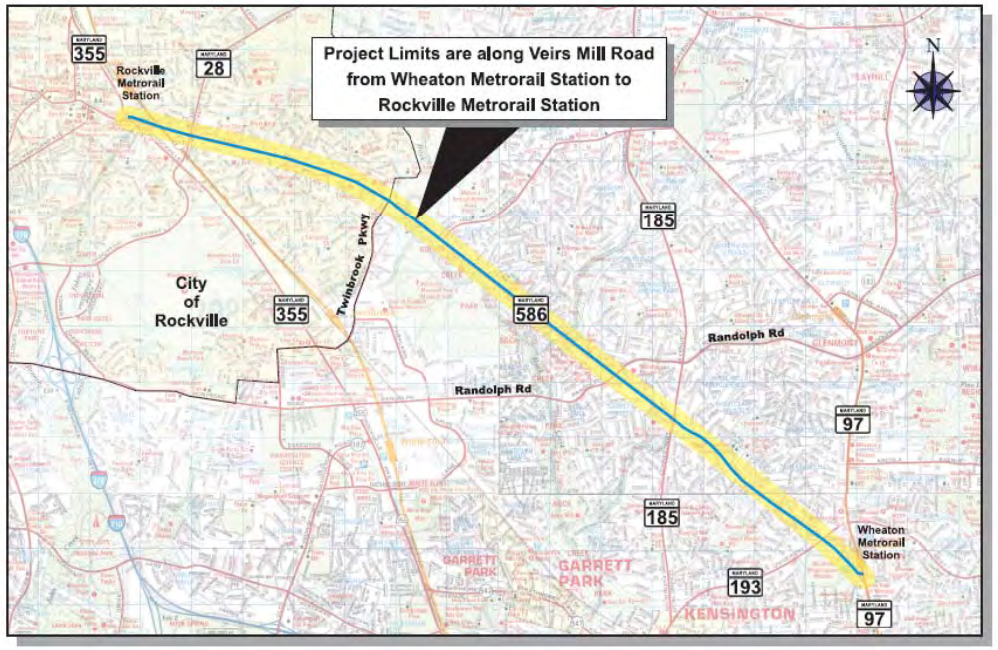
MD 586 / Veirs Mill Road
Bus Rapid Transit Study



