Washington-Baltimore Regional Airport
2003 Ground Access Travel Time
Study Update

September 2004

Metropolitan Washington Council of Government

ABSTRACT FORM

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The metropolitan Washington Council of Governments is the regional organization of the Washington area's major local governments and their governing officials. COG works toward solutions to such regional problems as growth, transportation, inadequate housing, air pollution, water supply, water quality, economic development and noise, and serves as the regional planning organization for metropolitan Washington.

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ABSTRACT:

This report presents peak period travel time information from seventeen activity centers to the three commercial airports in the Washington-Baltimore region (Baltimore/Washington International, Washington Dulles International and Ronald Reagan Washington National). This report updates a similar effort undertaken in 1988 and 1995.

SUBJECT:

Ground Access Travel Times to Washington-Baltimore Airports.

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EXECUTIVE SUMMARY

As part of the region's Continuous Airport System Planning (CASP) program, the Metropolitan Washington Council of Governments (MWCOG) has conducted a number of highway travel-time studies on freeways and principal arterials, between major activity centers in the metropolitan region. Travel times to the three major commercial airports from a set of selected activity centers were measured for the first time in the fall of 1988. A second round of travel time studies to the three airports (Ronald Reagan Washington National, Washington Dulles International and Baltimore-Washington International) was conducted in 1994. Based on recommendations made during the second round study report, the third round ground access travel time study to the three regional airports was conducted during the fall, the third week of October through November of 2003. If there are any incidents of traffic or weather impedance, the weeks of November 2nd through November 15th are reserved for alternative resurvey dates, to be consistent with the 2002 Air Passenger Survey data collection time period.

Travel time data are most useful in a time series, and therefore an update to both the 1988 and 1994 travel time study was proposed as part of the MWCOG's Continuous Airport System Planning (CASP) program. This update will permit analysis of travel-time trends to the three airports, as well as analysis of any new transportation improvements.

In coordination with the Aviation Technical Subcommittee, COG staff selected a representative sample of highways in the region for monitoring. In previous ground access studies, aviation analysis zones which generate the greatest amount of originating air passenger traffic were identified based on Air Passenger Survey data. Major activity centers within those zones were then identified together with routes with minimum path to each of the airports. This update, include all the routes monitored in pervious studies and additional routes were considered.

In the Fall of 2003, COG staff conducted the third Airport Ground Access Travel Time survey, during the time periods of 6:30-9:30 AM (for AM peak period), 11:30 AM - 1:30 PM

(for mid-day period), and 3:30 – 6:30 PM (for PM peak period). Travel time, speed and delays were collected using Geographical Positioning System (GPS) technology. The findings and evaluation of the data are based on the Functional and Design Categories rating system outlined in the Highway Capacity Manual.

The purpose of this study update is to:

A. Provide current data on travel times and level of service for highway and transit access to the three commercial airports, to support airport planning activities.
B. Analyze changes in peak and non-peak period delay and level of service on principal airport serving roadways and transit facilities; and
C. Analyze changes in airport accessibility due to highway and transit improvements made.

The following activity centers were chosen for analysis in the 2003 Ground Access Travel Time Study Update:

To Ronald Reagan Washington National Airport

- From Downtown Washington, DC
- From Frederick, Maryland
- From Gaithersburg, Maryland
- From Greenbelt, Maryland
- From Largo, Maryland
- From National Harbor, Maryland
- From Rockville, Maryland
- From Springfield/Franconia, Virginia
- From Tyson's Corner, Maryland
- From Waldorf, Maryland
- From Woodbridge, Maryland

TO Washington Dulles International Airport:

- From Downtown Washington, DC
- From Frederick, Maryland
- From Gaithersburg, Maryland
- From Greenbelt, Maryland
- From Largo, Maryland
- From Manassas, Virginia
- From National Harbor, Maryland
- From Rockville, Maryland
- From Springfield, Maryland

- From Tyson's Corner, Virginia
- From Waldorf, Maryland
- From Woodbridge, Maryland

To Baltimore/Washington International Airport:

- From Downtown Washington, DC
- From Annapolis, Maryland
- From Baltimore City, Maryland
- From Columbia, Maryland
- From Frederick, Maryland
- From Gaithersburg, Maryland
- From Greenbelt, Maryland
- From Largo, Maryland
- From National Harbor, Maryland
- From Rockville, Maryland
- From Towson, Maryland
- From Waldorf, Maryland
- From White Marsh, Maryland

The travel time runs began at a major intersection within the activity centers of aviation demand, and terminated at the respective airport terminal.

The ground access travel time survey data collection was performed on 36 routes, (13 routes to BWI, 12 to IAD and 11 to DCA), covering a total distance of 1,183 miles. Of these, 72% or 846 miles were on freeways, 27% or 315 miles on major arterials and 1% or 22 miles on minor arterials. The 36 study routes were further divided into 453 segments (see Appendix B for detail description of study routes by segment). The longest trip was from Waldorf, MD to IAD, 56.2 miles and the shortest was from Washington, D.C. (16^{th} and K) to DCA 4.9 miles.

Of the total 453 route segments, 256 or 56% were classified as freeway, 183 or 41% as principal arterials and only 4 or 3% are minor arterials. In classifying the segments by design categories, 71% are in high speed, 8% in intermediate, 10% in suburban and 11% in urban categories (see Table A-1 for detailed description of arterial design categories classification).

During the AM peak period, 17% or 77 route segments were operating with LOS A. Of these only14 (18%) were freeway segments, while the majority were principal arterials (78%). Segments operating in LOS B, accounted for 24% of total segments, in which a little over 60% were freeway segments. Twelve percent of route segments were operating in LOS C and almost 46% of the route segments were operating in LOS D or lower.

Route segments operating in LOA A almost doubled during the mid-day peak period to 32%, when compared with the AM peak. However, almost 48% of the segments operating with LOS A were freeways, and 46% principal arterials. Segments operating with LOS B also increased to 29% during the mid-day peak. Route segments operating in LOS D and lower declined by almost half in which the majority shifted to LOS C.

Conditions during the PM peak almost mirrors that of the AM peak. Routes operating at LOS A, B and C almost equally distributed with 20% share each. Forty percent of the route segments during the PM peak were operating in LOA D or lower

Highway link segments that had LOS "E" or "F" during the AM, Mid-day and PM peak hour periods are listed below and are illustrated in figures 2, 3 and 4.

AM Peak Period

- I-695 – Southbound/Eastbound from intersection with I-795 to Route 295 (Baltimore/Washington Parkway).
- I-95 – Southbound Route MD 43 (White Marsh Boulevard) intersection to I-695.
- School Street – Eastbound from State Circle to Church Street in Annapolis.
- Elm Road – Southbound from intersection with Route MD 170 to Baltimore Washington International Airport terminal.
- Baltimore/Washington Parkway – Northbound from Route MD 198 (Fort Mead Rd.) to Route MD 32 (Savage Rd.).
- I-495 – Westbound from intersection with Baltimore/Washington Parkway to Route MD 185 (Connecticut Avenue).

- I-495 – Westbound from intersection with I-270 West-spur to intersection with Dulles Access / Toll Rd.
- I-270 – Southbound from Route MD 27 (Father Hurley Boulevard) to I-495/95 (Western spur).
- I-495 – Northbound/Westbound From I-395 to Dulles Access / Toll Rd.
- I-66 – Westbound from Glebe Rd. to Dulles Access / Toll Rd. exit.
- George/Washington Parkway – Southbound from Chain Bridge Rd. (Route VA 123) to DCA Exit ramp.
- Dolley Madison Rd. (Route VA 123) – From Route VA 7 (Leesburg Pike) to Chain Bridge Rd. in Mclean.
- Dulles Greenway – From Toll Plaza to Route VA 28.
- I-495/95 – Westbound from Route MD 414 (St. Barnabas Rd.) to US 1 (Richmond Highway) Exit.
- I-95/I-395 – Northbound from US 1 to Yayes Street Exit in Pentagon City.
- Pennsylvania Avenue – Southbound from Independence Avenue to Route MD 295 (Anacostia Freeway).
- Leonardtown Road – Westbound from Washington Rd. to Route US 301(Crain Highway).
- Baltimore/Washington Parkway –Southbound from Route MD 410 East-West Highway to New York Avenue.
- New York Avenue (US 50) – Westbound from South Dakota Avenue to Bladensburg Rd.
- New York Avenue – Westbound from North Capitol Street to 3rd Street.
- I-395 – Southbound from New York Avenue to 14th Street Bridge to Exit ramp to George Washington Parkway.
- Centerville Road – Northbound from Prescott Avenue to Liberia Avenue in Manassas.
- Route MD 28 (Norbeck Road) – Eastbound/Northbound from Bel Pre Road to MD 97 Georgia Avenue.
- K Street NW – Eastbound from 16th Street, NW to 7th Street NW.

Mid-Day Peak Period

- School Street - Westbound from State Circle to Bladen Street in Annapolis.
- Elm Road – Southbound from intersection with Route MD 170 to Baltimore Washington International Airport terminal.
- Little Patuxent Parkway – Eastbound from Governor Warfield Parkway to Route US 29 (Columbia Pike) in Columbia.
- Green Street - Southbound from Fayette Street to Washington Boulevard in Baltimore City.
- Independence Avenue – Eastbound from 14th Street to South Capitol Street.
- K Street NW – Eastbound from 16th Street, NW to 7th Street NW.
- Diamond Avenue (MD 117) – Eastbound from Route MD 124 (Quince Orachard Rd.) to I-270.
- Route MD 32 (Savage Road) – From I-95 to Baltimore Washington Parkway.
- I-70 – Eastbound from I-270 to Mount Airy, Howard County line.
- Baltimore Washington Parkway – Northbound from US 50 (New York Avenue) to I-495/95.
- New York Avenue (US 50) –Westbound from North Capitol Street to 3rd Street.
- I-395 – Southbound from New York Avenue to 14th Street Bridge to Exit ramp to George Washington Parkway.
- 14th Street – Southbound from K Street, NW to Constitution Avenue.
- Constitution Avenue – From 14th Street to 23rd Street.
- George Washington Parkway – Southbound from Key Bridge to 14th Street bridge (I-395 North Exit ramp).
- Hayes Street/15th Street – Southbound from I-395 to US 1 (Jefferson Davis Highway) in Crystal City.
- US 1 (Jefferson Davis Highway) – Southbound from 15th Street to DCA Exit. In Crystal City.
- George Washington Parkway – Northbound from Powhatan Street to DCA Exit.
- Washington Street – Northbound from Church Street to King Street in Alexandria.,

- I-495 – Westbound from MD 355 (Rockville Pike) to I-270 (East Spur), and from McArthur Boulevard to George Washington Parkway.
- Leonardtown Road – Westbound from Washington Rd. to Route US 301(Crain Highway).
- Jefferson Street – Westbound from Braddock Rd. to I-70 in Frederick, MD
- I-95 – Southbound from I-895 to Toll Plaza, in Baltimore.
- I-95 – Northbound from Franconia Parkway to I-495/95.
- VA Route 28 (Sulley Road) - Northbound from Liberia Road to Centerville Road in Manassas.

PM Peak Period

- School Street - Westbound from State Circle to Bladen Street in Annapolis.
- Dulaney Valley Road – Northbound from Joppa Road to I-695 in Towson.
- I-695 – Westbound/Southbound from Dulaney Valley Road to I-795, and from I-70 to Baltimore/Washington Parkway.
- I-70 – Eastbound from US 29 to I-695.
- Green Street - Southbound from Fayette Street to Washington Boulevard in Baltimore City.
- I-95 – Southbound from I-895 to Toll Plaza, in Baltimore.
- Baltimore-Washington Parkway – Northbound from Route I-495 to Powder Mill Road.
- Annacostia Freeway / Baltimore-Washington Parkway – Northbound from Suitland Parkway to Good Luck Road.
- Independence Avenue – Eastbound from South Capitol Street to Pennsylvania Avenue.
- K Street NW – Eastbound from 16th Street, NW to 7th Street NW.
- New York Avenue – Eastbound from 7th Street, NW to Florida Avenue.
- New York Avenue – Westbound from Florida Avenue to 3rd Street.
- I-395 – Southbound from New York Avenue to George Washington Parkway.
- 14th Street – Southbound from K Street to Independence Avenue.

- Independence Avenue – Westbound from 14th Street to 23rd Street.
- George Washington Parkway – Southbound from Key Bridge to 14th Street bridge (I-395 North Exit ramp).
- I-66 – Westbound from Glebe Rd. to Dulles Access / Toll Rd. exit.
- I-395 – Northbound from Route VA 7 (King Street) to Hayes Street.
- US 1 (Jefferson Davis Highway) – Southbound from 15th Street to DCA Exit. In Crystal City.
- George Washington Parkway – Northbound from Duke Street to King Street and from Powhatan Street to DCA Exit.
- I-95 – Northbound from Franconia Parkway to I-495/95.
- VA 7 (Leesburg Pike) – Northbound from Chain Bridge Road to Dulles Access Road.
- Dulles Access Road – Westbound From I-495 to VA 7 (Leesburg Pike).
- I-495 – Westbound/Southbound from Georgia Avenue to Wisconsin Avenue and from I-270 East Spur to Dulles Access Road.
- Prescott Avenue – Northbound from Center Street to Centerville Road in Manassas.
- Centerville Road (VA 28) - From Prescott Avenue to Liberia Avenue in Manassas.

Definitions

Arterial:- A signalized street that primarily serves through-traffic and that secondarily provides access to abutting properties, with signal spacing of 2.0 miles or less.

Arterial Class:- A transportation facility defined by the traffic service it provides.

Arterial Segment:- A portion of a facility on which a capacity analysis is performed; it is the basic unit for the analysis, a one-directional distance. A segment is defined by two end points.

Average Travel Time: The average time spent by a vehicle traversing a highway segment, including control delay, in seconds per vehicle or minutes per vehicle.

Average Travel Speed- The average speed, in miles per hour, of a traffic stream computed as the length of a highway segment divided by the average travel time of the vehicles traversing the segment.

BWI:- Baltimore-Washington International Airport.

DCA:- Ronald Reagan Washington National Airport.

Delay:- The additional travel time experienced by a driver, passenger, or pedestrian.

Density:- The number of vehicles on a roadway segment averaged over space, usually expressed as vehicles per mile or vehicle per mile per lane.

Design Category:- A type of urban street defined by geometric features and roadside environment.

Freeway:- A multilane, divided highway, with a minimum off two lanes for the exclusive use of traffic in each direction and full control of access without traffic interruption.

Free-flow-speed:- (1) the theoretical speed of traffic, in miles per hour, when density is zero, that is, when no vehicles are present; (2) the average speed of vehicles over an urban street segment without signalized intersections, under the condition of low volume; (3) the average speed of passenger cars over a basic freeway or multilane highway segment under the condition of low volume.

High Speed Design:- Represents an urban street with a very low driveway/ access-point density, separate left-lane turns, and no parking. Signals are infrequent and spaced at long distances.

IAD:- Washington Dulles International Airport.

Intermediate Design: Represents an urban street with a moderate driveway/access-point density. It may be a multilane divided, an undivided one-way or a two lane facility. It may have some separate or continuous left-turn lanes and some portions where parking is permitted. It has a higher density of roadside development than the typical suburban design and usually has four to ten signals per mile. Speed limits are typically 30 to 40 mph

Level of Service:- A qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.

Level of Service A:- Describes operations with low control delay up to 10 s/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive dring the green phase.

Level of Service B:- Describes operations with control delay greater than 10 and up to 20 s/veh. This LOS generally occurs with good progression, short cycle length, or both. More vehicles stop than LOS A, causing high level of delay.

Level of Service C:- Describes operations with control delay greater than 20 and up to 30 s/veh. This higher delays may result from only fair progression, longer cycle length or both.

Level of Service D:- Describes operations with control delay greater than 30 and up to 55 s/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delay may result from some combination of unfavorable progression, long cycle length and high v/c ratios.

Level of Service E:- Describes operations with control delay greater than 55 and up to 80 s/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.

Level of Service F:- Describes operations with control delay in excess of 80 s/veh. This level considered unacceptable to most drivers, often occurs with oversaturation, that is when arrival flow rates exceed the capacity of lane groups.

Minor Arterial:- A functional category of a street allowing trips of moderate length within a relatively small geographical area.

Principal Arterial:- A major surface street with relatively long trips between major points, and with through-trips entering, leaving, and passing through the urban area.

Running Time:- The portion of the travel time during which a vehicle is in motion.

Suburban Design:- Represents a street with a low driveway/access-point density, separate left-turn lanes, and no-parking. It may be multi-lane divided or undivided or a two-lane facility with shoulders. Signals are spaced for good progressive movements (up to five signals per mile). Roadside development is low to medium density, and speed limits are usually 40 to 45 mph.

Urban Design:- Represents an urban street with a high drive/access-point density. It frequently is an undivided one way or two way facility with two or more lanes. Parking is usually permitted. Generally, there are few separate left-turn lanes, and some pedestrian interference is present. It commonly has six to twelve signals per mile. Roadside development is dense with commercial uses. Speed limits range from 25 to 35 mph.

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INTRODUCTION

The Metropolitan Washington Council of Government's (MWCOG), has operated a Continuous Airport System Planning (CASP) Program for over 20 years since 1978. CASP 1 was funded by FAA, Federal Aviation Administration. The goal of the CASP program is to provide a process and products which support the planning, development and operation of airport and airport-serving facilities in a system framework for the Washington-Baltimore region. Since both the aviation service industry itself and major portions of the region are undergoing dynamic developments, it is important to monitor and update the basic system plan in order to be responsive to the changing environment.

The CASP program is developed, implemented and monitored with the assistance of the Aviation Technical Committee, of the Technical Advisory Board of the National Capital Region Transportation Planning Board. The subcommittee is composed of representatives from Federal, State and local governments, plus the aviation industry, other aviation interest, and is responsible for integrating airport system planning with the regional transportation planning process.

As part of the region's transportation planning program, the Metropolitan Washington Council of Governments (COG) has conducted a number of highway travel time studies on freeways and principal arterials, between major activity centers in the Washington-Baltimore metropolitan region In the fall of 1988, access travel times to the three commercial airports from selected activity centers were specifically measured for the first time. Highway access travel times and highway level of service were measured from the selected activity centers to Ronald Reagan Washington National Airport, Washington Dulles International and Baltimore/Washington International Airport.

Since travel time data are most useful in a time series, an update to the 1988 travel time study was conducted in 1995 along the same routes. This study, the Ground Access Travel Time Update was funded as part of the COG Continuous Airport System Planning (CASP) FY 2003 program. This study will enable analysis of travel time trends to the three commercial airports

In previous ground access studies, aviation analysis zones, which generate the greatest amount of originating air passenger traffic, were identified based on Air Passenger Survey data. Major activity centers within those zones were then identified together with routes with minimum path to each of the airports. Routes corresponding to the 1988 and 1994 ground access travel time studies are listed in Table 1.

Figure 1 illustrates the portion of the highway network routes covered during this study update. It is important to note that the travel time runs began at major intersections within the selected activity centers of aviation demand, and terminated at the respective airport terminals.

Table 1
Airport Access Travel Time Survey
1988 and 1994 Study Routes

Facility	1988	1994
- To Ronald Reagan Washington National Airport		
1. Washington D.C., 16th and K St. to 14th Street / G.W. Pkwy	X	X
2. Woodbridge, US 1 / I-95 / 395	X	X
3. Tyson's Corner, VA 7 / VA 123 / G.W. Pkwy	X	X
4. Rockville, MD 28 & I-270 / I495 / G.W. Pkwy	X	X
- To Washington Dulles International Airport		
1. Washington D.C., 16th and K Street / I-66 / VA 267	X	X
2. Tyson's Corner, VA 7 / VA 123 / VA 267	X	X
3. Rockville, MD 28 & I-270 / I495 / VA 267	X	X
- To Baltimore/Washington International Airport		
1. Washington D.C., 16th and K Street / New York Ave. / B.W. Pkwy	X	X
2. Baltimore, Fayette Street / Greene Blvd / B.W. Pkwy	X	X
3. Annapolis, State Circle / US 50 / I-97	X	X
4. Rockville, I-270 and Rt. 28 / Rt. 28 / Rt. 32 / B.W. Pkwy	X	X
5. Rockville,I-270 and Rt. 28 / I-270 / I-495 / I-95 / Rt. 32 / B.W. Pkwy	X	X

The routes for the ground access travel time study listed above are shown in Figure 1. In addition to these routes, routes recommended for analysis in the 2003 Ground Access Travel Time study are

shown on Figure 1 and are listed below. The routes were selected based on the 2000 Air Passenger Survey data analysis identifying areas generating most originating air passenger traffic, and which airport(s) these passengers were using.

To Ronald Reagan Washington National Airport

1. From Gaithersburg, Maryland via I-270 and Capital Beltway and George Washington Parkway.
2. From National Harbor (Oxon Hill) via Oxon Hill Road, I-495, Washington Street and George Washington Parkway.
3. From Largo, Maryland via I-95/495 and George Washington Parkway.
4. From Greenbelt, Maryland via Baltimore-Washington Parkway, New York Avenue, I-395 and George Washington Parkway.
5. From Frederick, Maryland via I-270 and Capital Beltway and George Washington Parkway.
6. From Waldorf, Maryland via US305, MD 5, Capital Beltway and George Washington Parkway.
7. From Springfield, Virginia via I-95 and I-395.

To Washington Dulles International Airport

1. From Gaithersburg, Maryland via I-270 and Capital Beltway and VA 267 (Dulles Access Road)
2. From Frederick, Maryland via US 15 and Dulles Greenway.
3. From Manassas, Virginia, via Route VA 28.
4. From Woodbridge, Virginia, via VA 123, Fairfax County Parkway and VA 267 (Dulles Access Road).
5. From Springfield, Virginia, via Fairfax County Parkway, and VA 267 (Dulles Access Road).
6. From Largo, Maryland via I-495/95 and Dulles Access Rd.
7. From National Harbor (Oxon Hill) via Oxon Hill Road, I-495, and Dulles Access Rd.
8. From Greenbelt, Maryland via I-495/95 and Dulles Access Rd.
9. From Waldorf, Maryland via US 301, MD 5, I-495/95 and Dulles Access Rd.

To Baltimore / Washington International Airport

1. From Frederick, Maryland, via I-70, I-696, Baltimore-Washington Parkway, and I-195.
2. From Columbia, Maryland, via MD 175 (Little Patuxent Parkway), I-95, Baltimore-Washington Parkway and I-195.
3. From Gaithersburg, Maryland via 1-270, Rt. 28, Rt. 32, and Baltimore- Washington Parkway.
4. From Waldorf, Maryland via US 30, Route 3, and I-97.
5. From Greenbelt, Maryland via Baltimore-Washington Parkway.
6. From Largo, Maryland via I-495/95 and Baltimore-Washington Parkway.
7. From Towson, Maryland, via I-695 and Baltimore-Washington Parkway.
8. From White Marsh, Maryland via I-95 and Baltimore-Washington Parkway.

9. From National Harbor, Maryland (Oxon Hill) via Oxon Hill Road, I-495, I-295 and Baltimore-Washington Parkway.

Travel time data collection runs were conducted along a combinations of thirty nine routes to the three commercial airports during the AM Peak period of 6:30 – 9:30 AM, Mid-Day peak period of 11:00 A.M. – 1:00 P.M. and during the afternoon peak period of 3:30 – 6:30 P.M. As a rule of thumb, a minimum of three nuns per time period was conducted from each activity center to each of the three airports along the routes listed above.

The ground access travel time survey data collection routes covered a total distance of 1,183 miles. Of these, 67% or 794 miles were on freeways, 31% or 367 miles on major arterials and 2% or 22 miles on minor arterials. The 39 study routes were further divided into 453 segments (see Appendix B for detail description of study routes by segment). The longest trip was from Waldorf, MD to IAD, 56 miles and the shortest was from Washington, D.C. (16^{th} and K) to DCA 4.9 miles (See Table 2).

Table 3 and 4 illustrate route segment link distance and number by functional and design categories. Therefore, the majority of the route segments were on freeways, along an intermediate and suburban areas.

Table 2
Washington-Baltimore Regional Airports
2003 Ground Access Travel Time Study Update
Distance from Activity Centers by Airport (Miles)

No.	Activity Center	Distance		
		BWI	DCA	IAD
1	Annapolis, MD	25		
2	Baltimore, MD	10		
3	Columbia, MD *	18		
4	Frederick, MD *	52	51	42
5	Gaithersburg, MD * (I-495/I-95)	47	29	33
6	Gaithersburg, MD * (Rt 28/32)	45		
7	Greenbelt, MD *	20	17	39
8	Largo, MD *	29	21	50
9	Manassas, VA *			19
10	National Harbor, MD *	41	11	40
11	Rockville, MD (I-495/I-95)	44	26	30
12	Rockville, MD (Rt. 28/32)	38		
13	Sprigfield/Franconia, VA *		13	30
14	Towson, MD *	27		
15	Tyson's Corner, VA		15	15
16	Waldorf, MD *	48	27	56
17	Washington, DC (16th and K)	32	5	28
18	Washington, DC (14th and Independence)	33		
19	White Marsh, MD *	25		
20	Woodbridge, VA		22	32
	Total	**534**	**237**	**413**

Note:- * Activity Centers added in the 2003 study

Not included in the survey

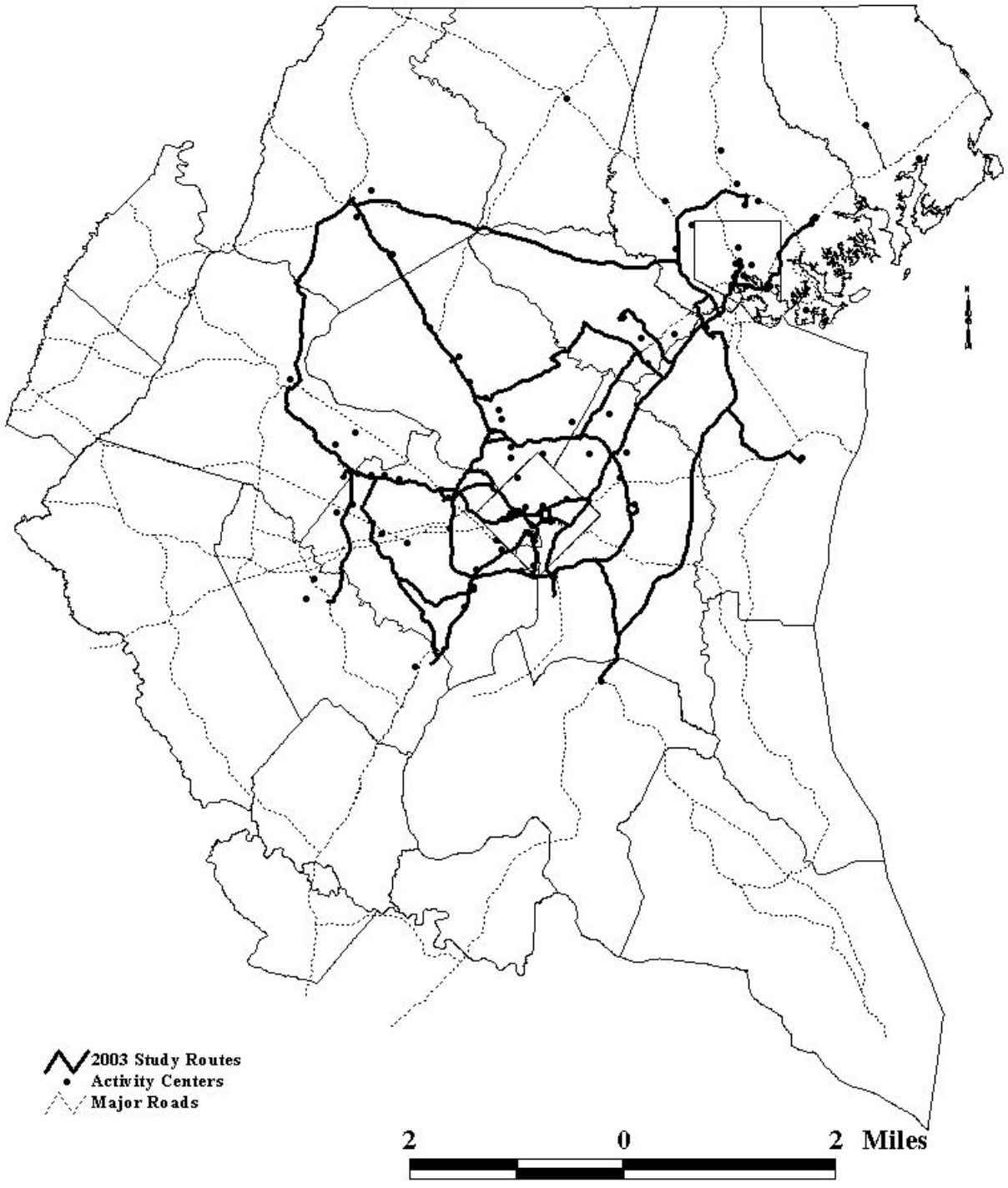
Table 3
Washington-Baltimore Regional Airports
2003 Ground Access Travel Time Study Update
Number of Link Segments by Functional Category and Design Category

Functional Category	Design Category				Total
	High Speed	Intermediate	Suburban	Urban	
Freeway	256	0	0	0	**256**
Minor Arterials	0	2	6	6	**14**
Principal Arterials	35	70	37	41	**183**
Total	**291**	**72**	**43**	**47**	**453**

Table 4
Washington-Baltimore Regional Airports
2003 Ground Access Travel Time Study Update
Distance of Link Segments by Functional Category and Design Category (Miles)

Functional Category	Design Category				Total
	High Speed	Intermediate	Suburban	Urban	
Freeway	794.22	0	0	0	**794**
Minor Arterials	0	0.62	20.13	1.22	**22**
Principal Arterials	144.62	96.35	86.57	39.48	**367**
Total	**939**	**97**	**107**	**41**	**1,183**

Figure 1
2003 Airport Access Travel Time Survey
Study Routes



METHODOLOGY

The methodology used for both the 1988 and 1994 travel-time studies were used as a basis for designing this study update. Several changes were deemed necessary to reflect the changing conditions , on both the highway network and at the three airports, between 1994 and 2003. This section provides a summary of the methodology used for the Ground Access Travel Time Study Update.

Activity Centers

In the 1988 study, data from the 1987 Washington-Baltimore Regional Air Passenger Survey was used to identify the aviation analysis zones in the metropolitan region that generate the greatest amount of originating air passenger traffic, and which airport(s) the passengers traveling from those zones used. Major activity centers within those zones were then identified, and reviewed by the Aviation Technical Subcommittee. For this study update, priority was given to the activity centers identified in both the 1988 and 1995 travel time surveys. However, this study update also included additional activity centers which generated significant amount of originating air passenger traffic, and are listed in Table5.

Travel-Time Routes

An aviation access network, developed by COG to estimate and forecast access times from each aviation analysis zone to each of the three airports, was used in 1988 to determine the minimum path between the centroid of the selected zones and each airport. These minimum paths were then used to develop the actual travel-time routes to be analyzed in that study. The travel routes were times in the direction from the activity center to the airport.

Routes corresponding to those studied in both the 1988 and 1994 were given priority in this study update. The Aviation Technical Committee reviewed these routes and additional routes were recommended to accommodate travel from the activity centers to the airports, and are listed in Table 1.

Table 5
Washington-Baltimore Regional Airports
2003 Ground Access Travel Time Study Update
Activity Centers by Airport

No.	Activity Center	Airport		
		BWI	DCA	IAD
1	Annapolis, MD	✓		
2	Baltimore, MD	✓		
3	Columbia, MD *	✓		
4	Frederick, MD *	✓	✓	✓
5	Gaithersburg, MD *	✓	✓	✓
6	Greenbelt, MD *	✓	✓	✓
7	Largo, MD *	✓	✓	✓
8	Manassas, VA *			✓
9	National Harbor, MD *	✓	✓	✓
10	Rockville, MD	✓	✓	✓
11	Sprigfield/Franconia, VA *		✓	✓
12	Towson, MD *	✓		
13	Tyson's Corner, VA		✓	✓
14	Waldorf, MD *	✓	✓	✓
15	Washington, DC	✓	✓	✓
16	White Marsh, MD *	✓		
17	Woodbridge, VA		✓	✓

Note:- * Activity Centers added in the 2003 study
Not included in the survey

Timing

Both the 1988 and 1994 travel-time studies took into account the peak period for departing air passenger activity at each of the three airports, and the peak period of activity on the highway network, to schedule travel-time data collection runs. Due to the nature of the departing air passenger activity at Ronald Reagan Washington National, typically being "origin/destination" airport, having a low number of connecting passengers and high number of departing passengers between 7-9:00 AM, all travel-time runs were conducted during the morning peak period.

However, for Washington Dulles and Baltimore/Washington airports are both dominated by long-haul passengers and due to the fact they are dominated by hubbing activity, higher traffic of departing passengers nature being during the afternoon rush, travel-time runs were conducted during the PM peak period.

For the 2003 travel-time study update, due to the individual nature of the commercial airports in the region, and the distribution of departing air passengers throughout, it was decided to conduct the survey during the morning, mid-day and afternoon peak periods. Therefore, data collection was conducted between 6:30 to 9:30 AM for the morning peak, 11:00 A.M. to 1:00 P.M. for the mid-day peak and between 3:30 to 6:30 PM for the PM peak.

All travel-time runs were performed on Tuesdays, Wednesdays or Thursdays, as these days have historically considered typical ground travel days. No travel-time runs were performed in inclement weather or on days near holidays. In addition, runs scheduled on days in which a major traffic disruption occurred were not performed.

Data Collection Technique

Several possible car techniques were considered for the travel-time data collection in both the 1988 and 1994 studies. The "test vehicle" technique was selected as the primary data collection method. This technique involves the use of a data collection vehicle within which an observer records travel time along the travel route.

The methodology for travel-time and delay studies, as outlined in the Manual of Transportation Engineering Studies (Institute of Transportation Engineers, 1994), lists the following three common test vehicle driving styles:

- ***Average Car*** – is where a test vehicle travels according to the driver's judgment of the average speed of the traffic stream;

- ***Floating Car*** – is where the driver "floats" with the traffic by attempting to safely pass as many vehicles as pass the test vehicle; and

- ***Maximum Car*** – is where the test vehicle is driven at the posted speed limit unless impended by actual conditions or safety.

In both the 1988 and 1994 studies, the floating-car technique, in which the test car "floats" with the highway traffic, passing as many vehicles as pass the test car, was selected to gather travel times. The data was recorded manually, on data collection forms that had been developed. This data collection method required a driver and a recorder to travel in each test car. Using stopwatches, travel time and delay time were recorded for the entire route, at signalized intersections or other major point of reference.

As part of the Congestion Management System (CMS) program, MWCOG has conducted several travel time studies on freeways and major arterials. However, travel time and delay data were colleted using a modern technique of Global Positioning System (GPS). When compared with the traditional method of data collection using stop watches and manual recording, it was found that the GPS technology, was cost saving through complete automation of data processing; improvement in data consistency, accuracy and reliability to automation of data collection and increased frequency of observations. The GPS system provides reliable vehicle positioning data, and the duration on data collection lasts for several hours. Therefore, it is recommended that travel time and delay data collection for the 2003 Airport Access study use the GPS technology.

GPS data have great potential for in-depth traffic study. In traditional stopwatch method, the start point and the end point of a roadway section must be predefined so that travel time can be recorded during runs. However, since GPS data are collected at an interval of every two seconds, the user can define any stretch of a roadway sections. The GPS data can indicate traffic congestion based on its spatial density on a GIS map.

Reconnaissance

Prior to beginning the data collection process, staff performed reconnaissance on all routes in order to obtain the following information:

1. Segment length;
2. Number of signalized and un-signalized intersections;
3. Type of roadway;

4. Roadside development;
5. Speed limit;
6. Number of lanes in travel direction;
7. The existence of curbside parking; and,
8. The existence of turning lanes.

This information was used in classifying the design category for each arterial , and in determining the level-of-service for the arterial segments. The roadway inventory data for the functional category and design category of each rout by segment are documented in Appendix B.

Data Collection

Travel time data collection began on November 11, and was completed by mid December 2003, to correspond with the time period when the 2002 Air Passenger Survey was conducted. A Global Positioning System (GPS) Garmin III and Garmin IV unit system was used as data collection hardware. With the use of GPS technology, several benefits were anticipated: cost saving through complete automation of data processing, improvement with data consistency, accuracy and reliability due to automation of data collection and increased frequency of observation.

The GPS data collected consists of geographic coordinated (i.e., longitudes and latitudes), GPS time, and velocity. COG staff developed a method to process GPS data by mapping GPS raw data onto a GIS coverage map. The following procedures of data collection and processing were applied for each of the study routes:

1. GPS data, collected at two seconds intervals along the study route, are posted on a Topologically Integrated Geographic Encoding and Referencing (TIGER) base map. A minimum of three runs are conducted along the study route to collect GPS data, using the "floating-car" technique. Each data point refers to a uniquely assigned latitude an longitude location.
2. Each study route is divided into segments, defined with a critical intersection. The geographic coordinate of the critical intersection (longitude and latitude) database is created. Using Avenue™ script, the distance between the critical intersections are calculated.

3. The raw GPS data collected is converted from an American Standard Code for Information Interchange (ASCII) format into a database format using Arc View Avenue™ script.
4. Merge each travel time run with the critical intersection database to calculate elapsed time, delay time and average speed between each critical intersection and the start and end point of the entire study route.
5. Determine the level of service of route segment based on calculated speed, and the functional and design category of the route segment.
6. Merge data with route map for plotting.

Data Analysis

The average travel time, speed and Level of Service for each link (route segment) and entire route as a whole were calculated using the methodology set forth in the Highway Capacity Manual (HCM) (200 update). The average speed, travel time and Level of Service were calculated by direction and time period.

The following analysis was performed using the collected travel time data:

1. Calculation of the length of the segment in miles between defines signalized link segments.
2. Calculation of total elapsed travel time for each segment, in minutes, by direction and time period.
3. Calculation of average travel speed both by route segment and entire route

$$\mathbf{S = \frac{60 \times N\ D}{\sum T}}$$

where S = average speed in miles per hour MPH
D = segment length in miles
N = number of travel time runs
$\sum$**T = sum** of travel time for all travel runs

4. Calculation of delay time for each segment and entire route (i.e., time lost due to causes such as traffic signal, traffic congestion, accident, ect…).
5. Calculation of average running time and entire route (i.e., time where vehicle is in actual motion), derived by subtracting delay time from total travel time.

6. Calculation of average running speed for each segment and entire route (i.e., distance traveled divided by running time).
7. Determination of arterial class, functional classification and design category for each route segment as specified in the Highway Capacity Manual. The class of a route segment is defined based on the arterials function and design. First, the functional classification of an arterial was determined (freeway, principal or minor arterial). Then, the arterial segment was further classified by its design category (suburban, intermediate or urban). See Appendix A, for further explanation.
8. Determination of Level of Service for each route segment using the procedure outlined in the Highway Capacity Manual (See definition of Level of Service).
9. Graphical presentation of directional Level of Service for each route by time period.

Tables A-1, A-2 and A-3, in Appendix A, outline the procedure and methodology for determining the arterial's route segment and / or Class, Design Category and Level of Service. Arterial Level of Service is a standard measure of arterial highway performance. It is defined in terms of the average travel speed of through vehicles, and strongly influenced by the number of traffic signals, signal timing, traffic volume and turning movement. There are six Levels of Service, A through F and are defined in Appendix A.

FINDINGS

This section presents the principal findings of the Airport Ground Access Travel Time Study Update, along the routes listed in Table 1. The findings are grouped by destination airport and time period

Travel time data collection was conducted during the Fall/Winter of 2003. Data were collected during the morning peak period of 6:30 to 9:30 A.M., Mid-day peak period of 11:30 A.M. to 1:00 P.M. and afternoon peak period of 3:30 to 6:30 P.M., on Tuesdays, Wednesdays and Thursdays. A minimum of three runs were conducted during the data collection for each route by time period.

Since the final approach to the airports are similar for most of the routes, it was decided that common segments were to be merged to constitute the entire route. Time and budget constraints, are also other factors considered to conduct travel time runs at a minimum of three and only conduct data collection where route segments are different. Therefore, it should be noted that for some routes speed, elapsed and delay times are the same for segments that are common.

Airport-specific route-by-route analysis of the result obtained from the 2003 Ground Access Travel Time Study Update are documented in Appendix C, for 6:30 – 9:30 AM Peak period, Appendix D, for 11:00 AM to 1:00 PM, Mid-day Peak period and Appendix E, for the 3;30 – 6:30 PM peak periods. Appendix F, documents a complete description of the routes from each of the activity centers to the selected Airport.

The ground access travel time survey data collection was performed on 36 routes, covering a total distance of 1,183 miles. The 36 study routes were further divided into 453 segments (see Appendix B for detail description of study routes by segment).

Figures 2 through 39 illustrate LOS for the AM, Mid-Day and PM peak periods for the study routes by segment. For the AM peak period, 41% or 186 route segments were operating with LOS A and/or B. Of these 78 (42%) were freeway segments, while 104 were principal arterials

(56%). Segments operating in LOS C and/or D, accounted for 25% of total segments, in which a little over 53% were freeway segments. The rest, 154 route segments (34%) were operating in LOS E and/or F, and of these 77% were freeways (See Table 6).

Route segments operating in LOS A and/or B almost doubled during the mid-day peak period to 62%, when compared with the AM peak. Almost 56% of the segments operating with LOS A and/or B were freeways, and 40% principal arterials. Number of segments operating with LOS C and/or D remained to be the same with 24%, while those operating with LOS E and/or F almost dropped by half to 14%.

Conditions during the PM peak, almost mirrors that of the AM peak. Routes segments operating at LOS A and or B, accounted for 41% and those operating with LOS C and/or D 38% and 21% with LOS E and/or F (See Table 6).

Table 7 shows average travel time summary from activity centers to each of the airports by time period, and Table 8 presents comparison with previous studies of average travel time from activity centers.

The average travel time from Woodbridge, VA to Ronald Reagan Washington National has shown improvement when compared with the 1988 and 1995 data. However like 1995, the majority of the travel time (25.8 minutes) was spent in LOS E and/or F conditions along the I-95 and I-395.

From Tyson's Corner, the average travel time to Ronald Reagan Washington National airport almost doubled when compared to that of 1995 data. Route segments along VA 123 and George Washington Parkway were operating with LOS E and/or F, where much of the delays are observed. The average speed also has decreased by 31% from 42 mph in 1995.

Table 6
Washington-Baltimore Regional Airports
2003 Ground Access Travel Time Study Update
Route Segments LOS by Time Period

	AM Peak Period									
	LOS A-B			LOS C-D			LOS E-F			
Functional Category	Number	Col. %	Raw %	Number	Col. %	Raw %	Number	Col. %	Raw %	Total
Freeway	78	42%	30%	60	53%	23%	118	77%	46%	**256**
Minor Arterials	104	56%	57%	46	41%	25%	33	21%	18%	**183**
Principal Arterials	4	2%	29%	7	6%	50%	3	2%	21%	**14**
Total	**186**	**100%**	**41%**	**113**	**100%**	**25%**	**154**	**100%**	**34%**	**453**

	Mid-Day Peak Period									
	LOS A-B			LOS C-D			LOS E-F			
Functional Category	Number	Col. %	Raw %	Number	Col. %	Raw %	Number	Col. %	Raw %	Total
Freeway	158	56%	62%	78	72%	30%	20	32%	8%	**256**
Minor Arterials	114	40%	62%	30	28%	16%	39	62%	21%	**183**
Principal Arterials	10	4%	71%	0	0%	0%	4	6%	29%	**14**
Total	**282**	**100%**	**62%**	**108**	**100%**	**24%**	**63**	**100%**	**14%**	**453**

	PM Peak Period									
	LOS A-B			LOS C-D			LOS E-F			
Functional Category	Number	Col. %	Raw %	Number	Col. %	Raw %	Number	Col. %	Raw %	Total
Freeway	97	52%	38%	98	57%	38%	61	63%	24%	**256**
Minor Arterials	85	46%	46%	65	38%	36%	33	34%	18%	**183**
Principal Arterials	3	2%	21%	8	5%	57%	3	3%	21%	**14**
Total	**185**	**100%**	**41%**	**171**	**100%**	**38%**	**97**	**100%**	**21%**	**453**

Table 7
Washington-Baltimore Regional Airports
2003 Ground Access Travel Time Study Update
Total Travel Time from Activity Centers by Airport

No.	Activity Center	BWI			DCA			IAD		
		AM	Mid-Day	PM	AM	Mid-Day	PM	AM	Mid-Day	PM
1	Annapolis, MD	32.16	37.14	34.77						
2	Baltimore, MD	16.35	15.01	20.69						
3	Columbia, MD *	26.35	31.09	31.24						
4	Frederick, MD *	60.59	39.42	56.29	89.38	57.08	64.43	55.47	50.41	53.13
5	Gaithersburg, MD * (I-495/I-95)	62.98	50.99	51.80	57.14	34.35	41.45	48.54	34.60	39.82
6	Gaithersburg, MD * (Rt 28/32)	71.65	65.57	77.48						
7	Greenbelt, MD *	25.80	26.94	26.55	40.83	31.65	31.64	93.02	50.51	66.60
8	Largo, MD *	32.24	28.97	36.41	42.77	30.79	29.81	72.10	49.77	53.10
9	Manassas, VA *							42.12	46.93	40.58
10	National Harbor, MD *	56.69	45.94	67.68	35.02	24.98	26.49	64.35	43.91	49.78
11	Rockville, MD (I-495/I-95)	57.15	49.31	49.40	51.54	32.10	40.97	42.88	32.66	38.51
12	Rockville, MD (Rt. 28/32)	56.06	51.71	61.26						
13	Sprigfield/Franconia, VA *				28.66	23.99	22.84	48.51	49.47	46.33
14	Towson, MD *	41.35	30.16	44.46						
15	Tyson's Corner, VA				38.73	23.10	25.38	17.24	17.36	23.90
16	Waldorf, MD *	70.14	69.58	68.86	58.99	45.61	43.39	88.32	64.46	66.68
17	Washington, DC (16th and K)	42.69	45.73	64.27	12.65	12.69	15.11	44.13	37.78	51.50
18	Washington, DC (14th and Independence)	48.70	44.43	60.73						
19	White Marsh, MD *	31.67	30.92	33.21						
20	Woodbridge, VA				40.54	38.10	30.10	57.79	45.53	49.11

Note:- * Activity Centers added in the 2003 study

Not included in the survey

Table 8
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
Travel Time Data Comparison - AM
Average Travel Time (Minutes)

Activity Center	DCA			IAD			BWI		
	1988	1995	2003	1988	1995	2003	1988	1995	2003
Woodbridge	68.6	54.5	40.5						
Tyson's Corner	27.8	20.1	40.0						
Rockville	41.5	33.4	50.3						
Washington, D.C.		8.9	12.7						

Travel Time Data Comparison - PM
Average Travel Time (Minutes)

Activity Center	DCA			IAD			BWI		
	1988	1995	2003	1988	1995	2003	1988	1995	2003
Woodbridge									
Tyson's Corner				18.1	16.7	23.9			
Rockville				39.7	36.2	38.51	54.9	53.8	49.4
Washington, D.C. (16th & K)				40	43.1	51.5	47.9	46.7	64.2
Baltimore							14.6	18.7	21.0
Annapolis							38.7	29.7	34.8
Rockville (Rt. 28)							55.6	52.6	61.5
Washington, D.C., 14th & Indp.								32.9	60.8

Note Data Not Available

Travel time from Rockville during the morning peak increased by almost 50% to 50.3 minutes. In 1995, only segment along the I-270 Western Spur to I-495 were operating with LOS E and/or F. However, during the 2003 survey period segments between MD 28 to George Washington Parkway, along I-270 and I-495, and from VA 123 to DCA exit ramp along George Washington Parkway were operating with LOS E and/or F conditions.

Total travel time from downtown Washington, D.C. to Ronald Reagan Washington National Airport averaged 12.3 minutes. In 1995, none of the segments along the route experienced LOS E or F conditions. However, in 2003, segments within the city, along K Street and 14th Street, as well as George Washington Parkway experienced LOS E and/or F conditions. The average speed remained almost the same when compared with 1995.

Total travel time from Tyson's Corner, Rockville and Washington, D.C. to Washington Dulles International airport during the PM Peak period has increased respectively when compared with 1995. Average travel time from Tyson's Corner was 24 minutes, an increase of 7 minutes when compared with 1995. None of the segments along this route were operating at LOS E or F in 1995. However, in 2003 the segment from VA 123 to Dulles Access Road along VA 7 (Leesburg Pike) was operating at LOS E conditions.

From Rockville, the average travel time to Washington Dulles International increased slightly to 39 minutes from 36 minutes in 1995. The same route segments along the I-495 showed LOS F conditions, from Clara Barton Parkway to Dulles Access Road exit.

Average travel time from Washington, D.C. to Washington Dulles International in 2003 was 51.5 minutes In 1995, link segment along K Street in downtown Washington experienced LOS F conditions. However, in 2003 additional segments along Constitution Avenue and I-66 from Glebe Road to Dulles Access Road exit experienced LOS F conditions (Table 8).

Rockville to Baltimore/Washington International travel time runs were conducted along two routes. Travel time along the I-270/I-495/I-95 during the PM peak period averaged 49 minutes. In 1995, segments along the I-495 (Capital Beltway) between the I-270 spur and I-95 (north)

experienced LOS F conditions. In 2003, none of the segments along this route were operating at LOS E or F conditions. However, travel time along the MD 28/32 averaged a little over an hour, an increase of almost 17% when compared with 1995. Much of the delays was observed segments along Route 28 (Norbeck Road) and New Hampshire Avenue. None of the route segments along this route were operating at LOS E or F conditions (See Table E-6 and E-7).

