

National Capital Region Transportation Planning Board

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MEMORANDUM

Agenda Item 7

Date: 22 January 2010

To: TPB Travel Forecasting Subcommittee

From: C. Patrick Zilliacus
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Subject: **Regional HOV Facilities Monitoring - field data collection work for Spring 2010**

What we are asking from the subcommittee

Approval of the modified travel monitoring locations and schedule, as described in the tables and maps below. If this is approved, staff will monitor fewer locations in each corridor, but traffic and vehicle occupancy counts will take place at least twice at each counting station, so some degree of traffic variability can be assessed.

We are also proposing to omit from the report counts from nearby or parallel rail lines, since they have not drawn much interest and impose data collection costs on the operators of those services.¹

Finally, we would like to discuss the funding of transit bus counts as part of this project (in the past, transit bus providers have furnished passenger counts for each bus operating in the HOV corridors).

¹

In the past, patronage data were obtained from WMATA for its Metrorail lines that roughly parallel I-395, I-66 and I-270; from VRE for its Fredericksburg and Manassas Lines; and from the Maryland Transit Administration for its MARC Brunswick and Penn Lines.

Background

TPB staff has been managing data collection along the region’s HOV facilities since the late 1990's, and documenting the results, which include counts of auto occupants, vehicles and transit patrons. Please see Table 1 for a description of the system and Figure 1 for a graphic depiction of the region’s HOV network.

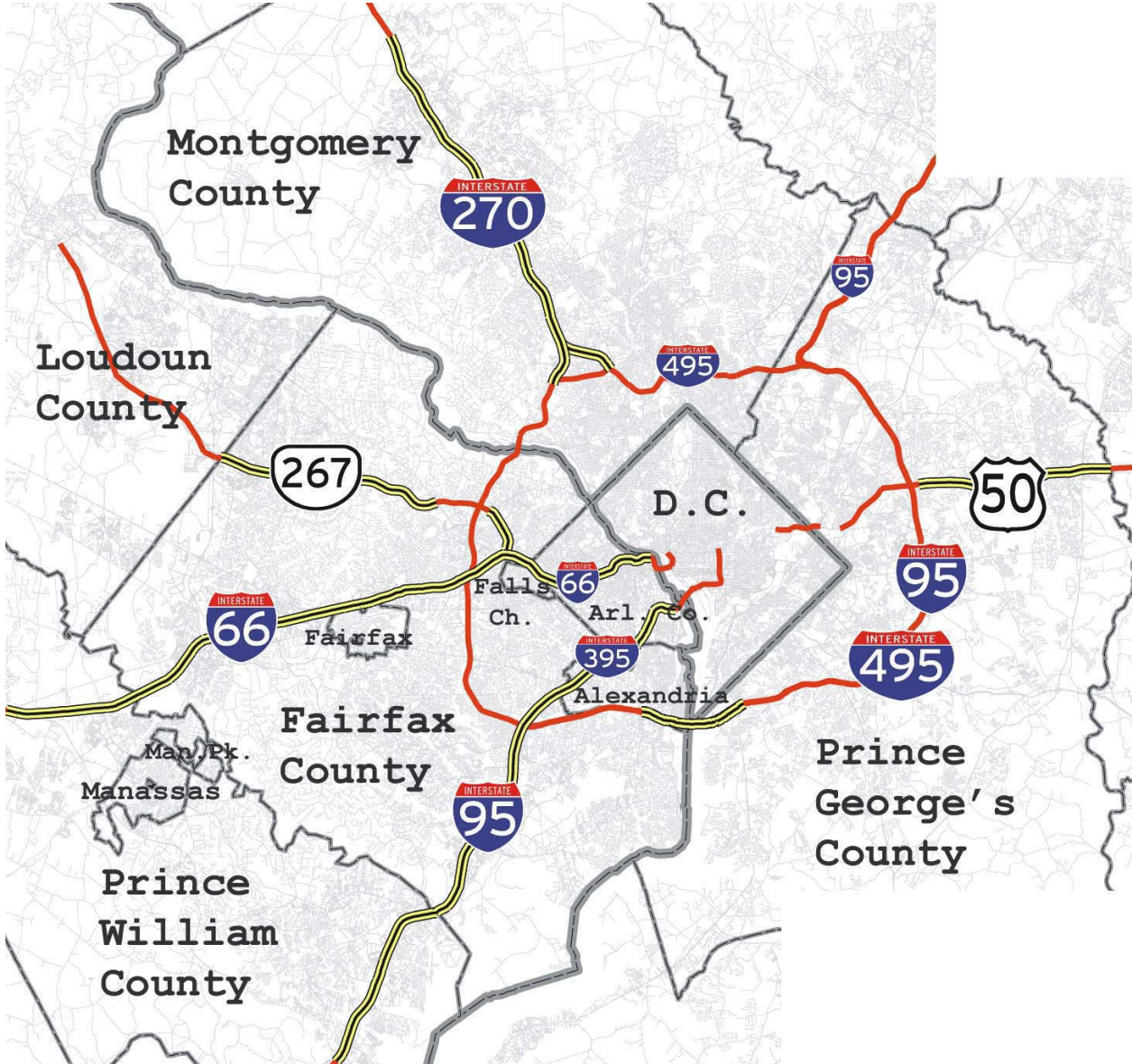
A retrospective look at work program counting activities since 2001 is found in Table 8, on the last page of this document.

