

# Disposition and Initial Analysis of Observed Highway & Transit Data for 2007

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Mary Martchouk  
Metropolitan Washington Council of Governments (COG)  
National Capital Region Transportation Planning Board (TPB)



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# Overview

- Version 2.3 will be calibrated based on year 2007 data
  - Traffic Counts (Regional Transportation Data Clearinghouse)
  - Transit Ridership Data
  - Household Travel Survey
- Currently have most data necessary for model calibration, however, still need to clean and obtain more data

# Daily Traffic Count Stations, 2007

	DC	MD	VA	Total
Program Count Stations	91	398	376	865
Permanent Count Stations	10	21	38	69
Total	101	419	414	934

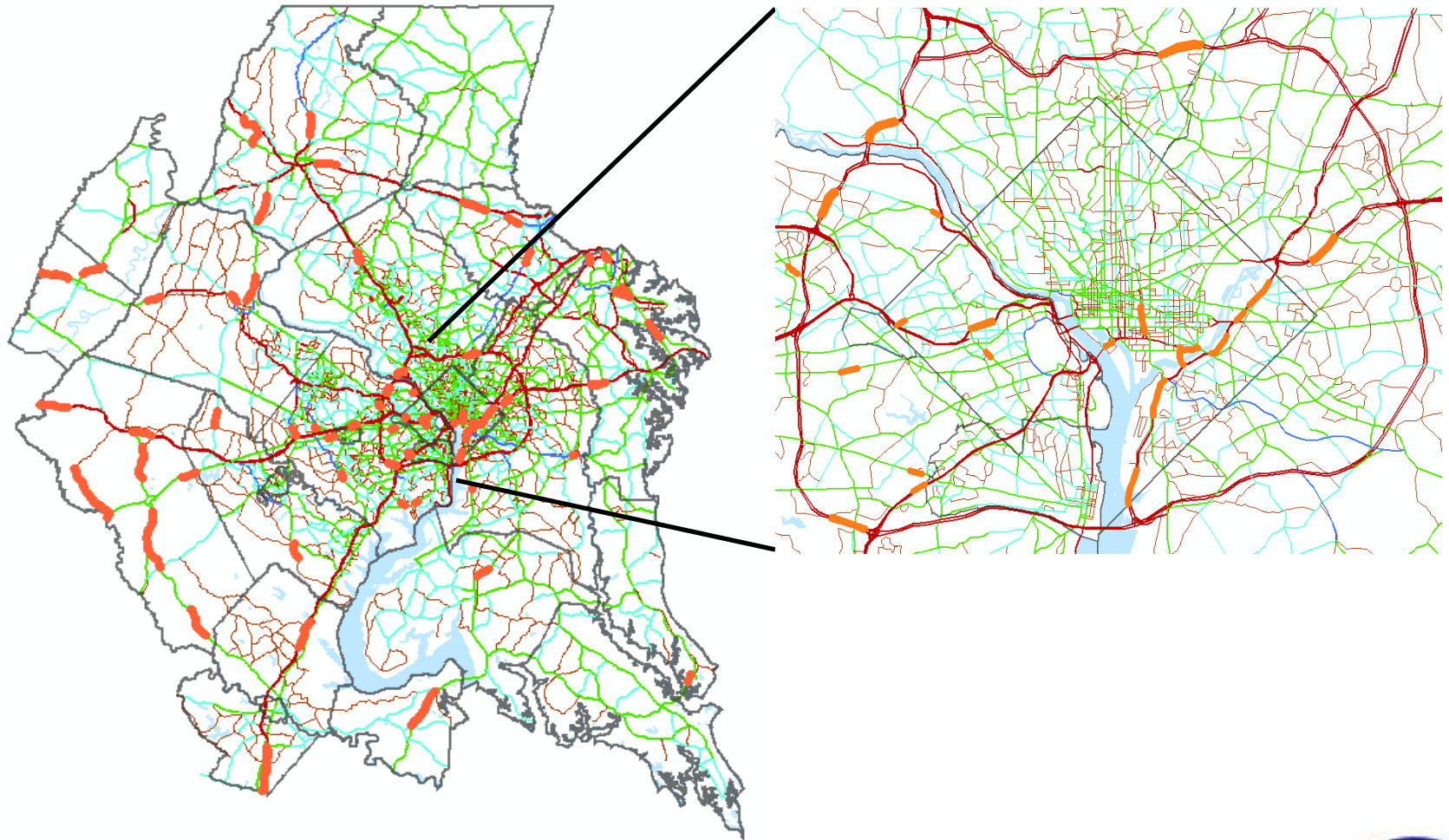
- AAWT and AADT available for MD and VA, but only AADT for DC
- The network consists of 20,000 links and there are only roughly 900 counts