Average travel time from downtown Washington, D.C., to Baltimore/Washington International during the PM peak from both 16th and K along New York Avenue and BW Parkway, and from 14th and Independence along Annacostia Freeway and BW Parkway has increased by 37% and 85% respectively. In 1995, none of the route segments along the K Street/New York Avenue/Baltimore-Washington Parkway were operating at LOS E or F conditions. In 2003, K Street from 16th to 7th Street, New York Avenue from 7th Street to Florida Avenue and Baltimore Washington Parkway from New York Avenue to Powder Mill Road were operating at LOS E and F conditions (See Table E-5). Similarly, only route segment on I-295 from Benning Road to BW Parkway were operating at LOS F condition in 1995, for the Washington to BWI along the Southeast Route (via Pennsylvania Avenue). In 2003, segments along Independence Avenue and BW parkway between New York Avenue and Powder Mill Road operated at LOS E and F conditions (Table.E-4).

Average travel time from Annapolis to BWI in 2003 was 35 minutes, an increase of 17% when compared with 1995. Average speed also decreased by 34% to 33 mph, compared with 50 mph in 1995. Segments in downtown Annapolis and along MD 170 between Aviation Boulevard to airport terminal operated at LOS E or F conditions (See Table E-1).

Travel time from downtown Baltimore to BWI averaged 21 minutes. There has not been much a difference when compared with 1995, segment operating at LOS E/F conditions along Greene Street experienced the same conditions in 2003 (See Table E-3).

NON-AUTOMOBILE GROUND ACCESS

The most predominant mode of travel for passengers going to and from the three commercial airports has been the automobile, including private cars, rental cars and taxi cabs. Based on the 2000 Washington-Baltimore Regional Air Passenger Survey data, almost 95 percent of the region's originating air passengers used modes of transportation to the airport that travel by way of the highway network (autos, taxis, rental cars, airport bus/limo, hotel/motel curtsey bus). Only five (5) percent of the originating passenger trips used fixed rail transportation services to access the airports.

This section summarizes non-automobile ground access travel times from selected activity centers to the three commercial airports. The travel times summarized in this report are taken from published schedules by the service providers. The data does not include access time to the services, possible wait times, or egress times from the service to the airport terminals. Travel time data from activity centers to each of the airports are provided by time period.

1. Ronald Reagan Washington National Airport

Non-automobile ground access to Ronald Reagan Washington National is provided by the Metrorail system and by the Washington Flyer Express Bus service.

From Gaithersburg, access to the Metrorail system is provided by Ride-On bus. The overall average scheduled travel time to national airport (not including transfer time from Ride-On), to Ronald Reagan Washington National Airport on Metrorail is 50 to 55 minutes, during the AM and PM peak, and the Noon non-peak periods respectively. This time assumes a three (3) to five (5) minutes transfer time from Red Line to Yellow Line at Gallery Place Station or Red Line to Blue Line at Metro Center Station. From Rockville, using the same Metrorail lines, the travel time ranges from 45 to 50 minutes with the same travel pattern for the same time periods. Auto travel time from Gaithersburg and Rockville to National airport would be 55 to 50 minutes for the Am peak, 30 to 35 minutes during the Noon, and 40 to 42 minutes during the PM peak periods respectively.

From downtown Washington, travel time to Ronald Reagan Washington National is scheduled to be between 20 to 22 minutes, from Farragut North Station, including transfer time at either Metro Center or Gallery Place stations. Auto travel time ranges from 13 to 15 minutes for the same time periods.

Service to Greenbelt Metro Station from Greenway Shopping Center is provided by Metro Bus R12, with an average travel time of 15 minutes. From Greenbelt Metro Station to Ronald Reagan Washington National Airport Metro Station, the average scheduled travel time is 35 to 40 minutes, including a 3 to 5 minutes transfer time at Gallery Place, during the AM and PM peak, and noon time periods respectively. Therefore the overall average travel time from Greenway Shopping Center to National Airport would be 50 to 55 minutes. The average travel time by car for the same time periods ranges from 41 minutes during the Am peak, 32 minutes for the mid-day and PM peak periods.

From Springfield/Franconia, to Ronald Reagan Washington National on the average is 20 minutes on the Blue Line service. In comparison, auto travel time ranges from 30 minutes during the AM period, 25 minutes for the mid-day and PM peak periods.

2. Washington Dulles International Airport

Non-automobile ground access to Washington Dulles International Airport is provided by the Washington Flyer Express Bus service and Metrobus DC-Dulles Line 5A. The Washington Flyer provides service from West Falls Church Metrorail Station to the airport. Therefore a combined Metrorail/Washington Flyer trip from Gaithersburg, Rockville, downtown Washington, Greenbelt and Springfield/Franconia can be analyzed. From West Falls Metro Station the Washington Flyer provides service every half-hour, with a scheduled travel time of 25 minutes.

From Farragut North Metro station (downtown Washington), the average scheduled travel time to West Falls Metrorail Station, (using the Red line and Orange Line), is 20 to 25

minutes, with the assumption of a three (3) to five (5) minutes transfer time during the rush and non-rush hour periods. However, a .1 mile walk to Farragut West Metrorail station would also result in the same travel time. Scheduled travel time from West Falls Church Metrorail station to Washington Dulles Airport by Washington Flyer is 25 minutes. Therefore the overall average travel time from downtown Washington to Washington Dulles International, not including transfer time from metrorail to bus, would be between 45 to 50 minutes for the AM and PM peak periods and Mid-day period respectively. The scheduled travel time by Metrobus line 5A, from L'Enfant Plaza to Dulled Airport is 60 minutes for the AM and PM peak periods and 45 minutes during the mid-day period. In comparison travel time by auto is 45 minutes during the AM peak, 38 minutes for the mid-day and 52 minutes for the PM period.

From Franconia/Springfield to West Falls Metro station, the average travel time using the Blue line and Orange line would be 50 minutes during the AM and PM peak periods and 56 minutes during mid-day period including transfer time at Rosslyn metro station. The combined travel time to Washington Dulles International is 75 to 81 minutes during the AM and PM peak and mid-day periods respectively. Fairfax Connector bus line 401 provides service from Franconia to Dunn Loring metro station with a 53 minutes travel time. Not including transfer time at Dunn Loring , the combined Fairfax Connector/Metro, average travel; time to West Falls Metro Station is 57 minutes, and with the Washington Flyer it will be 80 to 85 minutes. Average auto travel time on the other hand is between 45 to 50 minutes.

Travel time from Greenbelt to West Falls Metro station by way of the Green Line and the Orange Line is between 65 to 75 minutes for the AM and PM peak period and Mid-day periods, including a seven (7) to fifteen (15) minutes transfer time respectively. The combined travel time to Washington Dulles International together with the Washington Flyer is between 90 to 100 minutes. In comparison auto travel time from Greenbelt to Washington Dulles International Airport is 93 minutes for the AM peak, 51 minutes for the mid-day and 66 minutes for the PM peak periods.

From Gaithersburg with a 10 minutes Ride-On bus time, from Shady Grove metro station to West Falls Church, the average travel time is 62 to 68 minutes including a six (6) to twelve (12) minutes transfer time at Metro Center Metrorail station. Together with the Washington Flyer, the combined travel time is 87 to 93 minutes for the AM and PM peak and Mid-day peak periods respectively. . From Rockville to Washington Dulles International Airport is between 77 to 83 minutes. Auto travel time, in comparison from Gaithersburg is 49 minutes for the AM peak, 35 minutes for the Mid-day and 40 minutes for the PM peak period. From Rockville, auto travel time is 43 minutes for the AM, 33 minutes for the mid-day and 38 minutes for the PM peak periods.

3. Baltimore/Washington International Airport

Non-automobile ground access to BWI Airport is provided by train and shuttle bus services, from downtown Baltimore and Washington, Greenbelt, Columbia, Tri-County, and Annapolis. From Baltimore Penn Station rail service is offered to BWI Rail Station on both MARC and Amtrak trains. Total travel time from downtown Baltimore to BWI by both MARC and Amtrak would be 23 to 27 minutes including an average of 10 minutes travel time to Penn Station, and does not include trips from the train station to the terminal. Auto travel from downtown Baltimore averaged 17 minutes for the AM, 15 minutes during the mid-day and 20 minutes for the PM peak periods.

Rail services are provided by Amtrac and MARC trains from Washington's Union Station to BWI. From Farrgut North station, the average travel time by rail to Union Station is 7 minutes, not including transfer time at Union Station from metrorail to MARC/Amtrac, the average travel time to BWI Rail station is 42 to 45 minutes, not including travel to the airport terminal. In comparison, the average auto travel time from downtown Washington to BWI airport is 45 minutes for the AM and mid-day peak, periods, and over 60 minutes during the PM peak hour.

Express bus service is provided by WMATA from Greenbelt Metrorail station to BWI terminal on line B30. The average scheduled travel time is 30 minutes, to the main airport

terminal. In comparison, the average travel time by auto from Greenbelt, Greenway Shopping center to BWI terminal is between 25 to 30 minutes.

Airport Shuttle service started operating in 2003 for the Tri-County region (Calvert, Charles and St. Mary's counties), from Captain Walter F. Duke Regional Airport to BWI. The average scheduled travel time is 2 hours.

The Howard Transit service, provides the Red Express line from Columbia Mall to BWI Terminal, with an average scheduled travel time of 80 minutes to BWI terminal. These times compare to an average travel time by car between 25 to 30 minutes.

Figure 2
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
Segments with LOS E&F
AM Peak Period

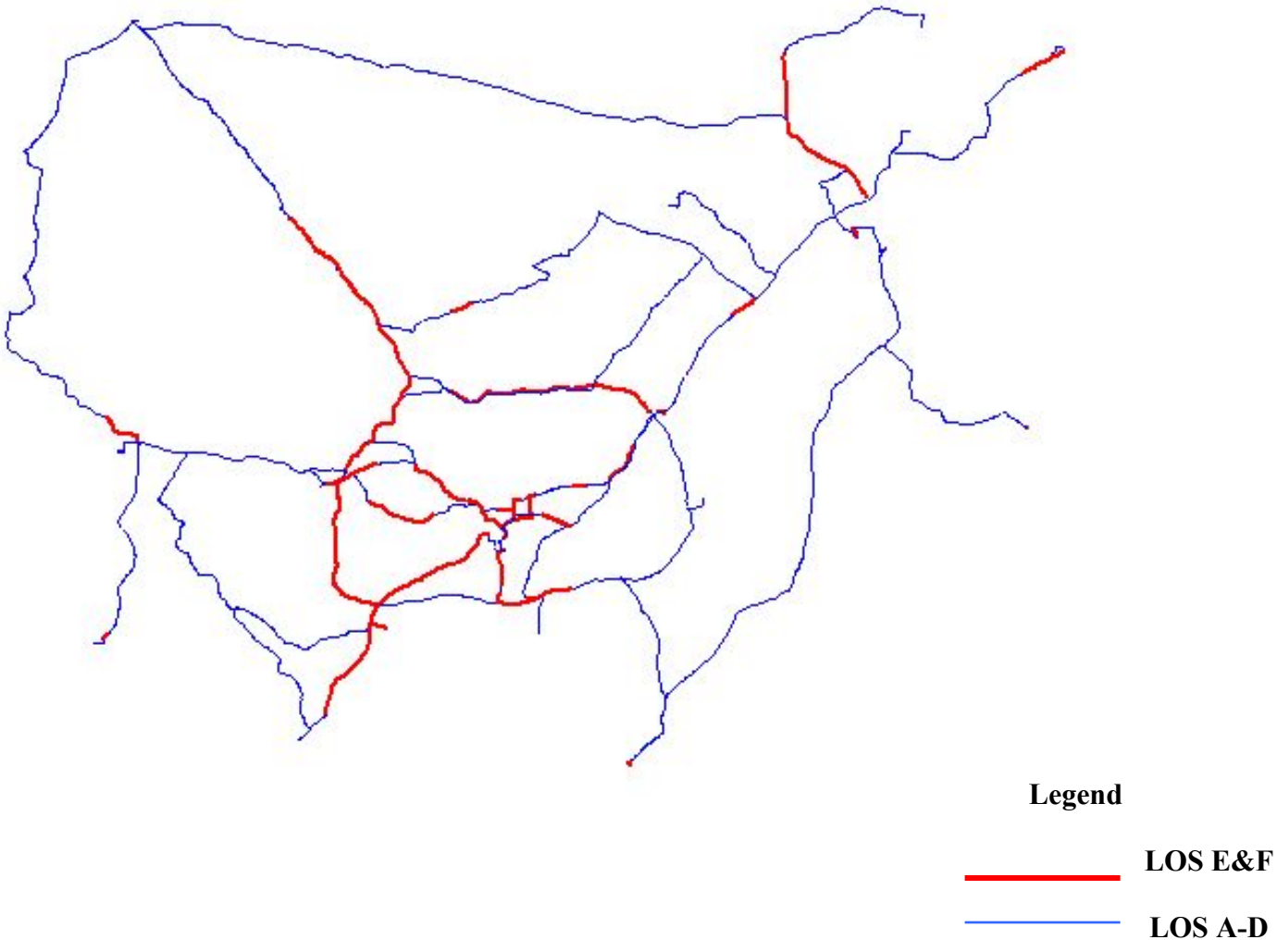


Figure3
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
Segments with LOS E&F
Mid-Day Peak Period

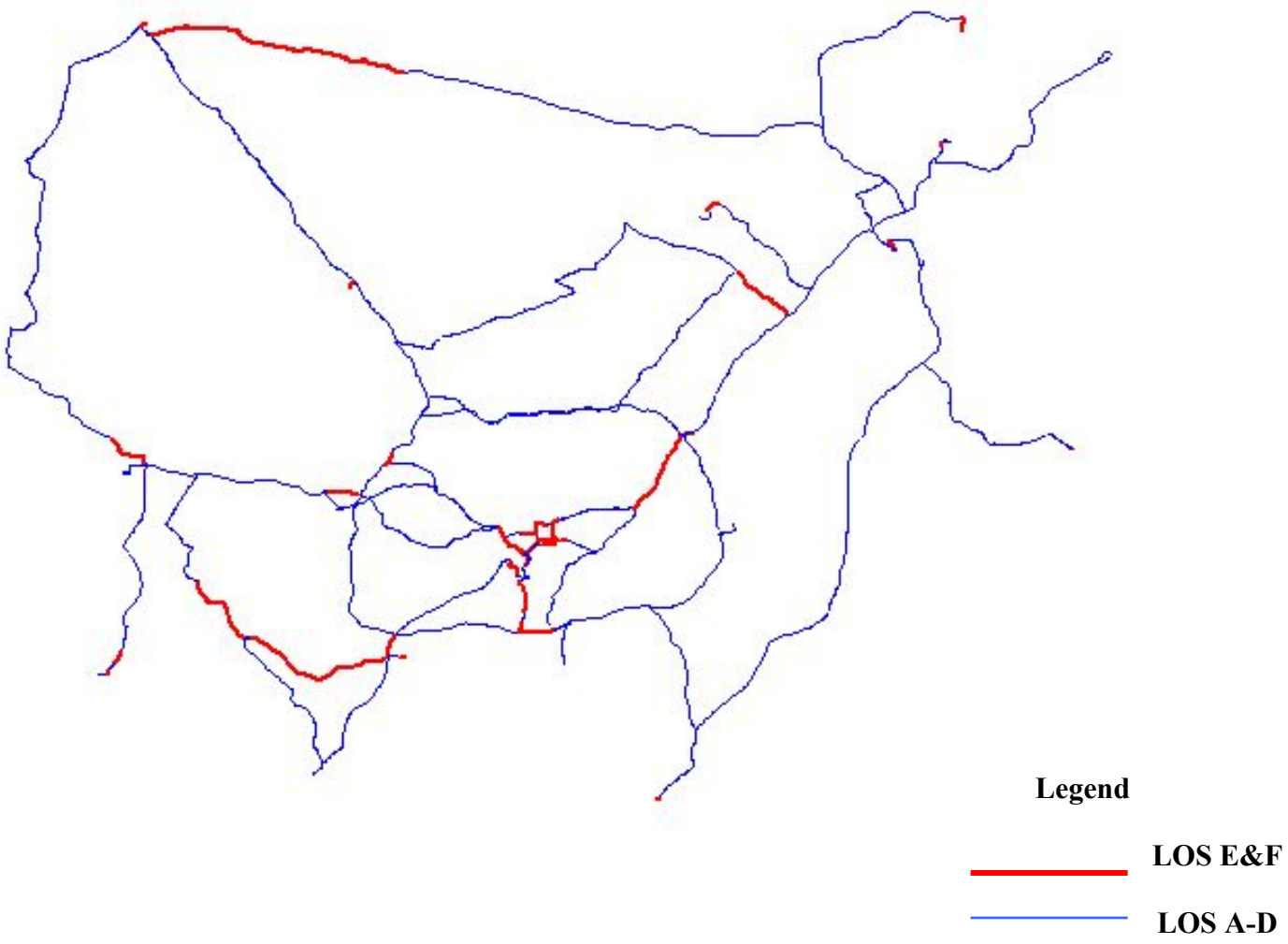


Figure4
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
Segments with LOS E&F
PM Peak Period

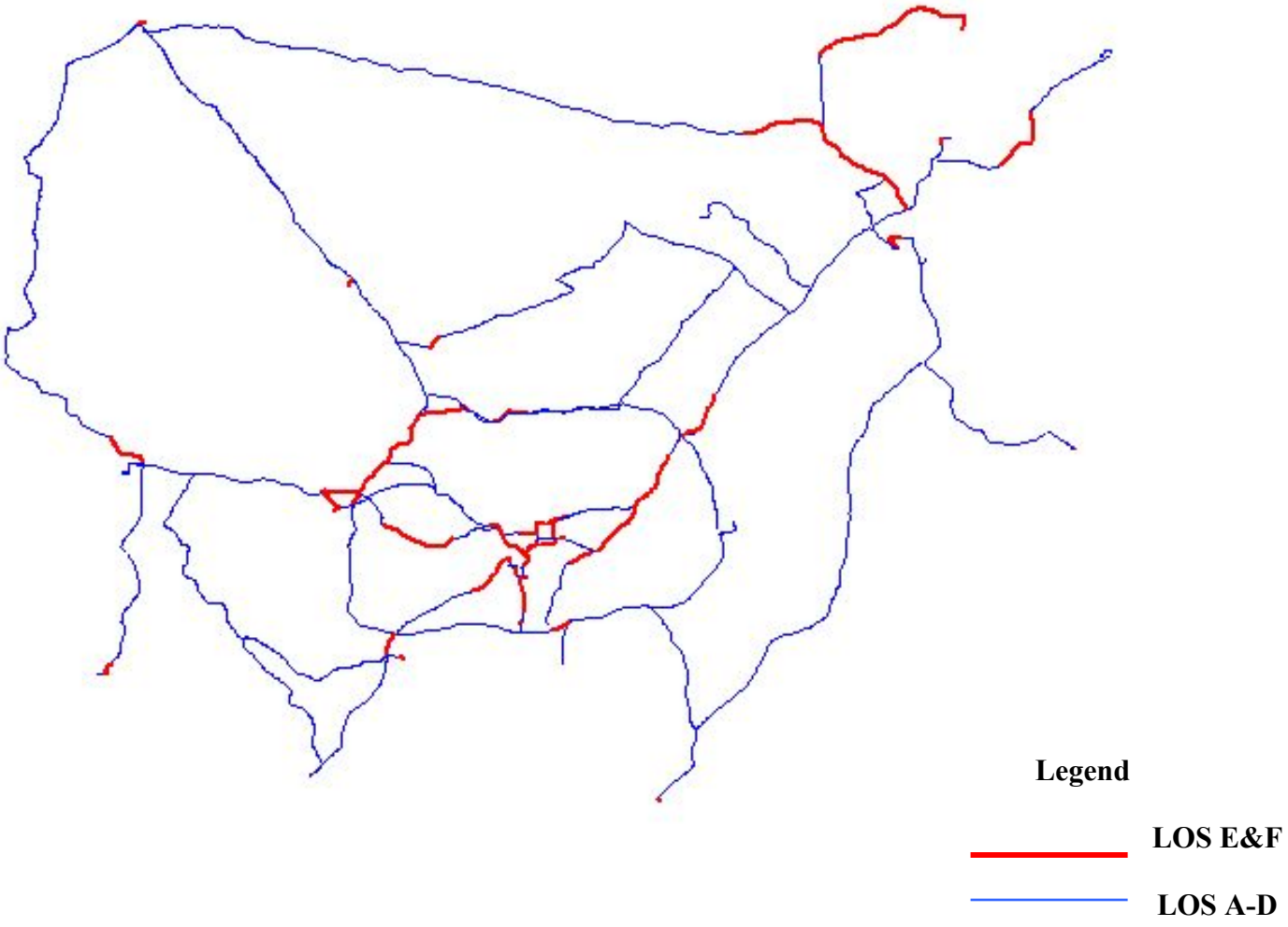
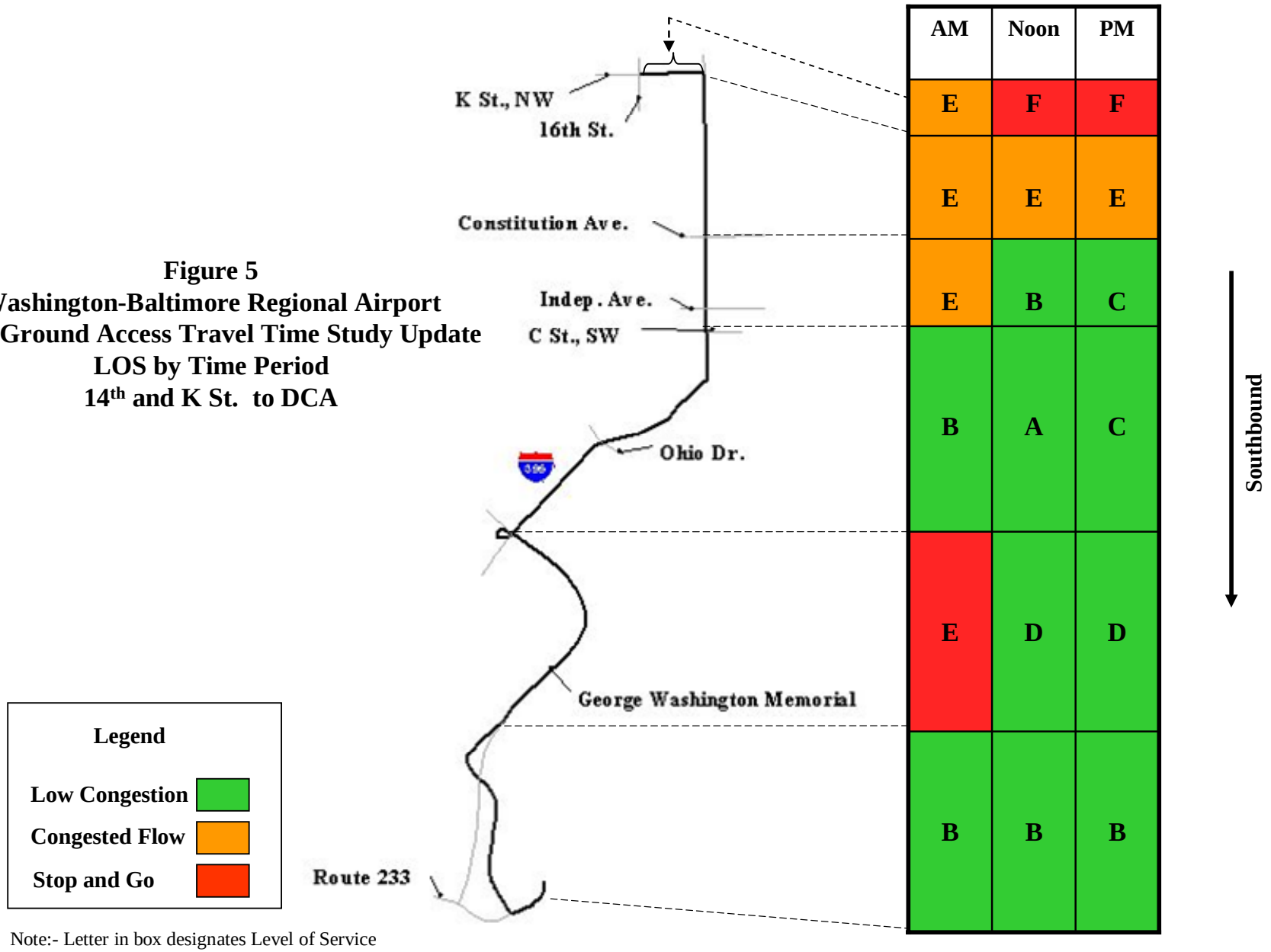
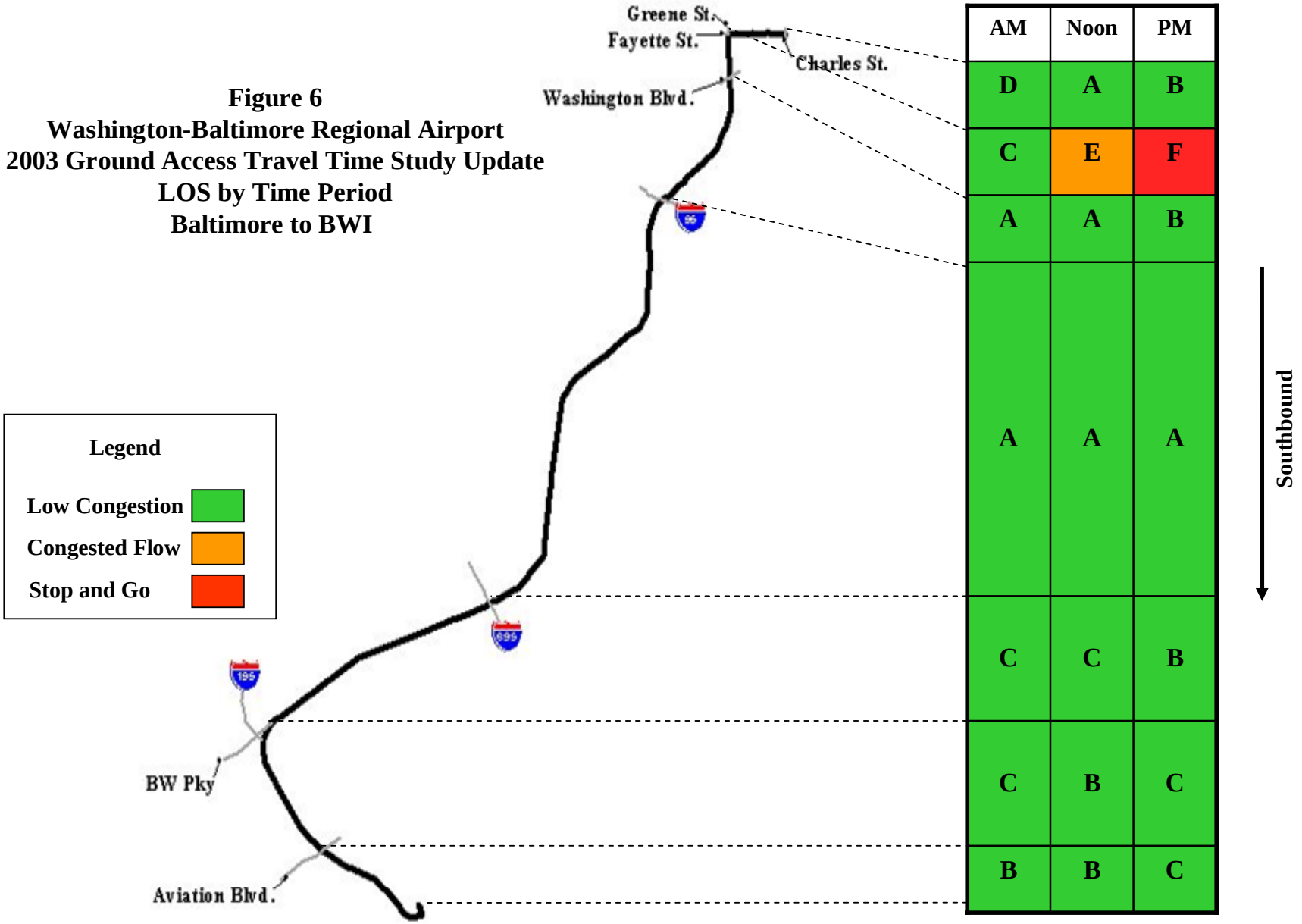


Figure 5
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
14th and K St. to DCA



Note:- Letter in box designates Level of Service

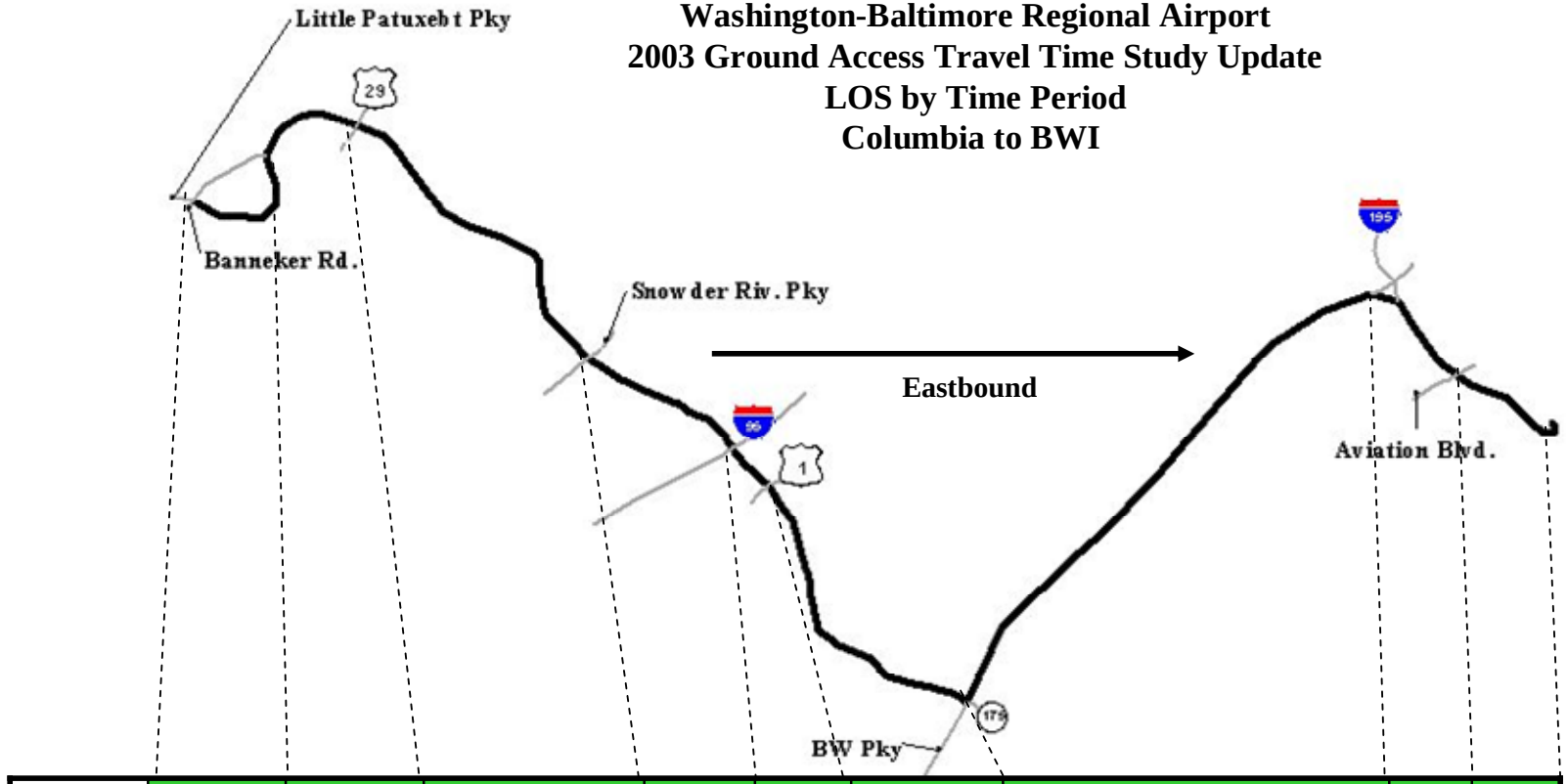
Figure 6
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Baltimore to BWI



AM	Noon	PM
D	A	B
C	E	F
A	A	B
A	A	A
C	C	B
C	B	C
B	B	C

Note:- Letter in box designates Level of Service

Figure 7
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Columbia to BWI



AM	**C**	**A**	**A**	**A**	**D**	**B**	**C**	**B**	**B**
Noon	**D**	**E**	**A**	**A**	**C**	**B**	**C**	**B**	**B**
PM	**D**	**B**	**B**	**A**	**D**	**B**	**C**	**C**	**C**

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

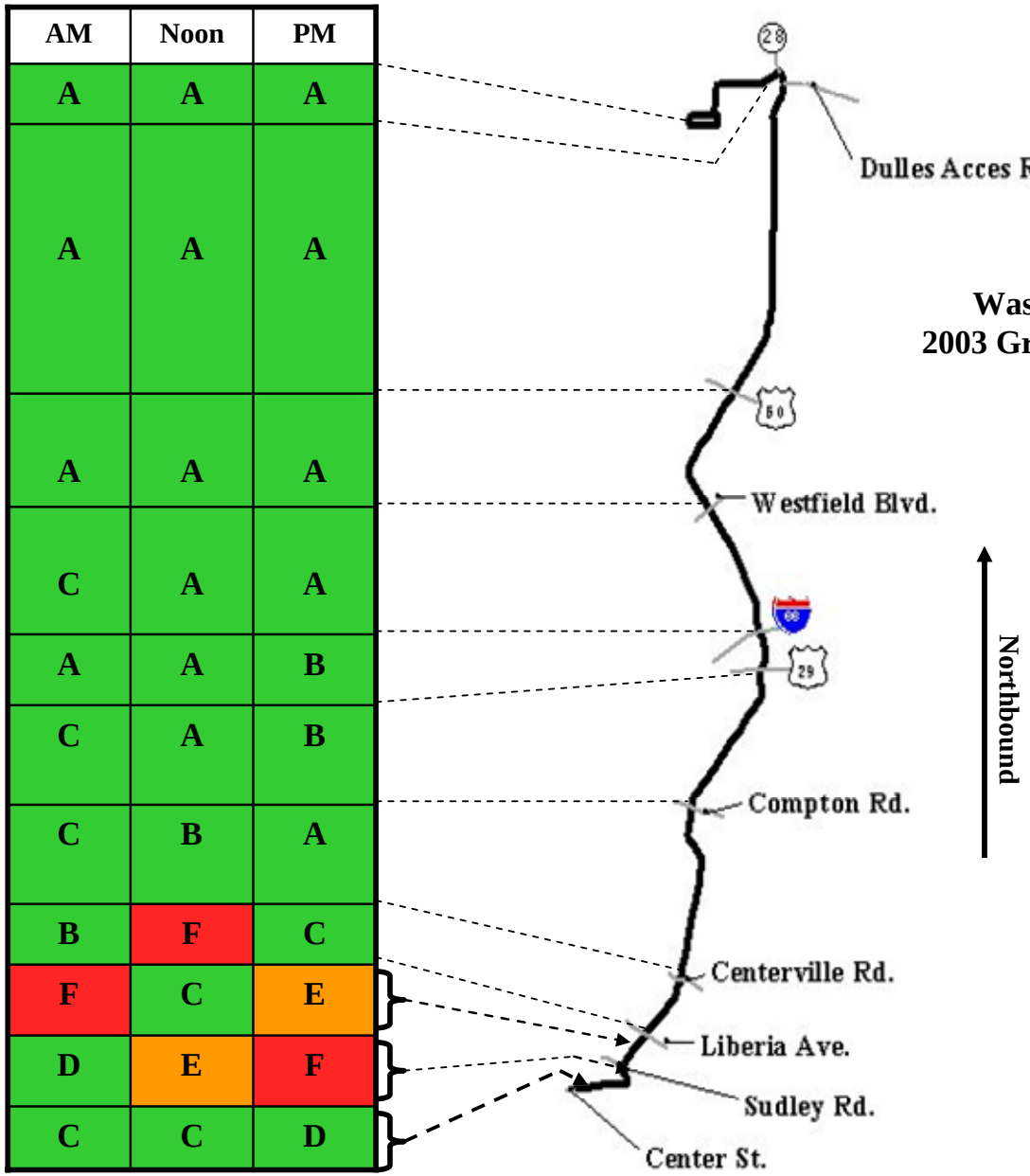


Figure 8
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Manassas to IAD

Legend

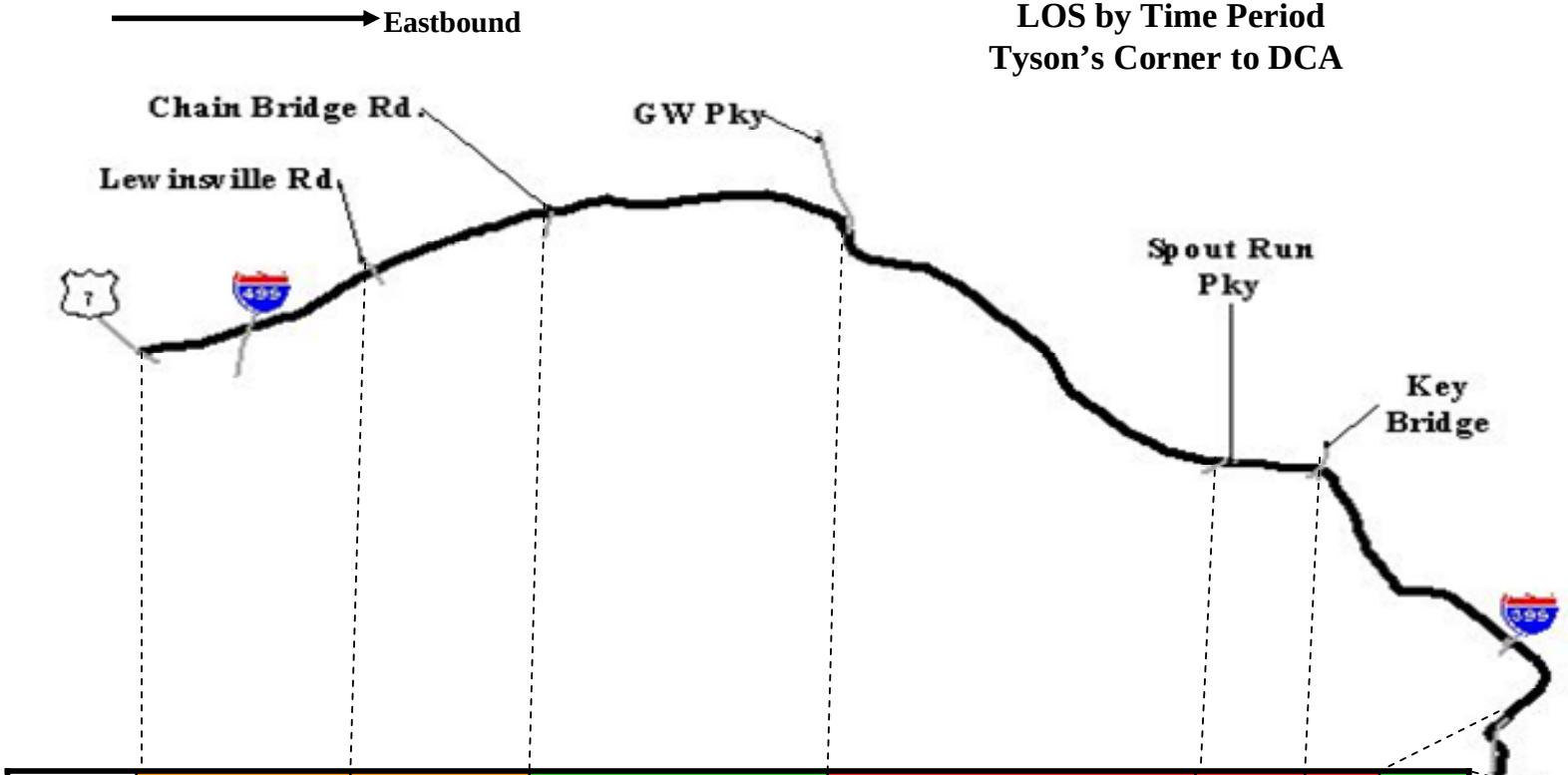
Low Congestion

Congested Flow

Stop and Go

Note:- Letter in box designates Level of Service

Figure 9
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Tyson's Corner to DCA

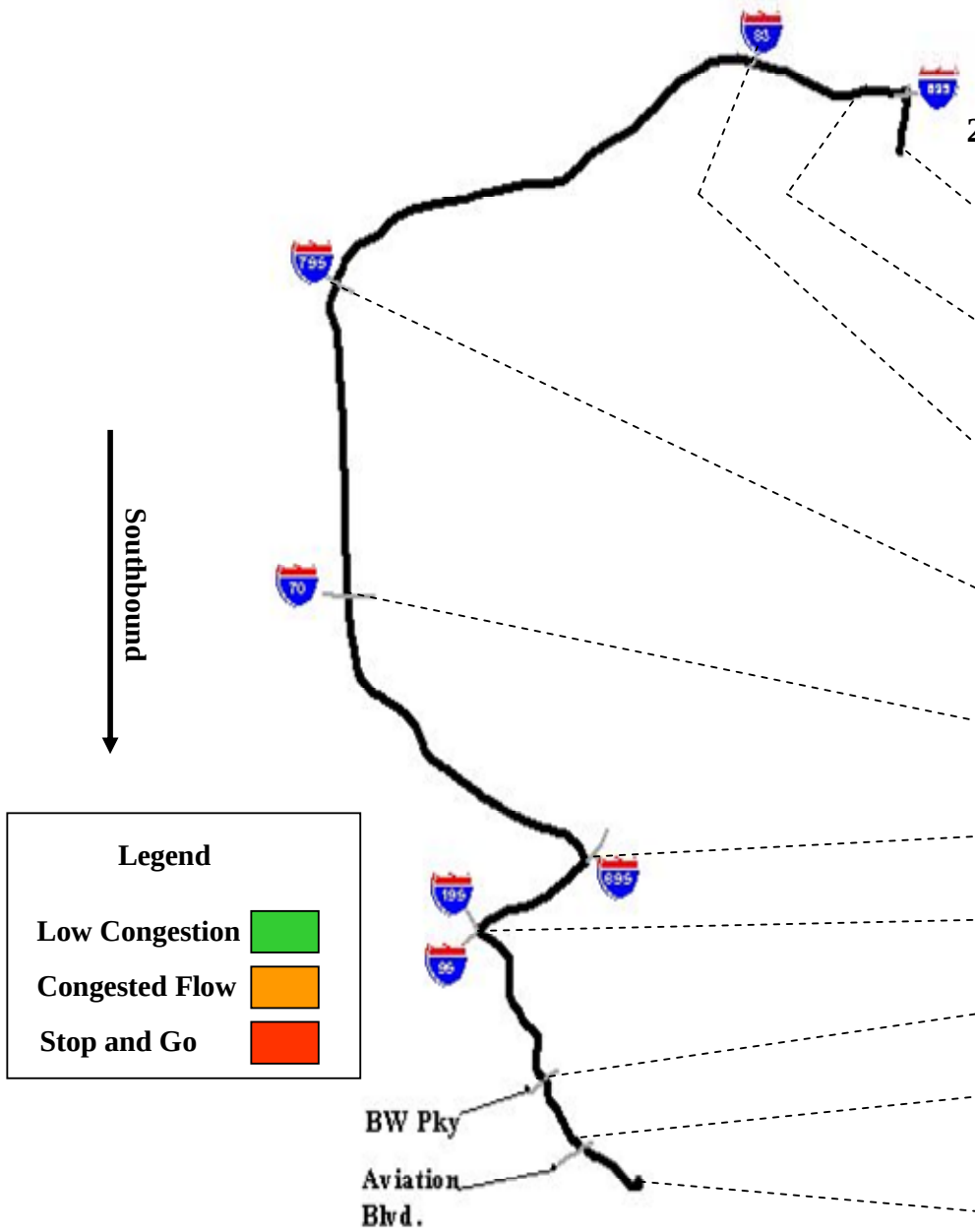


AM	E	E	C	F	F	F	B
Noon	C	A	B	C	D	E	B
PM	D	B	B	D	E	E	A

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

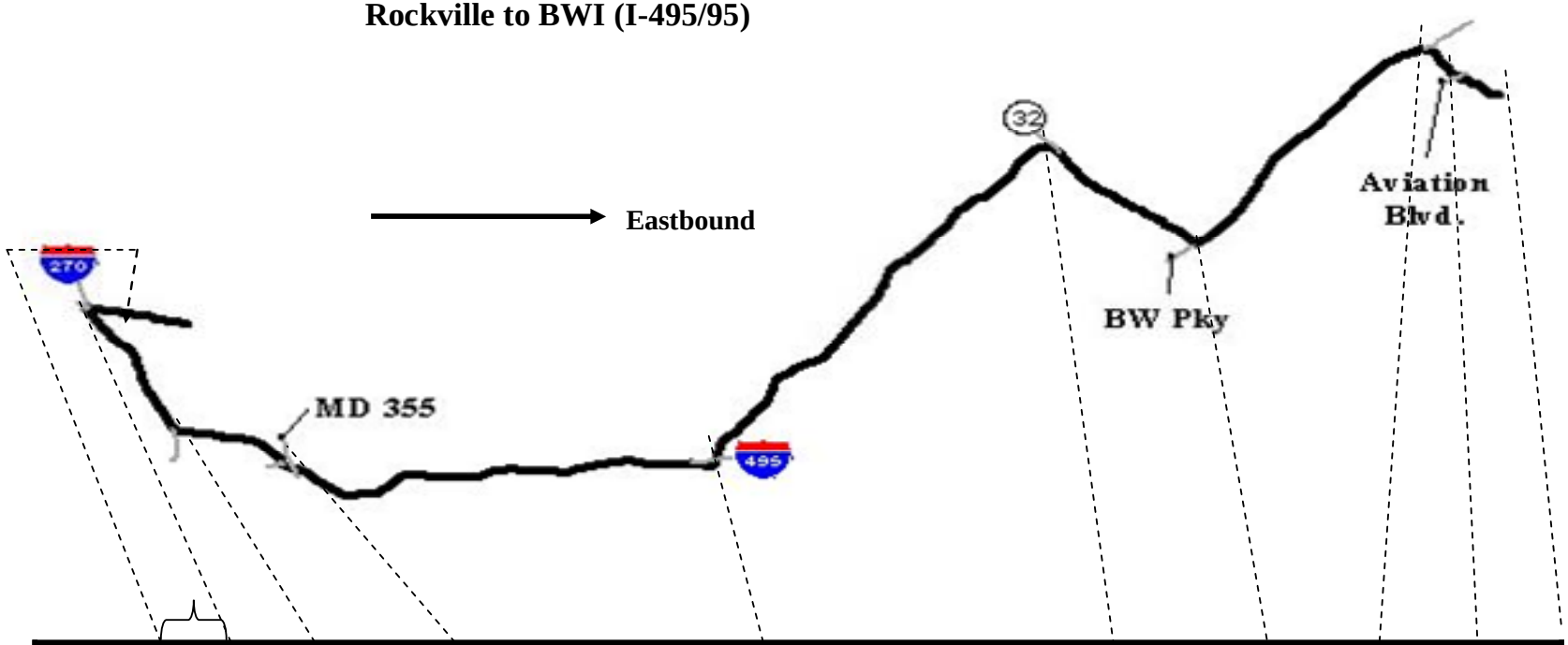
Figure 10
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Towson to BWI



AM	Noon	PM
D	E	F
D	C	F
C	A	E
F	A	D
F	C	F
D	D	D
C	B	C
C	B	C
B	B	C

Note:- Letter in box designates Level of Service

Figure 11
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Rockville to BWI (I-495/95)