Table 1 - HOV System				
Route Number(s)	Type of Facility and restriction	Hours of Operation	Outer Bound of HOV lanes	Inner Bound
I-95/I-395	Two Barrier Separated reversible HOV lanes HOV-3	6:00 A.M. to 9:00 A.M. (Northbound) and 3:30 P.M. to 6:00 P.M. (Southbound)	I-95 just south of Va. 234, Dumfries	I-395 at South Eads Street, Arlington
I-66 (<i>Inside Beltway</i>)	Two Exclusive HOV lanes (during restricted periods) HOV-2	6:30 A.M. to 9:00 A.M. (Eastbound) and 4:00 P.M. to 6:30 P.M. (Westbound)	I-495	U.S. 29 at Rosslyn, Arlington

Table 1 - HOV System				
Route Number(s)	Type of Facility and restriction	Hours of Operation	Outer Bound of HOV lanes	Inner Bound
I-66 (<i>Outside Beltway</i>)	Concurrent-flow HOV HOV-2	5:30 A.M. to 9:30 A.M. (Eastbound) and 3:00 P.M. to 7:00 P.M. (Westbound)	U.S. 29 at Gainesville	I-495
I-270	Concurrent-flow HOV HOV-2	6:00 A.M. to 9:00 A.M. (Southbound) and 3:30 P.M. to 6:30 P.M. (Northbound)	I-370 (in A.M.) Md. 121, Clarksburg (in P.M.)	I-495 at Md. 355 (Wisconsin Avenue)
I-270Y (I-270 <i>Spur</i>)	Concurrent-flow HOV HOV-2		Entire Length	
Va. 267 (Dulles Toll Road)	Concurrent-flow HOV HOV-2	6:30 A.M. to 9:00 A.M. (Eastbound) and 4:00 P.M. to 6:30 P.M. (Westbound)	Va. 28 (Sully Road), east of Dulles Airport	Va. 7 (Leesburg Pike) west of Tysons Corner
Dulles Connector Road (between Va. 123 and I-66)	Two Exclusive HOV lanes (during restricted periods) HOV-2	6:30 A.M. to 9:00 A.M. (Eastbound) and 4:00 P.M. to 6:30 P.M. (Westbound)	Connector Road east of Va. 123	I-66

Table 1 - HOV System				
Route Number(s)	Type of Facility and restriction	Hours of Operation	Outer Bound of HOV lanes	Inner Bound
U.S. 50 (John Hanson Highway)	Concurrent-flow HOV HOV-2	HOV restriction effective 24 hours/day	Between I-95/I-495 and Md. 704	Just east of U.S. 301/Md. 3 interchange
I-95/I-495 (Capital Beltway, crossing the Woodrow Wilson Bridge)	No HOV restriction at this time	Possible future HOV or managed lanes	East of Md. 210 (Indian Head Highway)	Va. 241 (Telegraph Road)

Figure 1 - Regional HOV Facilities



Proposed work in Spring 2010

Travel Time data collection

Travel time data collection will not change. At least five runs on five different days, using the “floating car” methodology, will be done in each HOV (and parallel non-HOV corridor, so an estimate of travel time savings can be made).