# Hourly Traffic Count Stations, 2007

	DC	MD	VA	Total
Program Count Stations	92	403	380	875
Permanent Count Stations	10	29	44	83
Total	102	432	424	958

- Hourly count data exists for DC, but has not been included in the RTDC yet

# Location of Permanent Count Stations



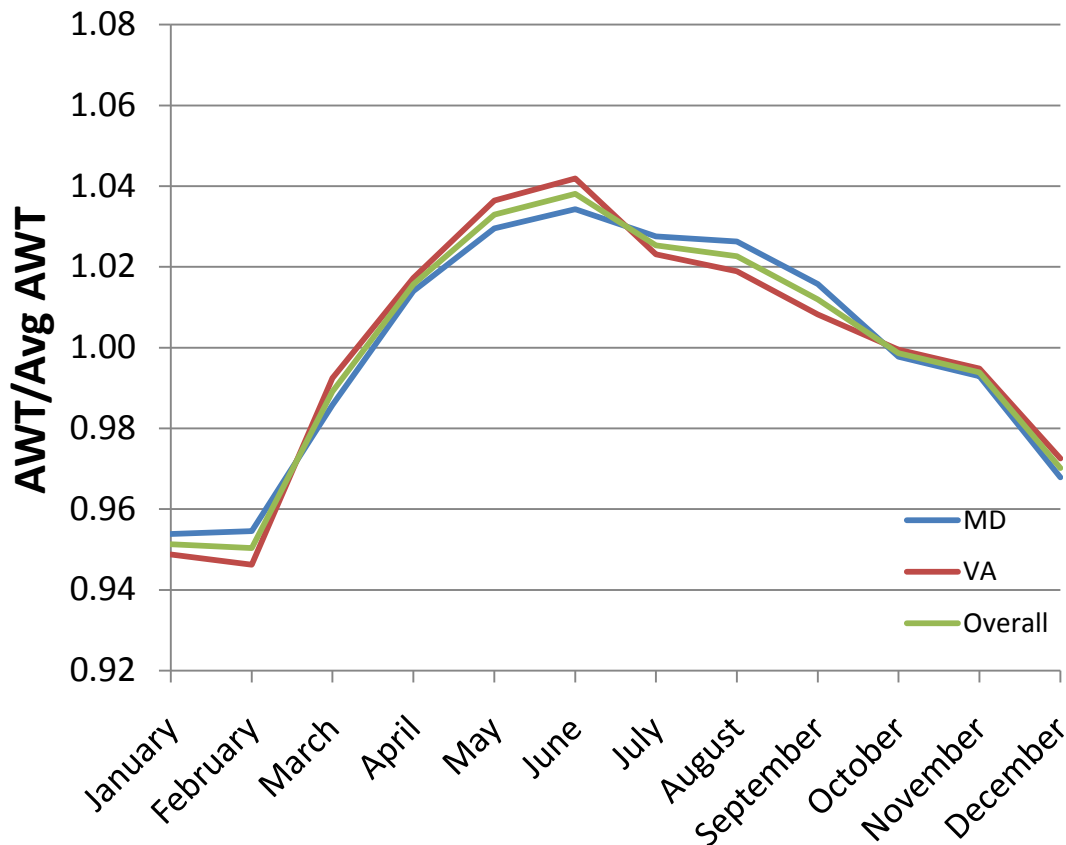
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# Using 2007 Counts

- AAWT/AADT counts will be used to validate traffic at screenlines and internal-external trips
- Hourly counts may be used to validate the peak-period travel patterns (Prior to validation work, the focus is on daily counts)
- Hourly counts were used to determine the weekday and seasonal travel patterns and validate peak-hour factors
  - Seasonal differences are considered in mobile emission modeling