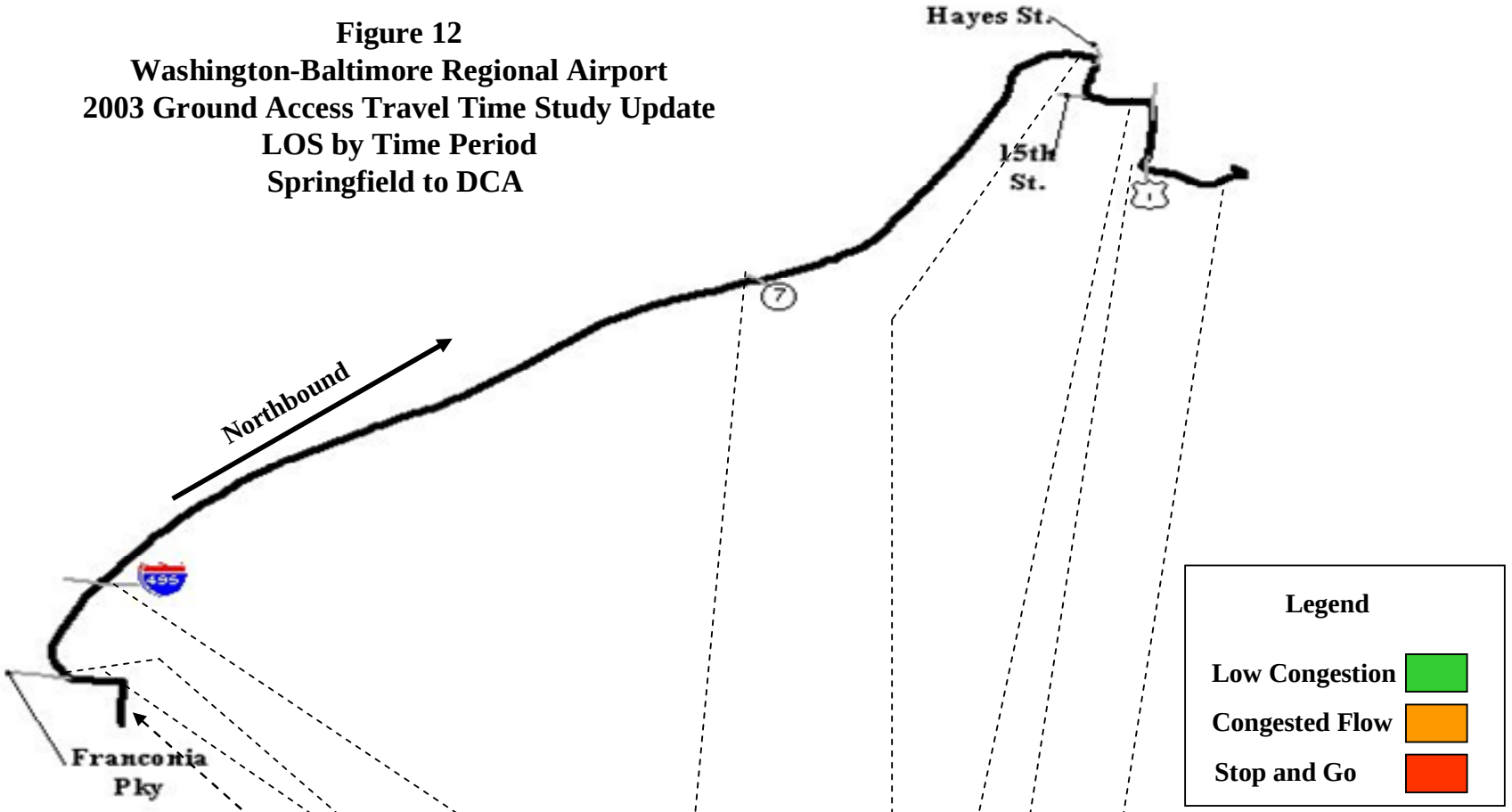


AM	C	F	D	D	A	A	B	C	B
Noon	C	A	C	C	A	A	B	B	B
PM	C	A	B	C	B	C	C	C	C

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

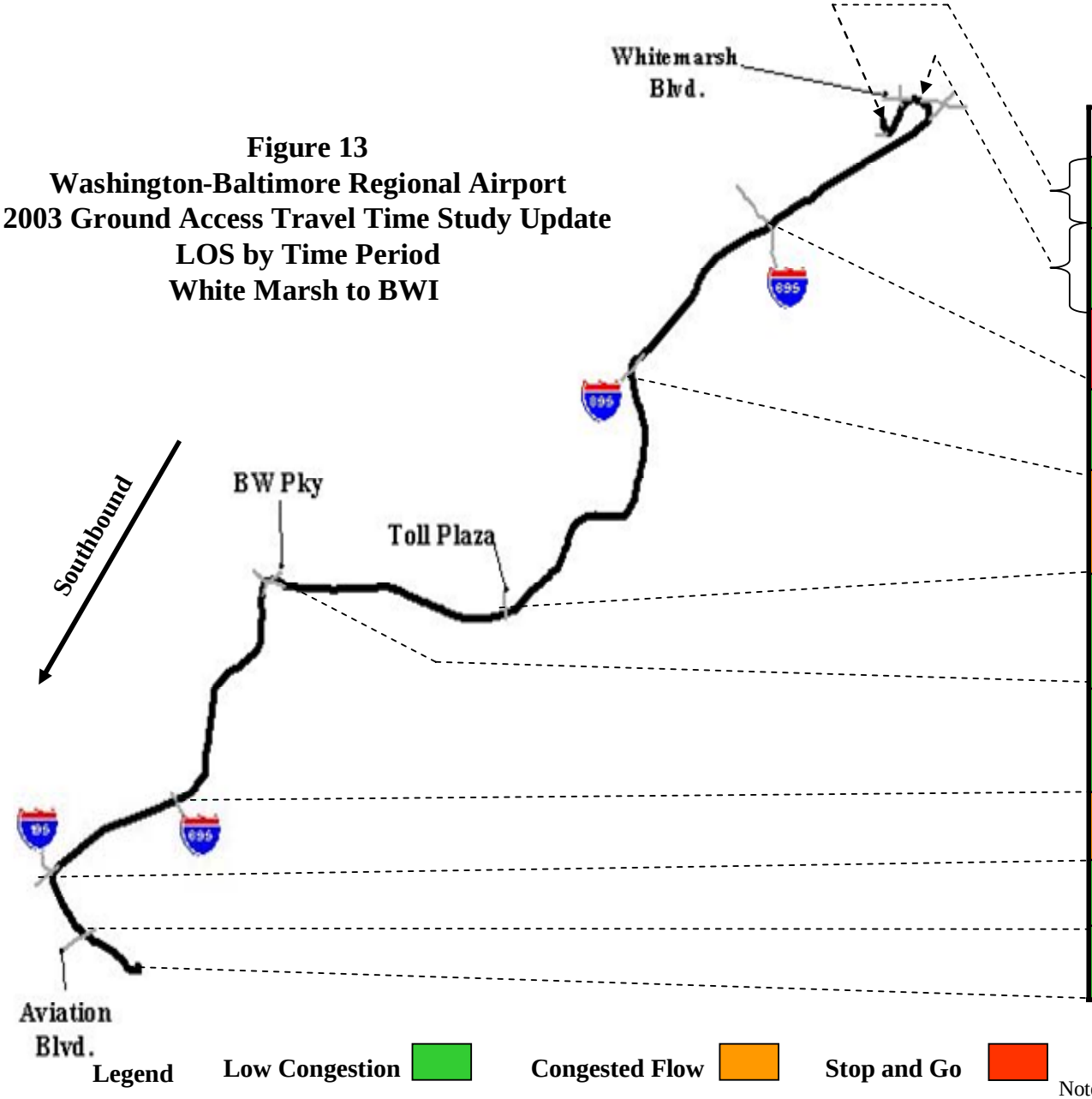
Figure 12
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Springfield to DCA



AM	F	D	F	E	F	D	D	B
Noon	F	C	F	C	D	E	D	D
PM	F	D	F	B	E	D	E	D

Note:- Letter in box designates Level of Service

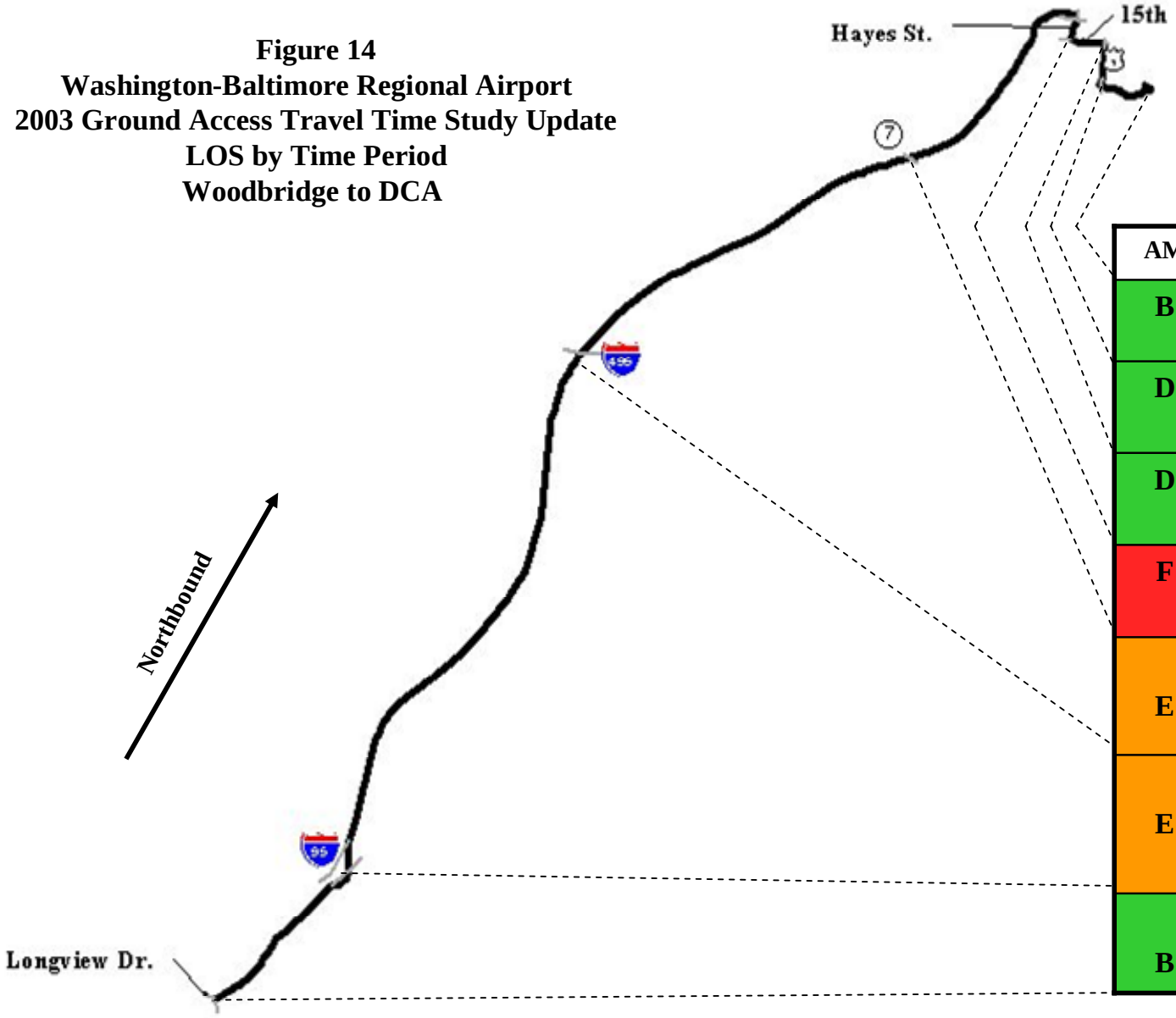
Figure 13
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
White Marsh to BWI



AM	Noon	PM
A	A	A
A	A	A
F	B	B
D	B	B
E	F	F
C	D	D
C	B	C
E	B	C
C	B	C
B	B	C

Note:- Letter in box designates Level of Service

Figure 14
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Woodbridge to DCA

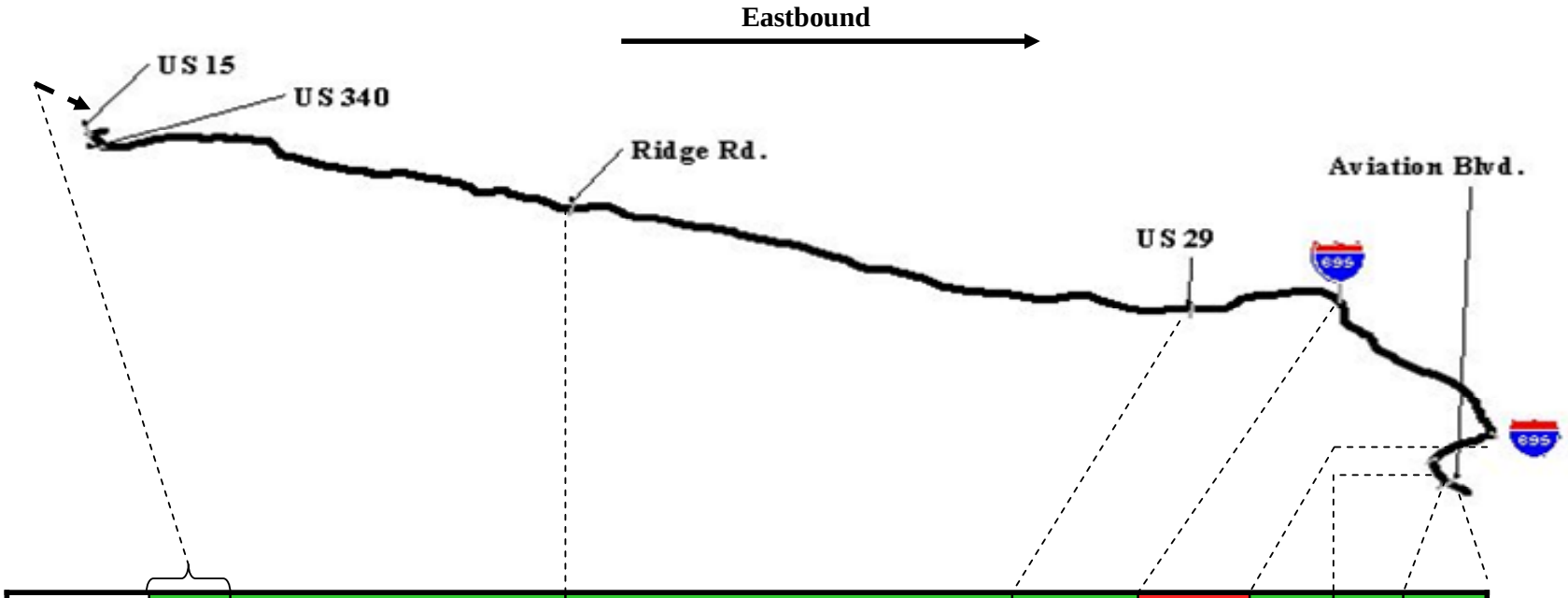


AM	Noon	PM
B	B	D
D	E	E
D	E	D
F	D	E
E	D	B
E	B	B
B	B	A

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 15
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Frederick to BWI



AM	D	B	B	B	F	D	C	B
Noon	B	F	A	A	C	C	B	B
PM	D	A	A	E	E	D	C	C

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

AM	Noon	PM
D	B	B
A	A	A
A	A	A
A	A	A
C	B	C
A	A	A
F	E	F
A	A	A

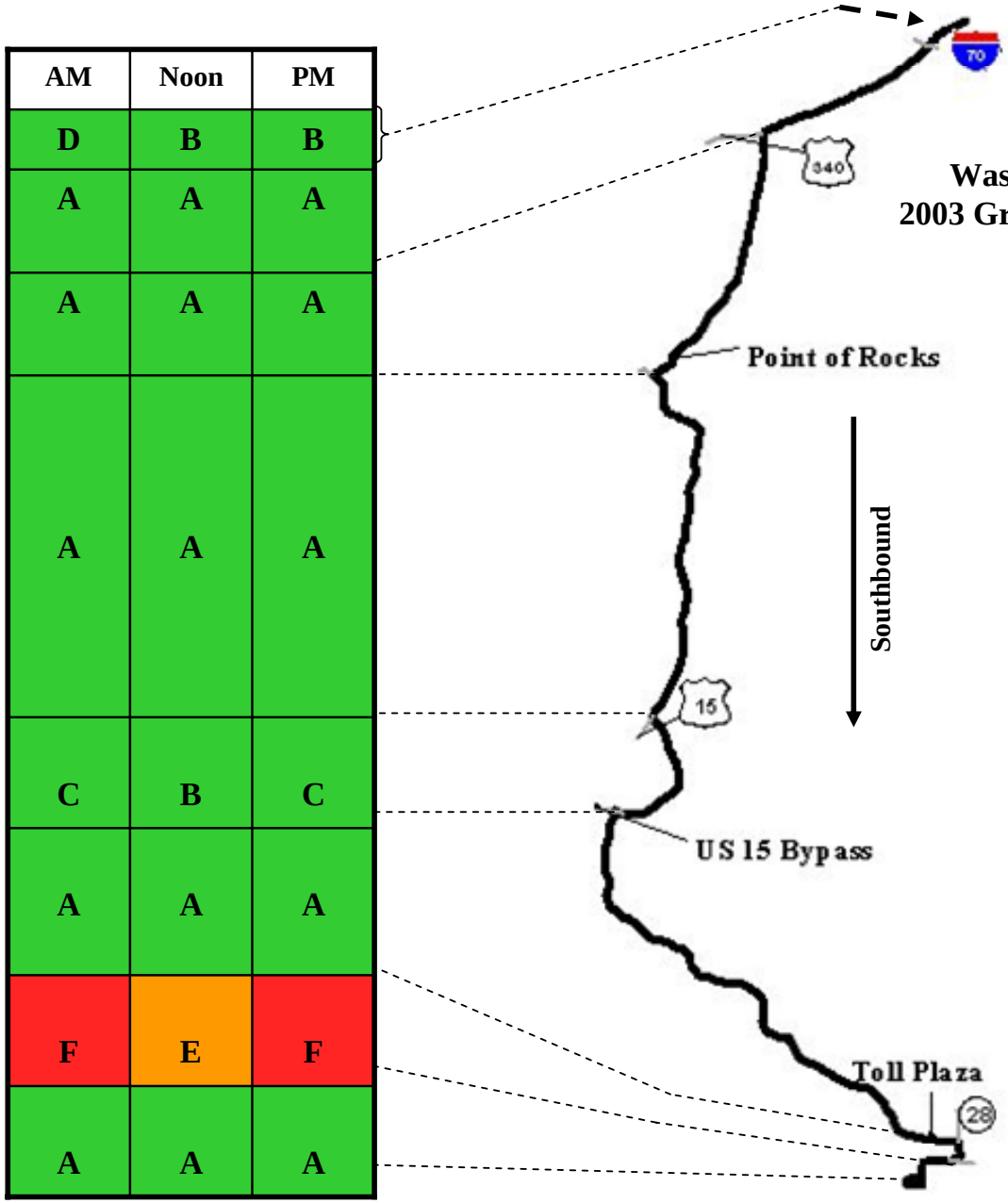


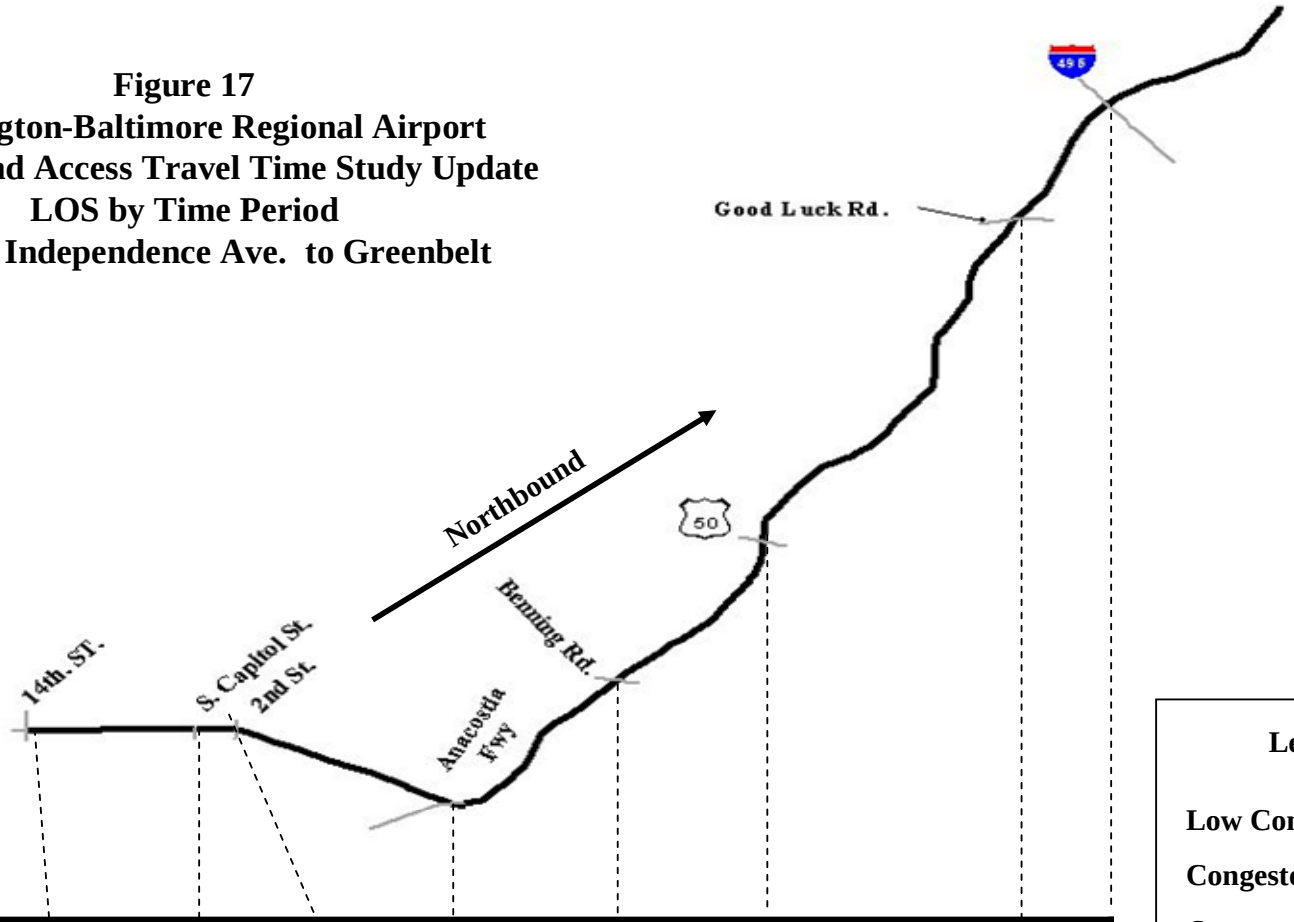
Figure 16
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Frederick to IAD

Legend

- Low Congestion
- Congested Flow
- Stop and Go

Note:- Letter in box designates Level of Service

Figure 17
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
14th and Independence Ave. to Greenbelt



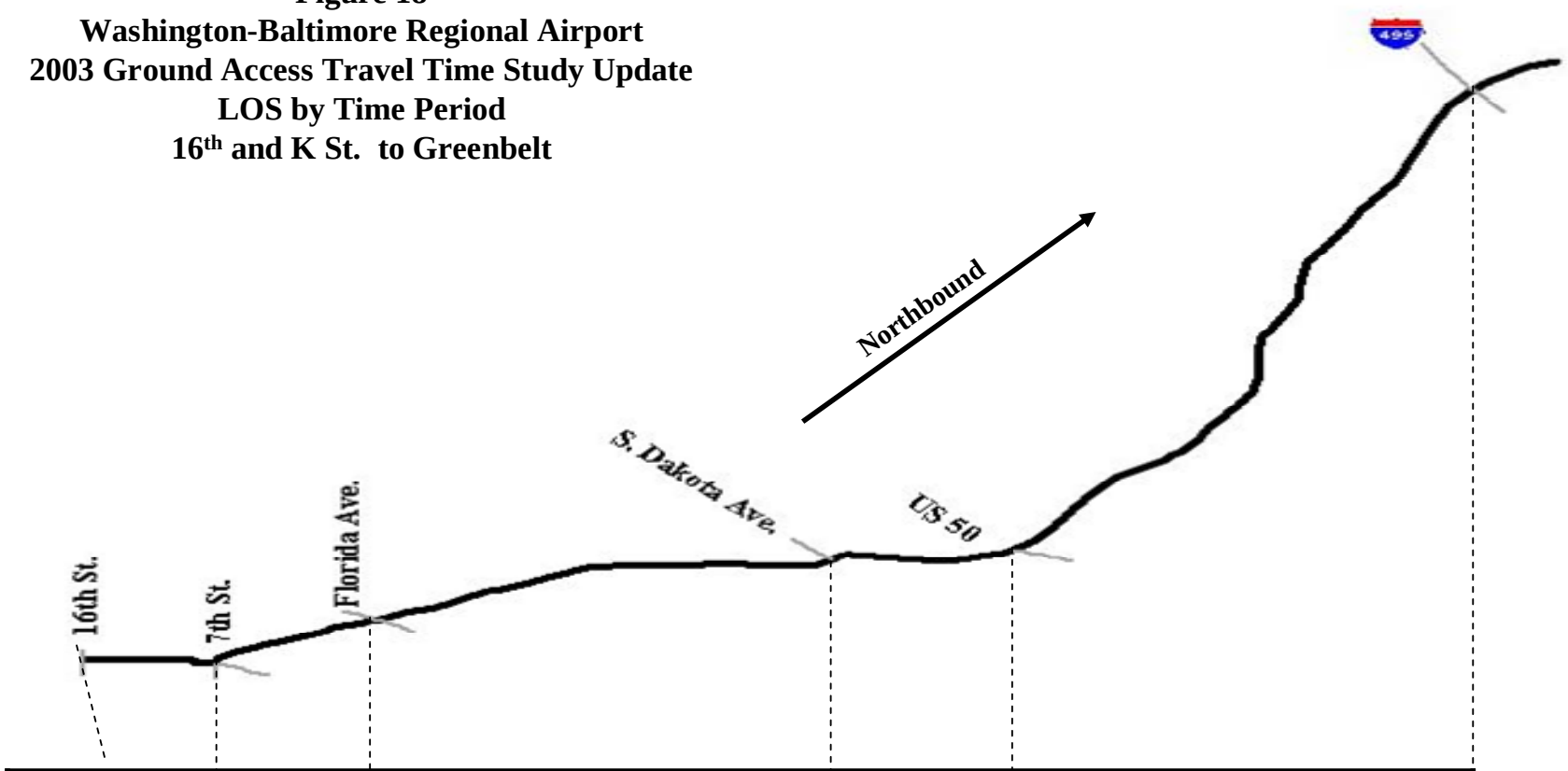
AM	C	C	E	A	A	B	B
Noon	E	C	C	A	A	B	B
PM	D	E	D	A	A	F	C

Legend

- Low Congestion
- Congested Flow
- Stop and Go

Note:- Letter in box designates Level of Service

Figure 18
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
16th and K St. to Greenbelt



AM	E	D	A	A	A
Noon	F	D	A	A	B
PM	F	E	C	A	F

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

AM	Noon	PM
C	B	C
C	A	B
C	C	C
A	A	A
A	A	B

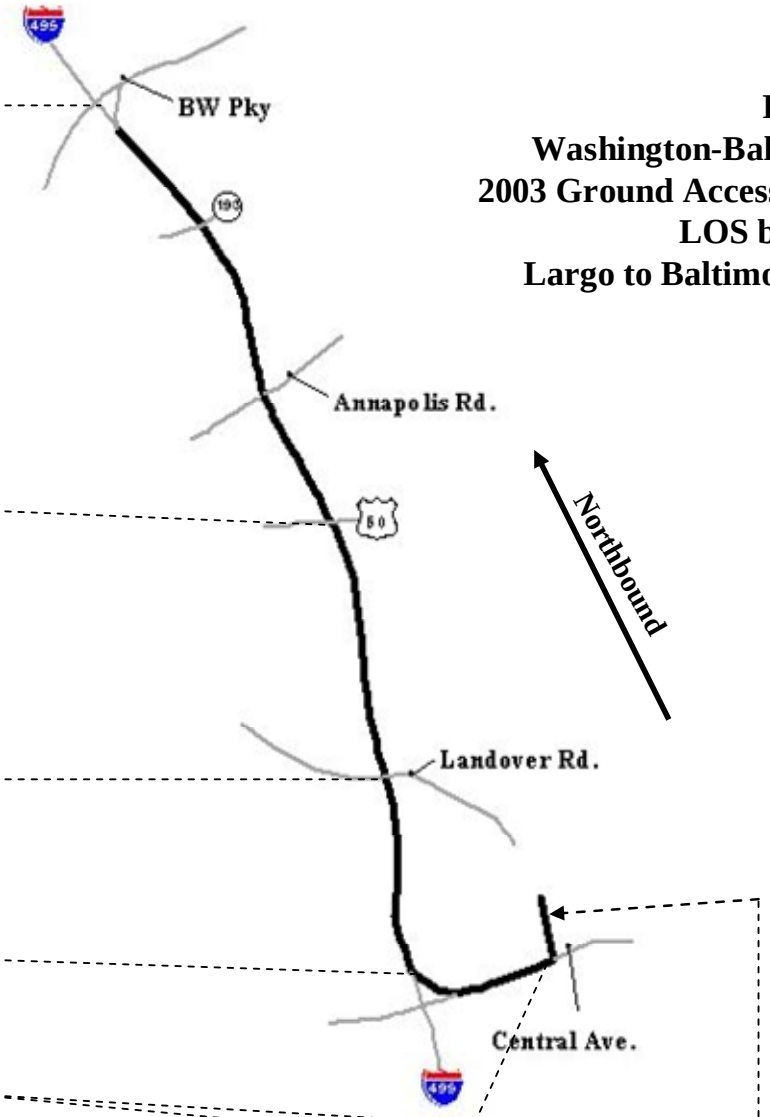


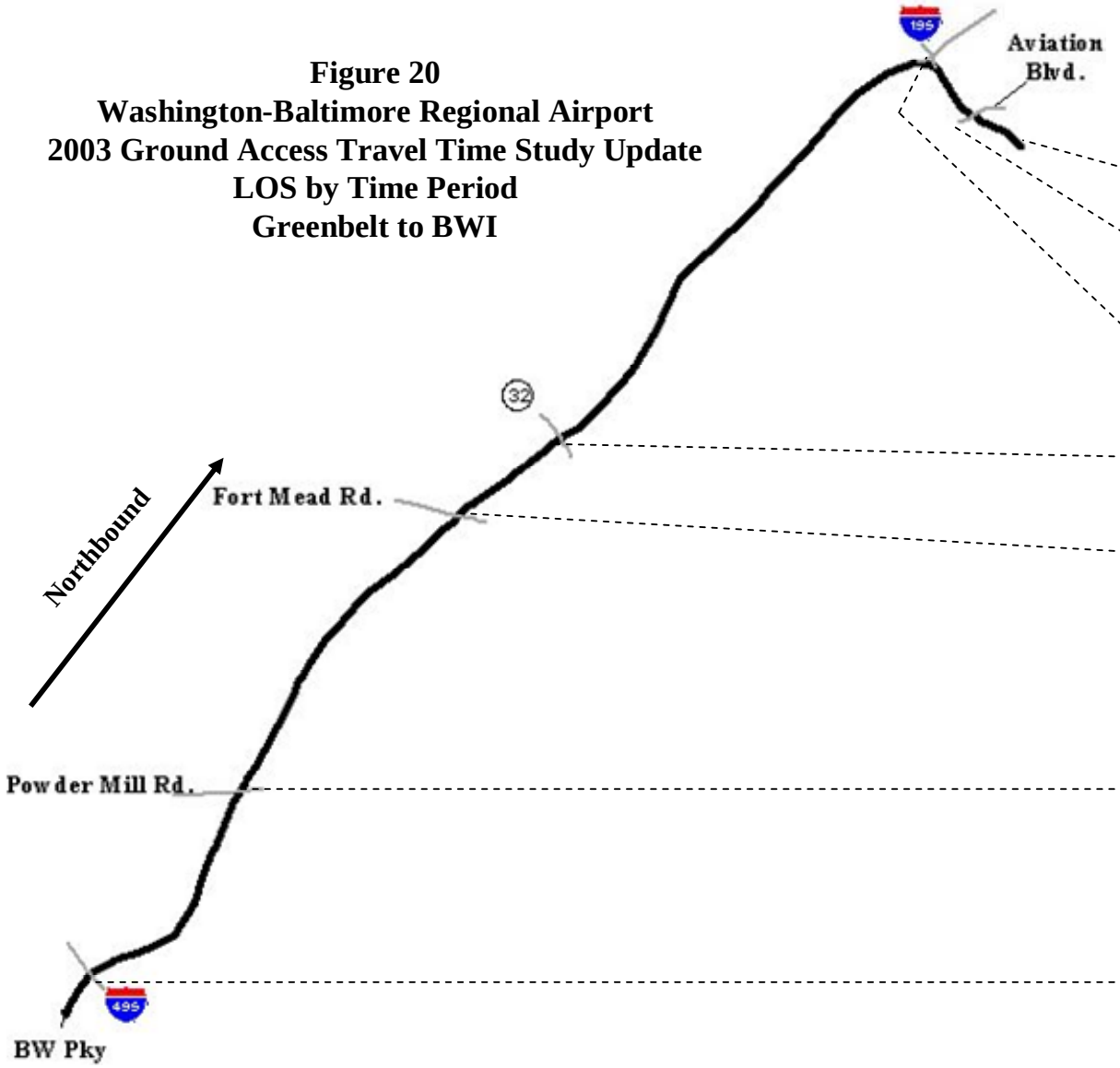
Figure 19
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Largo to Baltimore/Washington Parkway

Legend

- Low Congestion
- Congested Flow
- Stop and Go

Note:- Letter in box designates Level of Service

Figure 20
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Greenbelt to BWI

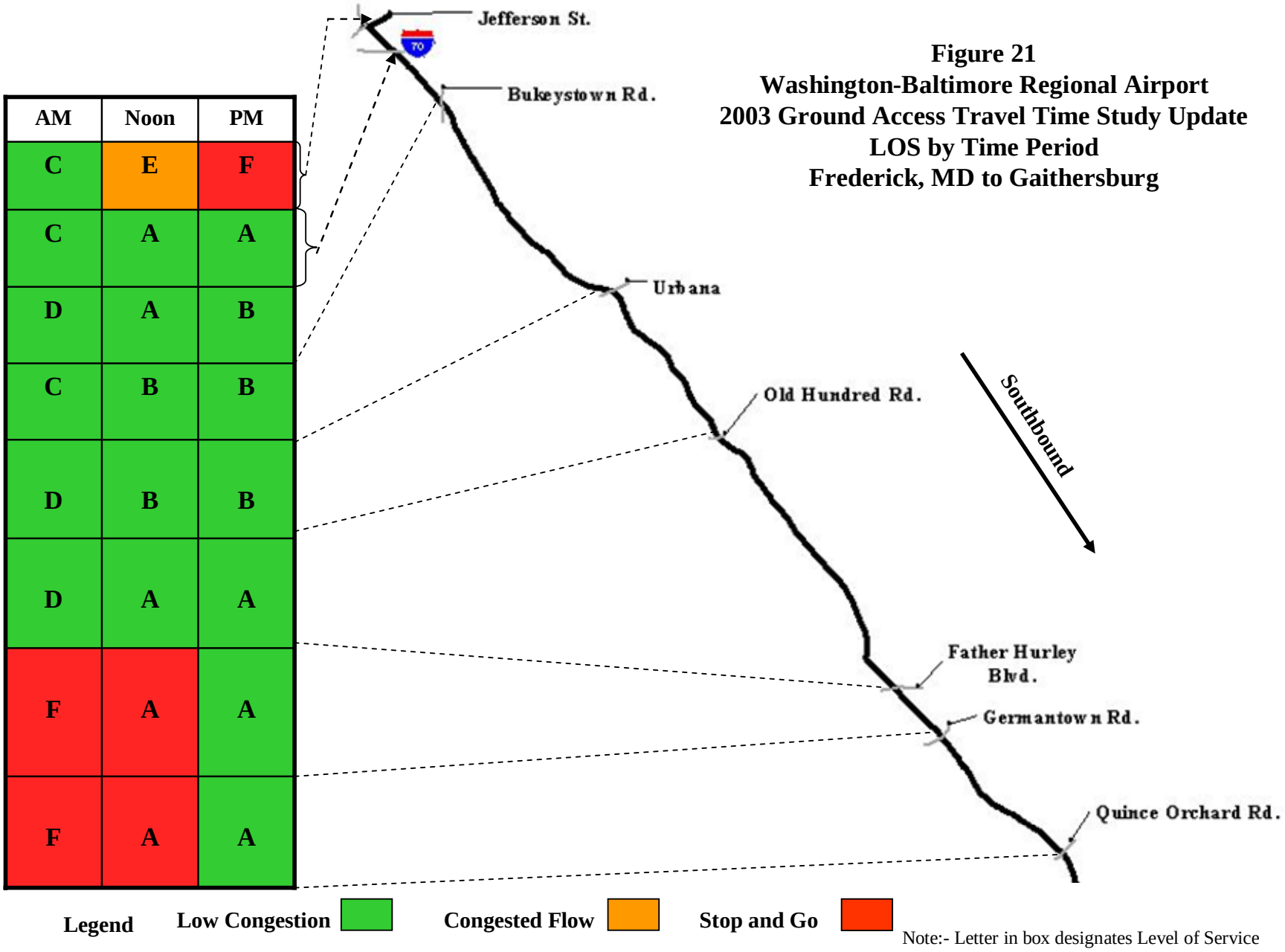


AM	Noon	PM
B	B	C
C	B	C
B	A	C
E	B	B
B	A	C
B	A	F

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 21
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Frederick, MD to Gaithersburg



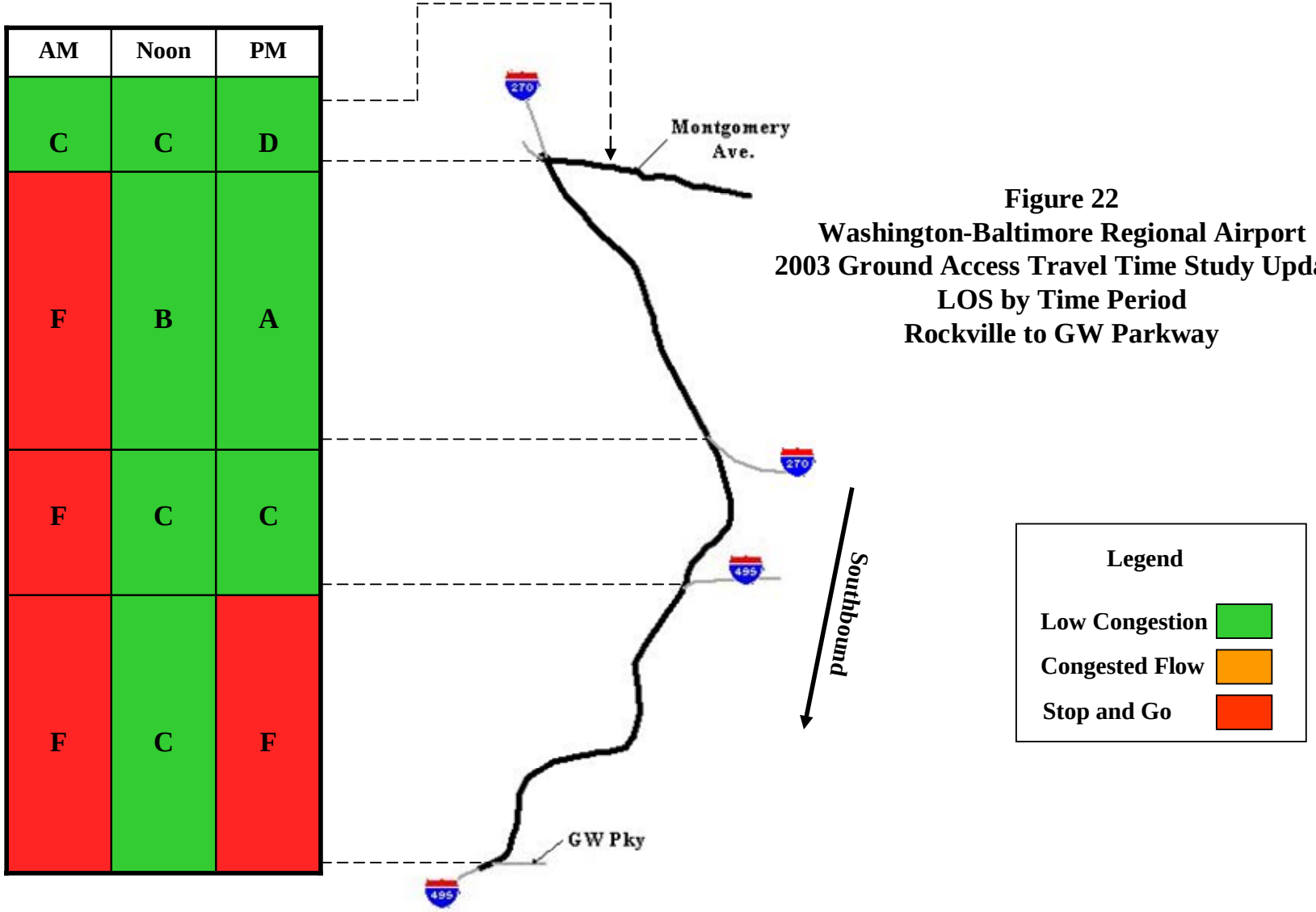
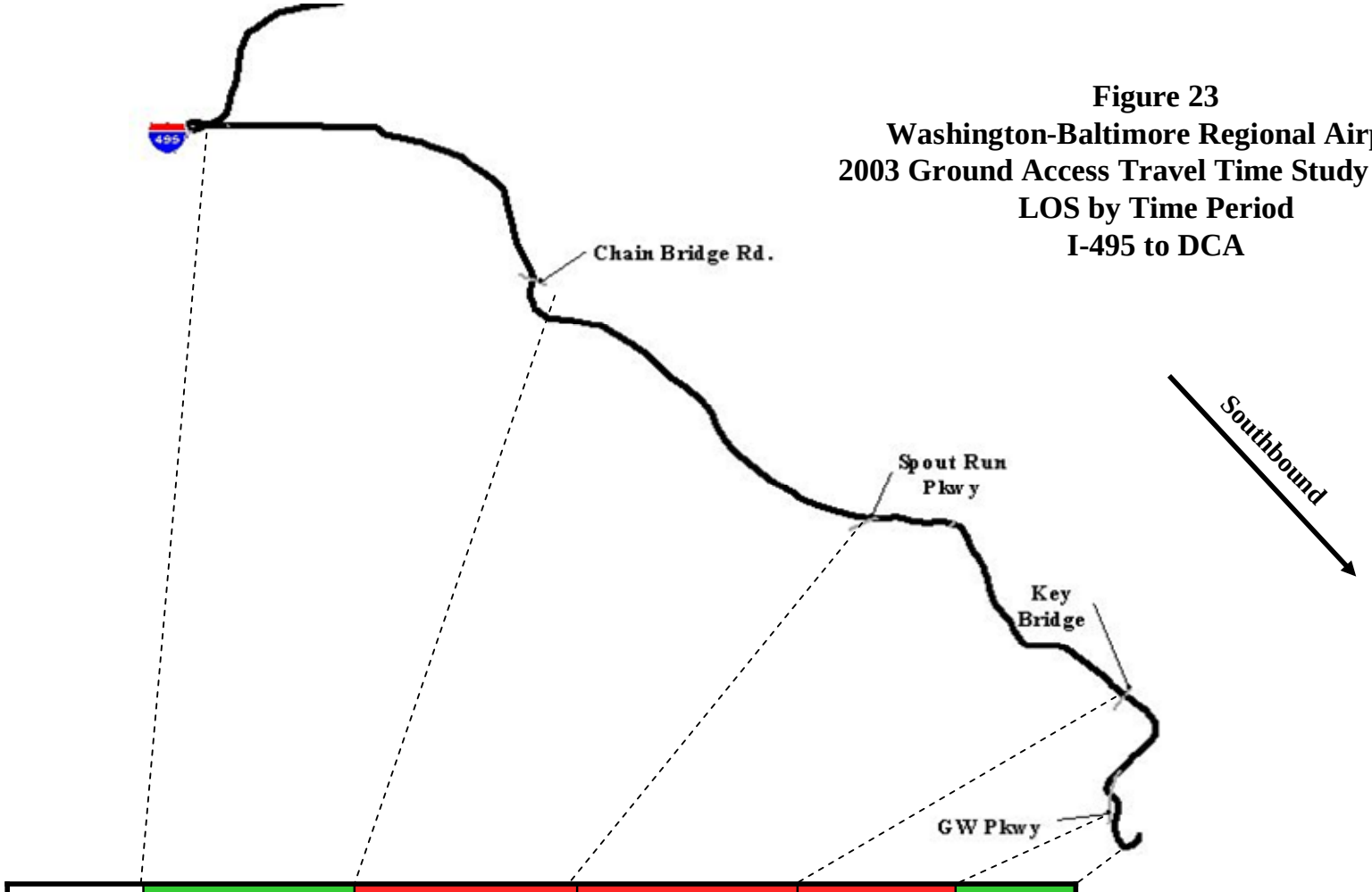


Figure 22
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Rockville to GW Parkway

Note:- Letter in box designates Level of Service

Figure 23
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
I-495 to DCA



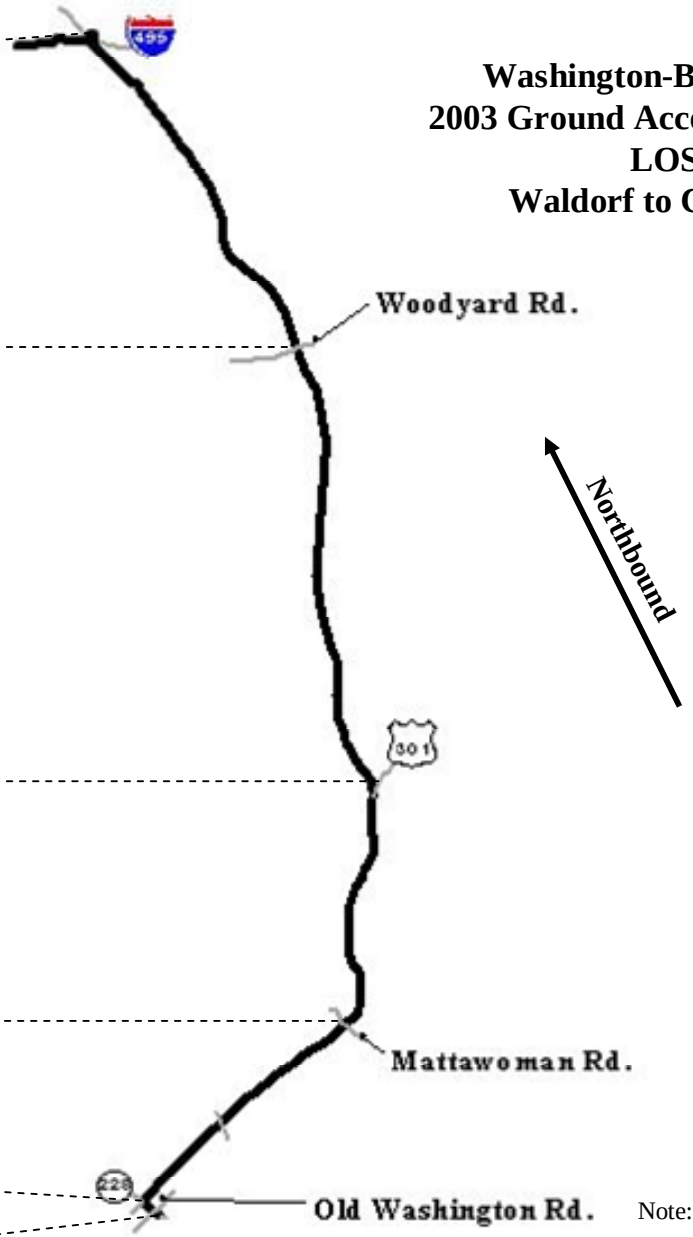
AM	D	F	F	F	B
Noon	D	C	D	E	B
PM	D	D	E	E	A

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 24
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Waldorf to Camp Spring (I-495/I-95)

AM	Noon	PM
A	A	A
A	A	A
C	A	A
B	B	C
F	E	E

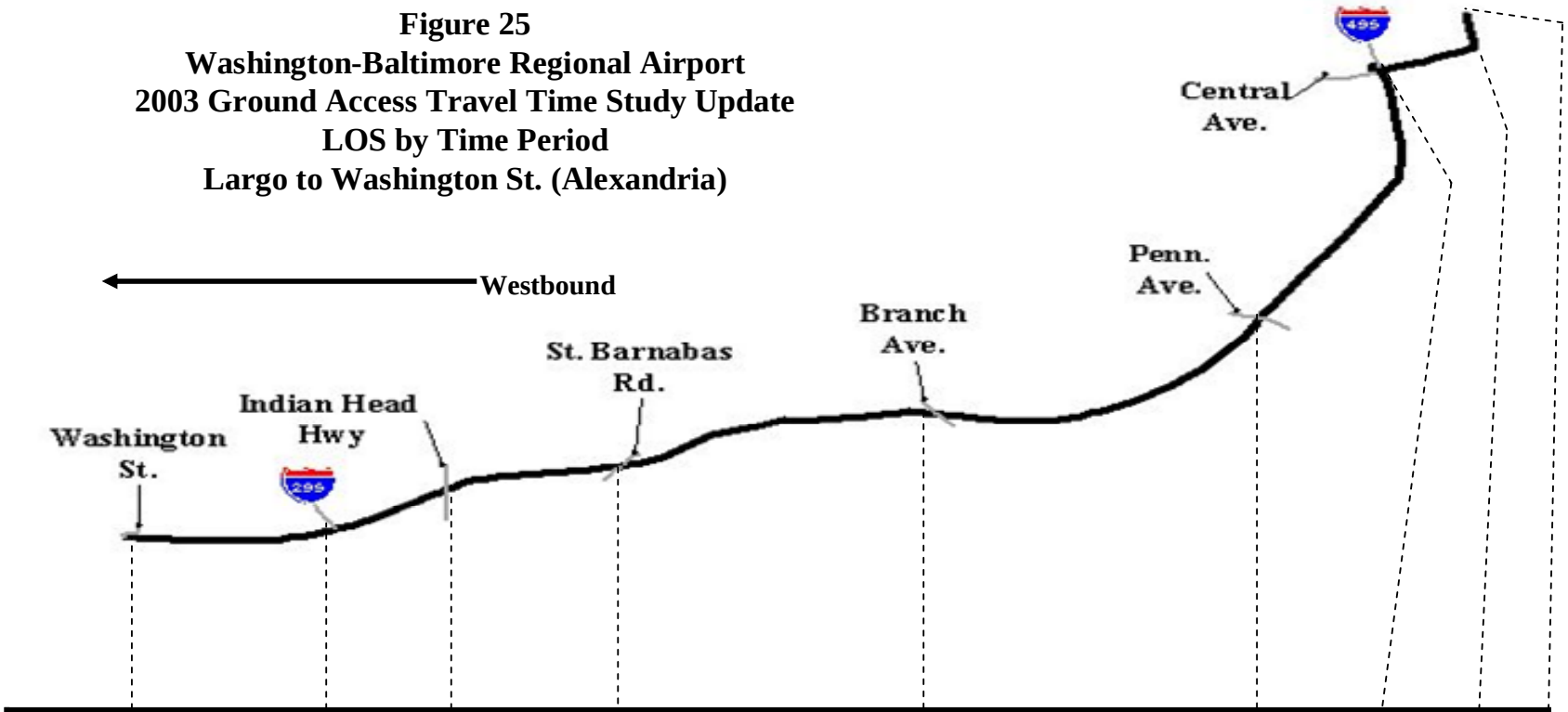


Legend

- **Low Congestion**
- **Congested Flow**
- **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 25
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Largo to Washington St. (Alexandria)



AM	F	F	F	B	A	B	A	D
Noon	A	A	A	A	A	B	A	D
PM	D	A	A	A	A	B	A	A

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 26
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
I-495/95 From Washington St. to Dulles Access Rd.

