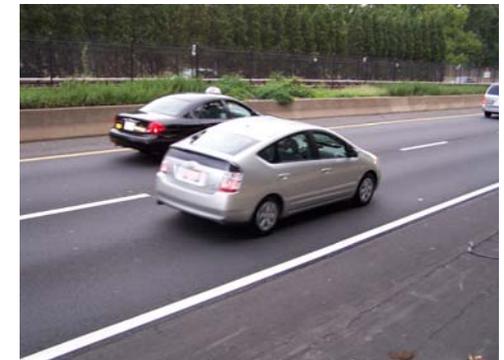


2007 Performance of High-Occupancy Vehicle Facilities in the Washington Region

Presented to the
TPB Technical Committee
Friday, June 6, 2008

C. Patrick Zilliacus



HOV Facilities Monitored

- I-395 and I-95 (Shirley Highway)
- I-66 (inside Beltway)
- I-66 (outside Beltway)
- I-270 (and I-270 Spur)
- Va. 267 (Dulles Toll Road)
- U.S. 50 (John Hanson Highway)
- **Wilson Bridge** (possible future HOV or managed lanes crossing Potomac)

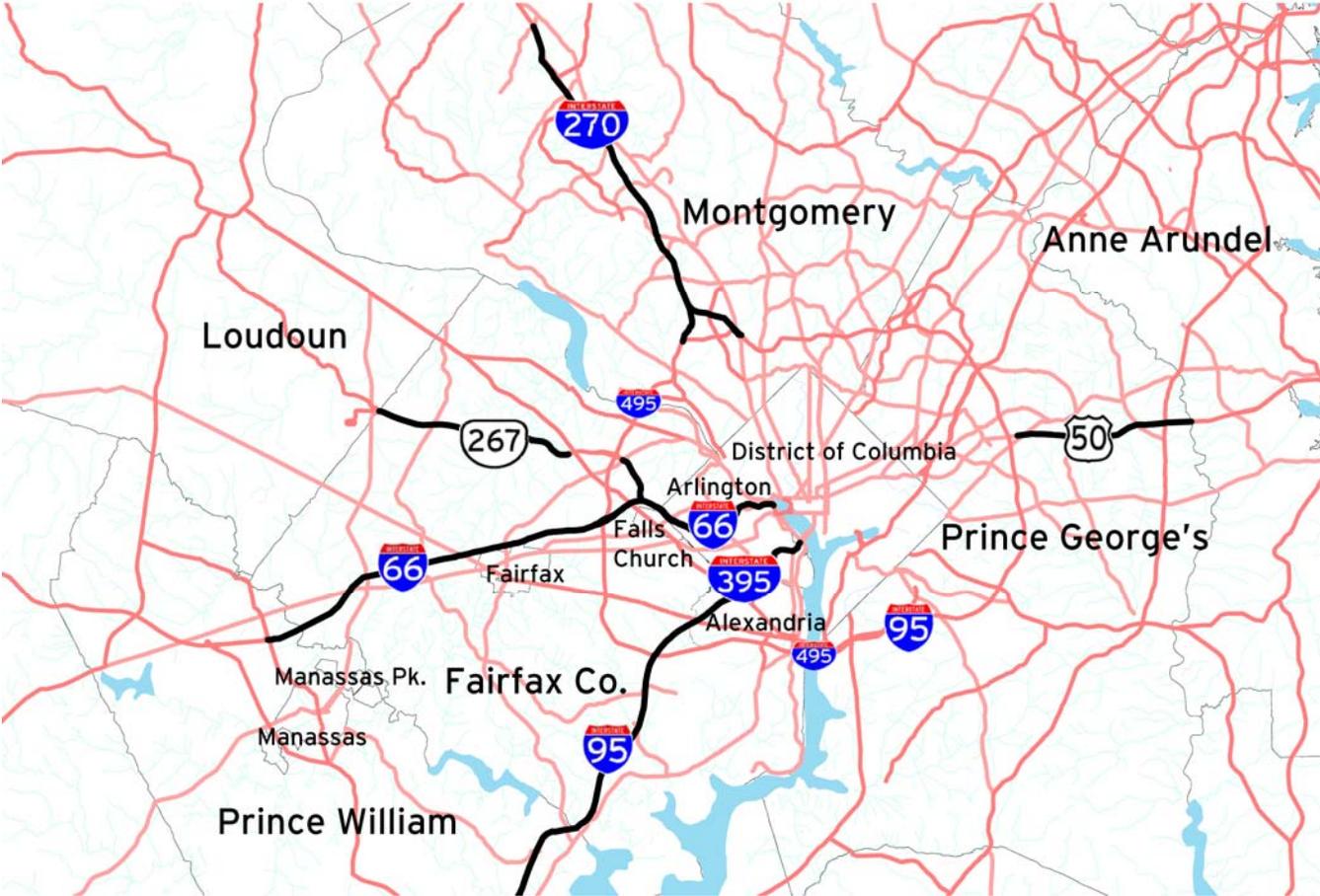
History of HOV

- Started on Shirley Highway in 1969 (buses only)
- D.C. to Springfield
- Shirley went to HOV-4 in 1975 (later lowered to HOV-3)
- Shirley HOV lanes extended to Prince William County in 1990's
- I-66 inside Beltway opened in 1982 (HOV-4 then, lowered to HOV-3 and now HOV-2)
- I-66 outside Beltway concurrent-flow in the early 1990's
- I-270 HOV (first in Md.) opened the first segment in 1993
- Now I-270 has HOV southbound (A.M.) from I-370 at Gaithersburg and northbound (P.M.) to Clarksburg at Md. 121
- U.S. 50 concurrent-flow HOV opened in 2002 – the only 24/7 HOV in the region
- I-66 HOV extension from Manassas to Va. 234 Bypass completed after data collection for this report was finished

Data Collection

- Spring and early summer of 2007
- Collected Tuesdays, Wednesdays and Thursdays
- Travel time data collection (HOV and non-HOV) was done
- Counts re-done in the event of a serious freeway incident or rain
- Peak-flow direction only (inbound to D.C. in A.M.; outbound from D.C. in P.M. – except U.S. 50 HOV – two stations counted both ways because of 24/7 HOV restriction)
- 5 A.M. to 10 A.M. inbound
- 3 P.M. to 8 P.M. outbound
- HOV and non-HOV lanes monitored
- Auto occupancy; person trips; vehicle trips and persons per lane per hour
- Buses monitored