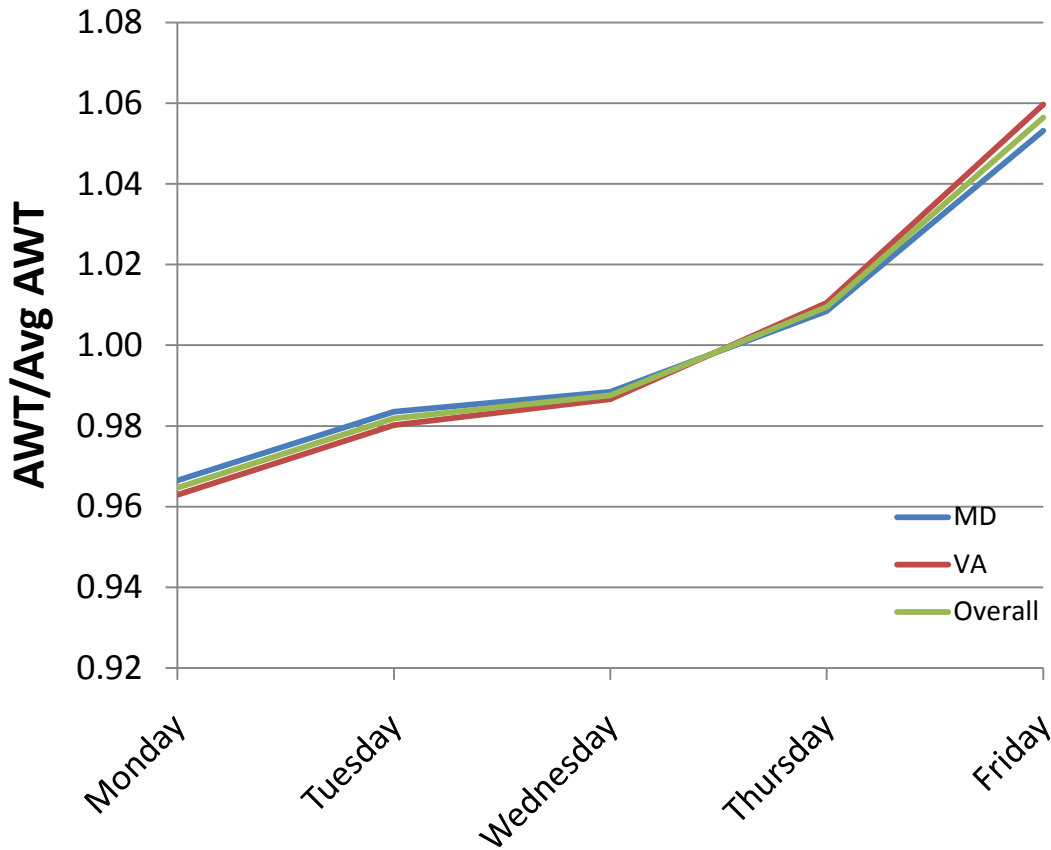
# Seasonal Traffic Patterns



Note: Holiday counts are omitted

- The March/April and October periods are most representative of average conditions
- Lowest travel during the winter; highest in the summer
- Patterns is consistent with expectations

# Weekday Traffic Patterns



Note: Holiday counts are omitted

- Wednesday and Thursday are most representative of average conditions
- AWT is highest on Friday, perhaps due to a greater number of leisure trips
- Again, pattern is consistent with expectation