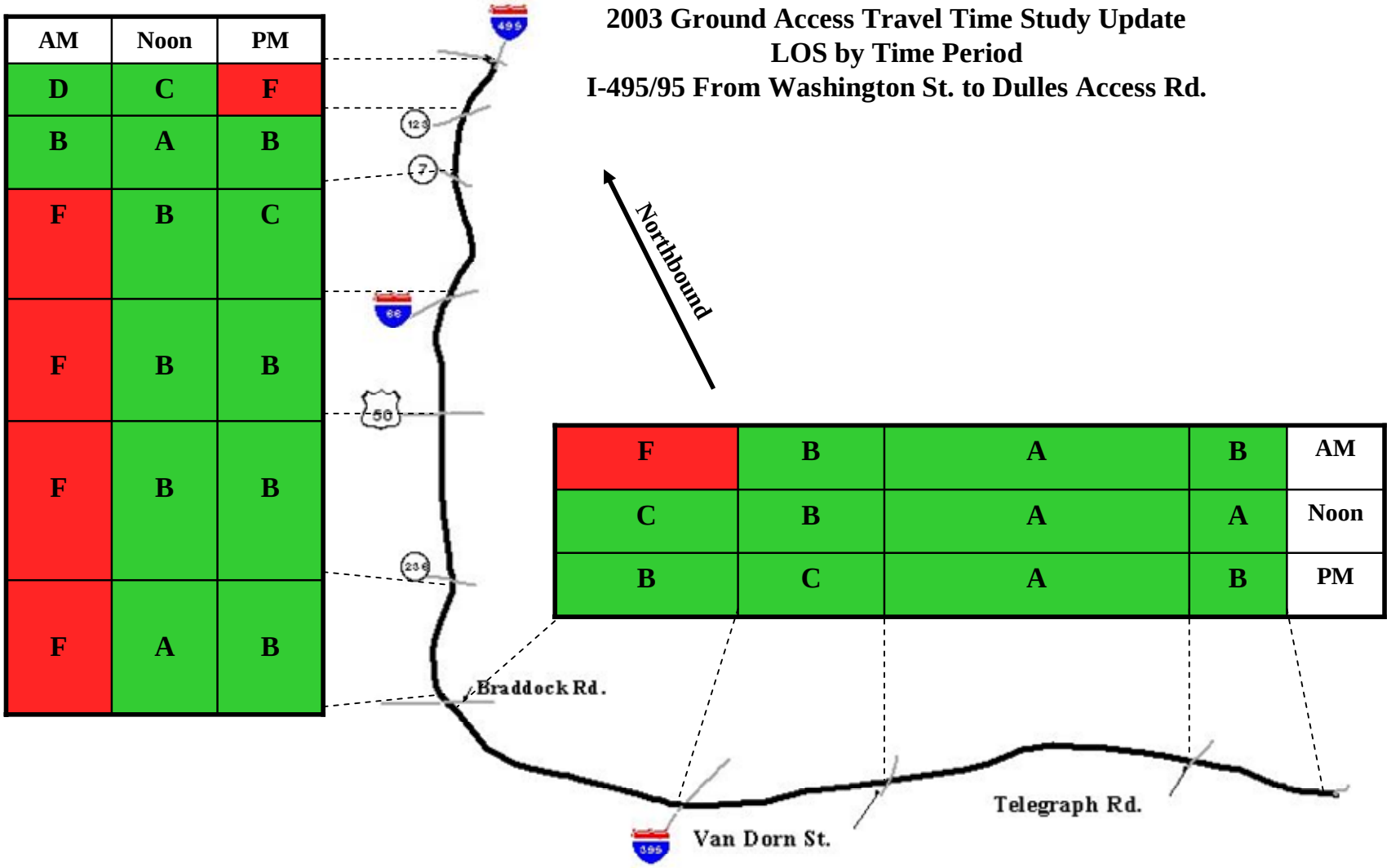
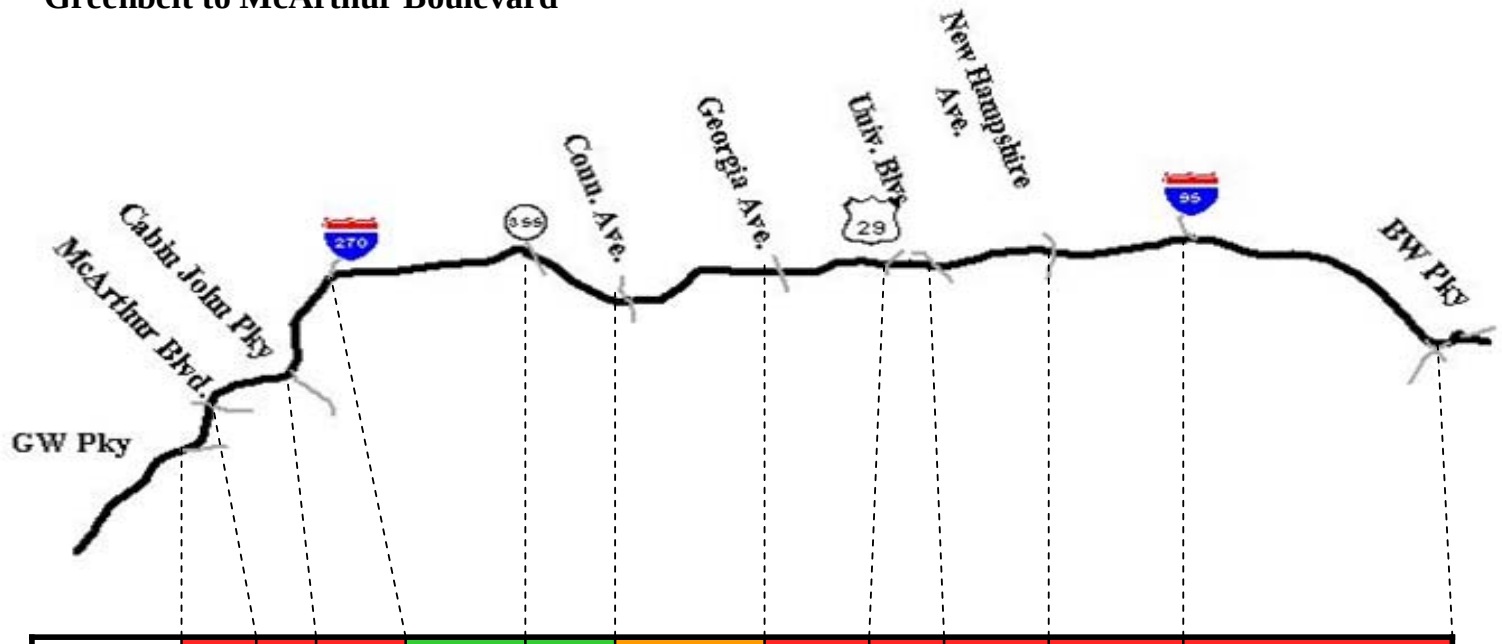


Figure 27
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Greenbelt to McArthur Boulevard



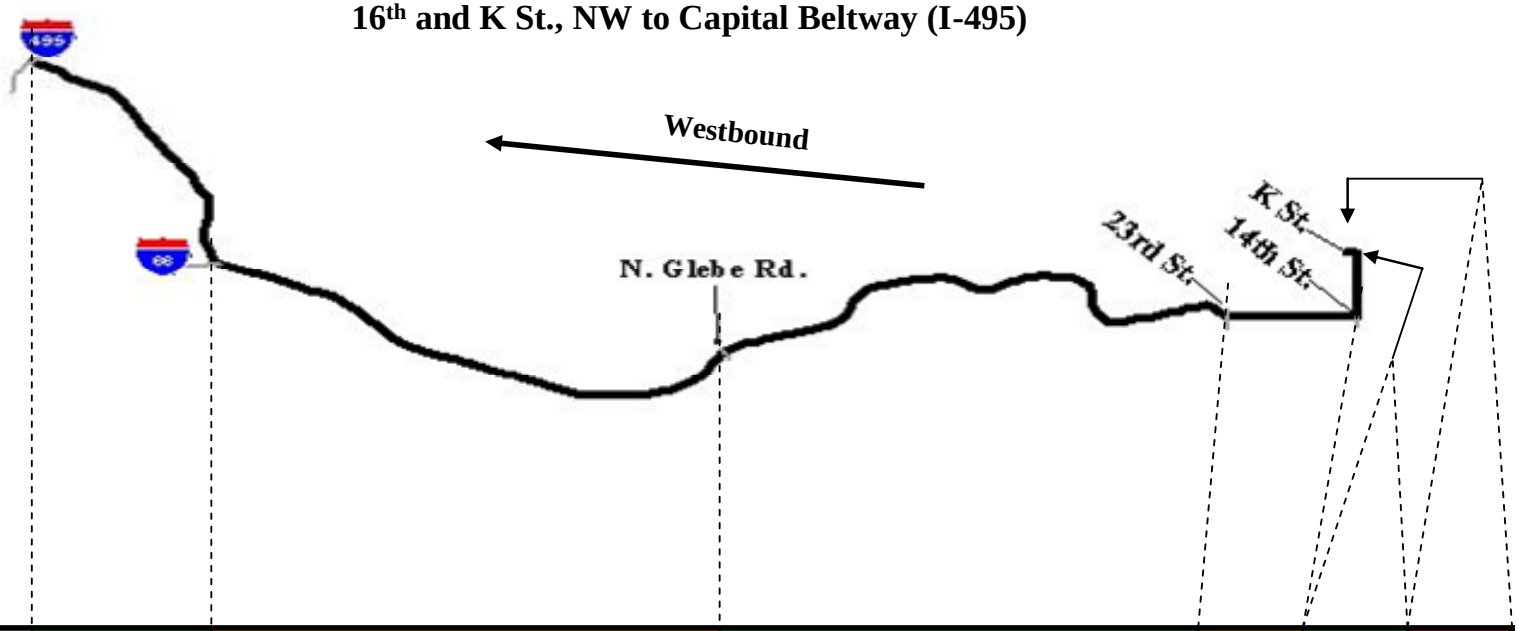
AM	F	F	F	C	C	E	F	F	F	F	F
Noon	E	B	B	E	B	A	A	B	D	B	B
PM	F	F	F	F	D	E	B	B	B	A	D

Westbound

Legend Low Congestion Congested Flow Stop and Go

Note:- Letter in box designates Level of Service

Figure 28
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
16th and K St., NW to Capital Beltway (I-495)

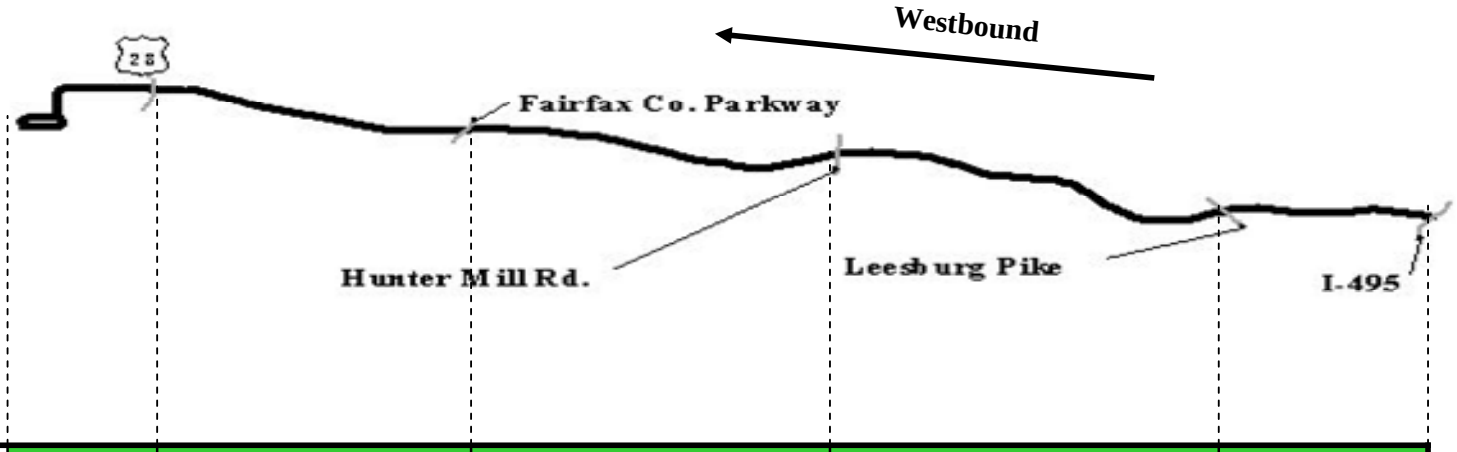


AM	A	E	A	E	D	F
Noon	B	C	A	E	E	F
PM	B	F	C	E	D	F

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 29
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Capital Beltway to IAD

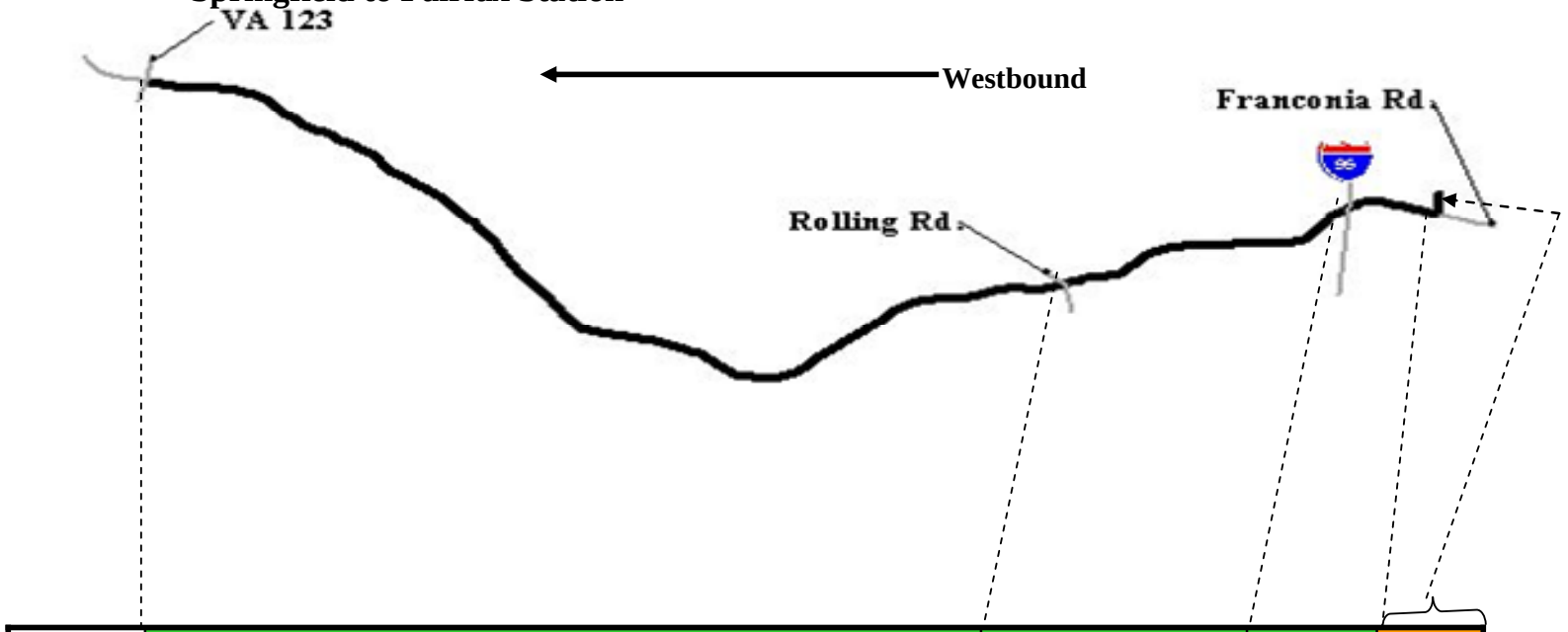


AM	**A**	**B**	**B**	**B**	**B**
Noon	**A**	**C**	**B**	**B**	**E**
PM	**A**	**A**	**C**	**D**	**F**

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 30
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Springfield to Fairfax Station

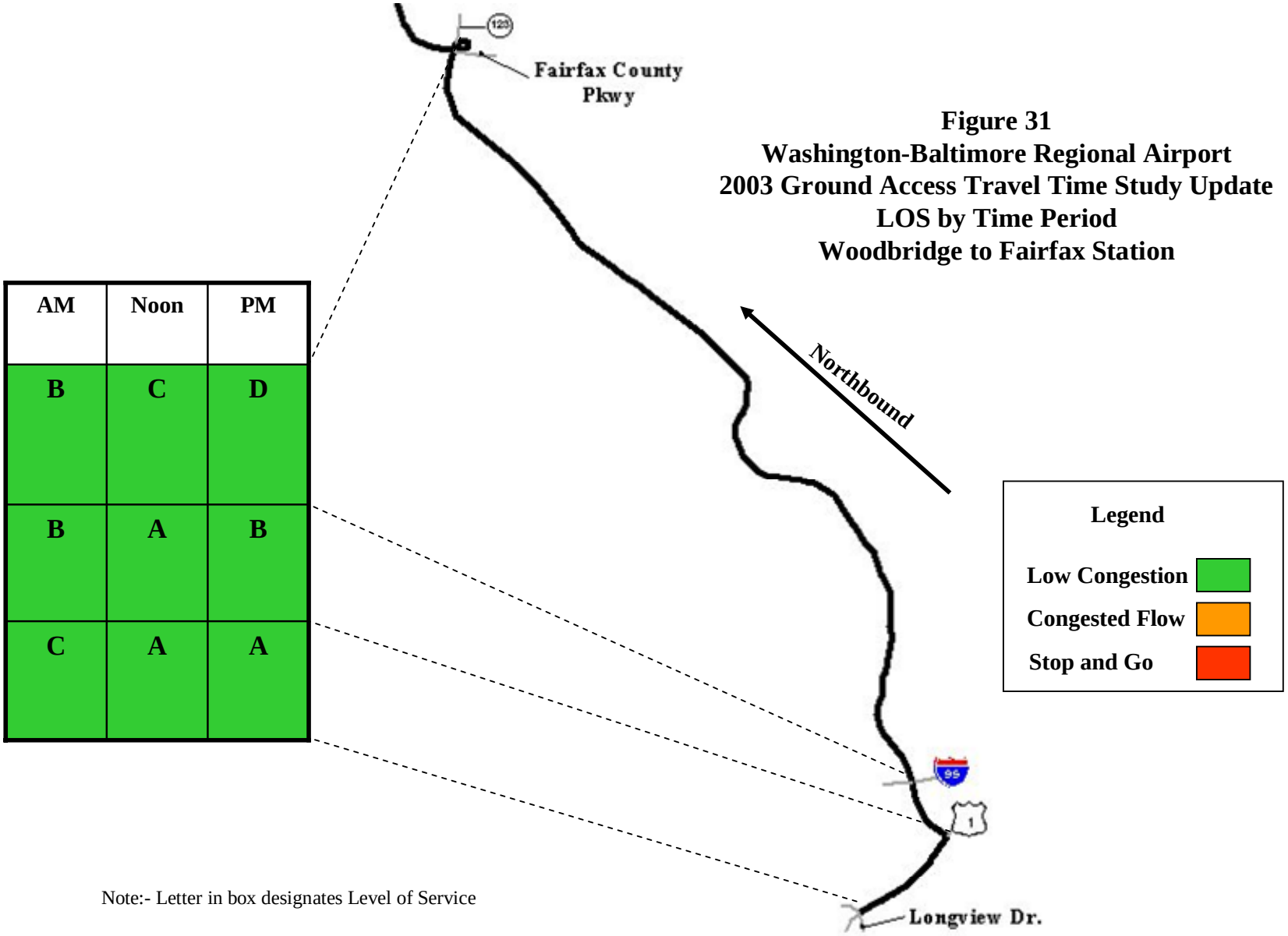


AM	C	A	B	E
Noon	F	F	C	F
PM	D	B	A	E

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 31
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Woodbridge to Fairfax Station



Note:- Letter in box designates Level of Service

AM	Noon	PM
A	A	A
B	B	C
D	B	B
B	B	C
A	A	A
A	F	B

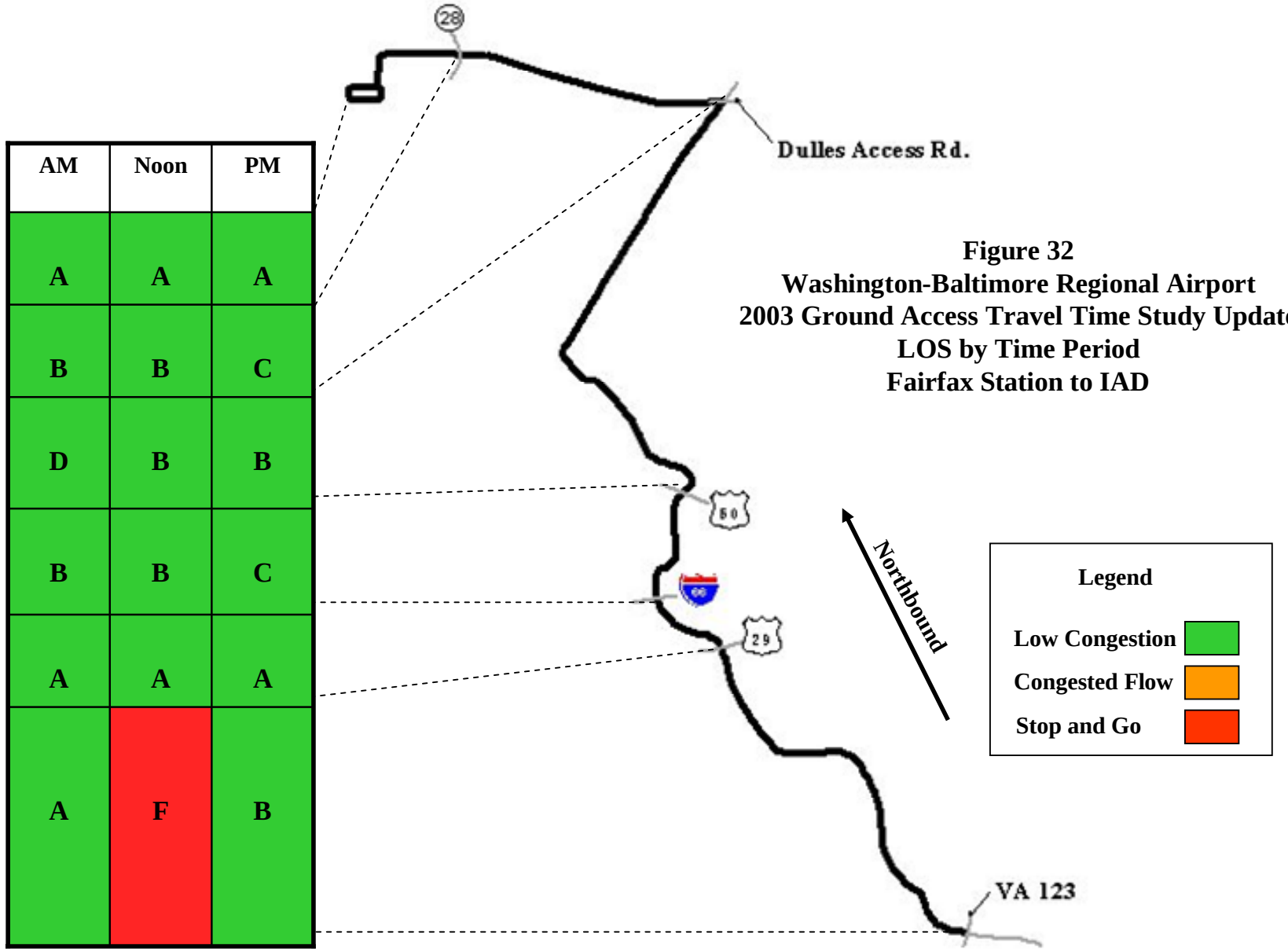
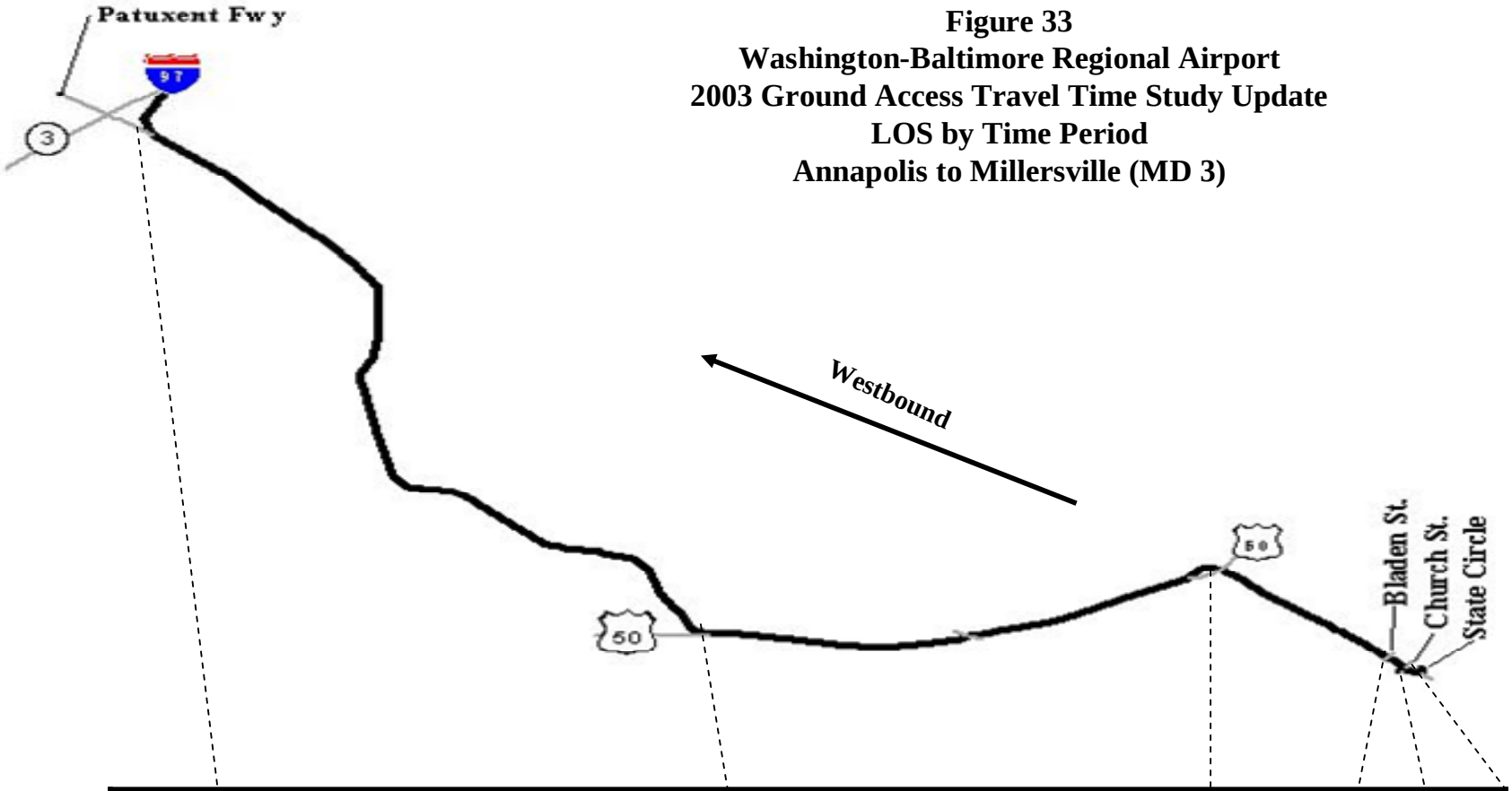


Figure 32
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Fairfax Station to IAD

Note:- Letter in box designates Level of Service

Figure 33
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Annapolis to Millersville (MD 3)



AM	B	A	B	C	E
Noon	B	A	C	E	F
PM	A	A	C	D	F

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

AM	Noon	PM
B	A	B
A	A	A
B	B	B
A	A	A
A	A	A
C	A	A
B	B	C
F	E	E

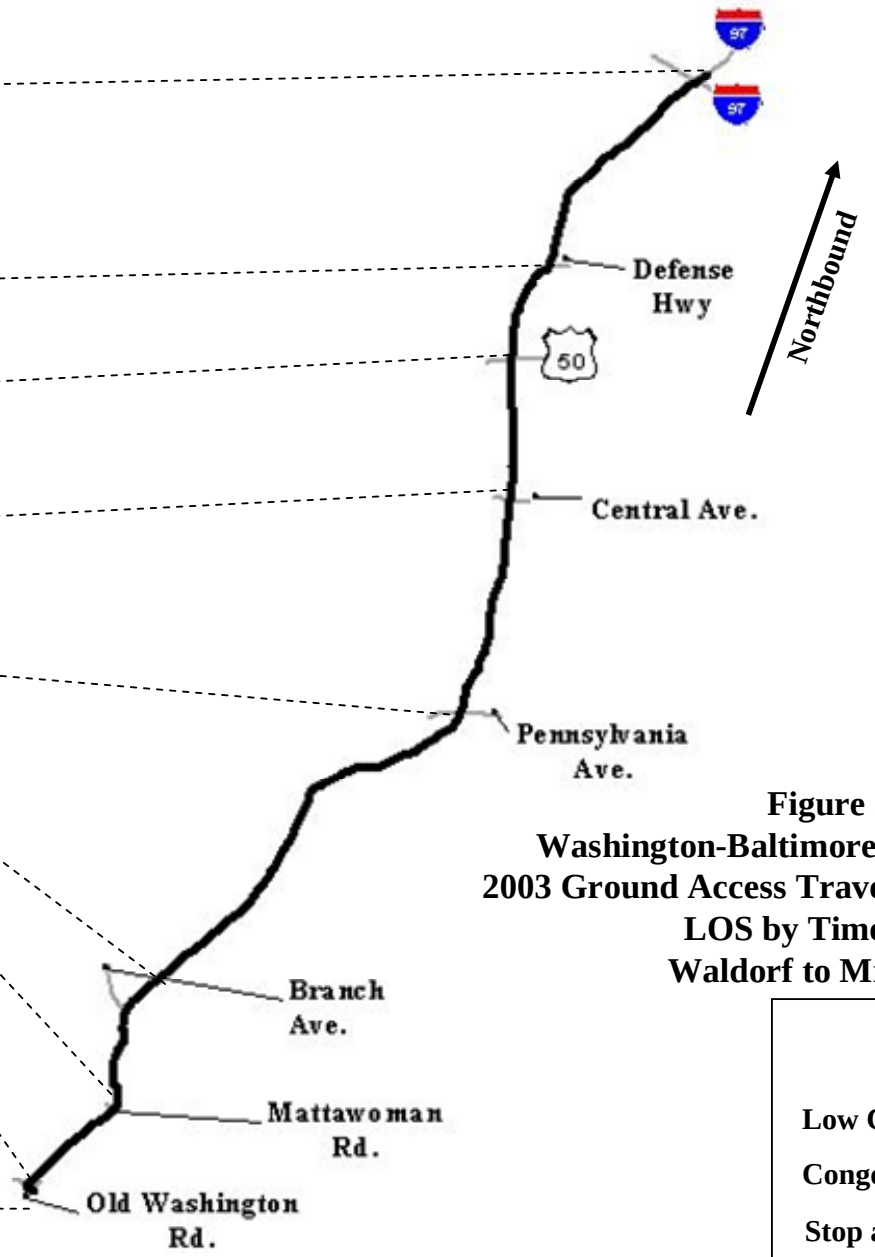


Figure 34
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Waldorf to Millersville

Legend

- Low Congestion
- Congested Flow
- Stop and Go

Note:- Letter in box designates Level of Service

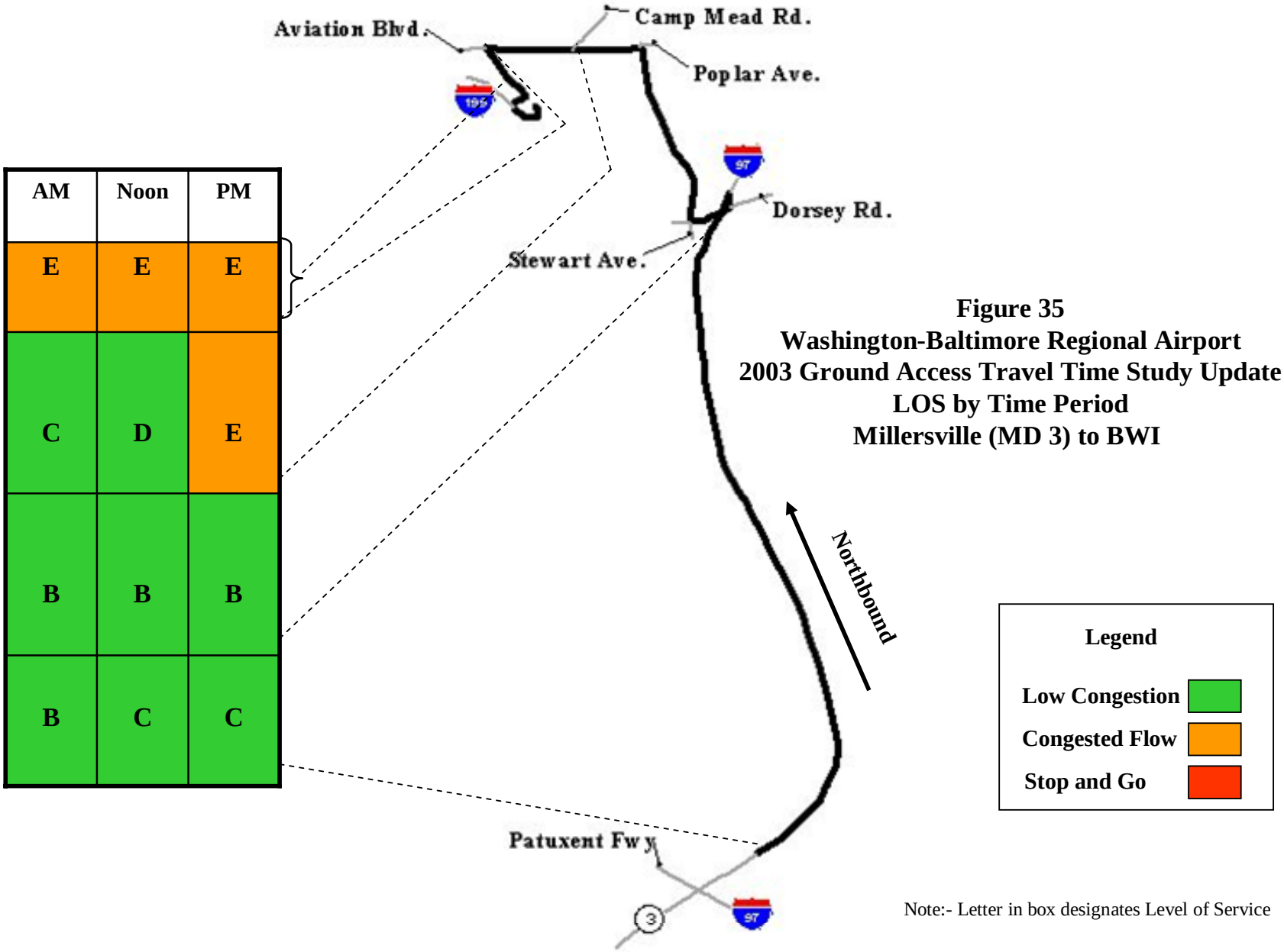
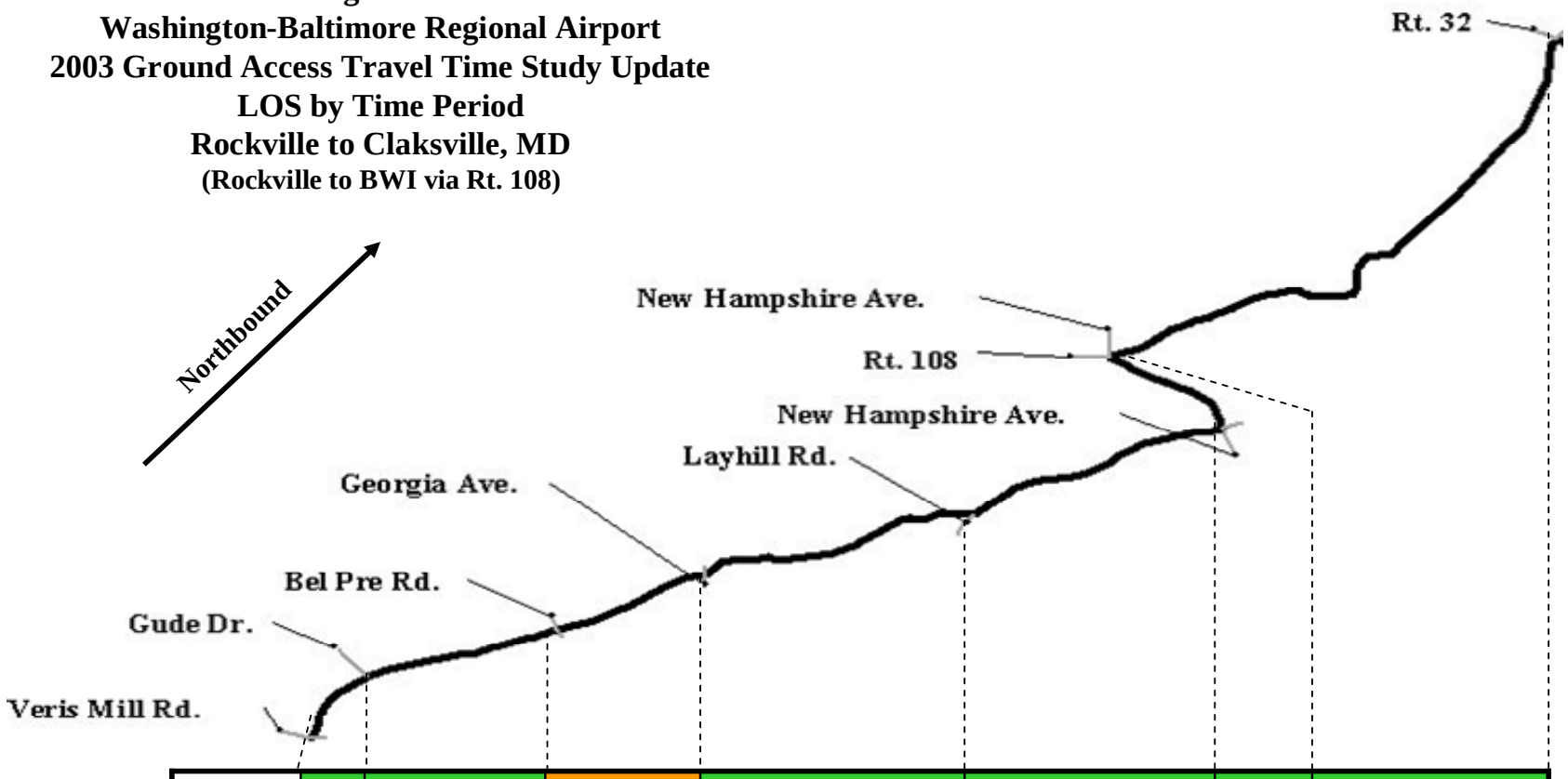


Figure 35
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Millersville (MD 3) to BWI

Note:- Letter in box designates Level of Service

Figure 36
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Rockville to Claksville, MD
(Rockville to BWI via Rt. 108)

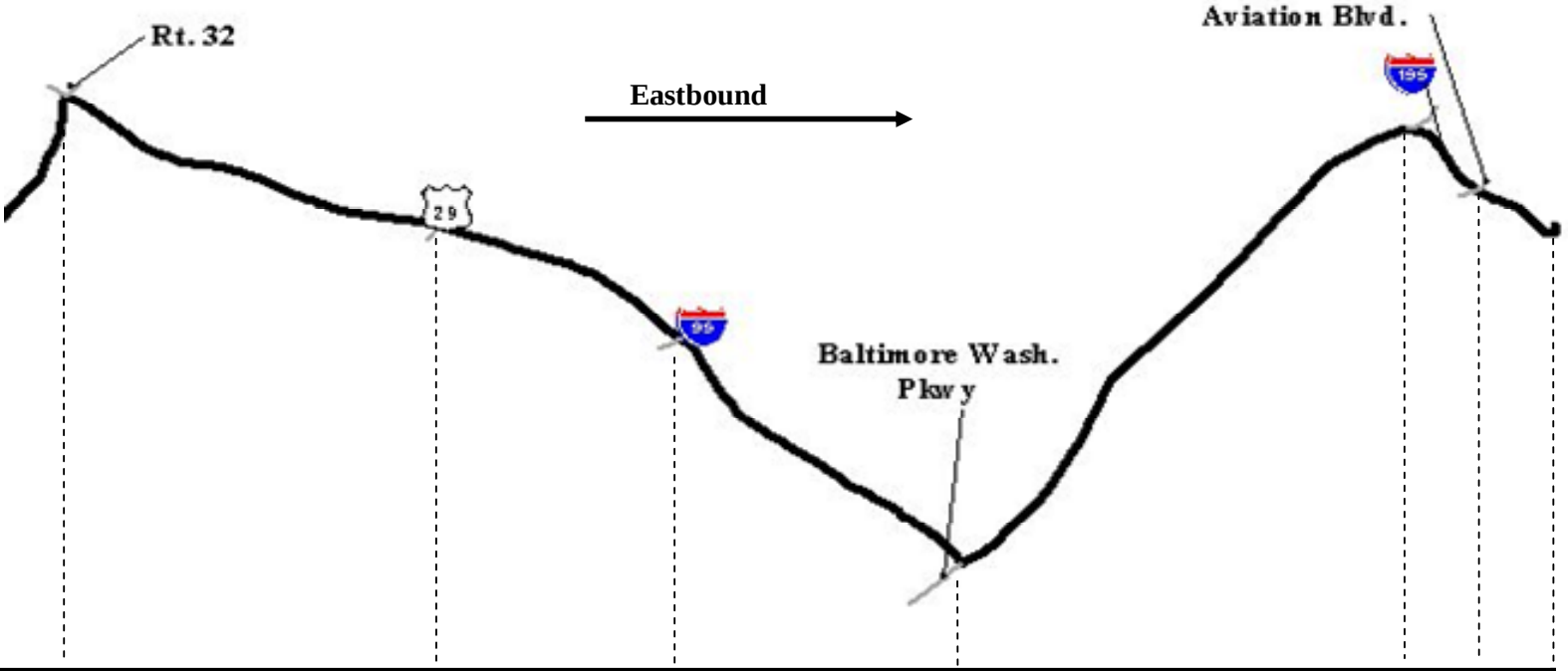


AM	A	A	E	B	C	A	B
Noon	A	A	B	B	B	A	A
PM	B	B	D	C	C	D	A

Legend **Low Congestion** **Congested Flow** **Stop and Go**

Note:- Letter in box designates Level of Service

Figure 37
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Claksville, MD to BWI
(Rockville to BWI via Rt. 108)

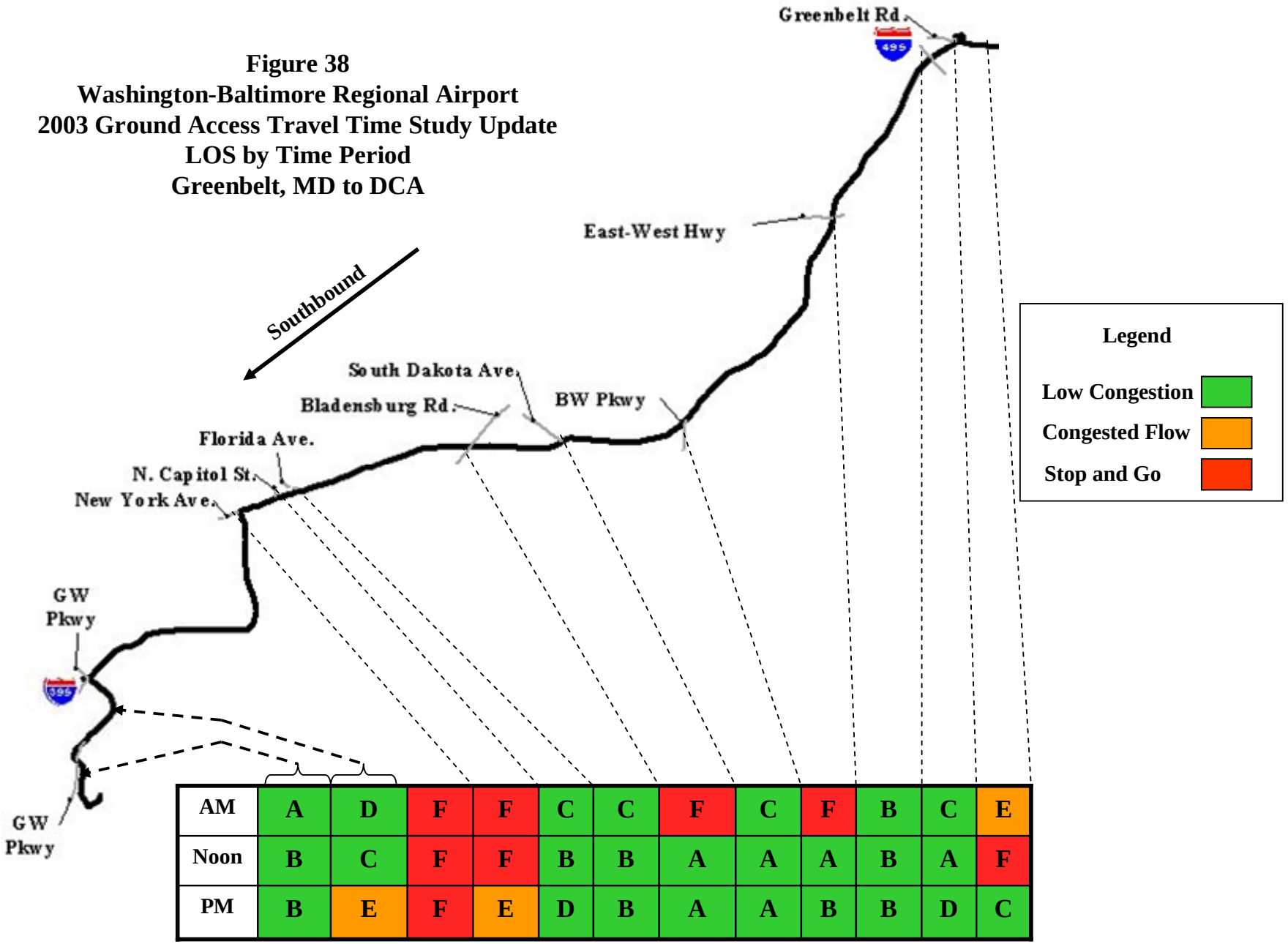


AM	A	A	A	C	C	B
Noon	A	A	A	B	B	B
PM	A	A	A	C	C	C

Legend **Low Congestion** **Congested Flow** **Stop and Go**

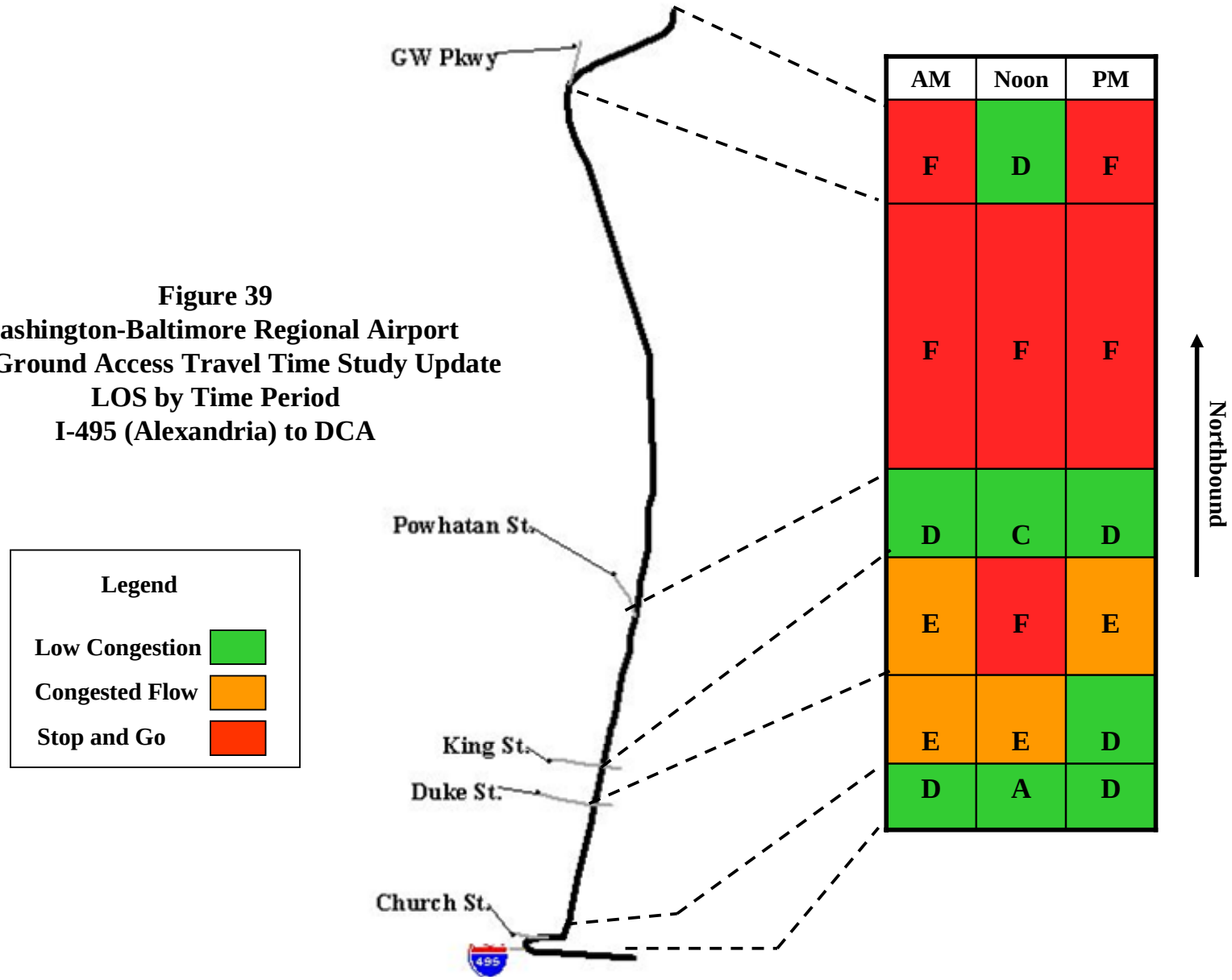
Note:- Letter in box designates Level of Service