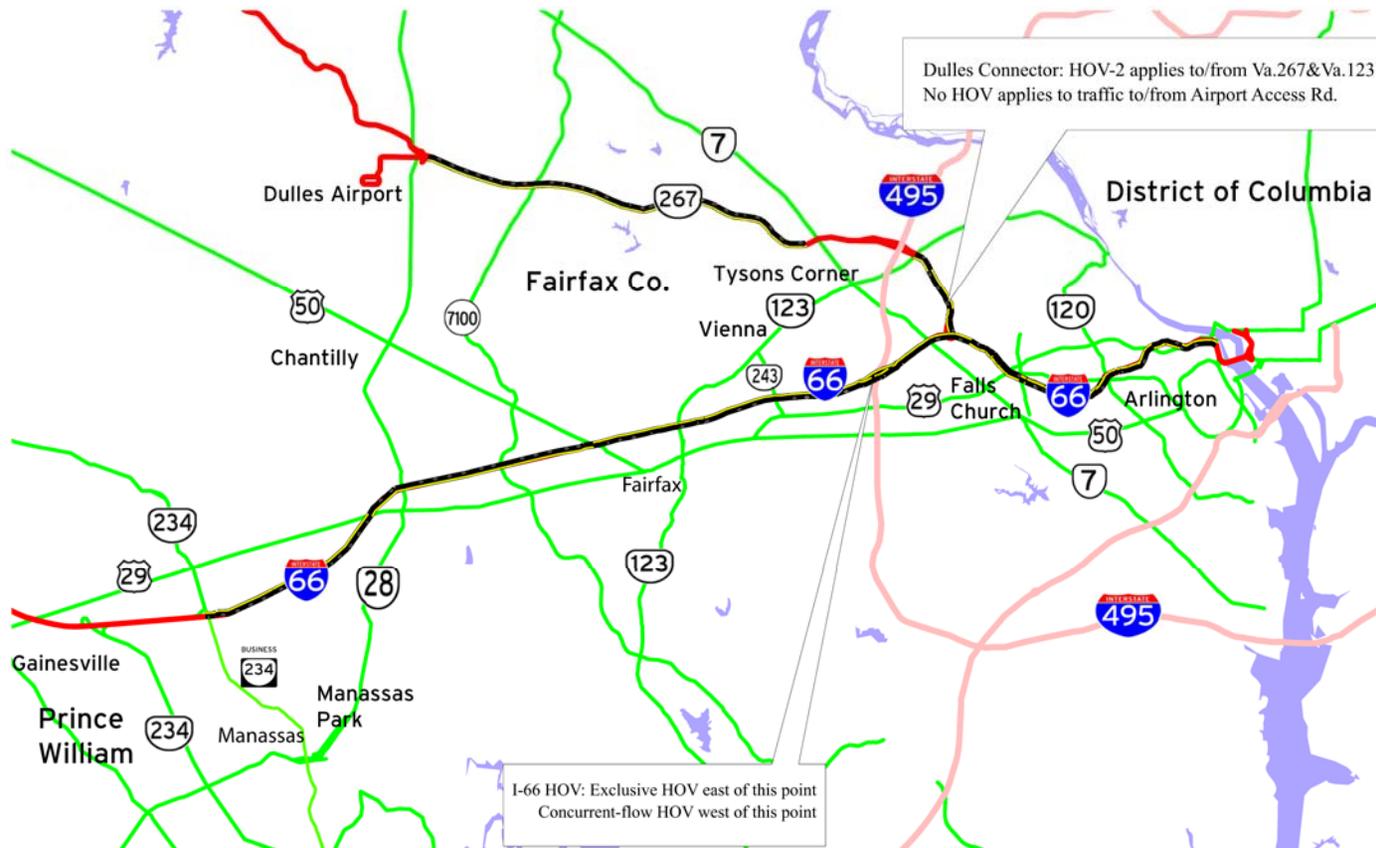
Regional Overview of Existing HOV system in 2007



Shirley Highway Corridor (I-95/I-395)