Person and Traffic Counts

Methodology of counting will not change. Each automobile, light truck and van passing the monitoring location will be classified according to its number of occupants.

The number of counting stations will be reduced, but counts at the remaining stations will be conducted at least twice in the HOV-restricted direction (counts along U.S. 50 in Maryland and at the Woodrow Wilson Bridge² will be done in both directions in both peak periods³).

Emphasis in all HOV corridors will be on the so-called “maximum load” points.⁴

² The Woodrow Wilson Bridge may have a managed lane (HOV or other form of managed lane) in the future.

³ Unlike other HOV corridors in the region, the concurrent-flow HOV lanes along U.S. 50 (John Hanson Highway) in Maryland are HOV-2 restricted at all times, 24 hours per day, 7 days per week.

⁴ Because HOV lanes along the I-66 corridor in Virginia change so radically at the Capital Beltway (from concurrent-flow to exclusive HOV), counts are taken just outside and inside the Beltway. Along the I-95/I-395 corridor, there is not a change in the character of the HOV lanes, but TPB staff is aware that a large amount of HOV traffic exits the HOV roadway in the mornings near Newington (just north of Va. 7100), hence the counting locations inside and outside the Beltway.

The proposed counting stations are depicted in the following tables and maps. At least two counts will be conducted at each station. Counts will take place from 5:00 A.M. to 10:00 A.M. and 3:00 P.M. to 8:00 P.M. in the HOV-restricted directions.⁵

Please see Tables 2 through 7 and Figures 2 through 7 for details about each corridor.

Transit

The budget for this project does not include monitoring of transit bus use. In the past, staff has obtained ridership data from transit operators, and staff will continue to interview commuter bus operators⁶ to obtain load factors for their services. **Additional resources will be required if TPB staff is asked to collect transit bus⁷ ridership.**

⁵ This is consistent with previous HOV system counts, and with most other TPB counting activities.

⁶ Loudoun County Commuter Express, Martz (formerly National Coach), Maryland Transit Administration, Potomac and Rappahannock Transportation Commission (PRTC).

⁷ Alexandria DASH, Fairfax Connector, Montgomery County Ride-On and WMATA's Metrobus.

Table 2 - I-95/I-395 Corridor			
Route	Station	Location	Comments
I-395	A	Between Va. 120 (Glebe Road) and Arlington Ridge Road	Barrier-separated HOV lanes and non-HOV lanes
I-395	B	Between Va. 648 (Edsall Road) and Va. 236 (Duke Street)	
I-95	C	Between Va. 7100 (Fairfax County Parkway) and Va. 7900 (Franconia Springfield Parkway)	

Fig. 2 - I-95/I-395 Corridor



Table 3 - I-66 Corridor			
Route	Station	Location	Comments
I-66	A	Between Fairfax Drive and Va. 120 (Glebe Road)	Exclusive HOV roadway
I-66	B	Between I-495 (Capital Beltway) and Va. 7 (Leesburg Pike)	
I-66	C	Between Va. 243 (Nutley Street) and I-495	Concurrent-flow HOV and non-HOV lanes