RTS Committee Briefing

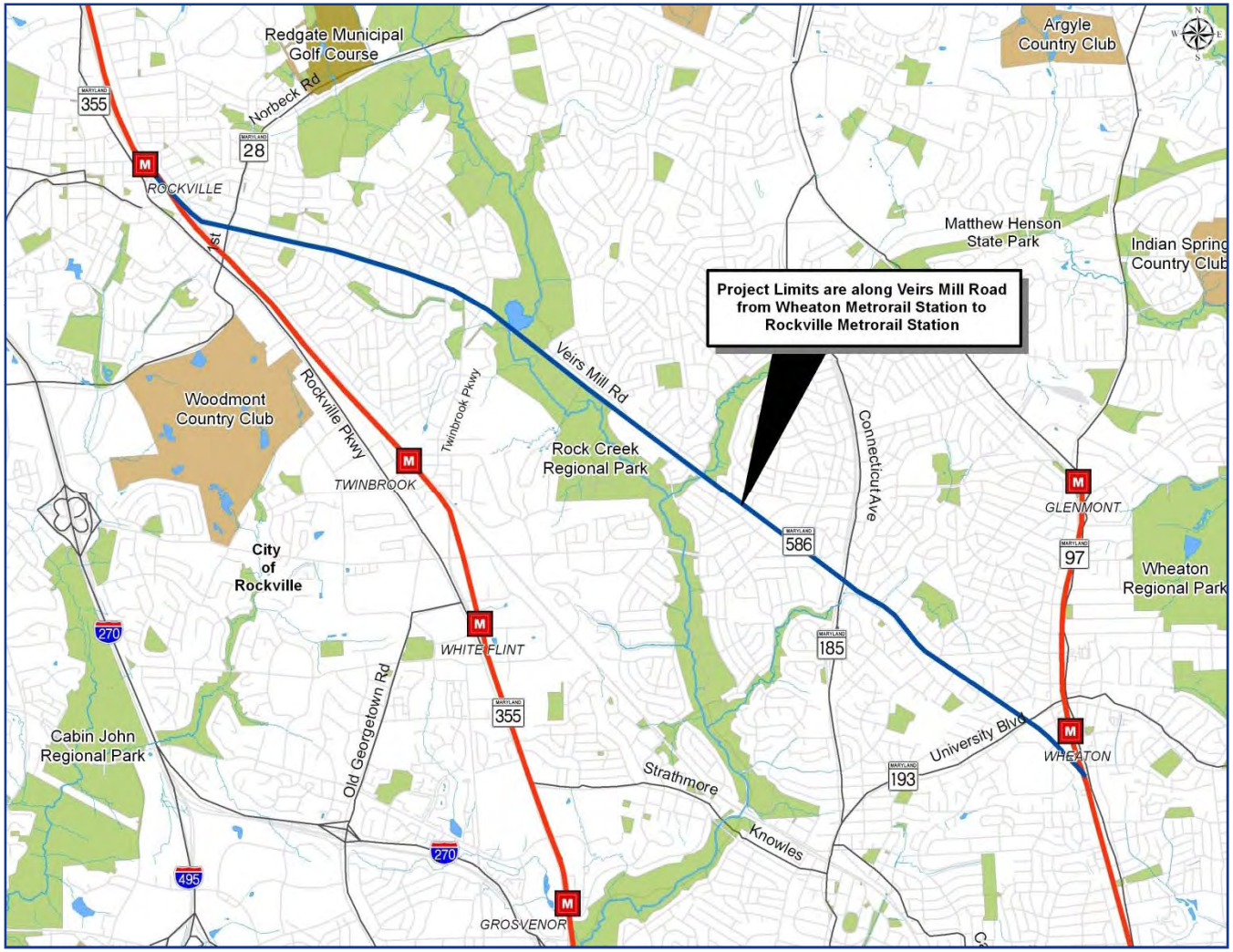
November 18, 2014

Veirs Mill Road Bus Rapid Transit

Agenda

- **Existing Conditions – Roadway and Transit**
- **Project Purpose and Need**
- **Conceptual Alternatives**
- **Preliminary Alternatives Retained for Detailed Study**
- **Typical Sections**
- **Alternative 5B**