Figure 38
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
Greenbelt, MD to DCA



AM	A	D	F	F	C	C	F	C	F	B	C	E
Noon	B	C	F	F	B	B	A	A	A	B	A	F
PM	B	E	F	E	D	B	A	A	B	B	D	C

Figure 39
Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
LOS by Time Period
I-495 (Alexandria) to DCA



Note:- Letter in box designates Level of Service

Appendix A

2003 Airport Ground Access

Travel Time Study Update

Definitions

And

Reference to Highway Capacity Manual

Table A-1

FUNCTIONAL AND DESIGN CATEGORIES

Criterion	Functional Category	
	Principal Arterial	**Minor Arterial**
Mobility function	Very important	Important
Access function	Very minor	Substantial
Points connected	Freeways, important activity centers, major traffic generators	Principal arterials
Predominant trips served	Relatively long trips between major points and through-trips entering, leaving, and passing through the city	Trips moderate length within relatively small geographical areas

Criterion	Design Category			
	High Speed	**Suburban**	**Intermediate**	**Urban**
Driveway/Access density	Very low density	Low density	Moderate density	High density
Arterial type	Multilane diveded; undivided or two-lane with shoulders	Multilane diveded; undivided or two-lane with shoulders	Multilane diveded or undivided; One-way, two-lane	Undivided One-way, two-way, two or more lanes
Parking	No	No	Some	Significant
Separate left-turn lanes	Yes	Yes	Usually	Some
Signals/mi	0.5-2	1-5	4-10	6-12
Aspeed limit	45-55 mi/h	40-45 mi/h	30-40 mi/h	25-35 mi/h
Pedestrian activity	Very little	Little	Some	Usually
Roadside development	Low density	Low to medium density	Medium to Moderate densiyu	High density

Source:- Highway Capacity Mannual 2000, p 10-6

Table A-2
URBAN STREET CLASS BASED ON FUNCTIONAL AND DESIGN CATEGORIES

Design Category	Functional Category	
	Principal Arterial	Minor Arterial
High-Speed	I	N/A
Suburban	II	II
Intermediate	II	III or IV
Urban	III or IV	IV

Source:- Highway Capacity Mannual 2000, p 10-6

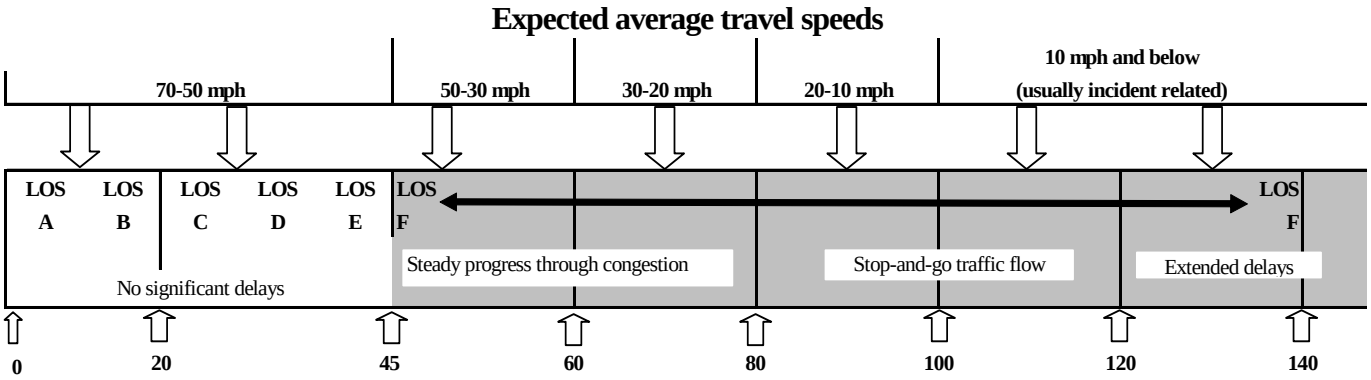
Table A-3
URBAN STREET LOS BY CLASS

Urban Street Class	I	II	III	IV
Range of free-flow speeds (FFS)	55 to 45 m/h	45 to 35 m/h	35 to 30 m/h	35 to 25 m/h
Typical FFS	50 mi/h	40 mi/h	35 mi/h	30 mi/h
LOS	Average Travel Speed (mi/h)			
A	>42	>35	>30	>25
B	> 34 - 42	> 28 - 35	> 24 - 30	> 19 - 25
C	> 27 - 34	> 22 - 28	> 18 - 24	> 13 - 19
D	> 21 - 27	> 17 - 22	> 14 - 18	> 9 - 13
E	> 16 - 21	> 13 - 17	> 10 - 14	> 7 - 9
F	$\leq$ 16	$\leq$ 13	$\leq$ 10	$\leq$ 7

Source:- Highway Capacity Mannual 2000, p 15-3

Table A-4

SUMMARY OF FREEWAY TRAFFIC QUALITY RATINGS
(DENSITY-BASED LEVEL-OF-SERVICE)



These service level definitions are based on the 2000 Highway Capacity Manual

	DENSITY (v/l/m)	SPEED (mph)	VOLUME (v/l/h)	DENSITY (v/l/m)	SPEED (mph)	VOLUME (v/l/h)	
Free-flow	0	67.0	0	80	20.7	1,655	
	20	66.4	1,328	85	18.6	1,580	
	25	65.8	1,661	90	16.7	1,503	
	30	64.6	1,946	95	15.0	1,425	
	35	61.3	2,144	100	13.5	1,350	
	39	55.8	2,190	105	12.1	1,271	
	40	54.7	2,189	110	10.9	1,197	
	45	47.8	2,153	115	9.7	1,117	
	50	41.9	2,094	120	8.7	1,043	
	55	36.8	2,025	125	7.7	963	
	60	32.6	1,954	130	6.8	885	
	65	28.9	1,880	135	6.0	810	
	70	25.8	1,806	140	5.2	729	
	75	23.1	1,731	187	0.0	0	Jam

Source:- Traffic Quality on The Metropolitan Washington Area Freeway System, Final Report, Spring 2002. Skycomp.

Approximate LOS Estimation based on Speed

Speed	LOS
≥ 65	A
60-65	B
55-60	C
50-55	D
45-50	E
≤45	F

Appendix B

2003 Airport Ground Access

Travel Time Study Update

Routes Design Category

Functional Category

And Class

By Segment

Table B-1
Annapolis, MD to Baltimore-Washington International Airport
(via I-97)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	School Street	State Circle	Church Circle	Urban	Minor	III	0.18
2	College Avenue	Church Circle	Bladen Street	Urban	Minor	III	0.08
3	Bladen Street / Rowe Blvd	College Avenue	US 50 / US 301	Intermediate	Principal	II	1.85
4	US 50 / US 301	Rowe Blvd	I-197 Exit	High Speed	Principal	I	3.31
5	I-97	US 50 / US 301	MD 3	High Speed	Freeway	I	7.63
6	I-97	MD 3	MD 176 Dorsey Rd.	High Speed	Freeway	I	7.32
7	Dorsey Rd. / Aviation Blvd	I-197 / Dorsey Rd.	MD 170 Camp Meade Rd.	High Speed	Principal	I	2.76
8	Route 170	Aviation Blvd.	Elm Rd.	High Speed	Principal	I	0.68
9	Elm Rd.	Route 170	Terminal Entrance	Intermediate	Principal	II	0.74
							24.55

Table B-2
Columbia, MD to Baltimore-Washington International Airport
(via MD 175 and BW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Little Patuxent Pkwy	Gov. Warfield Pkwy	Gov. Warfield Pkwy / Little Patuxent	Intermediate	Principal	II	1.28
2	Little Patuxent Pkwy	Gov. Warfield Pkwy / Little Patuxent	US 29	Intermediate	Principal	II	0.97
3	Route MD 175	US 29	Snowden Parkway	Suburban	Principal	II	3.17
4	Route MD 175	Snowden Parkway	I-95	Suburban	Principal	II	1.51
5	Route MD 175	I-95	US 1	Suburban	Principal	II	0.47
6	Route MD 175	US 1	BW Parkway	Suburban	Principal	II	2.96
7	BW Parkway	Route MD 175	I-195	High Speed	Freeway	I	5.33
8	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.12
9	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							17.95

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-3
Baltimore, MD to Baltimore-Washington International Airport
(via BW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Fayette Street	Charles Street	Greene Street	Urban	Minor	IV	0.45
2	Greene Street	Fayette Street	Washington Blvd.	Urban	Principal	III	0.36
3	Russel Street	Washington Blvd.	I-95	Urban	Principal	III	1.26
4	Russel Street / BW Pkwy	I-95	I-695	Intermediate	Principal	II	3.99
5	BW Pkwy	I-695	I-195	High Speed	Freeway	I	2.20
6	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.09
7	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							10.48

Table B-4
Washington, DC to Baltimore-Washington International Airport
(via Pennsylvania Avenue)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Independence Ave.	14th St.	South Capitol St.	Urban	Principal	III	1.22
2	Independence Ave.	South Capitol St.	Pennsylvania Ave., SE	Urban	Principal	III	0.31
3	Pennsylvania Ave., SE	Independence Ave.	I-295	Urban	Principal	III	1.88
4	I-295	Pennsylvania Ave., SE	Benning Rd.	Intermediate	Principal	II	1.90
5	I-295	Benning Rd.	BW Pkwy.	Suburban	Principal	II	1.99
6	BW Pkwy.	I-295	Good Luck Rd.	High Speed	Freeway	I	4.29
7	BW Pkwy.	Good Luck Rd.	I-495/95	High Speed	Freeway	I	1.49
8	BW Pkwy.	I-495/95	Powder Mill Rd.	High Speed	Freeway	I	3.62
9	BW Pkwy.	Powder Mill Rd.	Route 198	High Speed	Freeway	I	5.18
10	BW Pkwy.	Route 198	Route 32	High Speed	Freeway	I	1.79
11	BW Pkwy.	Route 32	I-195	High Speed	Freeway	I	7.51
12	I-195	BW Pkwy.	Aviation Blvd	High Speed	Freeway	I	1.12
13	I-195	Aviation Blvd	Terminal Entrance	Intermediate	Principal	II	1.12
							33.43

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-5
Washington, DC to Baltimore-Washington International Airport
(via New York Avenue)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	K Street	16th Street NW	7th and K St. NW	Urban	Principal	III	0.67
2	New York Ave.	7th and K St. NW	Florida Ave. NE	Urban	Principal	III	1.06
3	New York Ave.	Florida Ave. NE	South Dakota Ave.	Urban	Principal	III	2.81
4	New York Ave.	South Dakota Ave.	BWI Pkwy	Urban	Principal	III	1.03
5	BWI Pkwy	New York Ave.	I-495	High Speed	Freeway	I	5.87
6	BW Pkwy.	I-495/95	Powder Mill Rd.	High Speed	Freeway	I	3.62
7	BW Pkwy.	Powder Mill Rd.	Route 198	High Speed	Freeway	I	5.18
8	BW Pkwy.	Route 198	Route 32	High Speed	Freeway	I	1.79
9	BW Pkwy.	Route 32	I-195	High Speed	Freeway	I	7.51
10	I-195	BW Pkwy.	Aviation Blvd.	High Speed	Freeway	I	1.12
11	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							31.79

Table B-6
Rockville, MD to Baltimore-Washington International Airport
(via I-495/95)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Route 28	Route 355	I-270	Urban	Principal	III	2.16
2	I-270	Route 28	I-270 Split - East	High Speed	Freeway	I	3.74
3	I-270 Spur	I-270 Split - East	I-495 Merge	High Speed	Freeway	I	2.88
4	I-495	I-270 Split/ I-495 Merge	I-95 Exit Ramp	High Speed	Freeway	I	8.86
5	I-95	I-495	Route 32	High Speed	Freeway	I	11.97
6	Route 32	I-95	BW Pkwy	Suburban	Principal	I	4.35
7	BW Pkwy	Route 32	I-195	High Speed	Freeway	I	7.51
8	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.12
9	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							43.70

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-7
Rockville, MD to Baltimore-Washington International Airport
(via Route 28/32)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Route 28 Norbeck Rd.	MD Route 355	Gude Dr.	Urban	Principal	III	0.94
2	Route 28 Norbeck Rd.	Gude Dr.	Bel Pre Rd.	Suburban	Principal	II	1.72
3	Route 28 Norbeck Rd.	Bel Pre Rd.	Route 97 Georgia Ave.	Suburban	Principal	II	1.45
4	Route 28 Norbeck Rd.	Route 97 Georgia Ave.	Route 182 Layhill Rd.	Suburban	Principal	II	2.23
5	Route 198	Route 182 Layhill Rd.	Route 650 New Hampshire Ave.	Suburban	Minor	II	2.74
6	Route 650 New Hampshire Ave.	Route 198	Route 108	Suburban	Minor	II	1.40
7	Route 108	Route 650 New Hampshire Ave.	Route 32	Suburban	Minor	II	6.08
8	Route 32	Route 108	Route US 29	High Speed	Principal	I	4.15
9	Route 32	Route US 29	I-95	High Speed	Principal	I	2.92
10	Route 32	I-95	BW Pkwy	High Speed	Principal	I	4.23
11	BW Pkwy	Route 32	I-195	High Speed	Freeway	I	7.51
12	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.12
13	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							37.61

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-8

Gaithersburg, MD to Baltimore-Washington International Airport

(via I-495/95)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Diamond Ave.	Quince Orchard Rd.	I-270	Suburban	Principal	II	0.50
2	I-270	Diamond Ave.	I-370	High Speed	Freeway	I	2.02
3	I-270	I-370	Shady Grove Rd.	High Speed	Freeway	I	0.97
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	High Speed	Freeway	I	1.90
5	I-270	Route 28	I-270 Split - East	High Speed	Freeway	I	3.67
6	I-270 Spur	I-270 Split - East	I-495 Merge	High Speed	Freeway	I	2.76
7	I-495	I-270 Split/ I-495 Merge	I-95 Exit Ramp	High Speed	Freeway	I	8.98
8	I-95	I-495	Route 32	High Speed	Freeway	I	11.97
9	Route 32	I-95	BW Pkwy	High Speed	Principal	I	4.35
10	BW Pkwy	Route 32	I-195	High Speed	Freeway	I	7.51
11	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.12
12	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							46.87

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-9
Gaithersburg, MD to Baltimore-Washington International Airport
(via Route 28/32)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Diamond Ave.	Quince Orchard Rd.	I-270	Suburban	Principal	II	0.65
2	I-270	Diamond Ave.	I-370	High Speed	Freeway	I	2.02
3	I-270	I-370	Shady Grove Rd.	High Speed	Freeway	I	0.97
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	High Speed	Freeway	I	1.99
5	Route 28 (Montgomery Ave.)	I-270	MD Route 355	Urban	Principal	III	2.00
6	Route 28 Norbeck Rd.	MD Route 355	Gude Dr.	Urban	Principal	III	0.94
7	Route 28 Norbeck Rd.	Gude Dr.	Bel Pre Rd.	Suburban	Principal	II	1.72
8	Route 28 Norbeck Rd.	Bel Pre Rd.	Route 97 Georgia Ave.	Suburban	Principal	II	1.45
9	Route 28 Norbeck Rd.	Route 97 Georgia Ave.	Route 182 Layhill Rd.	Suburban	Principal	II	2.55
10	Route 198	Route 182 Layhill Rd.	Route 650 New Hampshire Ave.	Suburban	Minor	II	2.43
11	Route 650 New Hampshire Ave.	Route 198	Route 108	Suburban	Minor	II	1.40
12	Route 108	Route 650 New Hampshire Ave.	Route 32	Suburban	Minor	II	6.08
13	Route 32	Route 108	Route US 29	High Speed	Principal	I	4.15
14	Route 32	Route US 29	I-95	High Speed	Principal	I	2.92
15	Route 32	I-95	BW Pkwy	High Speed	Principal	I	4.23
16	BW Pkwy	Route 32	I-195	High Speed	Freeway	I	7.51
17	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.12
18	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							45.24

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-10

Frederick, MD to Baltimore-Washington International Airport

(via I-70)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Jefferson St.	Braddock St.	I-70 / I270	Urban	Principal	III	1.22
2	I-70	I-70 / I270	Mount Airy (Howard County Line)	High Speed	Freeway	I	14.87
3	I-70	Mount Airy (Howard County Line)	US 29	High Speed	Freeway	I	19.27
4	I-70	US 29	I-695	High Speed	Freeway	I	4.79
5	I-695	I-70	I-295 / BW Pkwy	High Speed	Freeway	I	7.57
6	I-295 / BW Pkwy	I-695	I-195	High Speed	Freeway	I	2.13
7	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.27
8	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							52.25

Table B-11

Waldorf, MD to Baltimore-Washington International Airport

(via US 301 / I-97)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Leonardtown Rd.	Washington Rd.	Crain Highway	Suburban	Principal	II	0.23
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	High Speed	Principal	I	2.75
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	High Speed	Principal	I	2.73
4	Crain Highway US 301	Route 5 Branch Ave. Split	Route 4 Pennsylvania Ave.	High Speed	Principal	I	11.47
5	Crain Highway US 301	Route 4 Pennsylvania Ave.	Route 214 Central Ave.	High Speed	Principal	I	5.98
6	Crain Highway US 301	Route 214 Central Ave.	Route 50 John Hanson Hwy.	High Speed	Principal	I	3.83
7	Route 3	Route 50 John Hanson Hwy.	Route 450 Defense Hwy	High Speed	Principal	I	2.63
8	Route 3	Route 450 Defense Hwy	I-97	High Speed	Principal	I	6.38
9	I-97	MD 3	MD 176 Dorsey Rd.	High Speed	Freeway	I	7.89
10	Dorsey Rd. / Aviation Blvd	I-197 / Dorsey Rd.	MD 170 Camp Meade Rd.	High Speed	Principal	I	2.76
11	Route 170	Aviation Blvd.	Elm Rd.	Suburban	Principal	II	0.68
12	Elm Rd.	Route 170	Terminal Entrance	Intermediate	Principal	II	1.08
							48.41

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-12
Largo, MD to Baltimore-Washington International Airport
(via I-95 / BW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	Intermediate	Principal	II	0.48
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	Intermediate	Principal	II	1.01
3	I-495/95	Central Avenue (Route 214)	Landover Rd. (Route 202)	High Speed	Freeway	I	1.49
4	I-495/95	Landover Rd. (Route 202)	US 50	High Speed	Freeway	I	1.96
5	I-495/95	US 50	BW Parkway	High Speed	Freeway	I	3.33
6	BW Pkwy.	I-495/95	Powder Mill Rd.	High Speed	Freeway	I	3.75
7	BW Pkwy.	Powder Mill Rd.	Route 198	High Speed	Freeway	I	5.18
8	BW Pkwy.	Route 198	Route 32	High Speed	Freeway	I	1.79
9	BW Pkwy.	Route 32	I-195	High Speed	Freeway	I	7.51
10	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.12
11	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							28.74

Table B-13
Towson, MD to Baltimore-Washington International Airport
(via I-695 / I-95)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Route 45 Dulaney Valley Blvd.	Joppa Rd.	I-695	Intermediate	Principal	II	1.08
2	I-695	Route 45 Dulaney Valley Blvd.	I-83	High Speed	Freeway	I	2.07
3	I-695	I-83	I-795	High Speed	Freeway	I	6.98
4	I-695	I-795	I-70	High Speed	Freeway	I	4.69
5	I-695	I-70	I-95	High Speed	Freeway	I	5.47
6	I-95	I-695	I-195	High Speed	Freeway	I	1.82
7	I-195	I-95	BW Pkwy	High Speed	Freeway	I	2.64
8	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.09
9	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							26.96

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-14
White Marsh, MD to Baltimore-Washington International Airport
(via I-95)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Honeygo Blvd.	Campbell Blvd.	Route 43 White Marsh Blvd.	Suburban	Principal	II	0.90
2	Route 43 White Marsh Blvd.	Honeygo Blvd.	I-95	Suburban	Principal	II	0.49
3	I-95	Route 43 White Marsh Blvd.	I-695	High Speed	Freeway	I	2.88
4	I-95	I-695	I-895 Spur	High Speed	Freeway	I	3.17
5	I-95	I-895 Spur	Toll Plaza	High Speed	Freeway	I	4.85
6	I-95	Toll Plaza	I-295 BW Pkwy	High Speed	Freeway	I	3.59
7	I-295 BW Pkwy	I-95	I-695	High Speed	Freeway	I	4.20
8	I-295 BW Pkwy	I-695	I-195	High Speed	Freeway	I	2.20
9	I-195	BW Pkwy	Aviation Blvd.	High Speed	Freeway	I	1.09
10	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							24.50

Table B-15
Greenbelt, MD to Baltimore-Washington International Airport
(via BW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	Intermediate	Principal	II	0.40
2	BW Pkwy	Greenbelt Rd.	Powder Mill Rd.	High Speed	Freeway	I	3.03
3	BW Pkwy.	Powder Mill Rd.	Route 198	High Speed	Freeway	I	5.18
4	BW Pkwy.	Route 198	Route 32	High Speed	Freeway	I	1.79
5	BW Pkwy.	Route 32	I-195	High Speed	Freeway	I	7.51
6	I-195	BW Pkwy.	Aviation Blvd.	High Speed	Freeway	I	1.12
7	I-195	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.12
							20.16

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-16
National Harbor, MD to Baltimore-Washington International Airport
(via I-295 / BW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	Suburban	Principal	II	3.41
2	I-495	Route 210	I-295	High Speed	Freeway	I	1.37
3	I-295	I-495	Suitland Parkway	High Speed	Freeway	I	4.75
4	I-295	Suitland Parkway	Pennsylvania Ave.	High Speed	Freeway	I	1.62
5	I-295	Pennsylvania Ave.	US 50 Split Ramp	High Speed	Freeway	I	4.15
6	BW Pkwy.	US 50 Split Ramp	Goodluck Rd.	High Speed	Freeway	I	4.04
7	BW Pkwy.	Good Luck Rd.	I-495/95	High Speed	Freeway	I	1.49
8	BW Pkwy.	I-495/95	Powder Mill Rd.	High Speed	Freeway	I	3.62
9	BW Pkwy.	Powder Mill Rd.	Route 198	High Speed	Freeway	I	5.18
10	BW Pkwy.	Route 198	Route 32	High Speed	Freeway	I	1.79
11	BW Pkwy.	Route 32	I-195	High Speed	Freeway	I	7.51
12	I-195	BW Pkwy.	Aviation Blvd.	High Speed	Freeway	I	1.12
13	I-95	Aviation Blvd.	Terminal Entrance	Intermediate	Principal	II	1.24
							41.31

Table B-17
Washington, DC to Ronald Reagan Washington National Airport
(via 14th Street)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	K Street NW	16th and K Street	14th and K Street	Urban	Principal	III	0.23
2	14th Street	K Street	Constitution Avenue	Urban	Principal	III	0.72
3	14th Street	Constitution Avenue	C Street / Dept. of Agri.	Urban	Principal	III	0.42
4	14th Street / I-395	C Street / Dept. of Agri.	I-95/395 / GW Pkwy	Intermediate	Principal	II	1.33
5	I-95/395 / GW Pkwy	14th Street Bridge	DCA Exit Ramp	High Speed	Freeway	I	1.01
6	GW Pkwy	DCA Exit Ramp	Terminal Entrance	Intermediate	Principal	II	1.14
							4.86

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-18

Rockville, MD to Ronald Reagan Washington National Airport

(via I-270 / George Washington Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Route 28	Route 355	I-270	Urban	Principal	III	2.16
2	I-270	Route 28	I-270 Split - West	High Speed	Freeway	I	3.74
3	I-270 Spur	I-270 Split - West	I-495 Merge	High Speed	Freeway	I	1.97
4	I-495	I-270 Split/ I-495 Merge	GW Parkway	High Speed	Freeway	I	4.33
5	GW Pkwy	I-495	VA Route 123	High Speed	Freeway	I	4.02
6	GW Pkwy	VA Route 123	Spout Run	High Speed	Freeway	I	4.12
7	GW Pkwy	Spout Run	Key Bridge	High Speed	Freeway	I	0.63
8	GW Pkwy	Key Bridge	DCA Exit Ramp	High Speed	Freeway	I	3.53
9		DCA Exit Ramp	Terminal Entrance	Intermediate	Principal	II	1.26
							25.76

Table B-19

Gaithersburg, MD to Ronald Reagan Washington National Airport

(via I-270 / George Washington Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Diamond Ave.	Quince Orchard Rd.	I-270	Suburban	Principal	II	0.50
2	I-270	Diamond Ave.	I-370	High Speed	Freeway	I	2.02
3	I-270	I-370	Shady Grove Rd.	High Speed	Freeway	I	0.97
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	High Speed	Freeway	I	1.90
5	I-270	Route 28	I-270 Split - West	High Speed	Freeway	I	3.67
6	I-270 Spur	I-270 Split - West	I-495 Merge	High Speed	Freeway	I	1.97
7	I-495	I-270 Split/ I-495 Merge	GW Parkway	High Speed	Freeway	I	4.33
8	GW Pkwy	I-495	VA Route 123	High Speed	Freeway	I	4.00
9	GW Pkwy	VA Route 123	Spout Run	High Speed	Freeway	I	4.04
10	GW Pkwy	Spout Run	Key Bridge	High Speed	Freeway	I	0.72
11	GW Pkwy	Key Bridge	DCA Exit Ramp	High Speed	Freeway	I	3.53
12		DCA Exit Ramp	Terminal Entrance	Intermediate	Principal	II	1.26
							28.92

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-20

Tyson's Corner, VA to Ronald Reagan Washington National Airport
(via George Washington Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Route 123	VA 7	Great Falls Rd	Intermediate	Principal	II	1.98
2	Route 123	Great Falls Rd	Chain Bridge Rd.	Intermediate	Principal	II	1.47
3	Route 123	Chain Bridge Rd.	GW Pkwy	Suburban	Principal	II	2.39
4	GW Pkwy	Route 123	Spout Run	High Speed	Freeway	I	3.92
5	GW Pkwy	Spout Run	Key Bridge	High Speed	Freeway	I	0.72
6	GW Pkwy	Key Bridge	DCA Exit Ramp	High Speed	Freeway	I	3.53
7		DCA Exit Ramp	Terminal Entrance	Intermediate	Principal	II	1.26
							15.27

Table B-21

Waldorf, MD to Ronald Reagan Washington National Airport
(via US301/MD5, I-495/95 and George Washington Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Leonardtown Rd.	Washington Rd.	Crain Highway	Suburban	Principal	II	0.23
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	High Speed	Principal	I	2.75
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	High Speed	Principal	I	2.73
4	Route 5 Branch Avenue	Route 5 Branch Ave. Split	Route 223 Woodyard Rd.	Suburban	Principal	II	5.30
5	Route 5 Branch Avenue	Route 223 Woodyard Rd.	I-495	Suburban	Principal	II	4.32
6	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	High Speed	Freeway	I	2.99
7	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	High Speed	Freeway	I	1.58
8	I-495 / I-95	Route 210 Indian Head Hwy	I-295	High Speed	Freeway	I	1.13
9	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	High Speed	Freeway	I	1.87
10	Church St.	US 1 Richmond Hwy Exit	Washington Street	Urban	Minor	IV	0.17
11	Washington Street	Church St.	Route 236 Duke St.	Urban	Principal	III	0.56
12	Washington Street	Route 236 Duke St.	Route 7 King St.	Urban	Principal	III	0.17
13	Washington Street	Route 7 King St.	Powhatan St.	Urban	Principal	III	0.63
14	GW Pkwy	Powhatan St.	Airport Exit Ramp	High Speed	Freeway	I	2.27
15		Airport Exit Ramp	Terminal Entrance	Intermediate	Principal	II	0.59
							27.29

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-22
Woodbridge, VA to Ronald Reagan Washington National Airport
(via I-95/I-395)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	US Route 1	Longview Drive	I-95 Ramp	Urban	Principal	III	2.69
2	I-95	US Route 1	Capital Beltway	High Speed	Freeway	I	8.63
3	I-395	Capital Beltway	Route 7	High Speed	Freeway	I	5.20
4	I-395	Route 7	Hayes Street	High Speed	Freeway	I	3.33
5	Hayes Street et al	I-395	US 1	Intermediate	Principal	II	0.76
6	US 1	15th St.	DCA Exit	Intermediate	Principal	II	0.53
7		DCA Exit	Terminal Entrance	Intermediate	Principal	II	0.94
							22.08

Table B-23
Springfield, VA to Ronald Reagan Washington National Airport
(via Springfield Parkway and Fairfax County Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Frontier Drive	Spring Mall Drive	Franconia Road	Intermediate	Minor	III	0.41
2	Franconia Road	Frontier Drive	I-95	Intermediate	Principal	II	0.55
3	I-95	Franconia Road	Capital Beltway	High Speed	Freeway	I	0.80
4	I-395	Capital Beltway	Route 7	High Speed	Freeway	I	5.18
5	I-395	Route 7	Hayes Street	High Speed	Freeway	I	3.33
6	Hayes Street et al	I-395	US 1	Intermediate	Principal	II	0.76
7	US 1	15th St.	DCA Exit	Intermediate	Principal	II	0.53
8		DCA Exit	Terminal Entrance	Intermediate	Principal	II	0.94
							12.50

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-24

Greenbelt, MD to Ronald Reagan Washington National Airport (via New York Ave and BW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	Intermediate	Principal	II	0.69
2	BW Pkwy	Greenbelt Rd.	I-495	High Speed	Freeway	I	0.35
3	BW Pkwy	I-495	Route 410	High Speed	Freeway	I	2.36
4	BW Pkwy	Route 410	Route I-295 Split	High Speed	Freeway	I	3.18
5	New York Avenue	Route US 50 Split	South Dakota Ave.	Intermediate	Principal	II	1.37
6	New York Avenue	South Dakota Ave.	Bladensburg Rd.	Urban	Principal	III	0.96
7	New York Avenue	Bladensburg Rd.	Florida Ave	Urban	Principal	III	1.85
8	New York Avenue	Florida Ave	North Capitol St.	Urban	Principal	III	0.27
9	New York Avenue	North Capitol St.	3rd St.	Urban	Principal	III	0.41
10	I-395	New York Avenue	GW Pkwy	High Speed	Freeway	I	3.65
11	GW Pkwy	I-395	DCA Exit	High Speed	Freeway	I	1.01
12		DCA Exit	Airport Terminal Entrance	Intermediate	Principal	II	1.26
							17.35

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-25

Largo, MD to Ronald Reagan Washington National Airport

(via I-495/95 and GW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	Intermediate	Principal	II	0.48
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	Intermediate	Principal	II	1.11
3	I-495/95	Central Avenue (Route 214)	Pennsylvania Ave. (Route 4)	High Speed	Freeway	I	4.02
4	I-495/95	Pennsylvania Ave. (Route 4)	Branch Ave. (Route 5)	High Speed	Freeway	I	3.46
5	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	High Speed	Freeway	I	2.94
6	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	High Speed	Freeway	I	1.58
7	I-495 / I-95	Route 210 Indian Head Hwy	I-295	High Speed	Freeway	I	1.13
8	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	High Speed	Freeway	I	1.87
9	Church St.	US 1 Richmond Hwy Exit	Washington Street	Urban	Minor	IV	0.17
10	Washington Street	Church St.	Route 236 Duke St.	Urban	Principal	III	0.56
11	Washington Street	Route 236 Duke St.	Route 7 King St.	Urban	Principal	III	0.17
12	Washington Street	Route 7 King St.	Powhatan St.	Urban	Principal	III	0.63
13	GW Pkwy	Powhatan St.	Airport Exit Ramp	High Speed	Freeway	I	2.27
14		Airport Exit Ramp	Terminal Entrance	Intermediate	Principal	II	0.48
							20.88

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-26

Frederick, MD to Ronald Reagan Washington National Airport

(via I-270 and GW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Jefferson St.	Braddock St.	US15/40	Urban	Principal	III	0.60
2	US15/40	Jefferson St.	I-270/I-70	High Speed	Freeway	I	0.76
3	I-270	I-70	Bukestown Rd	High Speed	Freeway	I	1.37
4	I-270	Bukestown Rd	Urbana	High Speed	Freeway	I	5.14
5	I-270	Urbana	Route MD 109 Old Hundred Rd.	High Speed	Freeway	I	3.72
6	I-270	Route MD 109 Old Hundred Rd.	Father Hurley Blvd.	High Speed	Freeway	I	6.32
7	I-270	Father Hurley Blvd.	Germantown Rd.	High Speed	Freeway	I	1.31
8	I-270	Germantown Rd.	Quince Orchard Rd.	High Speed	Freeway	I	3.27
9	I-270	Quince Orchard Rd.	Diamond Ave.	High Speed	Freeway	I	0.59
10	I-270	Diamond Ave.	I-370	High Speed	Freeway	I	1.50
11	I-270	I-370	Shady Grove Rd.	High Speed	Freeway	I	0.97
12	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	High Speed	Freeway	I	1.90
13	I-270	Route 28	I-270 Split - West	High Speed	Freeway	I	3.67
14	I-270 Spur	I-270 Split - West	I-495 Merge	High Speed	Freeway	I	1.97
15	I-495	I-270 Split/ I-495 Merge	GW Parkway	High Speed	Freeway	I	4.33
16	GW Pkwy	I-495	VA Route 123	High Speed	Freeway	I	4.02
17	GW Pkwy	VA Route 123	Spout Run	High Speed	Freeway	I	4.03
18	GW Pkwy	Spout Run	Key Bridge	High Speed	Freeway	I	0.72
19	GW Pkwy	Key Bridge	DCA Exit Ramp	High Speed	Freeway	I	3.53
20		DCA Exit Ramp	Terminal Entrance	Intermediate	Principal	II	1.26
							50.96

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-27

National Harbor, MD to Ronald Reagan Washington National Airport

(via I-495/95 and GW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	Suburban	Principal	II	3.41
2	I-495	Route 210	I-295	High Speed	Freeway	I	0.83
3	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	High Speed	Freeway	I	2.25
4	Church St.	US 1 Richmond Hwy Exit	Washington Street	Urban	Minor	IV	0.17
5	Washington Street	Church St.	Route 236 Duke St.	Urban	Principal	III	0.56
6	Washington Street	Route 236 Duke St.	Route 7 King St.	Urban	Principal	III	0.17
7	Washington Street	Route 7 King St.	Powhatan St.	Urban	Principal	III	0.63
8	GW Pkwy	Powhatan St.	Airport Exit Ramp	High Speed	Freeway	I	2.27
9		Airport Exit Ramp	Terminal Entrance	Intermediate	Principal	II	0.48
							10.78

Table B-28

Washington, DC to Dulles International Airport

(via 14th Street and GW Parkway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	K Street NW	16th and K Street	14th and K Street	Urban	Principal	III	0.23
2	14th Street	K Street	Constitution Avenue	Urban	Principal	III	0.72
3	Constitution Avenue	14th Street	23rd Street	Urban	Principal	III	0.95
4	Constitution Avenue / I-66	23rd Street	Glebe Rd.	Intermediate	Principal	II	4.28
5	I-66	Glebe Rd.	Dulles Access Rd. Exit	High Speed	Freeway	I	4.44
6	Dulles Airport Access Rd.	I-66	I-495	High Speed	Freeway	I	2.95
7	Dulles Airport Access Rd.	I-495	VA 7	High Speed	Freeway	I	1.83
8	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	High Speed	Freeway	I	3.85
9	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	High Speed	Freeway	I	3.53
10	Dulles Airport Access Rd.	FFx Parkway	VA 28	High Speed	Freeway	I	2.90
11	Dulles Airport Access Rd.	VA 28	Terminal Entrance	Intermediate	Principal	II	2.26
							27.95

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-29
Rockville, MD to Dulles International Airport
(via I-270 and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Route 28	Route 355	I-270	Urban	Principal	III	2.16
2	I-270	Route 28	I-270 Split - West	High Speed	Freeway	I	3.74
3	I-270 Spur	I-270 Split - West	I-495 Merge	High Speed	Freeway	I	1.97
4	I-495	I-270 Split/ I-495 Merge	Clara Barton Pkwy	High Speed	Freeway	I	3.33
5	I-495	Clara Barton Pkwy	GW Pkwy (VA)	High Speed	Freeway	I	0.99
6	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	High Speed	Freeway	I	2.49
7	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	High Speed	Freeway	I	0.98
8	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	High Speed	Freeway	I	4.83
9	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	High Speed	Freeway	I	3.53
10	Dulles Airport Access	FFX Pkwy	Route 28	High Speed	Freeway	I	2.96
11	Dulles Airport Access	Route 28	Terminal Entrance	Intermediate	Principal	II	2.51
							29.50

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-30
Gaithersburg, MD to Dulles International Airport
(via I-270 and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Diamond Ave.	Quince Orchard Rd.	I-270	Suburban	Principal	II	0.50
2	I-270	Diamond Ave.	I-370	High Speed	Freeway	I	2.02
3	I-270	I-370	Shady Grove Rd.	High Speed	Freeway	I	0.97
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	High Speed	Freeway	I	1.90
5	I-270	Route 28	I-270 Split - West	High Speed	Freeway	I	3.67
6	I-270 Spur	I-270 Split - West	I-495 Merge	High Speed	Freeway	I	1.97
7	I-495	I-270 Split/ I-495 Merge	Clara Barton Pkwy	High Speed	Freeway	I	3.33
8	I-495	Clara Barton Pkwy	GW Pkwy (VA)	High Speed	Freeway	I	0.99
9	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	High Speed	Freeway	I	2.49
10	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	High Speed	Freeway	I	0.98
11	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	High Speed	Freeway	I	4.83
12	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	High Speed	Freeway	I	3.53
13	Dulles Airport Access	FFX Pkwy	Route 28	High Speed	Freeway	I	2.96
14	Dulles Airport Access	Route 28	Terminal Entrance	Intermediate	Principal	II	2.51
							32.67

Table B-31
Tyson's Corner, VA to Dulles International Airport
(via Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Route 7	VA 123	Dulles Toll Rd.	Intermediate	Principal	II	2.12
2	Dulles Toll Rd./ Access Rd.	Route 7	Hunter Mill Rd.	High Speed	Freeway	I	3.85
3	Dulles Access Rd.	Hunter Mill Rd.	FFX Pkwy	High Speed	Freeway	I	3.53
4	Dulles Access Rd.	FFX Pkwy	Route 28	High Speed	Freeway	I	2.93
5	Dulles Access Rd.	Route 28	Terminal Entrance	Intermediate	Principal	II	2.51
							14.94

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-32
Frederick, MD to Dulles International Airport
(via US15 and Dulles Greenway)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Jefferson St.	Braddock St.	I-70	Urban	Principal	III	1.06
2	US 15 / US 340	I-70	US 340	High Speed	Principal	I	4.18
3	US 15	US 340	Point of Rocks	High Speed	Principal	I	7.04
4	US 15	Point of Rocks	US 15 Bypass	High Speed	Principal	I	9.93
5	US 15 Bypass	US 15	Dulles Greenway Exit	High Speed	Principal	I	3.86
6	Dulles Greenway	US 15 Bypass	Toll Plaza	High Speed	Freeway	I	11.00
7	Dulles Greenway	Toll Plaza	Route 28	High Speed	Freeway	I	2.87
8	Dulles Greenway	Route 28	Terminal Entrance	Intermediate	Principal	II	2.43
							42.37

Table B-33
Woodbridge, VA to Dulles International Airport
(via VA 123, Fairfax County Parkway and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	US Route 1	Longview Drive	Route 123	Urban	Principal	III	1.16
2	Route 123	US Route 1	I-95	Intermediate	Principal	II	0.70
3	Route 123	I-95	Fairfax County Parkway	Suburban	Principal	II	10.19
4	Fairfax County Parkway	Route 123	Route US 29	High Speed	Principal	I	5.31
5	Fairfax County Parkway	Route US 29	I-66	High Speed	Principal	I	1.03
6	Fairfax County Parkway	I-66	Route US 50	High Speed	Principal	I	1.54
7	Fairfax County Parkway	Route US 50	Dulles Access Rd.	High Speed	Principal	I	6.61
8	Dulles Access Rd.	Fairfax County Parkway	Route 28	High Speed	Freeway	I	2.79
9	Dulles Access Rd.	Route 28	Airport Terminal Entrance	Intermediate	Principal	II	2.51
							31.84

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-34

Largo, MD to Dulles International Airport
(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	Intermediate	Principal	II	0.48
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	Intermediate	Principal	II	1.11
3	I-495/95	Central Avenue (Route 214)	Pennsylvania Ave. (Route 4)	High Speed	Freeway	I	4.02
4	I-495/95	Pennsylvania Ave. (Route 4)	Branch Ave. (Route 5)	High Speed	Freeway	I	3.46
5	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	High Speed	Freeway	I	2.94
6	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	High Speed	Freeway	I	1.58
7	I-495 / I-95	Route 210 Indian Head Hwy	I-295	High Speed	Freeway	I	1.13
8	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	High Speed	Freeway	I	1.87
9	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	High Speed	Freeway	I	1.55
10	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	High Speed	Freeway	I	3.20
11	I-495 / I-95	Route 401 Van Dorn St.	I-95	High Speed	Freeway	I	2.15
12	I-495 / I-95	I-95	Route 620 Braddock St.	High Speed	Freeway	I	2.87
13	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	High Speed	Freeway	I	1.66
14	I-495 / I-95	Route 236 Little River Tpk.	US50	High Speed	Freeway	I	2.17
15	I-495 / I-95	US50	I-66	High Speed	Freeway	I	1.41
16	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	High Speed	Freeway	I	1.77
17	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	High Speed	Freeway	I	0.84
18	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	High Speed	Freeway	I	0.87
19	Dulles Airport Access Rd.	I-495	Route 7 (Leesburg Pike)	High Speed	Freeway	I	1.91
20	Dulles Airport Access Rd.	Route 7 (Leesburg Pike)	Hunter Mill Rd.	High Speed	Freeway	I	3.85
21	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	High Speed	Freeway	I	3.53
22	Dulles Airport Access Rd.	FFx Parkway	VA 28	High Speed	Freeway	I	2.93
23	Dulles Airport Access Rd.	VA 28	Terminal Entrance	Intermediate	Principal	II	2.51
							49.82

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-35

Springfield, VA to Dulles International Airport

(via Springfield Parkway, Fairfax County Parkway and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Frontier Dr.	SpringMall Dr.	Franconia Springfield Pkwy	Intermediate	Minor	III	0.21
2	Franconia Springfield Pkwy	Frontier Dr.	I-95	Intermediate	Principal	II	0.57
3	Franconia Springfield Pkwy	I-95	Fairfax County Pkwy	Intermediate	Principal	II	2.14
4	Fairfax County Pkwy	Franconia Springfield Pkwy	Route 123	High Speed	Principal	I	7.44
5	Fairfax County Parkway	Route 123	Route US 29	High Speed	Principal	I	5.30
6	Fairfax County Parkway	Route US 29	I-66	High Speed	Principal	I	1.02
7	Fairfax County Parkway	I-66	Route US 50	High Speed	Principal	I	1.56
8	Fairfax County Parkway	Route US 50	Dulles Access Rd.	High Speed	Principal	I	6.61
9	Dulles Access Rd.	Fairfax County Parkway	Route 28	High Speed	Freeway	I	2.79
10	Dulles Access Rd.	Route 28	Airport Terminal Entrance	Intermediate	Principal	II	2.51
							30.14

Table B-36

Manassas, VA to Dulles International Airport

(via VA 28 and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Center Street	Grant Ave.	Prescott Ave.	Urban	Principal	III	0.70
2	Prescott Ave.	Center Street	Centerville Rd.	Urban	Principal	III	0.25
3	Centerville Rd.	Prescott Ave.	Liberia Ave.	Intermediate	Principal	II	0.55
4	Centerville Rd.	Liberia Ave.	Old Centerville Rd.	Intermediate	Principal	II	0.92
5	Centerville Rd.	Old Centerville Rd.	Fairfax County Line	Suburban	Principal	II	2.22
6	Centerville Rd.	Fairfax County Line	Route US 29	Suburban	Principal	II	2.59
7	Centerville Rd.	Route US 29	I-66	Suburban	Principal	II	0.58
8	Centerville Rd.	I-66	Westerfield Blvd	Suburban	Principal	II	1.93
9	Centerville Rd.	Westerfield Blvd	US 50	Suburban	Principal	II	1.92
10	Centerville Rd.	US 50	Dulles Access Rd.	Suburban	Principal	II	4.80
11	Dulles Access Rd.	Route 28	Airport Terminal Entrance	Intermediate	Principal	II	2.53
							18.97

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-37
Greenbelt, MD to Dulles International Airport
(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	Intermediate	Principal	II	0.66
2	BW Pkwy	Greenbelt Rd.	I-495	High Speed	Freeway	I	0.45
3	I-495	BW Pkwy	I-95	High Speed	Freeway	I	3.83
4	I-495	I-95	Route 650	High Speed	Freeway	I	1.88
5	I-495	Route 650	Route 193	High Speed	Freeway	I	1.56
6	I-495	Route 193	Route US 29	High Speed	Freeway	I	0.65
7	I-495	Route US 29	Route 97	High Speed	Freeway	I	1.43
8	I-495	Route 97	Route 185	High Speed	Freeway	I	2.23
9	I-495	Route 185	I-270 North Spur	High Speed	Freeway	I	1.48
10	I-495	I-270 North Spur	I-270 South Spur	High Speed	Freeway	I	2.90
11	I-495	I-270 South Spur	Cabin John Pkwy	High Speed	Freeway	I	1.90
12	I-495	Cabin John Pkwy	Clara Barton Pkwy	High Speed	Freeway	I	1.36
13	I-495	Clara Barton Pkwy	GW Pkwy	High Speed	Freeway	I	1.06
14	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	High Speed	Freeway	I	2.44
15	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	High Speed	Freeway	I	1.03
16	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	High Speed	Freeway	I	4.83
17	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	High Speed	Freeway	I	3.53
18	Dulles Airport Access	FFX Pkwy	Route 28	High Speed	Freeway	I	2.93
19	Dulles Airport Access	Route 28	Terminal Entrance	Intermediate	Principal	II	2.51
							38.68

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-38

National Harbor, MD to Dulles International Airport (via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	Suburban	Principal	II	3.41
2	I-495	Route 210	I-295	High Speed	Freeway	I	1.05
3	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	High Speed	Freeway	I	2.03
4	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	High Speed	Freeway	I	1.55
5	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	High Speed	Freeway	I	3.20
6	I-495 / I-95	Route 401 Van Dorn St.	I-95	High Speed	Freeway	I	2.15
7	I-495 / I-95	I-95	Route 620 Braddock St.	High Speed	Freeway	I	2.87
8	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	High Speed	Freeway	I	1.66
9	I-495 / I-95	Route 236 Little River Tpk.	US50	High Speed	Freeway	I	2.17
10	I-495 / I-95	US50	I-66	High Speed	Freeway	I	1.41
11	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	High Speed	Freeway	I	1.77
12	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	High Speed	Freeway	I	0.84
13	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	High Speed	Freeway	I	0.82
14	Dulles Airport Access Rd.	I-495	VA 7	High Speed	Freeway	I	1.96
15	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	High Speed	Freeway	I	3.85
16	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	High Speed	Freeway	I	3.53
17	Dulles Airport Access Rd.	FFx Parkway	VA 28	High Speed	Freeway	I	2.93
18	Dulles Airport Access Rd.	VA 28	Terminal Entrance	Intermediate	Principal	II	2.51
							39.73

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Table B-39
Waldorf, MD to Dulles International Airport
(via US301, MD 5, I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Design Category	Functional Category	Class	Distance (Miles)
1	Leonardtown Rd.	Washington Rd.	Crain Highway	Suburban	Principal	II	0.23
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	High Speed	Principal	I	2.75
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	High Speed	Principal	I	2.73
4	Route 5 Branch Avenue	Route 5 Branch Ave. Split	Route 223 Woodyard Rd.	Suburban	Principal	II	5.30
5	Route 5 Branch Avenue	Route 223 Woodyard Rd.	I-495	Suburban	Principal	II	4.32
6	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	High Speed	Freeway	I	2.99
7	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	High Speed	Freeway	I	1.58
8	I-495 / I-95	Route 210 Indian Head Hwy	I-295	High Speed	Freeway	I	1.13
9	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	High Speed	Freeway	I	1.87
10	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	High Speed	Freeway	I	1.55
11	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	High Speed	Freeway	I	3.20
12	I-495 / I-95	Route 401 Van Dorn St.	I-95	High Speed	Freeway	I	2.15
13	I-495 / I-95	I-95	Route 620 Braddock St.	High Speed	Freeway	I	2.87
14	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	High Speed	Freeway	I	1.66
15	I-495 / I-95	Route 236 Little River Tpk.	US50	High Speed	Freeway	I	2.17
16	I-495 / I-95	US50	I-66	High Speed	Freeway	I	1.41
17	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	High Speed	Freeway	I	1.77
18	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	High Speed	Freeway	I	0.84
19	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	High Speed	Freeway	I	0.82
20	Dulles Airport Access Rd.	I-495	VA 7	High Speed	Freeway	I	1.96
21	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	High Speed	Freeway	I	3.85
22	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	High Speed	Freeway	I	3.53
23	Dulles Airport Access Rd.	FFx Parkway	VA 28	High Speed	Freeway	I	2.96
24	Dulles Airport Access Rd.	VA 28	Terminal Entrance	Intermediate	Principal	II	2.51
							56.16

Note:- Design category information gathered during route field reconnaissance.
Functional Category – Information from Functional Classification maps by County.
Class – Urban Street Class based on Functional and Design category, Highway Capacity Manual.