Fig. 3 - I-66 HOV

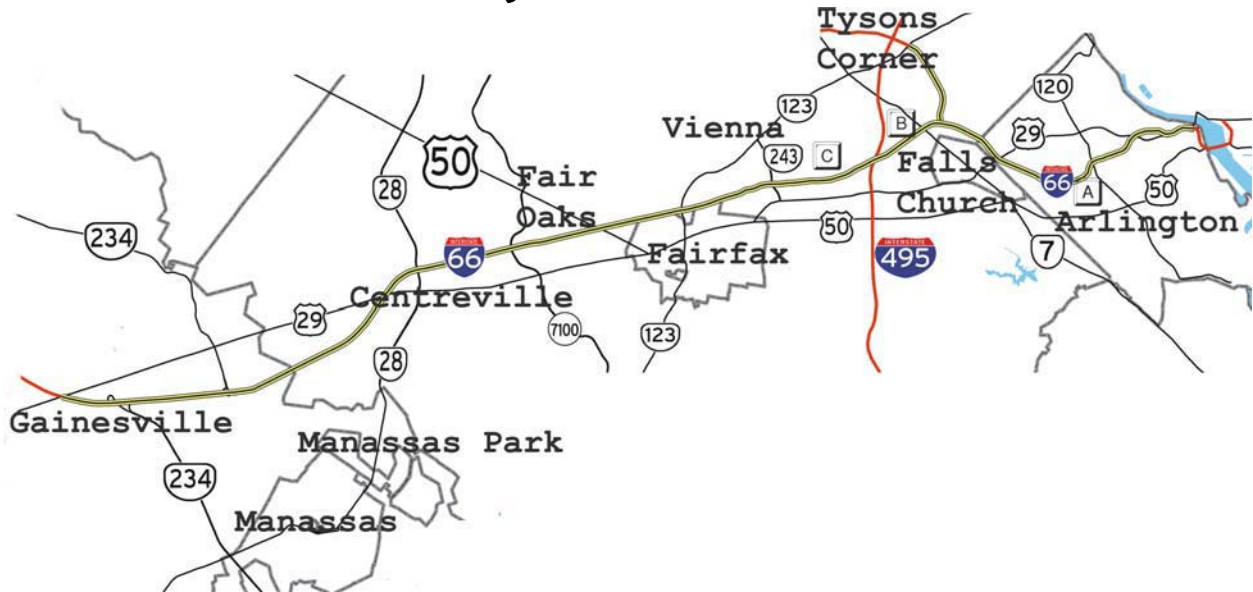


Table 4 - I-270 Corridor			
Route	Station	Location	Comments
I-270	A	Between I-270 “split” (south of Tuckerman Lane) and Rockledge Drive	Concurrent-flow HOV lane and non-HOV lanes
I-270	B	Between I-370/Sam Eig Highway and Shady Grove Road	
I-270Y (I-270 “Spur”)	C	Between I-270 “split” (south of Tuckerman Lane) and Democracy Boulevard	

Fig. 4 - I-270 Corridor



Table 5 - Va. 267 (Dulles Toll Road) Corridor			
Route	Station	Location	Comments
Dulles Connector Road and Dulles Airport Access Road	A	Just east of Va. 123	Traffic from airport is not subject to HOV restriction at any time
Va. 267	B	Between Trap Road and Va. 7 (Leesburg Pike)	Concurrent flow HOV lane and non-HOV lanes