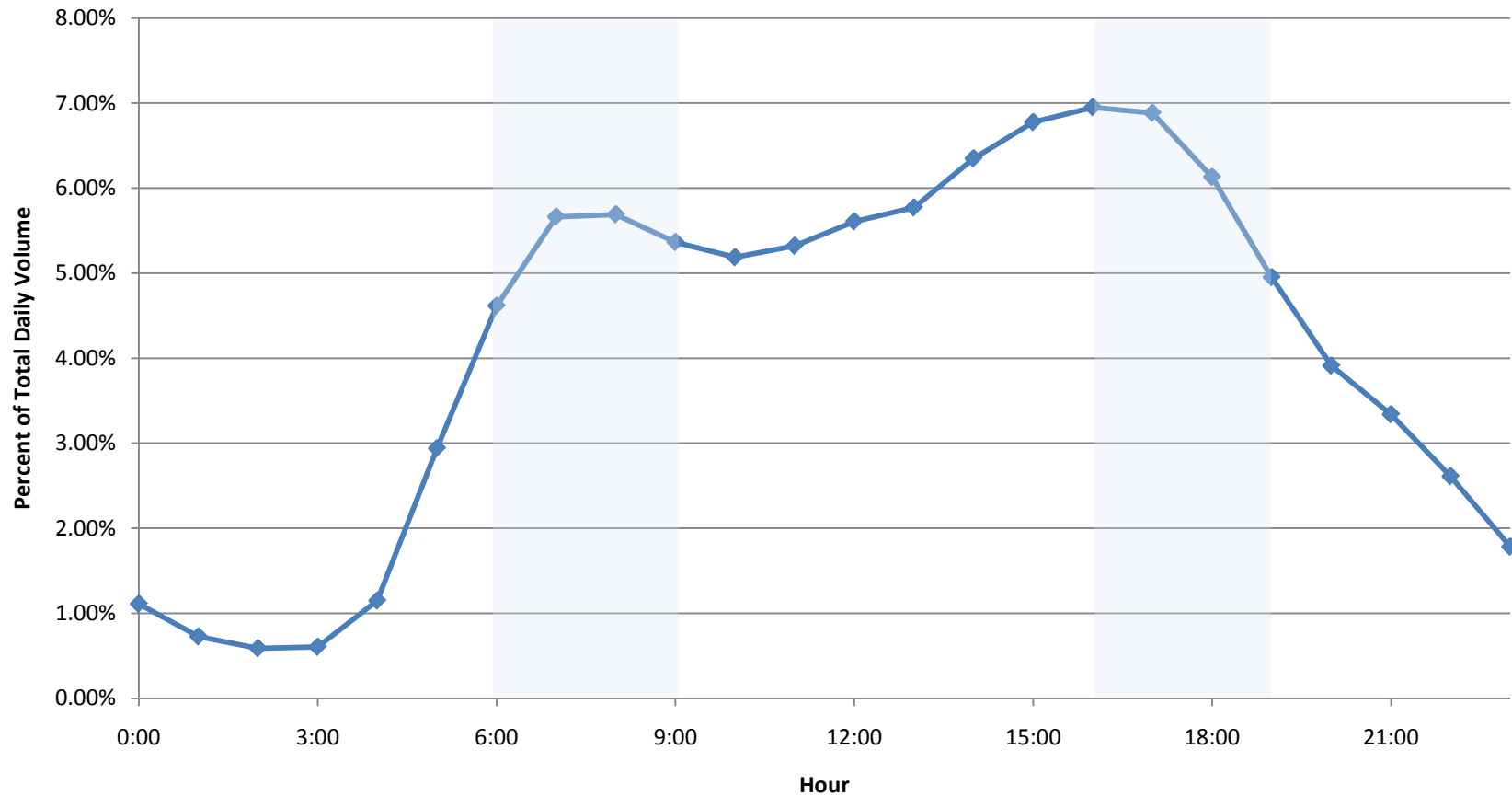
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# Peak Hour Factors

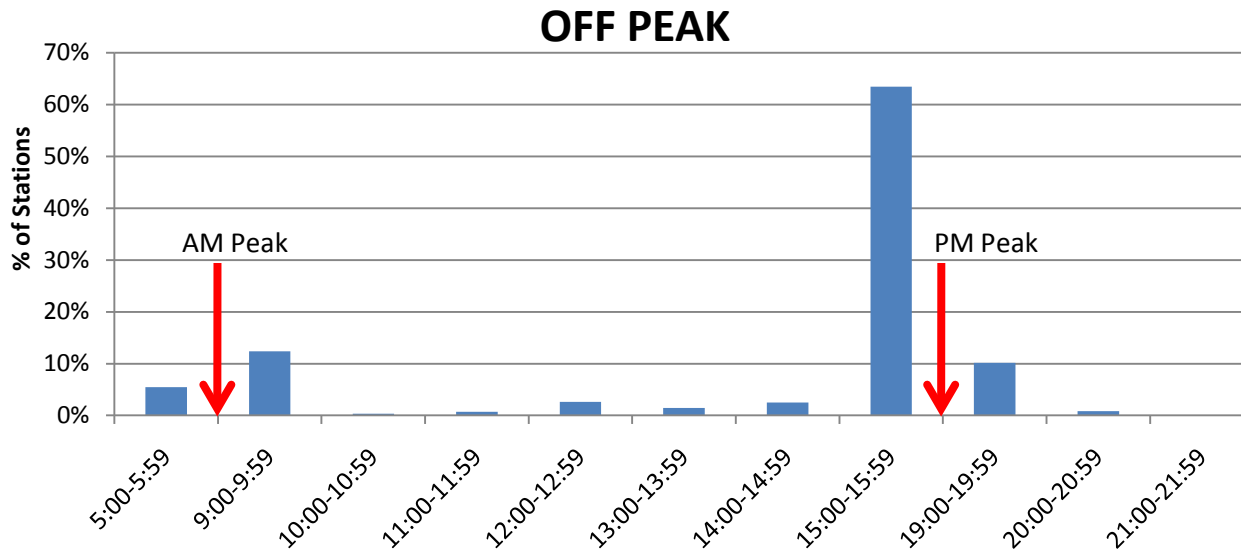
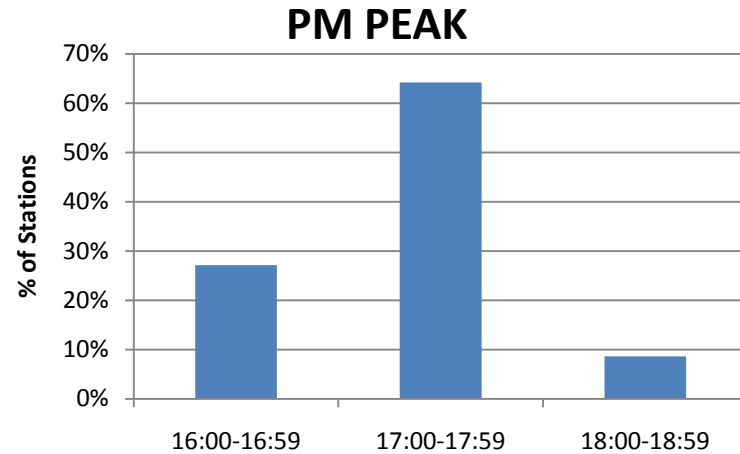
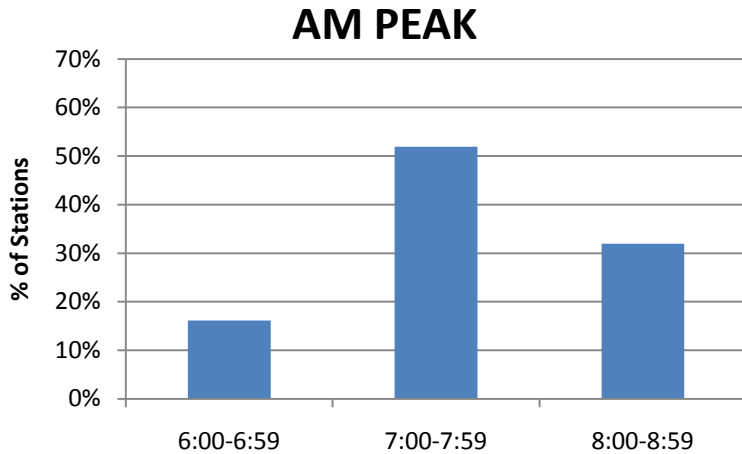
- In the past the peak hour factors for each period were estimated based on 1994 HTS:
  - 40.1% for AM peak
  - 37.3% for PM peak
  - 11.6% for Off peak
- Re-estimated using the hourly count data from 2007:
  - 41.3% for AM peak
  - 36.8% for PM peak
  - 12.8% for Off peak
- The peak hour factors from 1994 and 2007 are similar and there is no indication of change