Project Location

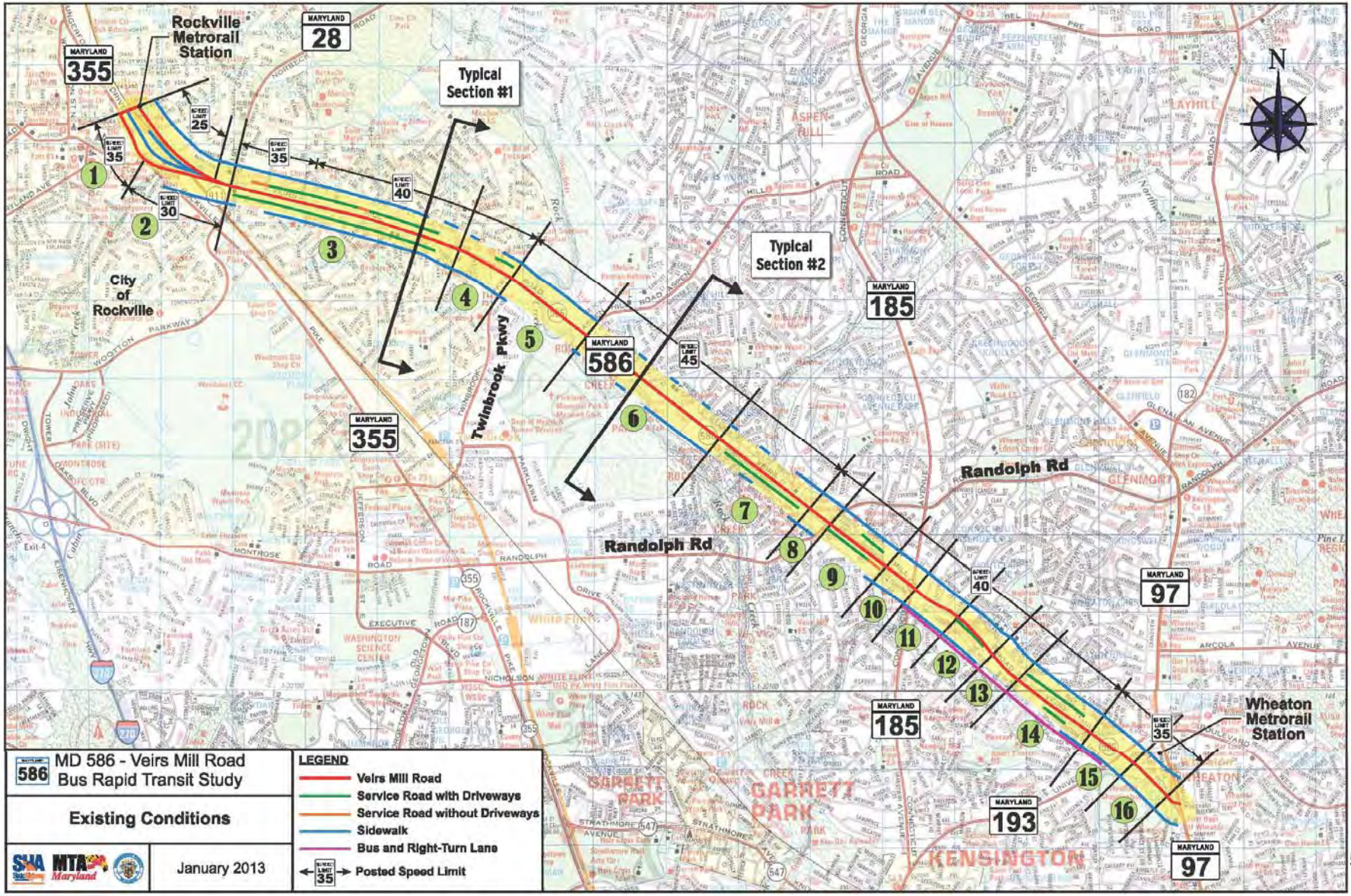


Veirs Mill Road Bus Rapid Transit

Existing Roadway Conditions

- **6.7-mile corridor**
- **Functional classification: Other principal arterial**
- **Number of lanes: varies from 4 to 6**
- **Intersections:**
  - 20 signalized
  - 26 unsignalized intersections and numerous driveways
- **Average daily traffic: 24,050 to 47,525**
- **Sidewalks with some gaps**
- **No designated bicycle facilities**
- **Metrobus and Ride On bus service**
- **Service roads along much of the corridor**