Fig. 5 - Va. 267 Corridor

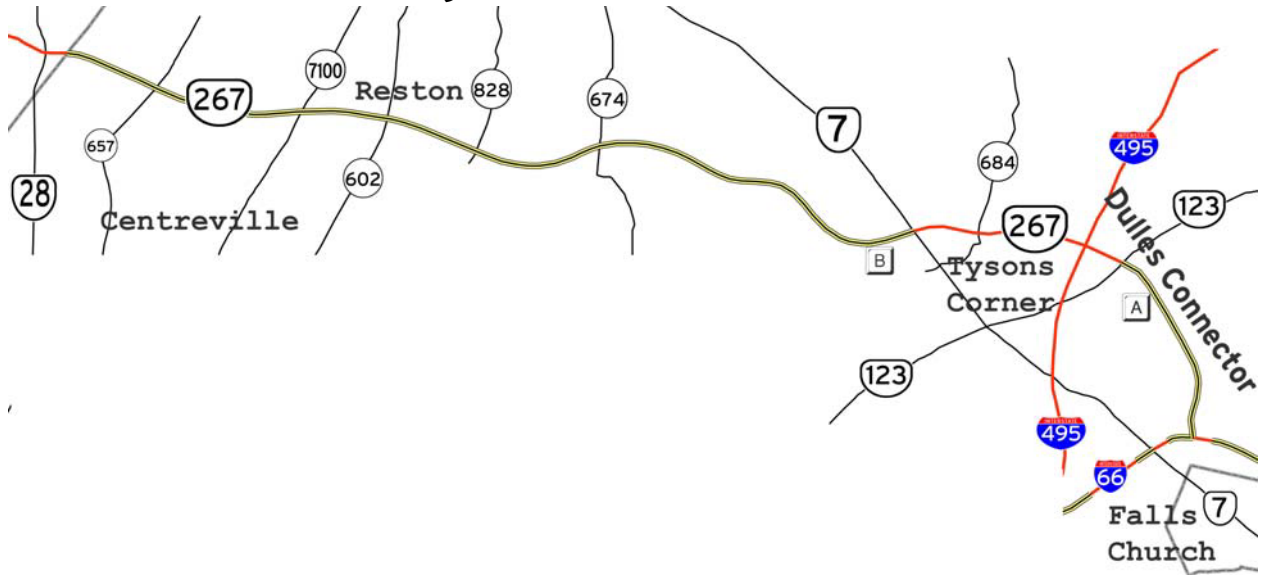


Table 6 - U.S. 50 (John Hanson Highway) Corridor			
Route	Station	Location	Comments
U.S. 50	A	Between Md. 197 (Collington Road) and Md. 704 (Martin Luther King Highway)	HOV restriction in effect at all times - counts will be in both directions in both commute periods
	B	Between Md. 3/U.S. 301 (Crain Highway) and Md. 197	

Fig. 6 - U.S. 50 Corridor

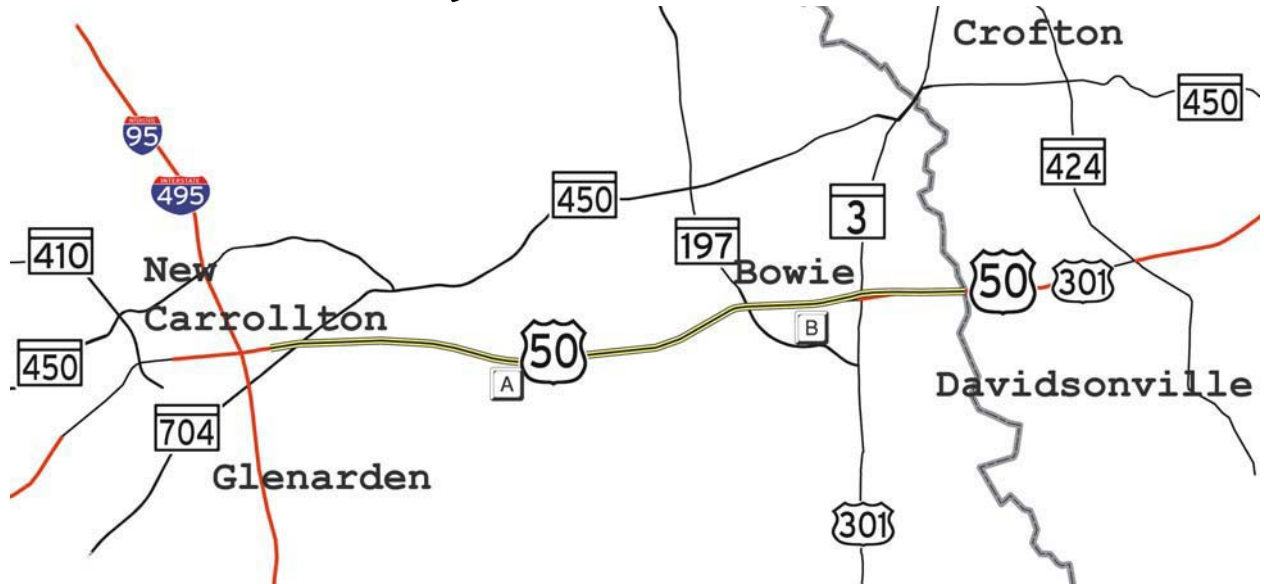



Table 7 - I-95/I-495 (Wilson Bridge)			
Route	Station	Location	Comments
I-95/I-495		Crossing Bridge	Possible future managed lane or transit