# 2007 Hourly Distribution of Volumes



# Peak Hour for Each Period of the Day



Number of stations is 1588



# Transit Ridership Counts

Ridership Survey Name	Collected?	Factored?	By Peak Period	Documentation
Metrorail Boardings and Alightings 2007	✓	✓		✓
VRE Boardings and Alightings 2006 <ul style="list-style-type: none"> <li>Manassas</li> <li>Fredericksburg</li> </ul>	✓ ✓	✓ ✓		
VRE Boardings and Alightings 2007 <ul style="list-style-type: none"> <li>Manassas</li> <li>Fredericksburg</li> </ul>	??? ✓	✓ ✓	✓	
VRE Boardings and Alightings 2008 <ul style="list-style-type: none"> <li>Manassas</li> <li>Fredericksburg</li> </ul>	✓ ✓	✓ ✓	✓ ✓	
MARC Boardings and Alightings 2007	???	???		

# Household and On-Board Transit Surveys

Survey Name	Collected?	Factored?	Cleaned?	Documentation	
				Data Collection	Cleaned Survey
Household Travel Survey 2007	✓	✓	✓	✓	✓
Metrorail Passenger Survey 2007	✓	✓	✓	✓	✓
Bus Survey 2008	✓	✓		✓	
VRE Passenger Survey 2007	✓			✓	
MARC Ridership Survey 2007					
MTA Baltimore Transit Passenger Survey 2007	✓	✓	✓	✓	✓

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# Conclusions: 2007 Traffic Counts

- RTDC provides a relatively large dataset of AAWT/AADT and hourly counts to validate the Version 2.3 travel demand model
- Hourly count analysis yielded that the most representative travel patterns occur on Wednesdays or Thursdays in the months of March/April and October
- Previously used peak-hour factors were confirmed by the 2007 hourly count data



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# Conclusions: Transit Ridership Data

- Metrorail Survey provides 2007 Metro ridership data
- VRE transit ridership data is available only for Fredericksburg line for 2007, however, can be estimated for Manassas line based on 2006 and 2008 counts
- No MARC ridership information (except some information from MTA Baltimore-area bus survey)
- **Question to the TFS: Is our data list complete?**