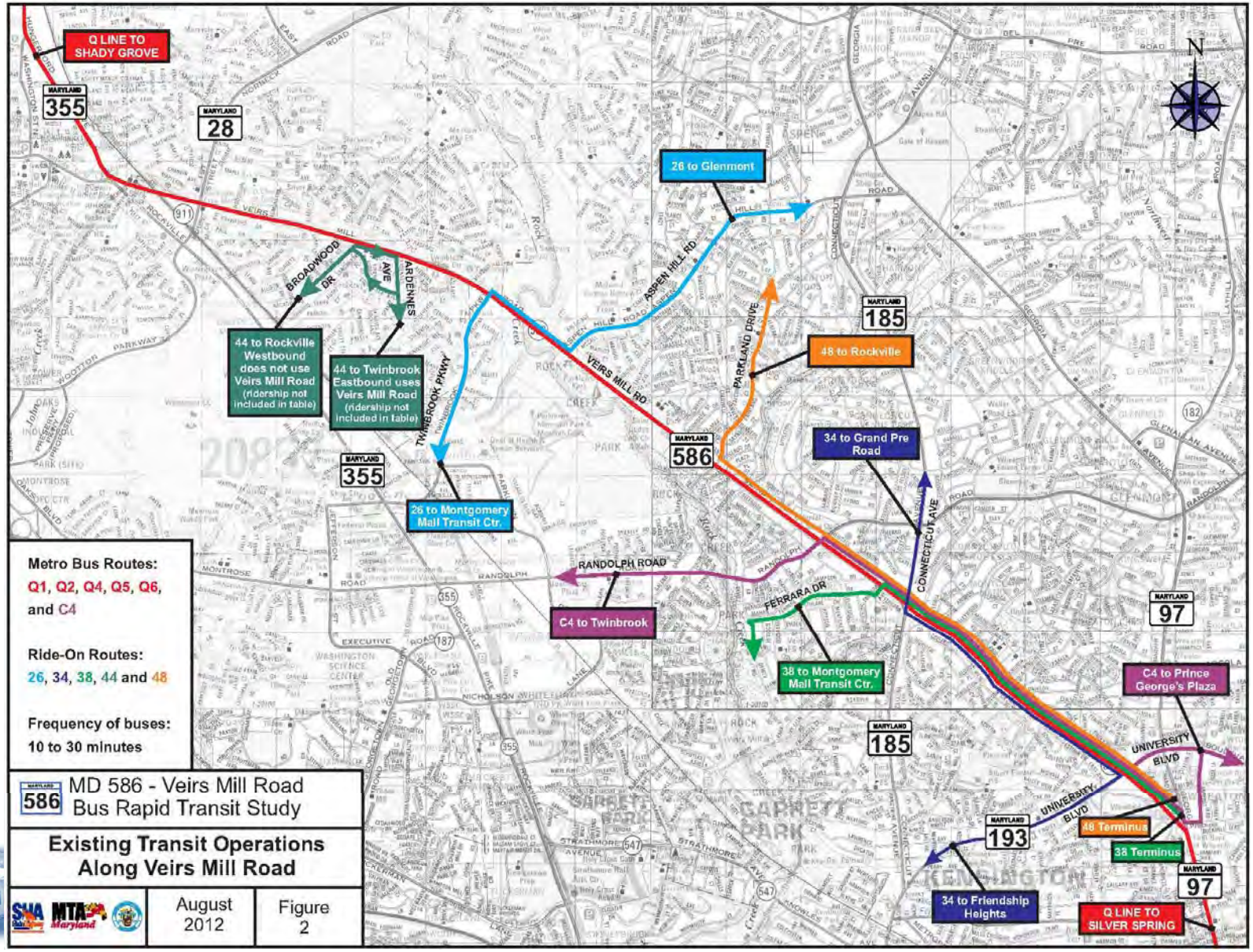
Numerous Typical Sections



Existing Bus Service

- **WMATA's Metrobus**
  - Routes Q1, Q2, Q4, Q5, and Q6 on Veirs Mill Road from the Rockville to Wheaton Metrorail Stations
  - Route C4 on Veirs Mill Road from Wheaton to Randolph Road
  - 11,300 to 12,200 daily riders within study corridor
- **Montgomery County's Ride On**
  - Routes 26, 34, 38, 44, and 48 each travel on a segment of Veirs Mill Road within the study corridor
  - 4,600 to 6,000 daily riders within the study corridor
- **Bicycle racks mounted on all Metrobus and all Ride On buses**

Bus Routes


Q LINE TO SHADY GROVE
MARYLAND 355
MARYLAND 28
26 to Glenmont
MARYLAND 185
48 to Rockville
44 to Rockville Westbound does not use Veirs Mill Road (ridership not included in table)
44 to Twinbrook Eastbound uses Veirs Mill Road (ridership not included in table)
BROADWOOD DR
ARDENNES AVE
TWINBROOK PKWY
ASPEN HILL RD
PARKLAND DRIVE
VEIRS MILL RD
MARYLAND 586
34 to Grand Pre Road
MARYLAND 355
26 to Montgomery Mall Transit Ctr.
CONNECTICUT AVE
RANDOLPH ROAD
C4 to Twinbrook
FERRARA DR
38 to Montgomery Mall Transit Ctr.
MARYLAND 97
C4 to Prince George's Plaza
MARYLAND 185
UNIVERSITY BLVD
MARYLAND 193
48 Terminus
38 Terminus
MARYLAND 97
34 to Friendship Heights
Q LINE TO SILVER SPRING
Metro Bus Routes:
Q1, Q2, Q4, Q5, Q6, and C4
Ride-On Routes:
26, 34, 38, 44 and 48
Frequency of buses:
10 to 30 minutes
MD 586 - Veirs Mill Road Bus Rapid Transit Study
Existing Transit Operations Along Veirs Mill Road
August 2012
Figure 2