Fig. 7 - I-95/I-495 Crossing Wilson Bridge

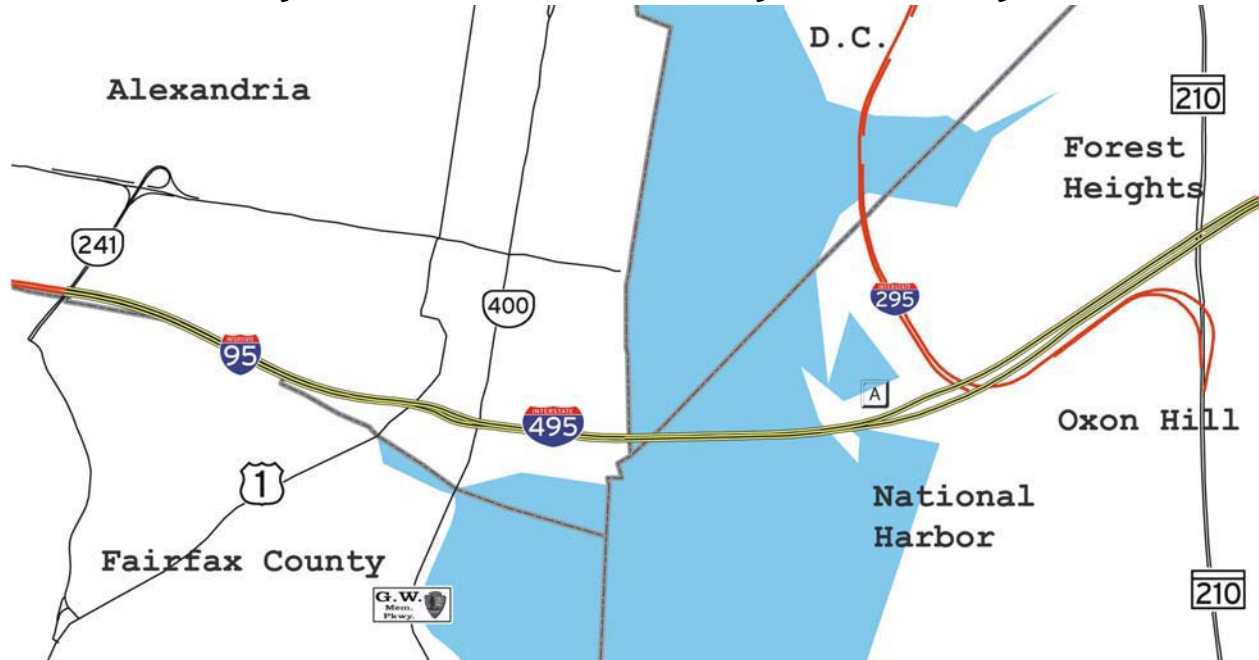


Table 8 - Look Back at Project(s) Since 2001

Spring Data Collection Season	Year	
2001		Beltway Cordon Count
2002		Central Employment Area Cordon Count (formerly Metro Core Cordon Count)
2003		D.C. City Line Cordon Count (D.C. Technical Assistance) and Truck External Survey
2004		Regional HOV Facilities Monitoring
2005		Count of Light-Duty commercial vehicles and truck classification counts
2006		Central Employment Area Cordon Count (formerly Metro Core Cordon Count)
2007		Regional HOV Facilities Monitoring
2008		<i>No core work program data collection activity</i>
2009		Central Employment Area Cordon Count (formerly Metro Core Cordon Count)
2010		Regional HOV Facilities Monitoring (planned)