Appendix C

Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
Elapsed and Delay Times, Average Speed and LOS
By Activity Center and Destination Airport
(6:30 – 9:30 A.M. Peak Period)

Table C-1
Annapolis, MD to Baltimore-Washington International Airport
(via I-97)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	School Street	State Circle	Church Circle	1.17	0.11	11	E
2	College Avenue	Church Circle	Bladen Street	0.20	0.00	23	C
3	Bladen Street / Rowe Blvd	College Avenue	US 50 / US 301	3.86	1.12	29	B
4	US 50 / US 301	Rowe Blvd	I-197 Exit	3.84	0.07	52	A
5	I-97	US 50 / US 301	MD 3	7.20	0.18	64	B
6	I-97	MD 3	MD 176 Dorsey Rd.	7.04	0.00	62	B
7	Dorsey Rd. / Aviation Blvd	I-197 / Dorsey Rd.	MD 170 Camp Meade Rd.	4.36	0.53	38	B
8	Route 170	Aviation Blvd.	Elm Rd.	1.56	0.32	28	C
9	Elm Rd.	Route 170	Terminal Entrance	2.93	0.07	15	E
			Total	**32.16**	**2.40**	**36**	

Table C-2
Columbia, MD to Baltimore-Washington International Airport
(via MD 175 and BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Little Patuxent Pkwy	Gov. Warfield Pkwy	Gov. Warfield Pkwy / Little Patuxent	3.19	0.54	24	C
2	Little Patuxent Pkwy	Gov. Warfield Pkwy / Little Patuxe	US 29	1.49	0.06	39	A
3	Route MD 175	US 29	Snowden Parkway	4.33	0.57	45	A
4	Route MD 175	Snowden Parkway	I-95	1.56	0.00	58	A
5	Route MD 175	I-95	US 1	1.46	0.46	24	D
6	Route MD 175	US 1	BW Parkway	5.47	0.04	33	B
7	BW Parkway	Route MD 175	I-195	5.18	0.00	62	C
8	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
9	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**26.35**	**1.92**	**41**	

Table C-3

Baltimore, MD to Baltimore-Washington International Airport

(via BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Fayette Street	Charles Street	Greene Street	3.10	1.01	11	D
2	Greene Street	Fayette Street	Washington Blvd.	1.13	0.24	24	C
3	Russel Street	Washington Blvd.	I-95	2.16	0.19	37	A
4	Russel Street / BW Pkwy	I-95	I-695	4.01	0.00	60	A
5	BW Pkwy	I-695	I-195	2.27	0.00	58	C
6	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
7	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	16.35	1.70	40	

Table C-4

Washington, DC to Baltimore-Washington International Airport

(via Pennsylvania Avenue)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Independence Ave.	14th St.	South Capitol St.	3.83	1.52	20	C
2	Independence Ave.	South Capitol St.	Pennsylvania Ave., SE	1.26	0.51	18	C
3	Pennsylvania Ave., SE	Independence Ave.	I-295	10.72	5.57	11	E
4	I-295	Pennsylvania Ave., SE	Benning Rd.	2.21	0.00	52	A
5	I-295	Benning Rd.	BW Pkwy.	2.12	0.00	57	A
6	BW Pkwy.	I-295	Good Luck Rd.	4.03	0.00	64	B
7	BW Pkwy.	Good Luck Rd.	I-495/95	1.38	0.00	65	B
8	BW Pkwy.	I-495/95	Powder Mill Rd.	3.48	0.00	63	B
9	BW Pkwy.	Powder Mill Rd.	Route 198	5.01	0.12	62	B
10	BW Pkwy.	Route 198	Route 32	3.51	1.09	48	E
11	BW Pkwy.	Route 32	I-195	7.48	0.00	61	B
12	I-195	BW Pkwy.	Aviation Blvd	1.15	0.00	59	C
13	I-195	Aviation Blvd	Terminal Entrance	2.53	0.25	29	B
			Total	48.70	9.06	47	

Table C-5
Washington, DC to Baltimore-Washington International Airport
(via New York Avenue)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street	16th Street NW	7th and K St. NW	5.32	1.04	11	E
2	New York Ave.	7th and K St. NW	Florida Ave. NE	3.91	1.21	17	D
3	New York Ave.	Florida Ave. NE	South Dakota Ave.	4.00	0.00	42	A
4	New York Ave.	South Dakota Ave.	BWI Pkwy	1.04	0.00	59	A
5	BWI Pkwy	New York Ave.	I-495	5.27	0.00	67	A
6	BW Pkwy.	I-495/95	Powder Mill Rd.	3.48	0.00	63	B
7	BW Pkwy.	Powder Mill Rd.	Route 198	5.01	0.12	62	B
8	BW Pkwy.	Route 198	Route 32	3.51	1.09	48	E
9	BW Pkwy.	Route 32	I-195	7.48	0.00	61	B
10	I-195	BW Pkwy.	Aviation Blvd.	1.15	0.00	59	C
11	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	42.69	3.72	47	

Table C-6
Rockville, MD to Baltimore-Washington International Airport
(via I-495/95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	5.81	0.73	22	C
2	I-270	Route 28	I-270 Split - East	10.21	0.08	23	F
3	I-270 Spur	I-270 Split - East	I-495 Merge	3.38	0.00	51	D
4	I-495	I-270 Split/ I-495 Merge	I-95 Exit Ramp	10.28	0.00	52	D
5	I-95	I-495	Route 32	10.44	0.00	69	A
6	Route 32	I-95	BW Pkwy	5.79	0.00	47	A
7	BW Pkwy	Route 32	I-195	7.56	0.00	60	B
8	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
9	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**57.15**	**1.06**	**46**	

Table C-7

Rockville, MD to Baltimore-Washington International Airport

(via Route 28/32)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28 Norbeck Rd.	MD Route 355	Gude Dr.	1.33	0.09	44	A
2	Route 28 Norbeck Rd.	Gude Dr.	Bel Pre Rd.	2.53	0.21	41	A
3	Route 28 Norbeck Rd.	Bel Pre Rd.	Route 97 Georgia Ave.	5.63	3.41	16	E
4	Route 28 Norbeck Rd.	Route 97 Georgia Ave.	Route 182 Layhill Rd.	4.17	0.17	32	B
5	Route 198	Route 182 Layhill Rd.	Route 650 New Hampshire Ave.	6.24	1.32	27	C
6	Route 650 New Hampshire Ave.	Route 198	Route 108	2.23	0.03	38	A
7	Route 108	Route 650 New Hampshire Ave.	Route 32	9.93	0.96	37	B
8	Route 32	Route 108	Route US 29	4.06	0.00	61	A
9	Route 32	Route US 29	I-95	4.23	0.03	44	A
10	Route 32	I-95	BW Pkwy	4.08	0.00	62	A
11	BW Pkwy	Route 32	I-195	7.93	0.00	57	C
12	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
13	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**56.06**	**6.48**	**42**	

Table C-8
Gaithersburg, MD to Baltimore-Washington International Airport
(via I-495/95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	2.43	0.30	13	F
2	I-270	Diamond Ave.	I-370	3.62	0.22	36	F
3	I-270	I-370	Shady Grove Rd.	3.14	0.31	23	F
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	2.46	0.00	45	F
5	I-270	Route 28	I-270 Split - East	10.21	0.08	23	F
6	I-270 Spur	I-270 Split - East	I-495 Merge	3.38	0.00	51	D
7	I-495	I-270 Split/ I-495 Merge	I-95 Exit Ramp	10.28	0.00	52	D
8	I-95	I-495	Route 32	10.44	0.00	69	A
9	Route 32	I-95	BW Pkwy	5.79	0.00	47	A
10	BW Pkwy	Route 32	I-195	7.56	0.00	60	B
11	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
12	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**62.98**	**1.16**	**42**	

Table C-9
Gaithersburg, MD to Baltimore-Washington International Airport
(via Route 28/32)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	2.43	0.30	13	F
2	I-270	Diamond Ave.	I-370	3.62	0.22	36	F
3	I-270	I-370	Shady Grove Rd.	2.04	0.07	41	F
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	2.27	0.00	55	C
5	Route 28 (Montgomery Ave.)	I-270	MD Route 355	5.23	1.27	24	B
6	Route 28 Norbeck Rd.	MD Route 355	Gude Dr.	1.33	0.09	44	A
7	Route 28 Norbeck Rd.	Gude Dr.	Bel Pre Rd.	2.53	0.21	41	A
8	Route 28 Norbeck Rd.	Bel Pre Rd.	Route 97 Georgia Ave.	5.63	3.41	16	E
9	Route 28 Norbeck Rd.	Route 97 Georgia Ave.	Route 182 Layhill Rd.	4.17	0.17	32	B
10	Route 198	Route 182 Layhill Rd.	Route 650 New Hampshire Ave.	6.24	1.32	27	C
11	Route 650 New Hampshire Ave.	Route 198	Route 108	2.23	0.03	38	A
12	Route 108	Route 650 New Hampshire Ave.	Route 32	9.93	0.96	37	A
13	Route 32	Route 108	Route US 29	4.06	0.00	61	A
14	Route 32	Route US 29	I-95	4.23	0.03	44	A
15	Route 32	I-95	BW Pkwy	4.08	0.00	62	A
16	BW Pkwy	Route 32	I-195	7.93	0.00	57	D
17	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
18	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**71.65**	**8.33**	**40**	

Table C-10

Frederick, MD to Baltimore-Washington International Airport

(via I-70)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	I-70 / I270	5.22	0.81	17	D
2	I-70	I-70 / I270	Mount Airy (Howard County Line)	14.32	0.00	62	B
3	I-70	Mount Airy (Howard County Line)	US 29	19.28	0.16	61	B
4	I-70	US 29	I-695	4.58	0.00	63	B
5	I-695	I-70	I-295 / BW Pkwy	10.98	0.28	41	F
6	I-295 / BW Pkwy	I-695	I-195	2.52	0.00	51	D
7	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
8	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**60.59**	**1.50**	**48**	

Table C-11

Waldorf, MD to Baltimore-Washington International Airport

(via US 301 / I-97)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	1.59	0.87	12	F
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	4.38	0.61	38	B
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	8.17	1.87	28	C
4	Crain Highway US 301	Route 5 Branch Ave. Split	Route 4 Pennsylvania Ave.	13.56	0.73	51	A
5	Crain Highway US 301	Route 4 Pennsylvania Ave.	Route 214 Central Ave.	7.27	0.62	50	A
6	Crain Highway US 301	Route 214 Central Ave.	Route 50 John Hanson Hwy.	5.83	0.82	40	B
7	Route 3	Route 50 John Hanson Hwy.	Route 450 Defense Hwy	3.31	0.24	48	A
8	Route 3	Route 450 Defense Hwy	I-97	10.14	1.46	38	B
9	I-97	MD 3	MD 176 Dorsey Rd.	7.04	0.00	62	B
10	Dorsey Rd. / Aviation Blvd	I-197 / Dorsey Rd.	MD 170 Camp Meade Rd.	4.36	0.53	38	B
11	Route 170	Aviation Blvd.	Elm Rd.	1.56	0.32	28	B
12	Elm Rd.	Route 170	Terminal Entrance	2.93	0.07	15	E
			Total	**70.14**	**8.15**	**37**	

Table C-12

Largo, MD to Baltimore-Washington International Airport

(via I-95 / BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	0.71	0.00	41	A
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.06	0.00	57	A
3	I-495/95	Central Avenue (Route 214)	Landover Rd. (Route 202)	1.56	0.00	58	C
4	I-495/95	Landover Rd. (Route 202)	US 50	2.06	0.00	58	C
5	I-495/95	US 50	BW Parkway	3.38	0.00	59	C
6	BW Pkwy.	I-495/95	Powder Mill Rd.	3.81	0.00	59	C
7	BW Pkwy.	Powder Mill Rd.	Route 198	5.01	0.12	62	B
8	BW Pkwy.	Route 198	Route 32	3.51	1.09	48	E
9	BW Pkwy.	Route 32	I-195	7.48	0.00	61	B
10	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
11	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**32.24**	**1.46**	**54**	

Table C-13

Townson, MD to Baltimore-Washington International Airport

(via I-695 / I-95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 45 Dulaney Valley Blvd.	Joppa Rd.	I-695	3.92	1.66	18	D
2	I-695	Route 45 Dulaney Valley Blvd.	I-83	2.41	0.00	52	D
3	I-695	I-83	I-795	7.07	0.00	59	C
4	I-695	I-795	I-70	7.63	0.00	42	F
5	I-695	I-70	I-95	11.76	0.61	29	F
6	I-95	I-695	I-195	2.16	0.00	51	D
7	I-195	I-95	BW Pkwy	2.72	0.00	58	C
8	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
9	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**41.35**	**2.52**	**44**	

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Table C-14

White Marsh, MD to Baltimore-Washington International Airport

(via I-95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Honeygo Blvd.	Campbell Blvd.	Route 43 White Marsh Blvd.	1.27	0.12	45	A
2	Route 43 White Marsh Blvd.	Honeygo Blvd.	I-95	0.59	0.00	50	A
3	I-95	Route 43 White Marsh Blvd.	I-695	5.02	0.00	35	F
4	I-95	I-695	I-895 Spur	3.84	0.00	50	D
5	I-95	I-895 Spur	Toll Plaza	6.48	0.77	46	E
6	I-95	Toll Plaza	I-295 BW Pkwy	3.67	0.02	59	C
7	I-295 BW Pkwy	I-95	I-695	4.26	0.00	59	C
8	I-295 BW Pkwy	I-695	I-195	2.87	0.04	48	E
9	I-195	BW Pkwy	Aviation Blvd.	1.15	0.00	59	C
10	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**31.67**	**1.21**	**48**	

Table C-15

Greenbelt, MD to Baltimore-Washington International Airport

(via BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	3.14	0.73	17	E
2	BW Pkwy	Greenbelt Rd.	Powder Mill Rd.	2.98	0.00	62	B
3	BW Pkwy.	Powder Mill Rd.	Route 198	5.01	0.12	62	B
4	BW Pkwy.	Route 198	Route 32	3.51	1.09	48	E
5	BW Pkwy.	Route 32	I-195	7.48	0.00	61	B
6	I-195	BW Pkwy.	Aviation Blvd.	1.15	0.00	59	C
7	I-195	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**25.80**	**2.20**	**48**	

Table C-16
National Harbor, MD to Baltimore-Washington International Airport
(via I-295 / BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	12.68	5.31	21	D
2	I-495	Route 210	I-295	3.87	0.88	24	F
3	I-295	I-495	Suitland Parkway	5.52	0.00	52	D
4	I-295	Suitland Parkway	Pennsylvania Ave.	1.67	0.00	58	C
5	I-295	Pennsylvania Ave.	US 50 Split Ramp	4.39	0.00	57	C
6	BW Pkwy.	US 50 Split Ramp	Goodluck Rd.	4.03	0.00	64	B
7	BW Pkwy.	Good Luck Rd.	I-495/95	1.38	0.00	65	B
8	BW Pkwy.	I-495/95	Powder Mill Rd.	3.48	0.00	63	B
9	BW Pkwy.	Powder Mill Rd.	Route 198	5.01	0.12	62	B
10	BW Pkwy.	Route 198	Route 32	3.51	1.09	48	E
11	BW Pkwy.	Route 32	I-195	7.48	0.00	61	B
12	I-195	BW Pkwy.	Aviation Blvd.	1.15	0.00	59	C
13	I-95	Aviation Blvd.	Terminal Entrance	2.53	0.25	29	B
			Total	**56.69**	**7.65**	**51**	

Table C-17
Washington, DC to Ronald Reagan National Airport
(via 14th Street)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street NW	16th and K Street	14th and K Street	1.52	0.58	10	E
2	14th Street	K Street	Constitution Avenue	3.41	1.28	14	E
3	14th Street	Constitution Avenue	C Street / Dept. of Agri.	1.64	0.60	16	E
4	14th Street / I-395	C Street / Dept. of Agri.	I-95/395 / GW Pkwy	2.69	0.22	31	B
5	I-95/395 / GW Pkwy	14th Street Bridge	DCA Exit Ramp	1.26	0.00	48	E
6	GW Pkwy	DCA Exit Ramp	Terminal Entrance	2.13	0.09	32	B
			Total	**12.65**	**2.77**	**25**	

Table C-18

Rockville, MD to Ronald Reagan National Airport

(via I-270 / George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	6.03	1.04	22	C
2	I-270	Route 28	I-270 Split - West	12.46	1.18	18	F
3	I-270 Spur	I-270 Split - West	I-495 Merge	5.90	0.26	21	F
4	I-495	I-270 Split/ I-495 Merge	GW Parkway	6.56	0.00	40	F
5	GW Pkwy	I-495	VA Route 123	4.68	0.00	52	D
6	GW Pkwy	VA Route 123	Spout Run	6.11	0.22	43	F
7	GW Pkwy	Spout Run	Key Bridge	2.40	0.06	25	F
8	GW Pkwy	Key Bridge	DCA Exit Ramp	5.10	0.12	43	F
9		DCA Exit Ramp	Terminal Entrance	2.30	0.05	33	B
			Total	**51.54**	**2.92**	**33**	

Table C-19

Gaithersburg, MD to Ronald Reagan National Airport

(via I-270 / George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	2.43	0.30	13	E
2	I-270	Diamond Ave.	I-370	3.62	0.22	36	F
3	I-270	I-370	Shady Grove Rd.	3.14	0.31	23	F
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	2.46	0.00	45	F
5	I-270	Route 28	I-270 Split - West	12.46	1.18	18	F
6	I-270 Spur	I-270 Split - West	I-495 Merge	5.90	0.26	21	F
7	I-495	I-270 Split/ I-495 Merge	GW Parkway	6.56	0.00	40	F
8	GW Pkwy	I-495	VA Route 123	4.68	0.00	52	D
9	GW Pkwy	VA Route 123	Spout Run	6.11	0.22	43	F
10	GW Pkwy	Spout Run	Key Bridge	2.40	0.06	25	F
11	GW Pkwy	Key Bridge	DCA Exit Ramp	5.10	0.12	43	F
12		DCA Exit Ramp	Terminal Entrance	2.30	0.05	33	B
			Total	**57.14**	**2.71**	**33**	

Table C-20

Tyson's Corner, VA to Ronald Reagan National Airport

(via George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 123	VA 7	Great Falls Rd	9.77	4.10	16	E
2	Route 123	Great Falls Rd	Chain Bridge Rd.	6.01	2.04	15	E
3	Route 123	Chain Bridge Rd.	GW Pkwy	7.04	1.11	26	C
4	GW Pkwy	Route 123	Spout Run	6.11	0.22	43	F
5	GW Pkwy	Spout Run	Key Bridge	2.40	0.06	25	F
6	GW Pkwy	Key Bridge	DCA Exit Ramp	5.10	0.12	43	F
7		DCA Exit Ramp	Terminal Entrance	2.30	0.05	33	B
			Total	**38.73**	**7.69**	**29**	

Table C-21

Waldorf, MD to Ronald Reagan National Airport

(via US301/MD5, I-495/95 and George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	1.59	0.87	12	F
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	4.38	0.61	38	B
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	8.17	1.87	28	C
4	Route 5 Branch Avenue	Route 5 Branch Ave. Split	Route 223 Woodyard Rd.	7.73	1.49	44	A
5	Route 5 Branch Avenue	Route 223 Woodyard Rd.	I-495	5.70	0.97	47	A
6	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.29	0.00	79	A
7	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	6.08	0.91	16	F
8	I-495 / I-95	Route 210 Indian Head Hwy	I-295	4.61	0.78	13	F
9	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	3.48	0.02	36	F
10	Church St.	US 1 Richmond Hwy Exit	Washington Street	1.11	0.53	11	D
11	Washington Street	Church St.	Route 236 Duke St.	2.24	0.68	16	D
12	Washington Street	Route 236 Duke St.	Route 7 King St.	0.93	0.30	13	D
13	Washington Street	Route 7 King St.	Powhatan St.	1.99	0.28	19	C
14	GW Pkwy	Powhatan St.	Airport Exit Ramp	6.07	1.93	23	F
15		Airport Exit Ramp	Terminal Entrance	2.62	0.08	11	F
			Total	**58.99**	**11.33**	**27**	

Table C-22
Woodbridge, VA to Ronald Reagan National Airport
(via I-95/I-395)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	US Route 1	Longview Drive	I-95 Ramp	8.06	2.76	26	B
2	I-95	US Route 1	Capital Beltway	11.08	0.07	49	E
3	I-395	Capital Beltway	Route 7	7.26	0.18	49	E
4	I-395	Route 7	Hayes Street	7.44	0.92	37	F
5	Hayes Street et al	I-395	US 1	2.87	0.79	18	D
6	US 1	15th St.	DCA Exit	1.92	0.76	17	D
7		DCA Exit	Terminal Entrance	1.91	0.00	30	B
			Total	**40.54**	**5.47**	**32**	

Table C-23
Springfield, VA to Ronald Reagan National Airport
(via Springfield Parkway and Fairfax County Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Frontier Drive	Spring Mall Drive	Franconia Road	3.83	2.53	6	F
2	Franconia Road	Frontier Drive	I-95	1.64	0.41	20	D
3	I-95	Franconia Road	Capital Beltway	1.79	0.00	27	F
4	I-395	Capital Beltway	Route 7	7.26	0.18	49	E
5	I-395	Route 7	Hayes Street	7.44	0.92	37	F
6	Hayes Street et al	I-395	US 1	2.87	0.79	18	D
7	US 1	15th St.	DCA Exit	1.92	0.76	17	D
8		DCA Exit	Terminal Entrance	1.91	0.00	30	B
			Total	**28.66**	**5.59**	**26**	

Table C-24
Greenbelt, MD to Ronald Reagan National Airport
(via New York Ave and BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	3.14	0.73	17	E
2	BW Pkwy	Greenbelt Rd.	I-495	0.39	0.00	56	C
3	BW Pkwy	I-495	Route 410	2.31	0.00	61	B
4	BW Pkwy	Route 410	Route I-295 Split	4.67	0.69	44	F
5	New York Avenue	Route US 50 Split	South Dakota Ave.	5.16	1.44	28	C
6	New York Avenue	South Dakota Ave.	Bladensburg Rd.	8.49	4.31	7	F
7	New York Avenue	Bladensburg Rd.	Florida Ave	5.38	1.22	23	C
8	New York Avenue	Florida Ave	North Capitol St.	0.76	0.13	24	C
9	New York Avenue	North Capitol St.	3rd St.	2.16	0.88	12	F
10	I-395	New York Avenue	GW Pkwy	5.19	0.14	42	F
11	GW Pkwy	I-395	DCA Exit	1.21	0.00	51	D
12		DCA Exit	Airport Terminal Entrance	1.98	0.00	38	A
			Total	**40.83**	**9.56**	**34**	

Table C-25
Largo, MD to Ronald Reagan National Airport
(via I-495/95 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	2.42	0.76	18	D
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.49	0.00	45	A
3	I-495/95	Central Avenue (Route 214)	Pennsylvania Ave. (Route 4)	3.87	0.00	62	B
4	I-495/95	Pennsylvania Ave. (Route 4)	Branch Ave. (Route 5)	3.12	0.00	67	A
5	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.74	0.00	64	B
6	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	6.08	0.91	16	F
7	I-495 / I-95	Route 210 Indian Head Hwy	I-295	4.61	0.78	13	F
8	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	3.48	0.02	36	F
9	Church St.	US 1 Richmond Hwy Exit	Washington Street	1.11	0.53	11	D
10	Washington Street	Church St.	Route 236 Duke St.	2.24	0.68	16	E
11	Washington Street	Route 236 Duke St.	Route 7 King St.	0.93	0.30	13	E
12	Washington Street	Route 7 King St.	Powhatan St.	1.99	0.28	19	D
13	GW Pkwy	Powhatan St.	Airport Exit Ramp	6.07	1.93	23	F
14		Airport Exit Ramp	Terminal Entrance	2.62	0.08	11	F
			Total	**42.77**	**6.27**	**30**	

Table C-26
Frederick, MD to Ronald Reagan National Airport
(via I-270 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	US15/40	1.77	0.33	21	C
2	US15/40	Jefferson St.	I-270/I-70	0.81	0.00	56	C
3	I-270	I-70	Bukestown Rd	1.69	0.00	53	D
4	I-270	Bukestown Rd	Urbana	5.35	0.00	60	C
5	I-270	Urbana	Route MD 109 Old Hundred Rd.	4.41	0.00	54	D
6	I-270	Route MD 109 Old Hundred Rd.	Father Hurley Blvd.	7.29	0.06	54	D
7	I-270	Father Hurley Blvd.	Germantown Rd.	5.99	1.43	22	F
8	I-270	Germantown Rd.	Quince Orchard Rd.	7.42	0.83	28	F
9	I-270	Quince Orchard Rd.	Diamond Ave.	1.10	0.00	35	F
10	I-270	Diamond Ave.	I-370	2.46	0.18	38	F
11	I-270	I-370	Shady Grove Rd.	3.14	0.31	23	F
12	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	2.46	0.00	45	F
13	I-270	Route 28	I-270 Split - West	12.46	1.18	18	F
14	I-270 Spur	I-270 Split - West	I-495 Merge	5.90	0.26	21	F
15	I-495	I-270 Split/ I-495 Merge	GW Parkway	6.56	0.00	40	F
16	GW Pkwy	I-495	VA Route 123	4.68	0.00	52	D
17	GW Pkwy	VA Route 123	Spout Run	6.11	0.22	43	F
18	GW Pkwy	Spout Run	Key Bridge	2.40	0.06	25	F
19	GW Pkwy	Key Bridge	DCA Exit Ramp	5.10	0.12	43	F
20	0	DCA Exit Ramp	Terminal Entrance	2.30	0.05	33	B
			Total	**89.38**	**5.02**	**38**	

Table C-27
National Harbor, MD to Ronald Reagan National Airport
(via I-495/95 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	11.97	4.26	17	D
2	I-495	Route 210	I-295	4.61	0.78	13	F
3	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	3.48	0.02	36	F
4	Church St.	US 1 Richmond Hwy Exit	Washington Street	1.11	0.53	11	D
5	Washington Street	Church St.	Route 236 Duke St.	2.24	0.68	16	E
6	Washington Street	Route 236 Duke St.	Route 7 King St.	0.93	0.30	13	E
7	Washington Street	Route 7 King St.	Powhatan St.	1.99	0.28	19	D
8	GW Pkwy	Powhatan St.	Airport Exit Ramp	6.07	1.93	23	F
9		Airport Exit Ramp	Terminal Entrance	2.62	0.08	11	F
			Total	**35.02**	**8.86**	**18**	

Table C-28
Washington, DC to Dulles International Airport
(via 14th Street and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street NW	16th and K Street	14th and K Street	6.87	0.61	5	F
2	14th Street	K Street	Constitution Avenue	2.62	0.34	17	D
3	Constitution Avenue	14th Street	23rd Street	4.43	2.16	13	E
4	Constitution Avenue / I-66	23rd Street	Glebe Rd.	6.33	0.23	42	A
5	I-66	Glebe Rd.	Dulles Access Rd. Exit	6.58	0.03	47	E
6	Dulles Airport Access Rd.	I-66	I-495	2.71	0.00	65	A
7	Dulles Airport Access Rd.	I-495	VA 7	1.74	0.00	63	B
8	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	3.68	0.00	63	B
9	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.36	0.00	63	B
10	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.80	0.00	62	B
11	Dulles Airport Access Rd.	VA 28	Terminal Entrance	3.01	0.00	45	A
			Total	**44.13**	**3.38**	**44**	

Table C-29
Rockville, MD to Dulles International Airport
(via I-270 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	5.98	2.02	24	B
2	I-270	Route 28	I-270 Split - West	6.92	0.44	38	F
3	I-270 Spur	I-270 Split - West	I-495 Merge	3.08	0.00	39	F
4	I-495	I-270 Split/ I-495 Merge	Clara Barton Pkwy	5.53	0.03	43	F
5	I-495	Clara Barton Pkwy	GW Pkwy (VA)	1.72	0.02	40	F
6	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	4.39	0.06	39	F
7	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.17	0.00	50	D
8	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.79	0.00	60	B
9	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.52	0.00	60	B
10	Dulles Airport Access	FFX Pkwy	Route 28	2.97	0.00	60	C
11	Dulles Airport Access	Route 28	Terminal Entrance	2.81	0.00	54	A
			Total	**42.88**	**2.58**	**46**	

Table C-30
Gaithersburg, MD to Dulles International Airport
(via I-270 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	2.43	0.30	13	F
2	I-270	Diamond Ave.	I-370	3.62	0.22	36	F
3	I-270	I-370	Shady Grove Rd.	3.14	0.31	23	F
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	2.46	0.00	45	F
5	I-270	Route 28	I-270 Split - West	6.92	0.44	38	F
6	I-270 Spur	I-270 Split - West	I-495 Merge	3.08	0.00	39	F
7	I-495	I-270 Split/ I-495 Merge	Clara Barton Pkwy	5.53	0.03	43	F
8	I-495	Clara Barton Pkwy	GW Pkwy (VA)	1.72	0.02	40	F
9	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	4.39	0.06	39	F
10	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.17	0.00	50	D
11	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.79	0.00	60	B
12	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.52	0.00	60	B
13	Dulles Airport Access	FFX Pkwy	Route 28	2.97	0.00	60	C
14	Dulles Airport Access	Route 28	Terminal Entrance	2.81	0.00	54	A
			Total	**48.54**	**1.39**	**43**	

Table C-31
Tyson's Corner, VA to Dulles International Airport
(via Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 7	VA 123	Dulles Toll Rd.	4.31	0.79	30	B
2	Dulles Toll Rd./ Access Rd.	Route 7	Hunter Mill Rd.	3.93	0.00	59	C
3	Dulles Access Rd.	Hunter Mill Rd.	FFX Pkwy	3.47	0.00	61	B
4	Dulles Access Rd.	FFX Pkwy	Route 28	2.84	0.00	62	B
5	Dulles Access Rd.	Route 28	Terminal Entrance	2.69	0.00	56	A
			Total	**17.24**	**0.79**	**54**	

Table C-32
Frederick, MD to Dulles International Airport
(via US15 and Dulles Greenway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	I-70	4.40	0.72	16	D
2	US 15 / US 340	I-70	US 340	4.01	0.00	63	A
3	US 15	US 340	Point of Rocks	7.26	0.00	58	A
4	US 15	Point of Rocks	US 15 Bypass	13.77	0.17	43	A
5	US 15 Bypass	US 15	Dulles Greenway Exit	8.07	2.48	29	C
6	Dulles Greenway	US 15 Bypass	Toll Plaza	9.57	0.00	69	A
7	Dulles Greenway	Toll Plaza	Route 28	5.32	0.86	37	F
8	Dulles Greenway	Route 28	Terminal Entrance	3.08	0.18	48	A
			Total	**55.47**	**4.40**	**45**	

Table C-33
Woodbridge, VA to Dulles International Airport
(via VA 123, Fairfax County Parkway and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	US Route 1	Longview Drive	Route 123	3.41	0.48	24	B
2	Route 123	US Route 1	I-95	1.32	0.19	33	B
3	Route 123	I-95	Fairfax County Parkway	22.99	3.52	27	C
4	Fairfax County Parkway	Route 123	Route US 29	6.07	0.18	53	A
5	Fairfax County Parkway	Route US 29	I-66	1.07	0.00	57	A
6	Fairfax County Parkway	I-66	Route US 50	2.63	0.48	38	B
7	Fairfax County Parkway	Route US 50	Dulles Access Rd.	15.26	4.23	26	D
8	Dulles Access Rd.	Fairfax County Parkway	Route 28	2.61	0.00	64	B
9	Dulles Access Rd.	Route 28	Airport Terminal Entrance	2.43	0.00	63	A
			Total	**57.79**	**9.08**	**43**	

Table C-34
Largo, MD to Dulles International Airport
(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	2.42	0.76	18	D
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.49	0.00	45	A
3	I-495/95	Central Avenue (Route 214)	Pennsylvania Ave. (Route 4)	3.87	0.00	62	B
4	I-495/95	Pennsylvania Ave. (Route 4)	Branch Ave. (Route 5)	3.12	0.00	67	A
5	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.74	0.00	64	B
6	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	6.08	0.91	16	F
7	I-495 / I-95	Route 210 Indian Head Hwy	I-295	4.61	0.78	13	F
8	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	3.48	0.02	36	F
9	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.45	0.00	64	B
10	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.87	0.00	67	A
11	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.03	0.00	63	B
12	I-495 / I-95	I-95	Route 620 Braddock St.	6.97	0.86	45	F
13	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	4.30	0.34	23	F
14	I-495 / I-95	Route 236 Little River Tpk.	US50	4.68	0.27	32	F
15	I-495 / I-95	US50	I-66	3.24	0.00	27	F
16	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	2.47	0.02	44	F
17	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.82	0.00	62	B
18	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	0.97	0.00	54	D
19	Dulles Airport Access Rd.	I-495	Route 7 (Leesburg Pike)	1.83	0.00	63	B
20	Dulles Airport Access Rd.	Route 7 (Leesburg Pike)	Hunter Mill Rd.	3.63	0.00	64	B
21	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.28	0.00	65	B
22	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.74	0.00	64	B
23	Dulles Airport Access Rd.	VA 28	Terminal Entrance	3.01	0.00	50	A
			Total	**72.10**	**3.96**	**48**	

Table C-35

Springfield, VA to Dulles International Airport

(via Springfield Parkway, Fairfax County Parkway and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Frontier Dr.	SpringMall Dr.	Franconia Springfield Pkwy	1.12	0.10	12	E
2	Franconia Springfield Pkwy	Frontier Dr.	I-95	1.05	0.13	34	B
3	Franconia Springfield Pkwy	I-95	Fairfax County Pkwy	2.59	0.00	49	A
4	Fairfax County Pkwy	Franconia Springfield Pkwy	Route 123	13.67	2.27	33	C
5	Fairfax County Parkway	Route 123	Route US 29	6.07	0.18	53	A
6	Fairfax County Parkway	Route US 29	I-66	1.07	0.00	57	A
7	Fairfax County Parkway	I-66	Route US 50	2.63	0.48	38	B
8	Fairfax County Parkway	Route US 50	Dulles Access Rd.	15.26	4.23	26	D
9	Dulles Access Rd.	Fairfax County Parkway	Route 28	2.61	0.00	64	B
10	Dulles Access Rd.	Route 28	Airport Terminal Entrance	2.43	0.00	63	A
			Total	**48.51**	**7.39**	**43**	

Table C-36

Manassas, VA to Dulles International Airport

(via VA 28 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Center Street	Grant Ave.	Prescott Ave.	2.01	0.18	21	C
2	Prescott Ave.	Center Street	Centerville Rd.	1.17	0.34	15	D
3	Centerville Rd.	Prescott Ave.	Liberia Ave.	2.63	1.34	13	F
4	Centerville Rd.	Liberia Ave.	Old Centerville Rd.	1.77	0.13	31	B
5	Centerville Rd.	Old Centerville Rd.	Fairfax County Line	6.34	1.20	25	C
6	Centerville Rd.	Fairfax County Line	Route US 29	7.11	1.38	23	C
7	Centerville Rd.	Route US 29	I-66	0.70	0.00	50	A
8	Centerville Rd.	I-66	Westerfield Blvd	6.18	1.53	23	C
9	Centerville Rd.	Westerfield Blvd	US 50	2.51	0.19	47	A
10	Centerville Rd.	US 50	Dulles Access Rd.	8.16	1.00	38	A
11	Dulles Access Rd.	Route 28	Airport Terminal Entrance	3.54	0.00	43	A
			Total	**42.12**	**7.30**	**30**	

Table C-37
Greenbelt, MD to Dulles International Airport
(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	2.14	1.08	27	C
2	BW Pkwy	Greenbelt Rd.	I-495	0.81	0.00	38	F
3	I-495	BW Pkwy	I-95	6.72	1.48	46	F
4	I-495	I-95	Route 650	16.73	7.54	7	F
5	I-495	Route 650	Route 193	11.33	4.58	11	F
6	I-495	Route 193	Route US 29	2.17	0.20	19	F
7	I-495	Route US 29	Route 97	3.76	0.19	23	F
8	I-495	Route 97	Route 185	2.82	0.00	48	E
9	I-495	Route 185	I-270 North Spur	1.60	0.00	56	C
10	I-495	I-270 North Spur	I-270 South Spur	3.06	0.00	57	C
11	I-495	I-270 South Spur	Cabin John Pkwy	12.04	7.08	28	F
12	I-495	Cabin John Pkwy	Clara Barton Pkwy	6.43	1.36	28	F
13	I-495	Clara Barton Pkwy	GW Pkwy	3.77	1.23	28	F
14	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	4.39	0.06	39	F
15	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.17	0.00	50	D
16	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.79	0.00	60	B
17	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.52	0.00	60	B
18	Dulles Airport Access	FFX Pkwy	Route 28	2.97	0.00	60	C
19	Dulles Airport Access	Route 28	Terminal Entrance	2.81	0.00	54	A
			Total	**93.02**	**24.79**	**39**	

Table C-38

National Harbor, MD to Dulles International Airport

(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	11.97	4.26	17	D
2	I-495	Route 210	I-295	4.61	0.78	13	F
3	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	3.48	0.02	36	F
4	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.45	0.00	64	B
5	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.87	0.00	67	A
6	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.03	0.00	63	B
7	I-495 / I-95	I-95	Route 620 Braddock St.	6.97	0.86	45	F
8	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	4.30	0.34	23	F
9	I-495 / I-95	Route 236 Little River Tpk.	US50	4.68	0.27	32	F
10	I-495 / I-95	US50	I-66	3.24	0.00	27	F
11	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	2.47	0.02	44	F
12	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.82	0.00	62	B
13	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	0.97	0.00	54	D
14	Dulles Airport Access Rd.	I-495	VA 7	1.83	0.00	63	B
15	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	3.63	0.00	64	B
16	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.28	0.00	65	B
17	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.74	0.00	64	B
18	Dulles Airport Access Rd.	VA 28	Terminal Entrance	3.01	0.00	50	A
			Total	**64.35**	**6.54**	**47**	

Table C-39
Waldorf, MD to Dulles International Airport
(via US301, MD 5, I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	1.59	0.87	12	F
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	4.38	0.61	38	B
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	8.17	1.87	28	C
4	Route 5 Branch Avenue	Route 5 Branch Ave. Split	Route 223 Woodyard Rd.	7.73	1.49	44	A
5	Route 5 Branch Avenue	Route 223 Woodyard Rd.	I-495	5.70	0.97	47	A
6	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.29	0.00	79	A
7	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	6.08	0.91	16	F
8	I-495 / I-95	Route 210 Indian Head Hwy	I-295	4.61	0.78	13	F
9	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	3.48	0.02	36	F
10	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.45	0.00	64	B
11	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.87	0.00	67	A
12	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.03	0.00	63	B
13	I-495 / I-95	I-95	Route 620 Braddock St.	6.97	0.86	45	F
14	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	4.30	0.34	23	F
15	I-495 / I-95	Route 236 Little River Tpk.	US50	4.68	0.27	32	F
16	I-495 / I-95	US50	I-66	3.24	0.00	27	F
17	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	2.47	0.02	44	F
18	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.82	0.00	62	B
19	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	0.97	0.00	54	D
20	Dulles Airport Access Rd.	I-495	VA 7	1.83	0.00	63	B
21	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	3.63	0.00	64	B
22	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.28	0.00	65	B
23	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.74	0.00	64	B
24	Dulles Airport Access Rd.	VA 28	Terminal Entrance	3.01	0.00	50	A
			Total	**88.32**	**9.01**	**46**	

Appendix D

Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
Elapsed and Delay Times, Average Speed and LOS
By Activity Center and Destination Airport
(11:00 A.M.– 1:00 P.M. Mid-Day Period)

Table D-1
Annapolis, MD to Baltimore-Washington International Airport
(via I-97)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	School Street	State Circle	Church Circle	3.20	1.21	7	F
2	College Avenue	Church Circle	Bladen Street	0.69	0.07	11	E
3	Bladen Street / Rowe Blvd	College Avenue	US 50 / US 301	4.34	1.30	26	C
4	US 50 / US 301	Rowe Blvd	I-197 Exit	4.39	0.33	47	A
5	I-97	US 50 / US 301	MD 3	7.06	0.00	65	B
6	I-97	MD 3	MD 176 Dorsey Rd.	7.42	0.00	59	C
7	Dorsey Rd. / Aviation Blvd	I-197 / Dorsey Rd.	MD 170 Camp Meade Rd.	4.77	0.63	35	B
8	Route 170	Aviation Blvd.	Elm Rd.	2.01	0.77	24	D
9	Elm Rd.	Route 170	Terminal Entrance	3.25	0.11	14	E
			Total	**37.14**	**4.42**	**32**	

Table D-2
Columbia, MD to Baltimore-Washington International Airport
(via MD 175 and BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Little Patuxent Pkwy	Gov. Warfield Pkwy	Gov. Warfield Pkwy / Little Patuxent	3.61	1.03	22	D
2	Little Patuxent Pkwy	Gov. Warfield Pkwy / Little Patuxe	US 29	5.42	2.66	16	E
3	Route MD 175	US 29	Snowden Parkway	4.66	0.74	41	A
4	Route MD 175	Snowden Parkway	I-95	1.62	0.00	56	A
5	Route MD 175	I-95	US 1	1.26	0.56	28	C
6	Route MD 175	US 1	BW Parkway	5.39	0.14	33	B
7	BW Parkway	Route MD 175	I-195	5.59	0.00	57	C
8	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
9	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**31.09**	**5.31**	**38**	

Table D-3
Baltimore, MD to Baltimore-Washington International Airport
(via BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Fayette Street	Charles Street	Greene Street	0.84	0.48	34	A
2	Greene Street	Fayette Street	Washington Blvd.	1.97	0.61	12	E
3	Russel Street	Washington Blvd.	I-95	2.23	0.13	35	A
4	Russel Street / BW Pkwy	I-95	I-695	4.17	0.02	57	A
5	BW Pkwy	I-695	I-195	2.24	0.00	59	C
6	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
7	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**15.01**	**1.42**	**41**	

Table D-4
Washington, DC to Baltimore-Washington International Airport
(via Pennsylvania Avenue)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Independence Ave.	14th St.	South Capitol St.	7.73	3.99	10	E
2	Independence Ave.	South Capitol St.	Pennsylvania Ave., SE	0.97	0.17	21	C
3	Pennsylvania Ave., SE	Independence Ave.	I-295	5.48	1.17	21	C
4	I-295	Pennsylvania Ave., SE	Benning Rd.	2.50	0.00	46	A
5	I-295	Benning Rd.	BW Pkwy.	2.19	0.00	55	A
6	BW Pkwy.	I-295	Good Luck Rd.	4.09	0.00	63	B
7	BW Pkwy.	Good Luck Rd.	I-495/95	1.46	0.00	62	B
8	BW Pkwy.	I-495/95	Powder Mill Rd.	3.26	0.00	67	A
9	BW Pkwy.	Powder Mill Rd.	Route 198	4.66	0.00	67	A
10	BW Pkwy.	Route 198	Route 32	1.61	0.00	67	A
11	BW Pkwy.	Route 32	I-195	6.94	0.00	65	B
12	I-195	BW Pkwy.	Aviation Blvd	1.13	0.00	60.87	B
13	I-195	Aviation Blvd	Terminal Entrance	2.42	0.17	28.75	B
			Total	**44.43**	**5.50**	**49**	

Table D-5
Washington, DC to Baltimore-Washington International Airport
(via New York Avenue)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street	16th Street NW	7th and K St. NW	10.12	2.87	5	F
2	New York Ave.	7th and K St. NW	Florida Ave. NE	3.91	1.06	16	D
3	New York Ave.	Florida Ave. NE	South Dakota Ave.	5.11	0.47	33	A
4	New York Ave.	South Dakota Ave.	BWI Pkwy	1.07	0.00	58	A
5	BWI Pkwy	New York Ave.	I-495	5.52	0.00	64	B
6	BW Pkwy.	I-495/95	Powder Mill Rd.	3.26	0.00	67	A
7	BW Pkwy.	Powder Mill Rd.	Route 198	4.66	0.00	67	A
8	BW Pkwy.	Route 198	Route 32	1.61	0.00	67	A
9	BW Pkwy.	Route 32	I-195	6.94	0.00	65	A
10	I-195	BW Pkwy.	Aviation Blvd.	1.13	0.00	61	B
11	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**45.73**	**4.56**	**48**	

Table D-6
Rockville, MD to Baltimore-Washington International Airport
(via I-495/95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	6.70	2.26	20	C
2	I-270	Route 28	I-270 Split - East	2.90	0.00	79	A
3	I-270 Spur	I-270 Split - East	I-495 Merge	3.28	0.43	56	C
4	I-495	I-270 Split/ I-495 Merge	I-95 Exit Ramp	9.20	0.00	58	C
5	I-95	I-495	Route 32	10.98	0.00	65	A
6	Route 32	I-95	BW Pkwy	5.46	0.13	50	A
7	BW Pkwy	Route 32	I-195	7.23	0.00	63	B
8	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
9	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**49.31**	**3.00**	**53**	

Table D-7

Rockville, MD to Baltimore-Washington International Airport

(via Route 28/32)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28 Norbeck Rd.	MD Route 355	Gude Dr.	1.86	0.32	32	A
2	Route 28 Norbeck Rd.	Gude Dr.	Bel Pre Rd.	3.03	0.32	36	A
3	Route 28 Norbeck Rd.	Bel Pre Rd.	Route 97 Georgia Ave.	2.83	0.57	31	B
4	Route 28 Norbeck Rd.	Route 97 Georgia Ave.	Route 182 Layhill Rd.	4.23	0.10	32	B
5	Route 198	Route 182 Layhill Rd.	Route 650 New Hampshire Ave.	5.44	0.62	30	B
6	Route 650 New Hampshire Ave.	Route 198	Route 108	2.29	0.16	37	A
7	Route 108	Route 650 New Hampshire Ave.	Route 32	9.28	0.37	40	A
8	Route 32	Route 108	Route US 29	4.16	0.00	60	A
9	Route 32	Route US 29	I-95	2.82	0.00	62	A
10	Route 32	I-95	BW Pkwy	4.87	0.00	52	A
11	BW Pkwy	Route 32	I-195	7.35	0.00	61	B
12	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
13	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**51.71**	**2.63**	**43**	

Table D-8

Gaithersburg, MD to Baltimore-Washington International Airport

(via I-495/95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	3.31	1.11	9	F
2	I-270	Diamond Ave.	I-370	2.19	0.00	56	C
3	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.91	0.00	58	C
5	I-270	Route 28	I-270 Split - East	2.90	0.00	79	A
6	I-270 Spur	I-270 Split - East	I-495 Merge	3.28	0.43	56	C
7	I-495	I-270 Split/ I-495 Merge	I-95 Exit Ramp	9.20	0.00	58	C
8	I-95	I-495	Route 32	10.98	0.00	65	A
9	Route 32	I-95	BW Pkwy	5.46	0.13	50	D
10	BW Pkwy	Route 32	I-195	7.23	0.00	63	B
11	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
12	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**50.99**	**1.85**	**54**	