Purpose and Need

The purpose of the study is to provide a new high-speed, high-efficiency bus line along Veirs Mill Road between the Rockville Metrorail Station and the Wheaton Metrorail Station. The project needs are:

1. **System Connectivity**
2. **Mobility**
3. **Transit Demand and Attractiveness**
4. **Livability**

Future Growth

- **Average Daily Traffic (ADT)**

MD 586 Segment	ADT		
	2011 Existing	2040 No-Build	Increase
MD 355 to MD 28	28,800	36,675	27%
MD 28 to Twinbrook Pkwy	33,925	42,300	25%
Twinbrook Pkwy to Aspen Hill Road	47,525	57,775	22%
Aspen Hill Road to Randolph Road	35,100	53,250	52%
Randolph Road to MD 185	37,400	53,900	44%
MD 185 to MD 193	36,350	47,625	31%
MD 193 to MD 97	24,050	32,625	36%

Conceptual Alternatives Overview

- **6 conceptual alternatives – combination of transit service and runningway alternatives**
- **Service Alternatives**
  - No improvements
  - Enhanced Bus Service (Q9)
  - New BRT Service
- **Runningway Alternatives**
  - Shared lanes vs. dedicated lanes
  - Existing lanes vs. re-purpose lanes vs. widening
  - Median-running vs. curb-running

Conceptual Alternatives Overview

- **Alternative 1:** No-Build
- **Alternative 2:** TSM/Queue Jumps
- **Alternative 3:** Enhanced bus service in dedicated lanes (where feasible)
- **Alternative 4:** New BRT in all dedicated lanes
- **Alternative 5A:** Reversible BRT in dedicated lane
- **Alternative 5B:** Bi-directional BRT in dedicated lane (with 2 median lanes where feasible)
- **Alternative 6:** New BRT in dedicated lanes and mixed traffic

Preliminary Ridership

- **Ridership summaries within the study area in 2040:**

	Alt 1 (No-Build)	Alt 2 (TSM)	Alt 4C (BRT on ◊)	Alt 4D (All Bus on ◊)
BRT Boardings	**0**	**5,577**	**9,122**	**6,902**
Other Bus Boardings	29,379	27,213	24,823	27,219
TOTAL BOARDINGS	**29,379**	**32,790**	**33,945**	**34,121**

- **Some BRT ridership diverts from existing service.**

Slide option 1: I didn't think Gary suggested eliminating this slide, he wanted date added. Joana suggested to eliminate it. Please clarify.

Preliminary Ridership Summary

- **Ridership ranges between:**
  - 5,000 BRT boardings for Alternatives 2 (TSM)
  - 10,000 BRT boardings for Alternative 4 (two lanes entire length)
- **Some BRT ridership diverts from existing service**