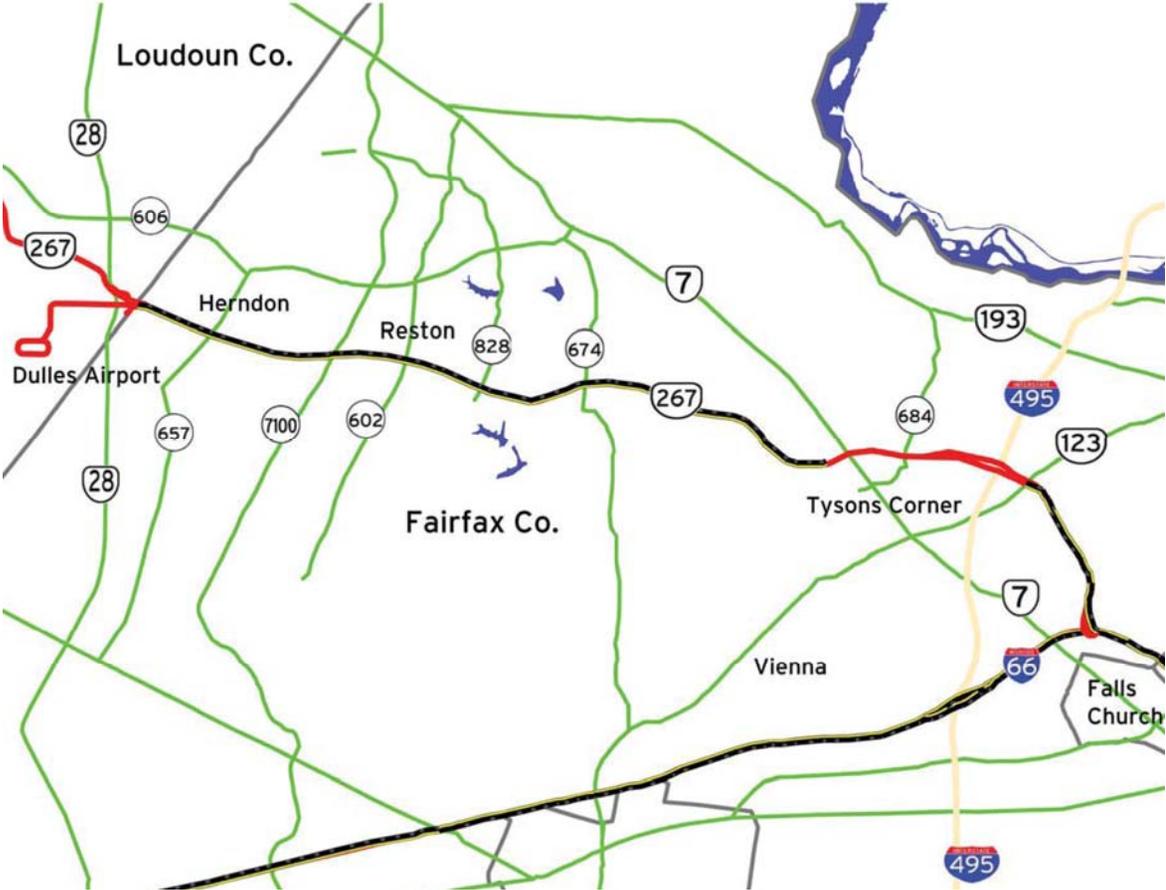
I-66 Corridor



I-270 Corridor



Va. 267 (Dulles Toll Road) Corridor



U.S. 50 (John Hanson Highway) Corridor



Findings

- HOV Lanes carry more persons per lane per hour than adjacent non-HOV lanes (A.M. HOV and non-HOV average vehicle occupancies for each facility – these do not include transit)
 - I-395 (HOV 2.5, non-HOV 1.1)
 - I-95 (HOV 2.6, non-HOV 1.0)
 - I-66 [inside Beltway] (HOV 1.8)
 - I-66 [outside Beltway] (HOV 1.9, non-HOV 1.2)
 - I-270 [at Rockledge Drive] (HOV 1.5, non-HOV 1.0)
 - I-270 spur [at Democracy Blvd.] (HOV 1.8, non-HOV 1.1)
 - I-270 [north of “split”] (HOV 1.6)
 - Va. 267 (HOV 1.8, non-HOV 1.0)
 - U.S. 50 (westbound side) (HOV 1.9, non-HOV 1.0)

Findings (cont'd.)

- HOV lanes provide savings in travel time (from 50 minutes on Shirley Highway to 1 minute on U.S. 50).
- Decline in observed auto occupancies (observed in 1999-2004 interval) on I-66 (inside Beltway) and I-395 **seems** to have flattened out.
- Decline in HOV travel time advantage on Va. 267 and U.S. 50 appear to be due to **decreased** travel times for the non-HOV routes – travel times in the HOV lanes have not increased.

Planned Future Activities

- Receive comments on this report
- Monitor in the future as resources and time allow (2010?)
- Performance impact of agreement to convert Shirley Highway HOV to HOT lanes

Comments

- Andrew Burke worked on this project as well
- Was presented to Travel Forecasting Subcommittee at its meeting on May 23, 2008
- Questions?
- (202) 962 3292
- Comments?
- In writing to Zill@MWCORG.ORG
- Or FAX to (202) 962 3202
- By Friday, June 20, 2008