Table D-9

Gaithersburg, MD to Baltimore-Washington International Airport

(via Route 28/32)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	3.31	1.11	9	F
2	I-270	Diamond Ave.	I-370	2.19	0.00	56	C
3	I-270	I-370	Shady Grove Rd.	0.78	0.00	75	A
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	2.18	0.00	53	D
5	Route 28 (Montgomery Ave.)	I-270	MD Route 355	6.27	3.09	16	D
6	Route 28 Norbeck Rd.	MD Route 355	Gude Dr.	1.00	0.18	28	B
7	Route 28 Norbeck Rd.	Gude Dr.	Bel Pre Rd.	3.03	0.32	36	A
8	Route 28 Norbeck Rd.	Bel Pre Rd.	Route 97 Georgia Ave.	2.83	0.57	31	B
9	Route 28 Norbeck Rd.	Route 97 Georgia Ave.	Route 182 Layhill Rd.	4.23	0.10	32	B
10	Route 198	Route 182 Layhill Rd.	Route 650 New Hampshire Ave.	5.44	0.62	30	B
11	Route 650 New Hampshire Ave.	Route 198	Route 108	2.29	0.16	37	A
12	Route 108	Route 650 New Hampshire Ave.	Route 32	9.28	0.37	40	A
13	Route 32	Route 108	Route US 29	4.16	0.00	60	A
14	Route 32	Route US 29	I-95	2.82	0.00	62	A
15	Route 32	I-95	BW Pkwy	4.87	0.00	52	A
16	BW Pkwy	Route 32	I-195	7.35	0.00	61	B
17	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
18	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**65.57**	**6.68**	**43**	

Table D-10
Frederick, MD to Baltimore-Washington International Airport
(via I-70)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	I-70 / I270	3.04	0.86	24	B
2	I-70	I-70 / I270	Mount Airy (Howard County Line)	1.28	0.00	39	F
3	I-70	Mount Airy (Howard County Line)	US 29	16.68	0.00	69	A
4	I-70	US 29	I-695	4.27	0.00	67	A
5	I-695	I-70	I-295 / BW Pkwy	8.14	0.00	56	C
6	I-295 / BW Pkwy	I-695	I-195	2.46	0.00	52	C
7	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
8	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**39.42**	**1.03**	**50**	

Table D-11
Waldorf, MD to Baltimore-Washington International Airport
(via US 301 / I-97)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	4.81	1.37	16	E
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	4.64	0.80	36	B
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	3.54	0.29	47	A
4	Crain Highway US 301	Route 5 Branch Ave. Split	Route 4 Pennsylvania Ave.	12.44	0.33	55	A
5	Crain Highway US 301	Route 4 Pennsylvania Ave.	Route 214 Central Ave.	8.16	0.22	46	A
6	Crain Highway US 301	Route 214 Central Ave.	Route 50 John Hanson Hwy.	5.77	0.47	40	B
7	Route 3	Route 50 John Hanson Hwy.	Route 450 Defense Hwy	2.96	0.00	53	A
8	Route 3	Route 450 Defense Hwy	I-97	8.99	1.31	43	A
9	I-97	MD 3	MD 176 Dorsey Rd.	7.52	0.00	58	C
10	Dorsey Rd. / Aviation Blvd	I-197 / Dorsey Rd.	MD 170 Camp Meade Rd.	4.88	0.57	35	B
11	Route 170	Aviation Blvd.	Elm Rd.	2.58	1.28	16	E
12	Elm Rd.	Route 170	Terminal Entrance	3.28	0.11	14	E
			Total	**69.58**	**6.75**	**38**	

Table D-12
Largo, MD to Baltimore-Washington International Airport
(via I-95 / BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	0.73	0.03	40	A
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.03	0.00	58	A
3	I-495/95	Central Avenue (Route 214)	Landover Rd. (Route 202)	1.53	0.00	58	C
4	I-495/95	Landover Rd. (Route 202)	US 50	1.80	0.00	66	A
5	I-495/95	US 50	BW Parkway	3.26	0.00	61	B
6	BW Pkwy.	I-495/95	Powder Mill Rd.	3.87	0.00	58	C
7	BW Pkwy.	Powder Mill Rd.	Route 198	4.66	0.00	67	A
8	BW Pkwy.	Route 198	Route 32	1.61	0.00	67	A
9	BW Pkwy.	Route 32	I-195	6.94	0.00	65	B
10	I-195	BW Pkwy.	Aviation Blvd.	1.13	0.00	61	B
11	I-195	Aviation Blvd.	Terminal	2.42	0.17	29	B
			Total	**28.97**	**0.21**	**57**	

Table D-13
Townson, MD to Baltimore-Washington International Airport
(via I-695 / I-95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 45 Dulaney Valley Blvd.	Joppa Rd.	I-695	3.89	1.68	17	E
2	I-695	Route 45 Dulaney Valley Blvd.	I-83	2.08	0.00	60	C
3	I-695	I-83	I-795	6.28	0.00	67	A
4	I-695	I-795	I-70	4.06	0.00	69	A
5	I-695	I-70	I-95	5.73	0.00	58	C
6	I-95	I-695	I-195	2.06	0.00	53	D
7	I-195	I-95	BW Pkwy	2.50	0.00	64	B
8	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
9	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**30.16**	**1.86**	**53**	

Table D-14
White Marsh, MD to Baltimore-Washington International Airport
(via I-95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Honeygo Blvd.	Campbell Blvd.	Route 43 White Marsh Blvd.	1.85	0.40	38	A
2	Route 43 White Marsh Blvd.	Honeygo Blvd.	I-95	0.55	0.00	54	A
3	I-95	Route 43 White Marsh Blvd.	I-695	2.69	0.00	65	B
4	I-95	I-695	I-895 Spur	2.98	0.00	64	B
5	I-95	I-895 Spur	Toll Plaza	9.02	2.64	37	F
6	I-95	Toll Plaza	I-295 BW Pkwy	3.97	0.02	54	D
7	I-295 BW Pkwy	I-95	I-695	4.19	0.00	60	B
8	I-295 BW Pkwy	I-695	I-195	2.13	0.00	62	B
9	I-195	BW Pkwy	Aviation Blvd.	1.13	0.00	61	B
10	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**30.92**	**3.23**	**52**	

Table D-15
Greenbelt, MD to Baltimore-Washington International Airport
(via BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	7.48	0.31	13	E
2	BW Pkwy	Greenbelt Rd.	Powder Mill Rd.	2.70	0.00	68	A
3	BW Pkwy.	Powder Mill Rd.	Route 198	4.66	0.00	67	A
4	BW Pkwy.	Route 198	Route 32	1.61	0.00	67	A
5	BW Pkwy.	Route 32	I-195	6.94	0.00	65	B
6	I-195	BW Pkwy.	Aviation Blvd.	1.13	0.00	61	B
7	I-195	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**26.94**	**0.48**	**53**	

Table D-16
National Harbor, MD to Baltimore-Washington International Airport
(via I-295 / BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	8.03	1.03	26	B
2	I-495	Route 210	I-295	1.47	0.00	56	C
3	I-295	I-495	Suitland Parkway	6.34	0.13	48	E
4	I-295	Suitland Parkway	Pennsylvania Ave.	1.63	0.00	60	C
5	I-295	Pennsylvania Ave.	US 50 Split Ramp	4.31	0.00	58	C
6	BW Pkwy.	US 50 Split Ramp	Goodluck Rd.	3.07	0.00	47	E
7	BW Pkwy.	Good Luck Rd.	I-495/95	1.09	0.00	46	E
8	BW Pkwy.	I-495/95	Powder Mill Rd.	3.25	0.00	67	A
9	BW Pkwy.	Powder Mill Rd.	Route 198	4.73	0.00	66	A
10	BW Pkwy.	Route 198	Route 32	1.58	0.00	68	A
11	BW Pkwy.	Route 32	I-195	6.91	0.00	65	A
12	I-195	BW Pkwy.	Aviation Blvd.	1.13	0.00	61	B
13	I-95	Aviation Blvd.	Terminal Entrance	2.42	0.17	29	B
			Total	**45.94**	**1.33**	**54**	

Table D-17
Washington, DC to Ronald Reagan National Airport
(via 14th Street)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street NW	16th and K Street	14th and K Street	2.09	0.91	7	F
2	14th Street	K Street	Constitution Avenue	4.07	1.90	11	E
3	14th Street	Constitution Avenue	C Street / Dept. of Agri.	0.84	0.00	30	B
4	14th Street / I-395	C Street / Dept. of Agri.	I-95/395 / GW Pkwy	2.10	0.00	38	A
5	I-95/395 / GW Pkwy	14th Street Bridge	DCA Exit Ramp	1.16	0.00	53	D
6	GW Pkwy	DCA Exit Ramp	Terminal Entrance	2.43	0.00	29	B
			Total	**12.69**	**2.81**	**28**	

Table D-18

Rockville, MD to Ronald Reagan National Airport

(via I-270 / George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	6.13	1.36	21	C
2	I-270	Route 28	I-270 Split - West	3.59	0.00	63	B
3	I-270 Spur	I-270 Split - West	I-495 Merge	2.02	0.00	59	C
4	I-495	I-270 Split/ I-495 Merge	GW Parkway	4.36	0.00	60	C
5	GW Pkwy	I-495	VA Route 123	4.49	0.00	54	D
6	GW Pkwy	VA Route 123	Spout Run	4.28	0.00	57	C
7	GW Pkwy	Spout Run	Key Bridge	0.77	0.00	53	D
8	GW Pkwy	Key Bridge	DCA Exit Ramp	4.28	0.00	50	E
9		DCA Exit Ramp	Terminal Entrance	2.18	0.04	35	B
			Total	**32.10**	**1.39**	**50**	

Table D-19

Gaithersburg, MD to Ronald Reagan National Airport

(via I-270 / George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	3.31	1.11	9	F
2	I-270	Diamond Ave.	I-370	2.19	0.00	56	C
3	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.91	0.00	58	C
5	I-270	Route 28	I-270 Split - West	3.59	0.00	63	B
6	I-270 Spur	I-270 Split - West	I-495 Merge	2.02	0.00	59	C
7	I-495	I-270 Split/ I-495 Merge	GW Parkway	4.36	0.00	60	C
8	GW Pkwy	I-495	VA Route 123	4.49	0.00	54	D
9	GW Pkwy	VA Route 123	Spout Run	4.28	0.00	57	C
10	GW Pkwy	Spout Run	Key Bridge	0.77	0.00	53	D
11	GW Pkwy	Key Bridge	DCA Exit Ramp	4.28	0.00	50	E
12		DCA Exit Ramp	Terminal Entrance	2.18	0.04	35	B
			Total	**34.35**	**1.15**	**51**	

Table D-20

Tyson's Corner, VA to Ronald Reagan National Airport

(via George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 123	VA 7	Great Falls Rd	4.99	0.99	24	C
2	Route 123	Great Falls Rd	Chain Bridge Rd.	2.42	0.02	36	A
3	Route 123	Chain Bridge Rd.	GW Pkwy	4.18	0.34	34	B
4	GW Pkwy	Route 123	Spout Run	4.28	0.00	57	C
5	GW Pkwy	Spout Run	Key Bridge	0.77	0.00	53	D
6	GW Pkwy	Key Bridge	DCA Exit Ramp	4.28	0.00	50	E
7		DCA Exit Ramp	Terminal Entrance	2.18	0.04	35	B
			Total	**23.10**	**1.39**	**41**	

Table D-21

Waldorf, MD to Ronald Reagan National Airport

(via US301/MD5, I-495/95 and George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	4.81	1.37	16	E
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	4.64	0.80	36	B
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	3.54	0.29	47	A
4	Route 5 Branch Avenue	Route 5 Branch Ave. Split	Route 223 Woodyard Rd.	6.26	0.43	51	A
5	Route 5 Branch Avenue	Route 223 Woodyard Rd.	I-495	5.08	0.47	51	A
6	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.72	0.00	66	A
7	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	1.38	0.00	69	A
8	I-495 / I-95	Route 210 Indian Head Hwy	I-295	0.94	0.00	62	B
9	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.12	0.00	52	D
10	Church St.	US 1 Richmond Hwy Exit	Washington Street	0.43	0.02	47	A
11	Washington Street	Church St.	Route 236 Duke St.	4.18	2.29	12	E
12	Washington Street	Route 236 Duke St.	Route 7 King St.	1.12	0.56	9	F
13	Washington Street	Route 7 King St.	Powhatan St.	1.99	0.40	19	C
14	GW Pkwy	Powhatan St.	Airport Exit Ramp	4.69	0.58	29	F
15		Airport Exit Ramp	Terminal Entrance	1.71	0.08	17	D
			Total	**45.61**	**7.28**	**39**	

Table D-22
Woodbridge, VA to Ronald Reagan National Airport
(via I-95/I-395)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	US Route 1	Longview Drive	I-95 Ramp	11.38	1.00	24	B
2	I-95	US Route 1	Capital Beltway	8.67	0.05	61	B
3	I-395	Capital Beltway	Route 7	5.86	0.11	55	D
4	I-395	Route 7	Hayes Street	3.80	0.16	53	D
5	Hayes Street et al	I-395	US 1	3.65	1.04	16	E
6	US 1	15th St.	DCA Exit	2.18	0.92	16	E
7		DCA Exit	Terminal Entrance	2.57	0.47	23	B
			Total	**38.10**	**3.74**	**35**	

Table D-23
Springfield, VA to Ronald Reagan National Airport
(via Springfield Parkway and Fairfax County Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Frontier Drive	Spring Mall Drive	Franconia Road	3.54	1.78	9	F
2	Franconia Road	Frontier Drive	I-95	1.33	0.18	25	C
3	I-95	Franconia Road	Capital Beltway	1.13	0.00	43	F
4	I-395	Capital Beltway	Route 7	5.40	0.00	58	C
5	I-395	Route 7	Hayes Street	3.84	0.14	52	D
6	Hayes Street et al	I-395	US 1	3.97	1.08	15	E
7	US 1	15th St.	DCA Exit	1.94	0.73	17	D
8		DCA Exit	Terminal Entrance	2.83	0.62	20	D
			Total	**23.99**	**4.53**	**30**	

Table D-24

Greenbelt, MD to Ronald Reagan National Airport

(via New York Ave and BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	6.45	0.72	13	F
2	BW Pkwy	Greenbelt Rd.	I-495	0.33	0.00	65	A
3	BW Pkwy	I-495	Route 410	2.25	0.00	63	B
4	BW Pkwy	Route 410	Route I-295 Split	2.90	0.00	66	A
5	New York Avenue	Route US 50 Split	South Dakota Ave.	1.47	0.00	57	A
6	New York Avenue	South Dakota Ave.	Bladensburg Rd.	1.63	0.40	37	A
7	New York Avenue	Bladensburg Rd.	Florida Ave	4.38	0.68	26	B
8	New York Avenue	Florida Ave	North Capitol St.	0.69	0.09	25	B
9	New York Avenue	North Capitol St.	3rd St.	3.38	1.76	8	F
10	I-395	New York Avenue	GW Pkwy	4.95	0.02	44	F
11	GW Pkwy	I-395	DCA Exit	1.05	0.00	58	C
12		DCA Exit	Airport Terminal Entrance	2.18	0.13	35	B
			Total	**31.65**	**3.79**	**41**	

Table D-25
Largo, MD to Ronald Reagan National Airport
(via I-495/95 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	1.28	0.21	25	C
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.39	0.00	48	A
3	I-495/95	Central Avenue (Route 214)	Pennsylvania Ave. (Route 4)	3.87	0.00	63	B
4	I-495/95	Pennsylvania Ave. (Route 4)	Branch Ave. (Route 5)	3.09	0.00	67	A
5	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.61	0.00	68	A
6	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	1.38	0.00	69	A
7	I-495 / I-95	Route 210 Indian Head Hwy	I-295	0.94	0.00	62	B
8	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.12	0.00	52	D
9	Church St.	US 1 Richmond Hwy Exit	Washington Street	0.43	0.02	47	A
10	Washington Street	Church St.	Route 236 Duke St.	4.18	2.29	12	E
11	Washington Street	Route 236 Duke St.	Route 7 King St.	1.12	0.56	9	F
12	Washington Street	Route 7 King St.	Powhatan St.	1.99	0.40	19	C
13	GW Pkwy	Powhatan St.	Airport Exit Ramp	4.69	0.58	29	F
14		Airport Exit Ramp	Terminal Entrance	1.71	0.08	17	D
			Total	**30.79**	**4.13**	**42**	

Table D-26

Frederick, MD to Ronald Reagan National Airport

(via I-270 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	US15/40	6.58	0.98	10	E
2	US15/40	Jefferson St.	I-270/I-70	0.63	0.00	72	A
3	I-270	I-70	Bukestown Rd	1.24	0.00	66	A
4	I-270	Bukestown Rd	Urbana	4.78	0.00	65	B
5	I-270	Urbana	Route MD 109 Old Hundred Rd.	3.47	0.00	64	B
6	I-270	Route MD 109 Old Hundred Rd.	Father Hurley Blvd.	5.64	0.07	67	A
7	I-270	Father Hurley Blvd.	Germantown Rd.	1.16	0.00	68	A
8	I-270	Germantown Rd.	Quince Orchard Rd.	2.86	0.00	69	A
9	I-270	Quince Orchard Rd.	Diamond Ave.	0.58	0.00	61	B
10	I-270	Diamond Ave.	I-370	1.28	0.00	71	A
11	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
12	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.91	0.00	58	C
13	I-270	Route 28	I-270 Split - West	3.59	0.00	63	B
14	I-270 Spur	I-270 Split - West	I-495 Merge	2.02	0.00	59	C
15	I-495	I-270 Split/ I-495 Merge	GW Parkway	4.36	0.00	60	C
16	GW Pkwy	I-495	VA Route 123	4.49	0.00	54	D
17	GW Pkwy	VA Route 123	Spout Run	4.28	0.00	57	C
18	GW Pkwy	Spout Run	Key Bridge	0.77	0.00	53	D
19	GW Pkwy	Key Bridge	DCA Exit Ramp	4.28	0.00	50	E
20		DCA Exit Ramp	Terminal Entrance	2.18	0.04	35	B
			Total	**57.08**	**1.08**	**58**	

Table D-27
National Harbor, MD to Ronald Reagan National Airport
(via I-495/95 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	7.79	0.91	27	C
2	I-495	Route 210	I-295	0.94	0.00	62	B
3	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.12	0.00	52	D
4	Church St.	US 1 Richmond Hwy Exit	Washington Street	0.43	0.02	47	A
5	Washington Street	Church St.	Route 236 Duke St.	4.18	2.29	12	E
6	Washington Street	Route 236 Duke St.	Route 7 King St.	1.12	0.56	9	F
7	Washington Street	Route 7 King St.	Powhatan St.	1.99	0.40	19	C
8	GW Pkwy	Powhatan St.	Airport Exit Ramp	4.69	0.58	29	F
9		Airport Exit Ramp	Terminal Entrance	1.71	0.08	17	D
			Total	**24.98**	**4.83**	**31**	

Table D-28
Washington, DC to Dulles International Airport
(via 14th Street and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street NW	16th and K Street	14th and K Street	2.67	1.27	6	F
2	14th Street	K Street	Constitution Avenue	3.80	1.50	13	E
3	Constitution Avenue	14th Street	23rd Street	3.96	1.57	15	E
4	Constitution Avenue / I-66	23rd Street	Glebe Rd.	5.16	0.00	50	A
5	I-66	Glebe Rd.	Dulles Access Rd. Exit	4.70	0.00	57	C
6	Dulles Airport Access Rd.	I-66	I-495	2.79	0.00	63	B
7	Dulles Airport Access Rd.	I-495	VA 7	1.87	0.00	59	B
8	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	3.61	0.00	64	B
9	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.23	0.00	66	A
10	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.78	0.00	63	B
11	Dulles Airport Access Rd.	VA 28	Terminal Entrance	3.21	0.09	42	A
			Total	**37.78**	**4.42**	**45**	

Table D-29

Rockville, MD to Dulles International Airport

(via I-270 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	6.13	1.85	22	B
2	I-270	Route 28	I-270 Split - West	3.49	0.00	66	A
3	I-270 Spur	I-270 Split - West	I-495 Merge	1.90	0.00	62	B
4	I-495	I-270 Split/ I-495 Merge	Clara Barton Pkwy	3.16	0.00	63	B
5	I-495	Clara Barton Pkwy	GW Pkwy (VA)	1.01	0.00	59	C
6	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	2.52	0.00	60	C
7	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.05	0.00	56	C
8	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.54	0.00	64	B
9	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.31	0.00	64	B
10	Dulles Airport Access	FFX Pkwy	Route 28	2.74	0.00	65	B
11	Dulles Airport Access	Route 28	Terminal Entrance	2.80	0.00	54	A
			Total	**32.66**	**1.85**	**58**	

Table D-30
Gaithersburg, MD to Dulles International Airport
(via I-270 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	3.31	1.11	9	F
2	I-270	Diamond Ave.	I-370	2.19	0.00	56	C
3	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.91	0.00	58	C
5	I-270	Route 28	I-270 Split - West	3.29	0.00	70	A
6	I-270 Spur	I-270 Split - West	I-495 Merge	1.86	0.00	64	B
7	I-495	I-270 Split/ I-495 Merge	Clara Barton Pkwy	3.11	0.00	64	B
8	I-495	Clara Barton Pkwy	GW Pkwy (VA)	1.00	0.00	60	C
9	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	2.44	0.00	61	B
10	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.03	0.00	57	C
11	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.54	0.00	64	B
12	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.39	0.00	62	B
13	Dulles Airport Access	FFX Pkwy	Route 28	2.76	0.00	65	B
14	Dulles Airport Access	Route 28	Terminal Entrance	2.79	0.00	54	A
			Total	**34.60**	**1.11**	**57**	

Table D-31
Tyson's Corner, VA to Dulles International Airport
(via Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 7	VA 123	Dulles Toll Rd.	4.27	0.52	30	B
2	Dulles Toll Rd./ Access Rd.	Route 7	Hunter Mill Rd.	3.73	0.00	62	B
3	Dulles Access Rd.	Hunter Mill Rd.	FFX Pkwy	3.39	0.00	63	B
4	Dulles Access Rd.	FFX Pkwy	Route 28	2.98	0.00	59	C
5	Dulles Access Rd.	Route 28	Terminal Entrance	2.99	0.00	50	A
			Total	**17.36**	**0.52**	**53**	

Table D-32
Frederick, MD to Dulles International Airport
(via US15 and Dulles Greenway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	I-70	2.68	0.89	24	B
2	US 15 / US 340	I-70	US 340	4.10	0.00	62	A
3	US 15	US 340	Point of Rocks	7.39	0.00	57	A
4	US 15	Point of Rocks	US 15 Bypass	13.02	0.02	46	A
5	US 15 Bypass	US 15	Dulles Greenway Exit	6.43	1.06	37	B
6	Dulles Greenway	US 15 Bypass	Toll Plaza	9.75	0.00	68	A
7	Dulles Greenway	Toll Plaza	Route 28	3.58	0.64	48	E
8	Dulles Greenway	Route 28	Terminal Entrance	3.46	0.17	43	A
			Total	**50.41**	**2.78**	**48**	

Table D-33
Woodbridge, VA to Dulles International Airport
(via VA 123, Fairfax County Parkway and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	US Route 1	Longview Drive	Route 123	3.58	0.33	22	C
2	Route 123	US Route 1	I-95	1.10	0.01	38	A
3	Route 123	I-95	Fairfax County Parkway	14.64	0.40	42	A
4	Fairfax County Parkway	Route 123	Route US 29	5.68	0.02	56	A
5	Fairfax County Parkway	Route US 29	I-66	1.05	0.00	59	A
6	Fairfax County Parkway	I-66	Route US 50	2.69	0.56	34	B
7	Fairfax County Parkway	Route US 50	Dulles Access Rd.	10.93	2.26	36	B
8	Dulles Access Rd.	Fairfax County Parkway	Route 28	2.76	0.00	61	B
9	Dulles Access Rd.	Route 28	Airport Terminal Entrance	3.10	0.00	49	A
			Total	**45.53**	**3.58**	**44**	

Table D-34
Largo, MD to Dulles International Airport
(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	1.41	0.33	21	D
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.42	0.00	47	A
3	I-495/95	Central Avenue (Route 214)	Pennsylvania Ave. (Route 4)	3.82	0.00	63	B
4	I-495/95	Pennsylvania Ave. (Route 4)	Branch Ave. (Route 5)	3.09	0.00	67	A
5	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.62	0.00	67	A
6	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	1.39	0.00	69	A
7	I-495 / I-95	Route 210 Indian Head Hwy	I-295	0.94	0.00	62	B
8	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.12	0.00	52	D
9	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.30	0.00	75	A
10	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.84	0.00	67	A
11	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.11	0.00	61	B
12	I-495 / I-95	I-95	Route 620 Braddock St.	2.90	0.00	59	C
13	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	1.52	0.00	66	A
14	I-495 / I-95	Route 236 Little River Tpk.	US50	2.05	0.00	64	B
15	I-495 / I-95	US50	I-66	1.39	0.00	61	B
16	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	1.68	0.00	63	B
17	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.76	0.00	67	A
18	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	0.94	0.00	55	C
19	Dulles Airport Access Rd.	I-495	VA 7	2.47	0.34	48	E
20	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	3.71	0.00	62	B
21	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.36	0.00	63	B
22	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.90	0.00	61	C
23	Dulles Airport Access Rd.	VA 28	Terminal	3.03	0.00	48	A
			Total	**49.77**	**0.68**	**60**	

Table D-35
Springfield, VA to Dulles International Airport
(via Springfield Parkway, Fairfax County Parkway and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Frontier Dr.	SpringMall Dr.	Franconia Springfield Pkwy	2.29	1.21	6	F
2	Franconia Springfield Pkwy	Frontier Dr.	I-95	2.74	0.43	26	C
3	Franconia Springfield Pkwy	I-95	Fairfax County Pkwy	8.11	1.38	9	F
4	Fairfax County Pkwy	Franconia Springfield Pkwy	Route 123	10.21	1.09	3	F
5	Fairfax County Parkway	Route 123	Route US 29	6.02	0.08	6	F
6	Fairfax County Parkway	Route US 29	I-66	1.15	0.00	54	A
7	Fairfax County Parkway	I-66	Route US 50	2.70	0.53	36	B
8	Fairfax County Parkway	Route US 50	Dulles Access Rd.	10.65	1.52	37	B
9	Dulles Access Rd.	Fairfax County Parkway	Route 28	2.71	0.00	62	B
10	Dulles Access Rd.	Route 28	Airport Terminal Entrance	2.89	0.00	53	A
			Total	**49.47**	**6.24**	**29**	

Table D-36
Manassas, VA to Dulles International Airport
(via VA 28 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Center Street	Grant Ave.	Prescott Ave.	15.16	0.14	19	C
2	Prescott Ave.	Center Street	Centerville Rd.	1.19	0.68	14	E
3	Centerville Rd.	Prescott Ave.	Liberia Ave.	1.69	0.57	22	C
4	Centerville Rd.	Liberia Ave.	Old Centerville Rd.	5.95	3.34	10	F
5	Centerville Rd.	Old Centerville Rd.	Fairfax County Line	4.56	0.70	30	B
6	Centerville Rd.	Fairfax County Line	Route US 29	3.62	0.28	43	A
7	Centerville Rd.	Route US 29	I-66	1.09	0.30	39	A
8	Centerville Rd.	I-66	Westerfield Blvd	2.64	0.47	45	A
9	Centerville Rd.	Westerfield Blvd	US 50	2.62	0.36	45	A
10	Centerville Rd.	US 50	Dulles Access Rd.	5.73	0.03	50	A
11	Dulles Access Rd.	Route 28	Airport Terminal Entrance	2.69	0.00	57	A
			Total	**46.93**	**6.87**	**34**	

Table D-37

Greenbelt, MD to Dulles International Airport

(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	10.03	0.17	11	F
2	BW Pkwy	Greenbelt Rd.	I-495	0.50	0.00	55	C
3	I-495	BW Pkwy	I-95	3.63	0.00	64	B
4	I-495	I-95	Route 650	1.82	0.00	63	B
5	I-495	Route 650	Route 193	2.71	0.22	52	D
6	I-495	Route 193	Route US 29	0.64	0.00	61	B
7	I-495	Route US 29	Route 97	1.23	0.00	70	A
8	I-495	Route 97	Route 185	2.01	0.00	67	A
9	I-495	Route 185	I-270 North Spur	1.44	0.00	62	B
10	I-495	I-270 North Spur	I-270 South Spur	4.56	0.36	46	E
11	I-495	I-270 South Spur	Cabin John Pkwy	1.84	0.00	62	B
12	I-495	Cabin John Pkwy	Clara Barton Pkwy	1.31	0.00	62	B
13	I-495	Clara Barton Pkwy	GW Pkwy	1.54	0.06	47	E
14	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	2.44	0.00	61	B
15	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.03	0.00	57	C
16	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.54	0.00	64	B
17	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.23	0.00	66	A
18	Dulles Airport Access	FFX Pkwy	Route 28	2.78	0.00	63	B
19	Dulles Airport Access	Route 28	Terminal Entrance	3.21	0.09	42	A
			Total	**50.51**	**0.89**	**56**	

Table D-38

National Harbor, MD to Dulles International Airport

(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	7.79	0.91	27	C
2	I-495	Route 210	I-295	0.94	0.00	62	B
3	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.12	0.00	52	D
4	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.30	0.00	75	A
5	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.84	0.00	67	A
6	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.11	0.00	61	B
7	I-495 / I-95	I-95	Route 620 Braddock St.	2.90	0.00	59	C
8	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	1.52	0.00	66	A
9	I-495 / I-95	Route 236 Little River Tpk.	US50	2.05	0.00	64	B
10	I-495 / I-95	US50	I-66	1.39	0.00	61	B
11	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	1.68	0.00	63	B
12	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.76	0.00	67	A
13	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	0.94	0.00	55	C
14	Dulles Airport Access Rd.	I-495	VA 7	2.47	0.34	48	E
15	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	3.73	0.00	62	B
16	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.39	0.00	63	B
17	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.98	0.00	59	C
18	Dulles Airport Access Rd.	VA 28	Terminal Entrance	2.99	0.00	50	A
			Total	**43.91**	**1.26**	**59**	

Table D-39

Waldorf, MD to Dulles International Airport

(via US301, MD 5, I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	4.81	1.37	16	E
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	4.64	0.80	36	B
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	3.54	0.29	47	A
4	Route 5 Branch Avenue	Route 5 Branch Ave. Split	Route 223 Woodyard Rd.	6.26	0.43	51	A
5	Route 5 Branch Avenue	Route 223 Woodyard Rd.	I-495	5.08	0.47	51	A
6	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.72	0.00	66	A
7	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	1.39	0.00	69	A
8	I-495 / I-95	Route 210 Indian Head Hwy	I-295	0.94	0.00	62	B
9	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.12	0.00	52	D
10	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.30	0.00	75	A
11	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.84	0.00	67	A
12	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.11	0.00	61	B
13	I-495 / I-95	I-95	Route 620 Braddock St.	2.90	0.00	59	C
14	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	1.52	0.00	66	A
15	I-495 / I-95	Route 236 Little River Tpk.	US50	2.05	0.00	64	B
16	I-495 / I-95	US50	I-66	1.39	0.00	61	B
17	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	1.68	0.00	63	B
18	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.76	0.00	67	A
19	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	0.94	0.00	55	C
20	Dulles Airport Access Rd.	I-495	VA 7	2.47	0.34	48	E
21	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	3.71	0.00	62	B
22	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.36	0.00	63	B
23	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.90	0.00	61	B
24	Dulles Airport Access Rd.	VA 28	Terminal Entrance	3.03	0.00	48	A
			Total	**64.46**	**3.71**	**57**	

Appendix E

Washington-Baltimore Regional Airport
2003 Ground Access Travel Time Study Update
Elapsed and Delay Times, Average Speed and LOS
By Activity Center and Destination Airport
(3:30 – 6:30 P.M. Peak Period)

Table E-1
Annapolis, MD to Baltimore-Washington International Airport
(via I-97)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	School Street	State Circle	Church Circle	1.20	0.13	9	F
2	College Avenue	Church Circle	Bladen Street	0.34	0.13	16	D
3	Bladen Street / Rowe Blvd	College Avenue	US 50 / US 301	4.60	1.50	25	C
4	US 50 / US 301	Rowe Blvd	I-197 Exit	4.28	0.07	47	A
5	I-97	US 50 / US 301	MD 3	7.08	0.00	65	A
6	I-97	MD 3	MD 176 Dorsey Rd.	7.53	0.00	59	C
7	Dorsey Rd. / Aviation Blvd	I-197 / Dorsey Rd.	MD 170 Camp Meade Rd.	4.09	0.47	41	B
8	Route 170	Aviation Blvd.	Elm Rd.	2.26	0.98	19	E
9	Elm Rd.	Route 170	Terminal Entrance	3.40	0.35	13	E
			Total	**34.77**	**3.63**	**33**	

Table E-2
Columbia, MD to Baltimore-Washington International Airport
(via MD 175 and BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Little Patuxent Pkwy	Gov. Warfield Pkwy	Gov. Warfield Pkwy / Little Patuxent	4.00	1.30	19	D
2	Little Patuxent Pkwy	Gov. Warfield Pkwy / Little Patuxe	US 29	1.97	0.49	30	B
3	Route MD 175	US 29	Snowden Parkway	5.88	1.38	33	B
4	Route MD 175	Snowden Parkway	I-95	1.71	0.00	53	A
5	Route MD 175	I-95	US 1	1.76	0.73	21	D
6	Route MD 175	US 1	BW Parkway	6.15	0.51	30	B
7	BW Parkway	Route MD 175	I-195	5.58	0.00	58	C
8	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
9	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**31.24**	**4.86**	**36**	

Table E-3
Baltimore, MD to Baltimore-Washington International Airport
(via BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Fayette Street	Charles Street	Greene Street	3.69	3.31	19	B
2	Greene Street	Fayette Street	Washington Blvd.	3.81	2.62	7	F
3	Russel Street	Washington Blvd.	I-95	2.96	0.58	26	B
4	Russel Street / BW Pkwy	I-95	I-695	3.83	0.00	62	A
5	BW Pkwy	I-695	I-195	2.20	0.00	60	B
6	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
7	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**20.69**	**6.97**	**36**	

Table E-4
Washington, DC to Baltimore-Washington International Airport
(via Pennsylvania Avenue)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Independence Ave.	14th St.	South Capitol St.	5.19	1.78	14	D
2	Independence Ave.	South Capitol St.	Pennsylvania Ave., SE	1.74	0.77	11	E
3	Pennsylvania Ave., SE	Independence Ave.	I-295	6.53	1.68	18	D
4	I-295	Pennsylvania Ave., SE	Benning Rd.	3.02	0.00	38	A
5	I-295	Benning Rd.	BW Pkwy.	2.85	0.00	43	A
6	BW Pkwy.	I-295	Good Luck Rd.	12.56	3.19	39	F
7	BW Pkwy.	Good Luck Rd.	I-495/95	1.58	0.00	57	C
8	BW Pkwy.	I-495/95	Powder Mill Rd.	7.77	1.78	38	F
9	BW Pkwy.	Powder Mill Rd.	Route 198	5.66	0.00	55	C
10	BW Pkwy.	Route 198	Route 32	1.78	0.00	61	B
11	BW Pkwy.	Route 32	I-195	7.84	0.00	57	C
12	I-195	BW Pkwy.	Aviation Blvd	1.21	0.00	56	C
13	I-195	Aviation Blvd	Terminal Entrance	2.99	0.46	23	C
			Total	**60.73**	**9.64**	**39**	

Table E-5
Washington, DC to Baltimore-Washington International Airport
(via New York Avenue)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street	16th Street NW	7th and K St. NW	8.49	2.99	6	F
2	New York Ave.	7th and K St. NW	Florida Ave. NE	6.56	2.97	12	E
3	New York Ave.	Florida Ave. NE	South Dakota Ave.	9.96	3.00	21	C
4	New York Ave.	South Dakota Ave.	BWI Pkwy	1.93	0.06	37	A
5	BWI Pkwy	New York Ave.	I-495	10.52	1.06	42	F
6	BW Pkwy.	I-495/95	Powder Mill Rd.	7.20	1.14	40	F
7	BW Pkwy.	Powder Mill Rd.	Route 198	5.67	0.00	55	C
8	BW Pkwy.	Route 198	Route 32	1.73	0.00	63	B
9	BW Pkwy.	Route 32	I-195	8.02	0.00	56	C
10	I-195	BW Pkwy.	Aviation Blvd.	1.21	0.00	56	C
11	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**64.27**	**11.67**	**37**	

Table E-6
Rockville, MD to Baltimore-Washington International Airport
(via I-495/95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	6.42	2.10	20	C
2	I-270	Route 28	I-270 Split - East	3.08	0.00	74	A
3	I-270 Spur	I-270 Split - East	I-495 Merge	2.78	0.00	62	B
4	I-495	I-270 Split/ I-495 Merge	I-95 Exit Ramp	9.58	0.00	56	C
5	I-95	I-495	Route 32	11.31	0.00	64	B
6	Route 32	I-95	BW Pkwy	4.39	0.00	59	C
7	BW Pkwy	Route 32	I-195	7.65	0.00	59	C
8	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
9	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**49.40**	**2.56**	**53**	

Table E-7

Rockville, MD to Baltimore-Washington International Airport

(via Route 28/32)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28 Norbeck Rd.	MD Route 355	Gude Dr.	1.90	0.25	26	B
2	Route 28 Norbeck Rd.	Gude Dr.	Bel Pre Rd.	3.65	0.51	31	B
3	Route 28 Norbeck Rd.	Bel Pre Rd.	Route 97 Georgia Ave.	5.61	2.36	20	D
4	Route 28 Norbeck Rd.	Route 97 Georgia Ave.	Route 182 Layhill Rd.	4.87	0.33	28	C
5	Route 198	Route 182 Layhill Rd.	Route 650 New Hampshire Ave.	6.45	0.86	26	C
6	Route 650 New Hampshire Ave.	Route 198	Route 108	4.87	1.73	22	D
7	Route 108	Route 650 New Hampshire Ave.	Route 32	9.66	0.73	38	A
8	Route 32	Route 108	Route US 29	4.19	0.03	60	A
9	Route 32	Route US 29	I-95	2.78	0.00	63	A
10	Route 32	I-95	BW Pkwy	4.96	0.00	51	A
11	BW Pkwy	Route 32	I-195	8.12	0.06	56	C
12	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
13	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	61.26	7.31	39	

Table E-8

Gaithersburg, MD to Baltimore-Washington International Airport

(via I-495/95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	3.87	1.71	8	F
2	I-270	Diamond Ave.	I-370	2.07	0.00	59	C
3	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.90	0.00	58	C
5	I-270	Route 28	I-270 Split - East	3.08	0.00	74	A
6	I-270 Spur	I-270 Split - East	I-495 Merge	2.78	0.00	62	B
7	I-495	I-270 Split/ I-495 Merge	I-95 Exit Ramp	9.58	0.00	56	C
8	I-95	I-495	Route 32	11.31	0.00	64	B
9	Route 32	I-95	BW Pkwy	4.39	0.00	59	C
10	BW Pkwy	Route 32	I-195	7.65	0.00	59	C
11	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
12	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	51.80	2.17	53	

Table E-9

Gaithersburg, MD to Baltimore-Washington International Airport

(via Route 28/32)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	3.87	1.71	8	F
2	I-270	Diamond Ave.	I-370	2.07	0.00	59	C
3	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.80	0.00	61	B
5	Route 28 (Montgomery Ave.)	I-270	MD Route 355	7.08	3.48	15	D
6	Route 28 Norbeck Rd.	MD Route 355	Gude Dr.	2.33	1.61	12	E
7	Route 28 Norbeck Rd.	Gude Dr.	Bel Pre Rd.	3.65	0.51	31	B
8	Route 28 Norbeck Rd.	Bel Pre Rd.	Route 97 Georgia Ave.	5.61	2.36	20	D
9	Route 28 Norbeck Rd.	Route 97 Georgia Ave.	Route 182 Layhill Rd.	4.87	0.33	28	C
10	Route 198	Route 182 Layhill Rd.	Route 650 New Hampshire Ave.	6.45	0.86	26	C
11	Route 650 New Hampshire Ave.	Route 198	Route 108	4.87	1.73	22	D
12	Route 108	Route 650 New Hampshire Ave.	Route 32	9.66	0.73	38	A
13	Route 32	Route 108	Route US 29	4.19	0.03	60	A
14	Route 32	Route US 29	I-95	2.78	0.00	63	A
15	Route 32	I-95	BW Pkwy	4.96	0.00	51	A
16	BW Pkwy	Route 32	I-195	8.12	0.06	56	C
17	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
18	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**77.48**	**13.86**	**38**	

Table E-10
Frederick, MD to Baltimore-Washington International Airport
(via I-70)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	I-70 / I270	4.71	1.24	17	D
2	I-70	I-70 / I270	Mount Airy (Howard County Line)	13.02	0.00	69	A
3	I-70	Mount Airy (Howard County Line)	US 29	16.36	0.00	71	A
4	I-70	US 29	I-695	6.29	0.22	46	E
5	I-695	I-70	I-295 / BW Pkwy	9.29	0.00	49	E
6	I-295 / BW Pkwy	I-695	I-195	2.43	0.00	53	D
7	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
8	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**56.29**	**1.92**	**48**	

Table E-11
Waldorf, MD to Baltimore-Washington International Airport
(via US 301 / I-97)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	0.91	0.38	17	E
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	5.19	1.02	32	C
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	3.71	0.38	45	A
4	Crain Highway US 301	Route 5 Branch Ave. Split	Route 4 Pennsylvania Ave.	12.92	0.31	54	A
5	Crain Highway US 301	Route 4 Pennsylvania Ave.	Route 214 Central Ave.	7.30	0.34	49	A
6	Crain Highway US 301	Route 214 Central Ave.	Route 50 John Hanson Hwy.	6.10	0.76	38	B
7	Route 3	Route 50 John Hanson Hwy.	Route 450 Defense Hwy	4.07	0.23	43	A
8	Route 3	Route 450 Defense Hwy	I-97	11.38	2.37	34	B
9	I-97	MD 3	MD 176 Dorsey Rd.	7.53	0.00	59	C
10	Dorsey Rd. / Aviation Blvd	I-197 / Dorsey Rd.	MD 170 Camp Meade Rd.	4.09	0.47	41	B
11	Route 170	Aviation Blvd.	Elm Rd.	2.26	0.98	19	E
12	Elm Rd.	Route 170	Terminal Entrance	3.40	0.35	13	E
			Total	**68.86**	**7.58**	**37**	

Table E-12
Largo, MD to Baltimore-Washington International Airport
(via I-95 / BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	1.02	0.07	32	B
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.04	0.00	58	A
3	I-495/95	Central Avenue (Route 214)	Landover Rd. (Route 202)	1.54	0.00	58	C
4	I-495/95	Landover Rd. (Route 202)	US 50	1.96	0.00	60	B
5	I-495/95	US 50	BW Parkway	3.59	0.00	56	C
6	BW Pkwy.	I-495/95	Powder Mill Rd.	7.77	1.78	38	F
7	BW Pkwy.	Powder Mill Rd.	Route 198	5.66	0.00	55	C
8	BW Pkwy.	Route 198	Route 32	1.78	0.00	61	B
9	BW Pkwy.	Route 32	I-195	7.84	0.00	57	C
10	I-195	BW Pkwy.	Aviation Blvd.	1.21	0.00	56	C
11		Aviation Blvd.	Terminal	2.99	0.46	23	C
			Total	**36.41**	**2.30**	**50**	

Table E-13
Towson, MD to Baltimore-Washington International Airport
(via I-695 / I-95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 45 Dulaney Valley Blvd.	Joppa Rd.	I-695	6.08	2.55	11	F
2	I-695	Route 45 Dulaney Valley Blvd.	I-83	4.03	0.20	36	F
3	I-695	I-83	I-795	8.78	0.00	50	E
4	I-695	I-795	I-70	6.00	0.00	53	D
5	I-695	I-70	I-95	10.26	0.11	34	F
6	I-95	I-695	I-195	2.28	0.00	49	D
7	I-195	I-95	BW Pkwy	2.83	0.00	57	C
8	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
9	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**44.46**	**3.31**	**41**	

Table E-14
White Marsh, MD to Baltimore-Washington International Airport
(via I-95)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Honeygo Blvd.	Campbell Blvd.	Route 43 White Marsh Blvd.	1.53	0.22	38	A
2	Route 43 White Marsh Blvd.	Honeygo Blvd.	I-95	0.54	0.00	54	A
3	I-95	Route 43 White Marsh Blvd.	I-695	2.86	0.00	60	B
4	I-95	I-695	I-895 Spur	3.17	0.00	60	B
5	I-95	I-895 Spur	Toll Plaza	10.34	2.96	30	F
6	I-95	Toll Plaza	I-295 BW Pkwy	4.04	0.01	54	D
7	I-295 BW Pkwy	I-95	I-695	4.31	0.00	59	C
8	I-295 BW Pkwy	I-695	I-195	2.21	0.00	60	C
9	I-195	BW Pkwy	Aviation Blvd.	1.21	0.00	56	C
10	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**33.21**	**3.64**	**49**	

Table E-15
Greenbelt, MD to Baltimore-Washington International Airport
(via BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	2.47	0.84	21	D
2	BW Pkwy	Greenbelt Rd.	Powder Mill Rd.	4.60	0.08	44	F
3	BW Pkwy.	Powder Mill Rd.	Route 198	5.66	0.00	55	C
4	BW Pkwy.	Route 198	Route 32	1.78	0.00	61	B
5	BW Pkwy.	Route 32	I-195	7.84	0.00	57	C
6	I-195	BW Pkwy.	Aviation Blvd.	1.21	0.00	56	C
7	I-195	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**26.55**	**1.38**	**45**	

Table E-16
National Harbor, MD to Baltimore-Washington International Airport
(via I-295 / BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	8.50	1.41	24	C
2	I-495	Route 210	I-295	1.74	0.00	47	F
3	I-295	I-495	Suitland Parkway	5.49	0.00	52	D
4	I-295	Suitland Parkway	Pennsylvania Ave.	1.96	0.00	50	E
5	I-295	Pennsylvania Ave.	US 50 Split Ramp	8.59	0.29	30	F
6	BW Pkwy.	US 50 Split Ramp	Goodluck Rd.	12.56	3.19	39	F
7	BW Pkwy.	Good Luck Rd.	I-495/95	1.58	0.00	57	C
8	BW Pkwy.	I-495/95	Powder Mill Rd.	7.77	1.78	38	F
9	BW Pkwy.	Powder Mill Rd.	Route 198	5.66	0.00	55	C
10	BW Pkwy.	Route 198	Route 32	1.78	0.00	61	B
11	BW Pkwy.	Route 32	I-195	7.84	0.00	57	C
12	I-195	BW Pkwy.	Aviation Blvd.	1.21	0.00	56	C
13	I-95	Aviation Blvd.	Terminal Entrance	2.99	0.46	23	C
			Total	**67.68**	**7.12**	**45**	

Table E-17
Washington, DC to Ronald Reagan National Airport
(via 14th Street)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street NW	16th and K Street	14th and K Street	1.99	1.17	7	F
2	14th Street	K Street	Constitution Avenue	4.41	2.09	10	E
3	14th Street	Constitution Avenue	C Street / Dept. of Agri.	1.79	0.79	19	C
4	14th Street / I-395	C Street / Dept. of Agri.	I-95/395 / GW Pkwy	3.59	0.17	25	C
5	I-95/395 / GW Pkwy	14th Street Bridge	DCA Exit Ramp	1.20	0.00	51	D
6	GW Pkwy	DCA Exit Ramp	Terminal Entrance	2.13	0.00	32	B
			Total	**15.11**	**4.21**	**24**	

Table E-18

Rockville, MD to Ronald Reagan National Airport

(via I-270 / George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	8.33	3.09	16	D
2	I-270	Route 28	I-270 Split - West	3.49	0.00	66	A
3	I-270 Spur	I-270 Split - West	I-495 Merge	2.11	0.00	56	C
4	I-495	I-270 Split/ I-495 Merge	GW Parkway	10.04	1.31	34	F
5	GW Pkwy	I-495	VA Route 123	4.61	0.00	52	D
6	GW Pkwy	VA Route 123	Spout Run	4.72	0.00	52	D
7	GW Pkwy	Spout Run	Key Bridge	1.00	0.01	45	E
8	GW Pkwy	Key Bridge	DCA Exit Ramp	4.54	0.00	47	E
9		DCA Exit Ramp	Terminal Entrance	2.13	0.01	36	A
			Total	**40.97**	**4.42**	**45**	

Table E-19

Gaithersburg, MD to Ronald Reagan National Airport

(via I-270 / George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	3.87	1.71	8	F
2	I-270	Diamond Ave.	I-370	2.07	0.00	59	C
3	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.90	0.00	58	C
5	I-270	Route 28	I-270 Split - West	3.49	0.00	66	A
6	I-270 Spur	I-270 Split - West	I-495 Merge	2.11	0.00	56	C
7	I-495	I-270 Split/ I-495 Merge	GW Parkway	10.04	1.31	34	F
8	GW Pkwy	I-495	VA Route 123	4.61	0.00	52	D
9	GW Pkwy	VA Route 123	Spout Run	4.72	0.00	52	D
10	GW Pkwy	Spout Run	Key Bridge	1.00	0.01	45	E
11	GW Pkwy	Key Bridge	DCA Exit Ramp	4.54	0.00	47	E
12	0	DCA Exit Ramp	Terminal Entrance	2.13	0.01	36	A
			Total	**41.45**	**3.04**	**48**	