Slide Option 2 with reduced ridership data

Preliminary Alternatives Retained for Detailed Study

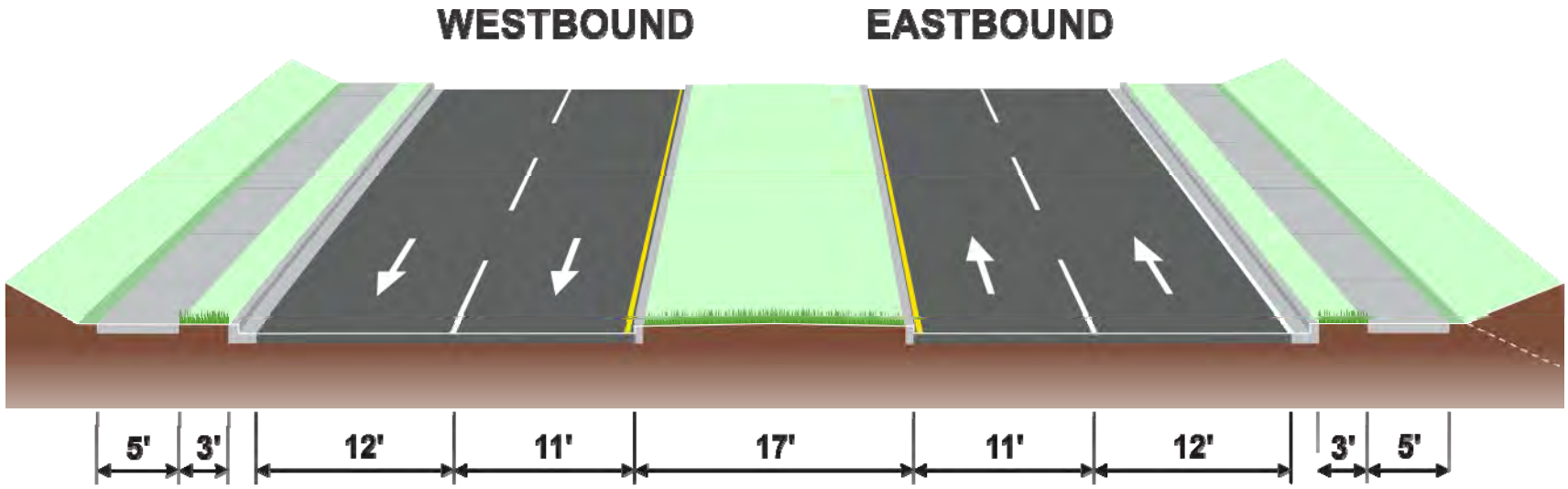
- **Alternatives Expected to be Retained:**
  - 1: No-build
  - 2: TSM – Enhanced bus service with Queue Jumps
  - 3: New BRT service in dedicated curb lanes (where feasible)
  - 5B: New BRT service in bi-directional and 2-lane median sections

Preliminary Alternatives Retained for Detailed Study

ALTERNATIVES		Bus Service	New Transit Service					
			Frequency		Span of Service	Speed		Stations/Stops
No.	Description		Peak	Off Peak		New Services	Existing Metrobus/ Ride-On	Number
1	No-Build	No Change	10-30 min	15-30 min	all day	NA	No change (10-12 mph)	37 local stops
2	TSM / Intersection Queue Jumps	Enhanced Bus Service - New Express Limited Stop route (similar to proposed Q9 MetroExtra)	12 min	15 min	all day	16 mph	No change (10-12 mph)	37 local stops 11 for Express
3	BRT Service in Dedicated Lanes (where feasible)	New BRT Service	6 min	10 min	all day	18 mph	No change (10-12 mph)	37 local stops 11 BRT stations
5B	Bi-directional BRT in Dedicated Lane + 2-Lane in Median (where feasible)	New BRT Service	6 min	10 min	all day	20 mph	No change (10-12 mph)	37 stops 11 BRT stations

