
- Bike Compatability on Certain Facilities (*except Interstate*)
- As-Builts (current age/updated construction availability/preliminary shoulder evaluation)
- Environmental Site Design (*SWM*)
- Potential Base Widening
- Bridge Clearance
- Overhead Sign Clearance

Critical Factors to Consider cont.

Design Level

- Survey
- Aerial Photogrammetry (*accurate scaling*)
- Determining Shoulder Depth - Borings
 - Would require pavement borings to determine precise shoulder depth
- Shoulder Reconstruction
- Milling and Resurfacing
- Signage

General

- Law Enforcement/Incident Management
- Snow Removal
- Rules and Regulations to implement shoulder use