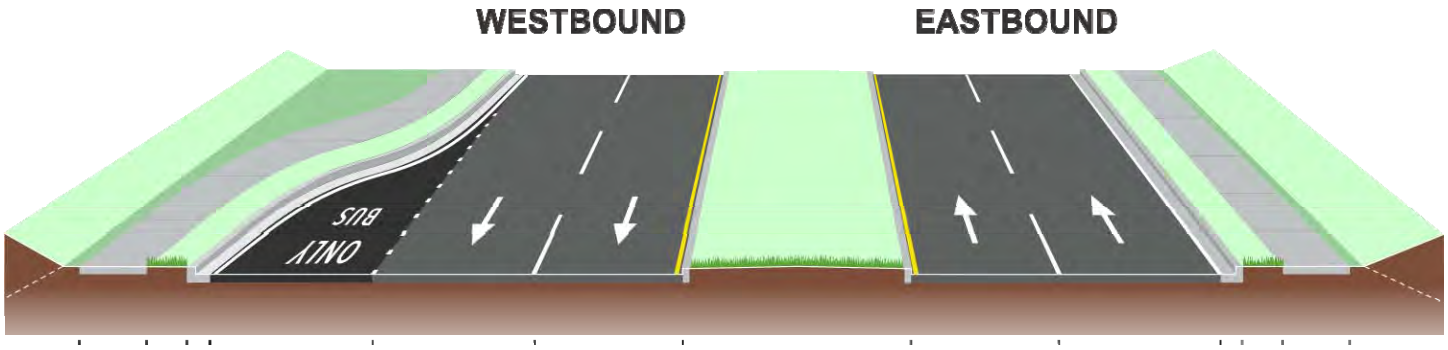
Alternative 1

- **No-Build**
- **Existing bus service in existing lanes**



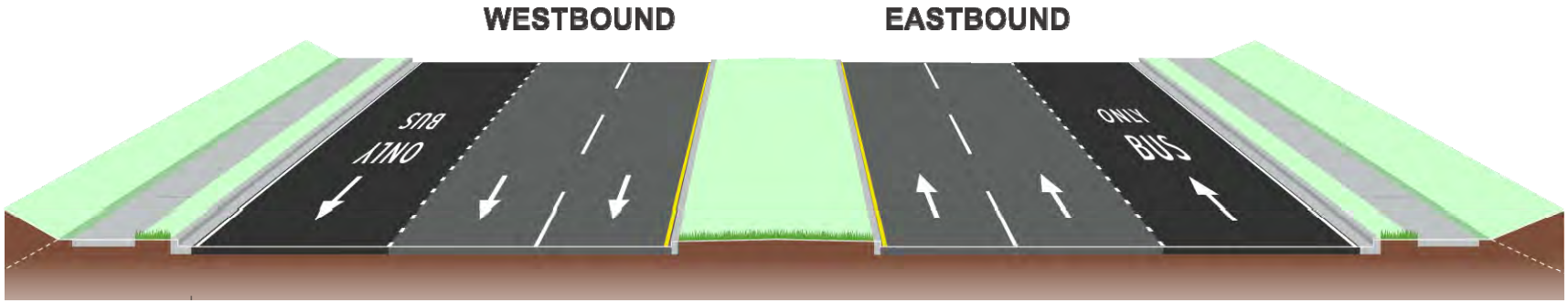
Alternative 2

- **TSM/Intersection queue jumps with enhanced bus service**



Alternative 3

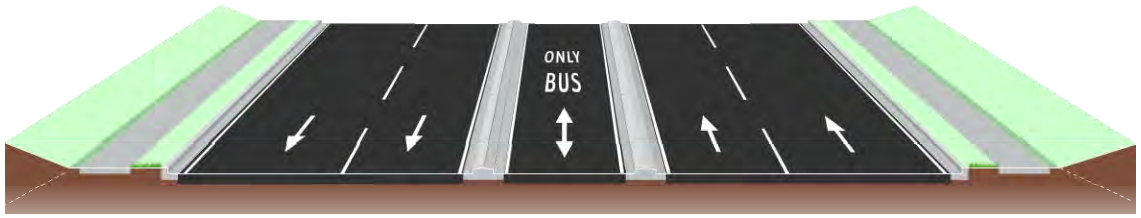
- **New BRT service in dedicated curb lanes, where feasible**



Alternative 5B

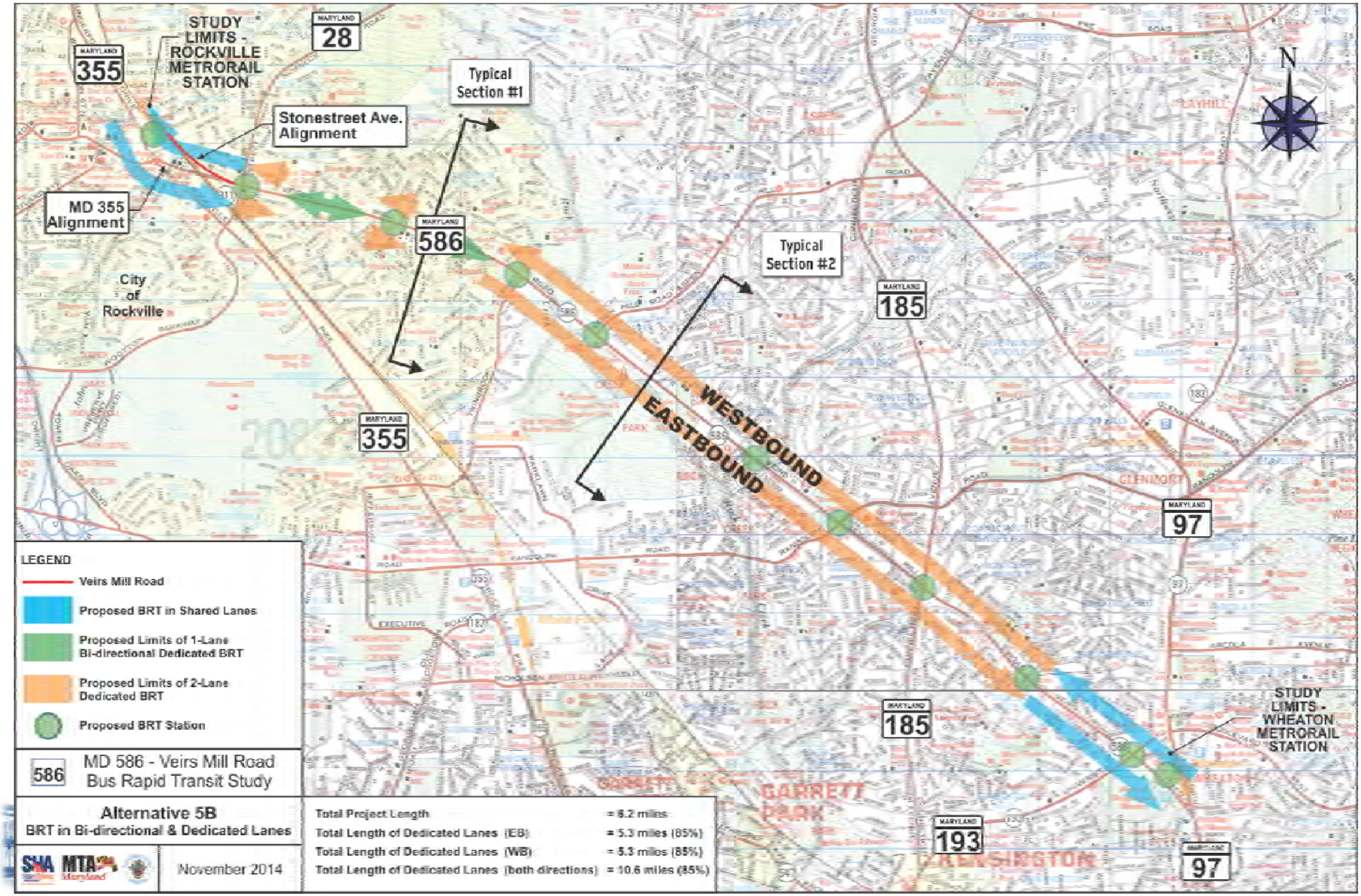
- **New BRT service in dedicated bi-directional or two-lane median**

1. **West Ends of Study Limits**



2. **Center of Study Limits**

Alternative 5B



Typical Section Treatments

- **Rockville Station to MD 28 ➔ Shared lanes**
  - Not adequate width to accommodate additional lanes due to constrained adjacent land uses.
- **MD 28 to Twinbrook Parkway ➔ Bi-directional lane**
  - Adequate width to accommodate one dedicated transitway lane while minimizing impacts to adjacent residences.
- **Twinbrook Parkway to Newport Mill ➔ Two lanes**
  - Adequate width to accommodate two lanes for majority of section.
- **Newport Mill to Wheaton Station ➔ Shared lanes**
  - Not adequate width to accommodate additional lanes with constrained adjacent land uses.

Next Steps / Engineering Methodology

- **Develop detailed horizontal layout**
- **MWCOG runs regional travel demand model to develop refined traffic volumes and BRT ridership**
- **Develop vertical alignments and cross sections to determine limits of disturbance**
- **Analyze traffic and ridership for each alternative**
- **Revise engineering based on ridership traffic analysis**

Questions