Table E-20

Tyson's Corner, VA to Ronald Reagan National Airport

(via George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 123	VA 7	Great Falls Rd	5.59	1.17	22	D
2	Route 123	Great Falls Rd	Chain Bridge Rd.	2.98	0.49	32	B
3	Route 123	Chain Bridge Rd.	GW Pkwy	4.41	0.38	33	B
4	GW Pkwy	Route 123	Spout Run	4.72	0.00	52	D
5	GW Pkwy	Spout Run	Key Bridge	1.00	0.01	45	E
6	GW Pkwy	Key Bridge	DCA Exit Ramp	4.54	0.00	47	E
7		DCA Exit Ramp	Terminal Entrance	2.13	0.01	36	A
			Total	**25.38**	**2.06**	**38**	

Table E-21

Waldorf, MD to Ronald Reagan National Airport

(via US301/MD5, I-495/95 and George Washington Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	0.91	0.38	17	E
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	5.19	1.02	32	C
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	3.71	0.38	45	A
4	Route 5 Branch Avenue	Route 5 Branch Ave. Split	Route 223 Woodyard Rd.	6.06	0.24	53	A
5	Route 5 Branch Avenue	Route 223 Woodyard Rd.	I-495	7.44	2.67	36	A
6	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.36	0.00	76	A
7	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	1.32	0.00	72	A
8	I-495 / I-95	Route 210 Indian Head Hwy	I-295	0.98	0.00	60	B
9	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.68	0.00	49	E
10	Church St.	US 1 Richmond Hwy Exit	Washington Street	0.97	0.26	11	D
11	Washington Street	Church St.	Route 236 Duke St.	2.02	0.42	17	D
12	Washington Street	Route 236 Duke St.	Route 7 King St.	0.84	0.32	12	E
13	Washington Street	Route 7 King St.	Powhatan St.	2.17	0.37	18	D
14	GW Pkwy	Powhatan St.	Airport Exit Ramp	4.17	0.64	33	F
15		Airport Exit Ramp	Terminal Entrance	2.57	0.00	11	F
			Total	**43.39**	**6.69**	**36**	

Table E-22
Woodbridge, VA to Ronald Reagan National Airport
(via I-95/I-395)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	US Route 1	Longview Drive	I-95 Ramp	5.14	0.93	31	A
2	I-95	US Route 1	Capital Beltway	8.01	0.00	65	B
3	I-395	Capital Beltway	Route 7	5.11	0.00	61	B
4	I-395	Route 7	Hayes Street	4.38	0.67	47	E
5	Hayes Street et al	I-395	US 1	2.28	0.47	20	D
6	US 1	15th St.	DCA Exit	2.29	0.81	15	E
7		DCA Exit	Terminal Entrance	2.89	0.77	20	D
			Total	**30.10**	**3.64**	**37**	

Table E-23
Springfield, VA to Ronald Reagan National Airport
(via Springfield Parkway and Fairfax County Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Frontier Drive	Spring Mall Drive	Franconia Road	2.90	1.22	9	F
2	Franconia Road	Frontier Drive	I-95	1.86	0.82	18	D
3	I-95	Franconia Road	Capital Beltway	1.13	0.00	43	F
4	I-395	Capital Beltway	Route 7	5.11	0.00	61	B
5	I-395	Route 7	Hayes Street	4.38	0.67	47	E
6	Hayes Street et al	I-395	US 1	2.28	0.47	20	D
7	US 1	15th St.	DCA Exit	2.29	0.81	15	E
8		DCA Exit	Terminal Entrance	2.89	0.77	20	D
			Total	**22.84**	**4.74**	**29**	

Table E-24

Greenbelt, MD to Ronald Reagan National Airport

(via New York Ave and BW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	1.67	0.51	22	C
2	BW Pkwy	Greenbelt Rd.	I-495	0.42	0.00	51	D
3	BW Pkwy	I-495	Route 410	2.32	0.00	61	B
4	BW Pkwy	Route 410	Route I-295 Split	3.16	0.00	60	B
5	New York Avenue	Route US 50 Split	South Dakota Ave.	1.45	0.00	57	A
6	New York Avenue	South Dakota Ave.	Bladensburg Rd.	1.77	0.41	35	A
7	New York Avenue	Bladensburg Rd.	Florida Ave	3.87	0.37	30	B
8	New York Avenue	Florida Ave	North Capitol St.	0.92	0.23	18	D
9	New York Avenue	North Capitol St.	3rd St.	2.38	1.15	11	E
10	I-395	New York Avenue	GW Pkwy	10.02	0.49	24	F
11	GW Pkwy	I-395	DCA Exit	1.27	0.00	48	E
12		DCA Exit	Airport Terminal Entrance	2.39	0.08	32	B
			Total	**31.64**	**3.25**	**37**	

Table E-25

Largo, MD to Ronald Reagan National Airport

(via I-495/95 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	0.86	0.02	36	A
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.59	0.00	42	A
3	I-495/95	Central Avenue (Route 214)	Pennsylvania Ave. (Route 4)	3.87	0.00	62	B
4	I-495/95	Pennsylvania Ave. (Route 4)	Branch Ave. (Route 5)	3.14	0.00	67	A
5	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.64	0.00	67	A
6	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	1.32	0.00	72	A
7	I-495 / I-95	Route 210 Indian Head Hwy	I-295	0.98	0.00	60	B
8	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.68	0.00	49	E
9	Church St.	US 1 Richmond Hwy Exit	Washington Street	0.97	0.26	11	D
10	Washington Street	Church St.	Route 236 Duke St.	2.02	0.42	17	D
11	Washington Street	Route 236 Duke St.	Route 7 King St.	0.84	0.32	12	E
12	Washington Street	Route 7 King St.	Powhatan St.	2.17	0.37	18	D
13	GW Pkwy	Powhatan St.	Airport Exit Ramp	4.17	0.64	33	F
14		Airport Exit Ramp	Terminal Entrance	2.57	0.00	11	E
			Total	**29.81**	**2.03**	**40**	

Table E-26

Frederick, MD to Ronald Reagan National Airport

(via I-270 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	US15/40	7.03	1.10	8	F
2	US15/40	Jefferson St.	I-270/I-70	0.66	0.00	69	A
3	I-270	I-70	Bukestown Rd	1.31	0.00	63	B
4	I-270	Bukestown Rd	Urbana	4.88	0.00	63	B
5	I-270	Urbana	Route MD 109 Old Hundred Rd.	3.46	0.00	65	B
6	I-270	Route MD 109 Old Hundred Rd.	Father Hurley Blvd.	5.77	0.07	66	A
7	I-270	Father Hurley Blvd.	Germantown Rd.	1.12	0.00	70	A
8	I-270	Germantown Rd.	Quince Orchard Rd.	2.89	0.00	68	A
9	I-270	Quince Orchard Rd.	Diamond Ave.	0.57	0.00	63	B
10	I-270	Diamond Ave.	I-370	1.22	0.00	74	A
11	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
12	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.90	0.00	58	C
13	I-270	Route 28	I-270 Split - West	3.49	0.00	66	A
14	I-270 Spur	I-270 Split - West	I-495 Merge	2.11	0.00	56	C
15	I-495	I-270 Split/ I-495 Merge	GW Parkway	10.04	1.31	34	F
16	GW Pkwy	I-495	VA Route 123	4.61	0.00	52	D
17	GW Pkwy	VA Route 123	Spout Run	4.72	0.00	52	D
18	GW Pkwy	Spout Run	Key Bridge	1.00	0.01	45	E
19	GW Pkwy	Key Bridge	DCA Exit Ramp	4.54	0.00	47	E
20		DCA Exit Ramp	Terminal Entrance	2.13	0.01	36	A
			Total	**64.43**	**2.50**	**56**	

Table E-27
National Harbor, MD to Ronald Reagan National Airport
(via I-495/95 and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	10.09	1.91	20	D
2	I-495	Route 210	I-295	0.98	0.00	60	B
3	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.68	0.00	49	E
4	Church St.	US 1 Richmond Hwy Exit	Washington Street	0.97	0.26	11	D
5	Washington Street	Church St.	Route 236 Duke St.	2.02	0.42	17	D
6	Washington Street	Route 236 Duke St.	Route 7 King St.	0.84	0.32	12	E
7	Washington Street	Route 7 King St.	Powhatan St.	2.17	0.37	18	D
8	GW Pkwy	Powhatan St.	Airport Exit Ramp	4.17	0.64	33	F
9		Airport Exit Ramp	Terminal Entrance	2.57	0.00	11	F
			Total	**26.49**	**3.92**	**26**	

Table E-28
Washington, DC to Dulles International Airport
(via 14th Street and GW Parkway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	K Street NW	16th and K Street	14th and K Street	2.38	1.40	6	F
2	14th Street	K Street	Constitution Avenue	2.66	0.69	17	D
3	Constitution Avenue	14th Street	23rd Street	4.41	1.99	14	E
4	Constitution Avenue / I-66	23rd Street	Glebe Rd.	13.56	0.62	24	C
5	I-66	Glebe Rd.	Dulles Access Rd. Exit	10.62	0.29	32	F
6	Dulles Airport Access Rd.	I-66	I-495	2.86	0.00	62	B
7	Dulles Airport Access Rd.	I-495	VA 7	1.87	0.00	59	C
8	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	3.86	0.00	60	B
9	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.59	0.00	59	C
10	Dulles Airport Access Rd.	FFx Parkway	VA 28	2.94	0.00	59	C
11	Dulles Airport Access Rd.	VA 28	Terminal Entrance	2.75	0.07	49	A
			Total	**51.50**	**5.06**	**40**	

Table E-29

Rockville, MD to Dulles International Airport

(via I-270 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 28	Route 355	I-270	7.51	2.94	17	D
2	I-270	Route 28	I-270 Split - West	2.89	0.00	80	A
3	I-270 Spur	I-270 Split - West	I-495 Merge	1.82	0.00	65	B
4	I-495	I-270 Split/ I-495 Merge	Clara Barton Pkwy	3.14	0.00	64	B
5	I-495	Clara Barton Pkwy	GW Pkwy (VA)	1.74	0.06	34	F
6	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	6.59	0.22	23	F
7	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.07	0.00	55	D
8	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.67	0.00	62	B
9	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.41	0.00	62	B
10	Dulles Airport Access	FFX Pkwy	Route 28	2.80	0.00	64	B
11	Dulles Airport Access	Route 28	Terminal Entrance	2.86	0.01	53	A
			Total	**38.51**	**3.23**	**53**	

Table E-30

Gaithersburg, MD to Dulles International Airport

(via I-270 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Diamond Ave.	Quince Orchard Rd.	I-270	3.87	1.71	8	F
2	I-270	Diamond Ave.	I-370	2.07	0.00	59	C
3	I-270	I-370	Shady Grove Rd.	0.98	0.00	60	C
4	I-270	Shady Grove Rd.	Route 28 (Montgomery Ave.)	1.90	0.00	58	C
5	I-270	Route 28	I-270 Split - West	2.89	0.00	80	A
6	I-270 Spur	I-270 Split - West	I-495 Merge	1.82	0.00	65	B
7	I-495	I-270 Split/ I-495 Merge	Clara Barton Pkwy	3.14	0.00	64	B
8	I-495	Clara Barton Pkwy	GW Pkwy (VA)	1.74	0.06	34	F
9	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	6.59	0.22	23	F
10	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.07	0.00	55	D
11	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.67	0.00	62	B
12	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.41	0.00	62	B
13	Dulles Airport Access	FFX Pkwy	Route 28	2.80	0.00	64	B
14	Dulles Airport Access	Route 28	Terminal Entrance	2.86	0.01	53	A
			Total	**39.82**	**2.00**	**53**	

Table E-31

Tyson's Corner, VA to Dulles International Airport

(via Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Route 7	VA 123	Dulles Toll Rd.	9.29	1.43	16	E
2	Dulles Toll Rd./ Access Rd.	Route 7	Hunter Mill Rd.	4.64	0.00	53	D
3	Dulles Access Rd.	Hunter Mill Rd.	FFX Pkwy	3.68	0.00	58	C
4	Dulles Access Rd.	FFX Pkwy	Route 28	3.13	0.00	56	C
5	Dulles Access Rd.	Route 28	Terminal Entrance	3.16	0.00	48	A
			Total	**23.90**	**1.43**	**46**	

Table E-32
Frederick, MD to Dulles International Airport
(via US15 and Dulles Greenway)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Jefferson St.	Braddock St.	I-70	2.60	0.86	25	B
2	US 15 / US 340	I-70	US 340	3.94	0.00	64	A
3	US 15	US 340	Point of Rocks	7.51	0.00	56	A
4	US 15	Point of Rocks	US 15 Bypass	13.43	0.00	45	A
5	US 15 Bypass	US 15	Dulles Greenway Exit	8.18	2.50	28	C
6	Dulles Greenway	US 15 Bypass	Toll Plaza	9.79	0.00	67	A
7	Dulles Greenway	Toll Plaza	Route 28	4.03	1.10	45	F
8	Dulles Greenway	Route 28	Terminal Entrance	3.65	0.02	40	A
			Total	**53.13**	**4.48**	**46**	

Table E-33
Woodbridge, VA to Dulles International Airport
(via VA 123, Fairfax County Parkway and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	US Route 1	Longview Drive	Route 123	4.42	2.26	16	D
2	Route 123	US Route 1	I-95	1.31	0.18	33	B
3	Route 123	I-95	Fairfax County Parkway	15.86	0.67	39	A
4	Fairfax County Parkway	Route 123	Route US 29	6.05	0.03	53	A
5	Fairfax County Parkway	Route US 29	I-66	1.08	0.00	57	A
6	Fairfax County Parkway	I-66	Route US 50	2.46	0.48	39	B
7	Fairfax County Parkway	Route US 50	Dulles Access Rd.	12.14	2.80	33	C
8	Dulles Access Rd.	Fairfax County Parkway	Route 28	2.88	0.00	58	C
9	Dulles Access Rd.	Route 28	Airport Terminal Entrance	2.92	0.00	52	A
			Total	**49.11**	**6.41**	**42**	

Table E-34
Largo, MD to Dulles International Airport
(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Landover Rd (Route 202)	Arena Drive	Central Avenue (Route 214)	0.86	0.02	36	A
2	Central Avenue (Route 214)	Landover Rd (Route 202)	I-495/95	1.59	0.00	42	A
3	I-495/95	Central Avenue (Route 214)	Pennsylvania Ave. (Route 4)	3.87	0.00	62	B
4	I-495/95	Pennsylvania Ave. (Route 4)	Branch Ave. (Route 5)	3.14	0.00	67	A
5	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.64	0.00	67	A
6	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	1.32	0.00	72	A
7	I-495 / I-95	Route 210 Indian Head Hwy	I-295	0.98	0.00	60	B
8	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.68	0.00	49	E
9	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.46	0.00	65	B
10	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.90	0.00	66	A
11	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.19	0.00	59	C
12	I-495 / I-95	I-95	Route 620 Braddock St.	2.73	0.00	63	B
13	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	1.58	0.00	63	B
14	I-495 / I-95	Route 236 Little River Tpk.	US50	2.12	0.00	61	B
15	I-495 / I-95	US50	I-66	1.44	0.00	59	C
16	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	1.78	0.00	60	C
17	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.84	0.00	60	B
18	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	1.19	0.00	45	F
19	Dulles Airport Access Rd.	I-495	VA 7	3.18	0.66	45	F
20	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	4.64	0.00	53	D
21	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.68	0.00	58	C
22	Dulles Airport Access Rd.	FFx Parkway	VA 28	3.13	0.00	56	A
23	Dulles Airport Access Rd.	VA 28	Terminal	3.16	0.00	48	A
			Total	**53.10**	**0.68**	**57**	

Table E-35

Springfield, VA to Dulles International Airport

(via Springfield Parkway, Fairfax County Parkway and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Frontier Dr.	SpringMall Dr.	Franconia Springfield Pkwy	1.50	0.56	12	E
2	Franconia Springfield Pkwy	Frontier Dr.	I-95	0.88	0.00	39	A
3	Franconia Springfield Pkwy	I-95	Fairfax County Pkwy	2.99	0.11	31	B
4	Fairfax County Pkwy	Franconia Springfield Pkwy	Route 123	13.00	1.83	23	D
5	Fairfax County Parkway	Route 123	Route US 29	6.18	0.03	36	B
6	Fairfax County Parkway	Route US 29	I-66	1.10	0.00	56	A
7	Fairfax County Parkway	I-66	Route US 50	2.81	0.72	33	C
8	Fairfax County Parkway	Route US 50	Dulles Access Rd.	11.83	2.73	34	B
9	Dulles Access Rd.	Fairfax County Parkway	Route 28	2.89	0.00	58	C
10	Dulles Access Rd.	Route 28	Airport Terminal Entrance	3.16	0.00	49	A
			Total	**46.33**	**5.99**	**37**	

Table E-36

Manassas, VA to Dulles International Airport

(via VA 28 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Center Street	Grant Ave.	Prescott Ave.	7.56	0.43	16	D
2	Prescott Ave.	Center Street	Centerville Rd.	1.56	0.69	10	F
3	Centerville Rd.	Prescott Ave.	Liberia Ave.	2.31	1.12	17	E
4	Centerville Rd.	Liberia Ave.	Old Centerville Rd.	2.37	0.63	24	C
5	Centerville Rd.	Old Centerville Rd.	Fairfax County Line	3.75	0.26	37	A
6	Centerville Rd.	Fairfax County Line	Route US 29	5.19	1.34	31	B
7	Centerville Rd.	Route US 29	I-66	1.67	0.88	29	B
8	Centerville Rd.	I-66	Westerfield Blvd	3.12	0.54	38	A
9	Centerville Rd.	Westerfield Blvd	US 50	3.08	0.68	38	A
10	Centerville Rd.	US 50	Dulles Access Rd.	6.54	0.03	45	A
11	Dulles Access Rd.	Route 28	Airport Terminal Entrance	3.43	0.54	45	A
			Total	**40.58**	**7.16**	**30**	

Table E-37

Greenbelt, MD to Dulles International Airport

(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Greenbelt Rd.	Hanover Pkwy	BW Pkwy	2.47	0.84	21	D
2	BW Pkwy	Greenbelt Rd.	I-495	0.52	0.00	53	D
3	I-495	BW Pkwy	I-95	4.41	0.00	55	D
4	I-495	I-95	Route 650	1.72	0.00	66	A
5	I-495	Route 650	Route 193	1.44	0.00	65	B
6	I-495	Route 193	Route US 29	0.62	0.00	63	B
7	I-495	Route US 29	Route 97	1.32	0.00	65	B
8	I-495	Route 97	Route 185	3.03	0.04	48	E
9	I-495	Route 185	I-270 North Spur	1.89	0.00	50	D
10	I-495	I-270 North Spur	I-270 South Spur	8.83	1.74	41	F
11	I-495	I-270 South Spur	Cabin John Pkwy	10.63	1.52	11	F
12	I-495	Cabin John Pkwy	Clara Barton Pkwy	5.52	0.39	15	F
13	I-495	Clara Barton Pkwy	GW Pkwy	2.79	0.00	24	F
14	I-495	GW Pkwy (VA)	Dulles Access / Toll Rd.	6.59	0.22	23	F
15	Dulles Access / Toll Rd.	I-495	Dulles Airport Access	1.07	0.00	55	D
16	Dulles Airport Access	Dulles Access / Toll Rd.	Hunter Mill Rd.	4.67	0.00	62	B
17	Dulles Airport Access	Hunter Mill Rd.	FFX Pkwy	3.41	0.00	62	B
18	Dulles Airport Access	FFX Pkwy	Route 28	2.80	0.00	64	B
19	Dulles Airport Access	Route 28	Terminal Entrance	2.86	0.01	53	A
			Total	**66.60**	**4.78**	**47**	

Table E-38

National Harbor, MD to Dulles International Airport

(via I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Oxon Hill Rd.	Fort Foote Rd.	I-495	10.09	1.91	20	D
2	I-495	Route 210	I-295	0.98	0.00	60	B
3	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.68	0.00	49	E
4	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.46	0.00	65	B
5	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.90	0.00	66	A
6	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.19	0.00	59	C
7	I-495 / I-95	I-95	Route 620 Braddock St.	2.73	0.00	63	B
8	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	1.58	0.00	63	B
9	I-495 / I-95	Route 236 Little River Tpk.	US50	2.12	0.00	61	B
10	I-495 / I-95	US50	I-66	1.44	0.00	59	C
11	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	1.78	0.00	60	C
12	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.84	0.00	60	B
13	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	1.19	0.00	45	F
14	Dulles Airport Access Rd.	I-495	VA 7	3.18	0.66	45	F
15	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	4.64	0.00	53	D
16	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.68	0.00	58	C
17	Dulles Airport Access Rd.	FFx Parkway	VA 28	3.13	0.00	56	C
18	Dulles Airport Access Rd.	VA 28	Terminal Entrance	3.16	0.00	48	A
			Total	**49.78**	**2.57**	**55**	

Table E-39

Waldorf, MD to Dulles International Airport

(via US301, MD 5, I-495/95 and Dulles Access Rd.)

Segment	Facility	From	To	Elapsed Time (minutes)	Delay (minutes)	Average Speed (m/hr)	LOS
1	Leonardtown Rd.	Washington Rd.	Crain Highway	0.91	0.38	17	E
2	Crain Highway US 301 / MD 5	Leonardtown Rd.	Mattawoman Rd. Route 205	5.19	1.02	32	C
3	Crain Highway US 301 / MD 5	Mattawoman Rd. Route 205	Route 5 Branch Ave. Split	3.71	0.38	45	A
4	Route 5 Branch Avenue	Route 5 Branch Ave. Split	Route 223 Woodyard Rd.	6.06	0.24	53	A
5	Route 5 Branch Avenue	Route 223 Woodyard Rd.	I-495	7.44	2.67	36	A
6	I-495 / I-95	Route 5 Branch Avenue	Route 414 St. Barnabas Rd.	2.36	0.00	76	A
7	I-495 / I-95	Route 414 St. Barnabas Rd.	Route 210 Indian Head Hwy	1.32	0.00	72	A
8	I-495 / I-95	Route 210 Indian Head Hwy	I-295	0.98	0.00	60	B
9	I-495 / I-95	I-295	US 1 Richmond Hwy Exit	2.68	0.00	49	E
10	I-495 / I-95	US 1 Richmond Hwy Exit	Route 241/611 Telegraph Rd.	1.46	0.00	65	B
11	I-495 / I-95	Route 241/611 Telegraph Rd.	Route 401 Van Dorn St.	2.90	0.00	66	A
12	I-495 / I-95	Route 401 Van Dorn St.	I-95	2.19	0.00	59	C
13	I-495 / I-95	I-95	Route 620 Braddock St.	2.73	0.00	63	B
14	I-495 / I-95	Route 620 Braddock St.	Route 236 Little River Tpk.	1.58	0.00	63	B
15	I-495 / I-95	Route 236 Little River Tpk.	US50	2.12	0.00	61	B
16	I-495 / I-95	US50	I-66	1.44	0.00	59	C
17	I-495 / I-95	I-66	Route 7 (Leesburg Pike)	1.78	0.00	60	C
18	I-495 / I-95	Route 7 (Leesburg Pike)	Route 123 (Chain Bridge Rd.)	0.84	0.00	60	B
19	I-495 / I-95	Route 123 (Chain Bridge Rd.)	Route 267 Dulles Access Rd.	1.19	0.00	45	F
20	Dulles Airport Access Rd.	I-495	VA 7	3.18	0.66	45	F
21	Dulles Airport Access Rd.	VA 7	Hunter Mill Rd.	4.64	0.00	53	D
22	Dulles Airport Access Rd.	Hunter Mill Rd.	FFx Parkway	3.68	0.00	58	C
23	Dulles Airport Access Rd.	FFx Parkway	VA 28	3.13	0.00	56	C
24	Dulles Airport Access Rd.	VA 28	Terminal Entrance	3.16	0.00	48	A
			Total	**66.68**	**5.34**	**54**	

Appendix F

2003 Airport Ground Access

Travel Time Study Update

Routes Description

1. Annapolis to Baltimore / Washington International Airport

- Start at State Circle in downtown Annapolis
- Take right turn on School Street to Church Circle, and another right on College Avenue north (right turn sign to I-97, US 50, MD 2 and MD 450)
- Next turn left at the intersection of College Avenue and Bladen Street.
- Continue on Bladen Street north / Roscoe C. Rowe Boulevard to US 50, cross College Creek Bridge, and continue straight on Roscoe Rowe Blvd.
- Merge to left lanes to exit sign US 50 / US 301 West to Washington and I-97 North to Baltimore exit ramp.
- Follow on ramp and it will merge with US 50 / US 301, and follow sign to I-97 North to Baltimore, Exit 21.
- Take exit 21 to I-97 north to Baltimore
- Follow I-97 north until sign to Exit 15 A-B. Exit 15 A and 15 B will split and follow Exit 15 B to Route 176 West.
- Follow Route 176 and take right lane exit to Aviation Boulevard at the traffic light.
- Follow north on Aviation Boulevard to sign Airport Terminal. At the intersection with Elm Rd. turn left onto Elm Rd. and follow sign to main Terminal

END

2. Columbia, MD to Baltimore/Washington International Airport Via I-295

- Start at intersection of Little Patuxent Parkway and Governor Warfield Parkway (Exxon Gas Station)
- Continue eastbound along Little Patuxent Parkway, pass Broken Land Parkway, pass exit to US 29, and follow sign begin Route 175 east.
- Continue on MD Route 175, cross US 29, eastbound on MD 175, Route 175 becomes a one lane highway and continue eastbound.
- Take exit to Baltimore Washington Parkway north to Baltimore.
- Continue on Baltimore Washington Parkway north to Baltimore, and stay on right lane until exit to I-195 East to BWI / Catonsville.
- Take I-195 east to BWI airport and continue on I-195 to airport main terminal.

END

3. Baltimore to Baltimore / Washington International Airport

- Start at the intersection of Fayette Street and Charles Street in downtown Baltimore.
- Follow along Fayette Street westbound to intersection with Greene Street.
- Turn left on Greene Street south to Russell Street (Greene Street becomes Russell Street
- Follow Russell Street south to I-295 Baltimore-Washington Parkway south towards Washington.
- Follow I-295 Baltimore-Washington Parkway south, merge to left lane until exit ramp I-195 east to Baltimore-Washington International Airport.
- Follow I-195 to airport main terminal.

END

4. Washington D.C. to Baltimore / Washington International Airport

- Start at the intersection on 14th Street, SW and Independence Avenue, at the corner of Department of Agriculture.
- Continue eastbound on Independence Avenue towards Capitol Hill.
- Turn Right at the intersection of Pennsylvania Avenue.
- Follow Pennsylvania Avenue southeast bound, across the Anacostia River on the John Phillip Sousa Bridge.
- Cross bridge and Merge left to exit for (I-295 or DC 295) Anacostia Freeway north.
- Follow Anacostia Freeway (I-295) north, stay on lanes to Baltimore Washington Parkway north.
- Follow Baltimore-Washington Parkway (I-295) north, to intersection with I-195
- Take right exit from Baltimore-Washington Parkway to I-195, and follow lane to Baltimore Washington International Airport, to main terminal

END

6. Rockville to Baltimore / Washington International Airport Via I-95

- Start at the intersection of Maryland Route 28 and Maryland Route 355.
- Continue Westbound on Route 28 (Jefferson St. / Montgomery Avenue) in Rockville.
- Take a Right exit to South I-270 to Washington.
- Continue on I-270 South to I-270 split and follow left lanes exit to I-495 East to Baltimore / College Park.
- Continue on I-495 Capitol Beltway East until exit ramp to I-95 North to Baltimore.
- Continue on I-95 North to Baltimore until exit 38 ramp to East MD Route 32.
- Take MD Route 32 exit East Exit 38
- Follow on MD Route 32 until exit ramp to Baltimore-Washington Parkway North.
- Follow Baltimore-Washington Parkway (I-295) north, to intersection with I-195
- Take right exit from Baltimore-Washington Parkway to I-195, and follow lane to Baltimore Washington International Airport, to main terminal

END

7. Rockville to Baltimore / Washington International Airport Via Rt. 28/32

- Start at the intersection of Maryland Route 28 and Maryland Route 355.
- Follow north on Route 28 (Norbeck Road) for about 5 miles, cross Georgia Avenue (Route 97), continue on Route 28 for another 5 miles.
- At the intersection with continue on Route 198 Norbeck Raod for 3 miles until intersection with New Hampshire Avenue (MD Route 650).
- At the intersection with MD Route 650 (New Hampshire Avenue), turn left north onto New Hampshire Avenue.
- Continue on New Hampshire Avenue (MD Route 650) for 3 miles north until the intersection with Ashton Road (MD Route 108).
- Turn right on Ashton Road (MD Route 108) east/north, cross Howard County line, continue on Route 108 (Clarksville Pike), until exit ramp to east Route MD 32.
- Turn right onto Route 32 east, continue on route 32, for almost 10 miles until exit ramp to Baltimore-Washington Parkway North.
- Follow Baltimore-Washington Parkway (I-295) north, to intersection with I-195
- Take right exit from Baltimore-Washington Parkway to I-195, and follow lane to Baltimore Washington International Airport, to main terminal

END

8. Gaithersburg, MD to Baltimore/Washington International Airport (via Rt. 28/32)

- Start at Quince Orchard Plaza, intersection of Quince Orchard Road and Clopper Road (Route 117).
- Follow route 117 (Diamond Avenue) eastbound to exit ramp I-270 South.
- Follow on I-270 South toward Washington, take express lane exit to Montgomery Avenue.
- Turn left at exit ramp to East Montgomery Avenue to Rockville.
- Continue on Montgomery Avenue eastbound, cross MD 355 Rockville Pike, until intersection with MD Route 28 Norbeck Road.
- Turn left on Norbeck Road (Route 28).
- Follow north on Route 28 (Norbeck Road), cross Georgia Avenue (Route 97), continue on Route 28, cross Layhill Road (Route 182), until intersection with New Hampshire Avenue (MD Route 650)
- At the intersection with MD Route 650 (New Hampshire Avenue), turn left north onto New Hampshire Avenue.
- Continue on New Hampshire Avenue (MD Route 650) north until the intersection with Ashton Road (MD Route 108).
- Turn right on Ashton Road (MD Route 108) east/north, cross Howard County line, continue on Route 108 (Clarksville Pike), until exit ramp to east Route MD 32.
- Turn right onto Route 32 east, continue on route 32, cross US 29 (Columbia Pike), continue eastbound on Route 32, until exit ramp to Baltimore-Washington Parkway North.
- Follow Baltimore-Washington Parkway (I-295) north, to intersection with I-195
- Take right exit from Baltimore-Washington Parkway to I-195, and follow lane to Baltimore Washington International Airport, to main terminal

END

9. Gaithersburg, MD to Baltimore/Washington International Airport (via I-495/95)

- Start at Quince Orchard Plaza, intersection of Quince Orchard Road and Clopper Road (Route 117).
- Follow route 117 (Diamond Avenue) eastbound to exit ramp I-270 South.
- Continue on I-270 South to I-270 split and follow left lanes exit to I-495 East to Baltimore / College Park.
- Continue on I-495 Capitol Beltway East until exit ramp to I-95 North to Baltimore.
- Continue on I-95 North to Baltimore until exit 38 ramp to East MD Route 32.
- Take MD Route 32 exit East Exit 38
- Follow on MD Route 32 until exit ramp to Baltimore-Washington Parkway North.
- Follow Baltimore-Washington Parkway (I-295) north, to intersection with I-195
- Take right exit from Baltimore-Washington Parkway to I-195, and follow lane to Baltimore Washington International Airport, to main terminal

END

10. Frederick, MD to Baltimore/Washington International Airport Via I-95

- Start at the intersection of Jefferson Street, and Prospect Blvd. in downtown Frederick, next to Prospect Plaza.
- Follow south on Jefferson Street towards freeway entrance.
- Take exit ramp to I-270 South, and I-70 East to Baltimore exit follow sign to exit ramp at right to I-70 East to Baltimore
- Continue on I-70 East to Baltimore until reaching exit ramp to I695 south.
- Take exit 91A ramp south on I-695, and continue on I-695 until reaching exit 11B ramp to South I-95 to Washington
- Take I-95 south and follow on I-95 south to exit 47A lane on right to I-195 east
- Follow on I-195 east to airport until reaching main terminal.

END

11. Waldorf to BWI

- Start at the intersection of Leonardtown Rd and Washington Rd.
- Proceed West on Leonardtown Rd.
- Turn Right on US 301 / Route 5 Crain Highway North
- Follow US 301 north and at the split with Route 5 stay on right lane and continue on Route US 301 North to Baltimore.
- Stay on Route US 301, and at the intersection with US 50, follow sign to Route 3 North to Crofton.
- Follow Route 3 and it will merge with I-97
- Follow I-97 north until sign to Exit 15 A-B. Exit 15 A and 15 B will split and follow Exit 15 B to Route 176 West.
- Follow Route 176 and take right lane exit to Aviation Boulevard at the traffic light.
- Follow north on Aviation Boulevard to sign Airport Terminal. At the intersection with Elm Rd. turn left onto Elm Rd. and follow sign to main Terminal

END

12. Largo to BWI

- Start at the intersection of Arena Drive and Landover rd.
- Go south on Landover Rd. towards Central Avenue
- At the intersection with Central Avenue (MD 214) turn right.
- Follow sign to I-495 and take Exit 15, I-495/95 North.
- Follow I495/95 north until you reach exit to BW Parkway
- Take Exit 22 to BW Parkway North to Baltimore.
- Follow Baltimore-Washington Parkway (I-295) north, to intersection with I-195
- Take right exit from Baltimore-Washington Parkway to I-195, and follow lane to Baltimore Washington International Airport, to main terminal

END

13. Towson to BWI

- Start at the intersection of Dulaney Valley Rd. and Joppa Rd., continue northbound on Dulaney Valley Rd.
- After crossing overpass of I-695, merge to left lane to freeway entrance and follow sign to I-695 West to Pikesville.
- Continue on I-695 to Exit 11B to South I-95
- From I-95 take Exit 47A to I-195 East
- Follow I-195 East to Airport terminal

END

14. White Marsh to BWI

- Start from the Parking lot to Campbell Blvd.
- Turn Left on Honeygo Blvd.
- Turn Right on Route 43, White Marsh Blvd
- Take Exit to I-95 South, pass the Toll Booth and continue on I-95 South
- Take Exit 52 to BW Parkway South
- Merge to left lane and take Exit to I-195 East
- Follow sign to Airport terminal

END

15. Greenbelt to BWI

- Start in Greenbelt at the Intersection of Hanover Parkway and Greenbelt Road, Greenway Shopping Center.
- From the shopping center take a right exit onto Greenbelt road.
- Merge right to take exit to BW Parkway South to Washington
- Follow Baltimore-Washington Parkway (I-295) north, to intersection with I-195
- Take right exit from Baltimore-Washington Parkway to I-195, and follow lane to Baltimore Washington International Airport, to main terminal

END

16. National Harbor to BWI

- Start at the intersection of Oxon Hill Rd. and Forth Foote Rd.
- Follow north on Oxon Hill Rd.
- Turn left to Route 210 North
- Stay on right lane to take Exit to I-495/95 to Virginia
- On I-495/95 stay on right lane and take exit 2 to I-295 North to Washington
- Stay on I-295 Anacostia Freeway until intersection with US 50
- Follow sign to BW Parkway North to Baltimore
- Follow Baltimore-Washington Parkway (I-295) north, to intersection with I-195
- Take right exit from Baltimore-Washington Parkway to I-195, and follow lane to Baltimore Washington International Airport, to main terminal

END

17. Washington DC to Ronald Reagan National Airport

- Start at intersection of 16th and K St. NW
- Go eastbound on K St. to 14th St.
- Turn right onto 14th St.
- Follow 14th St. to I-395 South to Virginia
- After crossing Potomac River Bridge take second exit south to GW Pkwy, follow sign to Ronald Reagan National Airport.
- Continue on GW Pkwy south, merge to right lane to Ronald Reagan National Airport follow until you reach main terminal, Terminal B and Terminal C.

END

18. Rockville to Ronald Reagan National Airport

- Start at the intersection of Maryland Route 28 and Maryland Route 355.
- Continue Westbound on Route 28 (Jefferson St. / Montgomery Avenue) in Rockville, stay on left lane approaching MD 355 Rockville Pike, follow sign 28, West Montgomery Avenue, and follow sign to I-270 South to Washington.
- Take a Right lane exit 5 to South I-270 to Washington.
- Continue on I-270 South to I-270 split, stay on left lanes to sign I-495 to Virginia, and follow right lanes exit to I-495 merge west/south to Virginia
- Continue on I-495, cross the American Legion Memorial Bridge I-495.
- Take first exit after crossing the bridge onto South George Washington Memorial Parkway to Washington.
- Follow GW Pkwy until you reach ramp to Ronald Reagan National Airport
- Take right exit ramp to Ronald Reagan National Airport and follow to main terminal, Terminal B and Terminal C.

END

19. Gaithersburg, MD to Ronald Reagan National Airport

- Start at Quince Orchard Plaza, intersection of Quince Orchard Road and Clopper Road (Route 117).
- Follow route 117 (Diamond Avenue) eastbound to exit ramp I-270 South.
- Continue on I-270 South to I-270 split and follow right lanes exit to I-495 merge west/south to Virginia
- Cross the American Legion Memorial Bridge I-495
- Take first exit after crossing the bridge onto South George Washington Memorial Parkway south.
- Follow GW Pkwy until you reach ramp to Ronald Reagan National Airport
- Take right exit ramp to Ronald Reagan National Airport and follow to Terminal C

END

20. Tyson's Corner to Ronald Reagan National Airport

- Start at the intersection of VA 7 and VA 123
- Follow eastbound on VA 123, cross Dulles Access Rd. until intersection with VA 193 Georgetown Pike
- Continue VA 123 and take a right exit lane to George Washington Parkway.
- Take right exit ramp to south GW Pkwy
- Follow GW Pkwy until you reach ramp to Ronald Reagan National Airport
- Take right exit ramp to Ronald Reagan National Airport and follow to main terminal, Terminal B and Terminal C.

END

21. Waldorf to Ronald Reagan National Airport

- Start at the intersection of Leonardtown Rd and Washington Rd.
- Proceed West on Leonardtown Rd.
- Turn Right on US 301 / Route 5 Crain Highway North
- Follow US 301 north and at the split with Route 5 stay on left lane and continue on Route 5 Branch Avenue to Washington.
- After crossing I-495 underpass, merge to left lane to exit sign to I-495/95 to Virginia.
- Follow sign to I-495/95 Westbound
- Cross Woodrow Wilson Bridge, and stay on right lane to merge to Exit 177.
- Take Exit 177 to Alexandria and stay on right lane of exit ramp to Church St.
- Turn right on Church Street, to intersection with Washington Street.
- Turn Left on Washington Street North to downtown Alexandria.
- Follow Washington Street north, it will change into George Washington Parkway.
- Follow George Washington Parkway, and sign to Ronald Reagan National Airport, to Terminal C.

END

22. Woodbridge to Ronald Reagan National Airport

- Start at the intersection on Longview Dr. and US 1 in Woodbridge, VA
- Follow route US 1 north towards Washington, D.C.
- Follow exit ramp to I-95 north
- Follow I-95 north to I-395 until you reach exit to Pentagon City
- Exit to Pentagon City and turn right on Hayes Street
- Turn left on 15th street
- Take right exit ramp to US 1 Jefferson Davis Highway south
- Merge to right lane after 23rd Street, and take right exit ramp to Ronald Reagan National Airport and follow to Terminal C

END

23. Springfield/Franconia to Ronald Reagan National Airport

- Start at the intersection of Spring Mall Drive and Frontier Dr.
- Continue North on Frontier Drive to Franconia Rd.
- Turn left on Franconia Rd. westbound.
- Follow Franconia Rd. westbound to I-95 intersection
- Continue on I-95 to I-395 North to Washington.
- Follow I-95 north to I-395 until you reach exit to Pentagon City
- Exit to Pentagon City and turn right on Hayes Street
- Turn left on 15th street
- Take right exit ramp to US 1 Jefferson Davis Highway south
- Merge to right lane after 23rd Street, and take right exit ramp to Ronald Reagan National Airport and follow to Terminal C

END

24. Greenbelt to Ronald Reagan National Airport

- Start at the intersection of Hanover Parkway and Greenbelt Rd.
- Follow Greenbelt Rd. West
- Take Exit to BW Parkway South to Washington
- Follow BW Parkway south until split with 295 and US 50
- Follow US 50 West to Washington
- After crossing North Capitol St. follow sign to I-395 South
- After merging with 14th St. Bridge cross to Virginia and Take second exit to South GW Parkway to Ronald Regan National Airport
- Follow sign from GW Parkway to Airport to main terminal.

END

25. Largo to Ronald Reagan National Airport

- Start at the intersection of Arena Drive and Landover rd.
- Go south on Landover Rd. towards Central Avenue
- At the intersection with Central Avenue (MD 214) turn right.
- Follow sign to I-495 and take Exit 15, I-495/95 South to Richmond.
- Follow sign to I-495/95 Westbound
- Cross Woodrow Wilson Bridge, and stay on right lane to merge to Exit 177.
- Take Exit 177 to Alexandria and stay on right lane of exit ramp to Church St.
- Turn right on Church Street, to intersection with Washington Street.
- Turn Left on Washington Street North to downtown Alexandria.
- Follow Washington Street north, it will change into George Washington Parkway.
- Follow George Washington Parkway, and sign to Ronald Reagan National Airport, to Terminal C.

END

26. Frederick, MD to Ronald Reagan National Airport

- Start at the intersection of Jefferson Street, and Prospect Blvd. in downtown Frederick, next to Prospect Plaza.
- Follow south on Jefferson Street towards freeway entrance.
- Take exit ramp to I-270 South
- Follow I-270 South to Washington
- Continue on I-270 South to I-270 split and follow right lanes exit to I-495 merge west/south to Virginia
- Cross the American Legion Memorial Bridge I-495
- Take first exit after crossing the bridge onto South George Washington Memorial Parkway south.
- Follow GW Pkwy until you reach ramp to Ronald Reagan National Airport
- Take right exit ramp to Ronald Reagan National Airport and follow to Terminal C

END

27. National Harbor , MD to Ronald Reagan National Airport

- Start at the intersection of Oxon Hill Rd. and Forth Foote Rd.
- Follow north on Oxon Hill Rd.
- Turn left to Route 210 North
- Stay on right lane to take Exit to I-495/95 to Virginia
- Cross Woodrow Wilson Bridge, and stay on right lane to merge to Exit 177.
- Take Exit 177 to Alexandria and stay on right lane of exit ramp to Church St.
- Turn right on Church Street, to intersection with Washington Street.
- Turn Left on Washington Street North to downtown Alexandria.
- Follow Washington Street north, it will change into George Washington Parkway.
- Follow George Washington Parkway, and sign to Ronald Reagan National Airport, to Terminal C.

END

28. Washington DC to Dulles International Airport

- Start at intersection of 16th and K St. NW
- Go eastbound on K St. to 14th St. until intersection with Constitution Avenue.
- Turn Right onto Constitution Avenue, westbound.
- Continue on Constitution Avenue westbound to Theodore Roosevelt Memorial Bridge.
- After crossing the bridge, stay on left lanes and follow ramp to I-66 westbound.
- Follow I-66 westbound until ramp to Dulles Access Road, on right lane Exit 67.
- Take exit Dulles Access Road exit to Dulles Airport.
- Follow Dulles Access Road westbound to Dulles airport until reaching the main terminal.

END

29. Rockville to Dulles International Airport

- Start at the intersection of Maryland Route 28 and Maryland Route 355.
- Continue Westbound on Route 28 (Jefferson St. / Montgomery Avenue) in Rockville.
- Take a Right exit to South I-270, to Washington.
- Continue on I-270 South to I-270 split and follow right lanes exit to I-495 merge West/South to Virginia.
- Cross the American Legion Memorial Bridge I-495.
- Continue on I-495 west until ramp to Dulles Toll / Dulles Access Road.
- Take right exit ramp to Dulles Toll / Dulles Access Road and merge to left lanes to exit ramp to Dulles Access Road.
- Follow access road to airport main terminal.

END

30. Gaithersburg, MD to Dulles International Airport

- Start at Quince Orchard Plaza, intersection of Quince Orchard Road and Clopper Road (Route 117).
- Follow route 117 (Diamond Avenue) eastbound to exit ramp I-270 South.
- Continue on I-270 South to I-270 split and follow right lanes exit to I-495 merge west/south to Virginia
- Cross the American Legion Memorial Bridge I-495
- Continue on I-495 west until ramp to Dulles Toll / Dulles Access Road
- Take exit ramp to Dulles Toll / Dulles Access Road and merge to left lanes to exit ramp to Dulles Access Road
- Follow access road to airport main terminal

END

31. Tyson's Corner to Dulles International Airport

- Start at the intersection on VA 123 (Chain Bridge Road) and VA 7 (Leesburg Pike).
- Follow Rt. VA 7 Westbound to ramp exit 16 to VA 267 (Dulles Toll Road)
- Take exit to VA 267 (Dulles Toll Road), continue west on Toll Road to the first ramp onto Dulles International Airport Access.
- Follow access road to airport main terminal.

END

32. Frederick, MD to Dulles International Airport

- Start at the intersection of Jefferson Street, and Prospect Blvd. in downtown Frederick, next to Prospect Plaza.
- Follow south / west on Jefferson Street.
- Jefferson Street becomes US 15, and continue on US 15 South and US 340 West
- From US 15 and US 340 merge into left lane exit US 15 South to Leesburg Virginia.
- Cross the Maryland / Virginia State line at Point of Rocks and continue on US 15 James Monroe Highway south to Leesburg.
- Approaching Leesburg, stay on right lane to US 15 South and to VA 7 stay on US 15 stay on right lane to exit sign Toll East Exit to Dulles Airport and Washington Route VA 267 South
- Take exit to VA 267 Toll Access to Dulles Airport
- Continue on VA 267 (Dulles Greenway) south to toll booth and exit 9A
- Follow exit 9A to ramp to Dulles Airport.
- Follow exit ramp to Dulles Airport and continue until reaching main terminal.

END

33. Largo to Dulles – VA - 7.

- Start at the intersection of Arena Drive and Landover rd.
- Go south on Landover Rd. towards Central Avenue
- At the intersection with Central Avenue (MD 214) turn right.
- Follow sign to I-495 and take Exit 15, I-495/95 South to Richmond.
- Continue on I-495/95 into Virginia and follow sign to Dulles Airport Exit 45.
- Take Exit 45 to Route VA 267 Dulles Access / Toll Road.
- Continue on VA 267 (Dulles Greenway) south to toll booth and exit 9A
- Follow exit 9A to ramp to Dulles Airport.
- Follow exit ramp to Dulles Airport and continue until reaching main terminal.

END

34. Woodbridge to Dulles International Airport

- Start at the intersection on Longview Dr. and US 1 in Woodbridge, VA
- Follow route US 1 north towards Washington, D.C., until intersection with VA 123 (Gordon Boulevard).
- Turn left at VA 123 (Gordon Boulevard) north/west.
- Continue on VA 123 (Gordon Boulevard), cross I-95, cross Fairfax County line
- Continue on Route VA 123 (Ox Road) north, until exit ramp to Fairfax county Parkway North.
- Take exit ramp to Fairfax County Parkway north.
- Continue north on Fairfax County Parkway, cross US 29, cross I-66, cross US 50.
- Take left exit toll ramp to Dulles Toll Road.
- On Dulles Toll Road merge left to take exit ramp to Dulles Access Road.
- Continue on Dulles Access Road to airport main terminal.

END

35. Springfield to Dulles International Airport

- Start at the Springfield/Franconia Parking
- Take Frontier Dr. to Exit Franconia Springfield Parkway west
- Continue on Franconia Springfield Parkway west, cross I-95
- Continue north on Fairfax County Parkway, cross US 29, cross I-66, cross US 50.
- Take left exit toll ramp to Dulles Toll Road.
- On Dulles Toll Road merge left to take exit ramp to Dulles Access Road.
- Continue on Dulles Access Road to airport main terminal.

END

36. Greenbelt to VA 193 via I-495

- Start in Greenbelt at the Intersection of Hanover Parkway and Greenbelt Road, Greenway Shopping Center.
- From the shopping center take a right exit onto Greenbelt road.
- Merge right to take exit to BW Parkway South to Washington
- From BW Parkway immediately take exit 22 to I-495 West to Silver Spring, right lane exit.
- Continue on I-495 West to Virginia, and cross the American Legion Bridge.
- Continue on I-495 west until ramp to Dulles Toll / Dulles Access Road
- Take exit ramp to Dulles Toll / Dulles Access Road and merge to left lanes to exit ramp to Dulles Access Road
- Follow access road to airport main terminal

END

37. National Harbor to DCA

- Start at the intersection of Oxon Hill Rd. and Forth Foote Rd.
- Follow north on Oxon Hill Rd.
- Turn left to Route 210 North
- Stay on right lane to take Exit to I-495/95 to Virginia
- Cross Woodrow Wilson Bridge, and stay on right lane to merge to Exit 177.
- Continue on I-495/95 into Virginia and follow sign to Dulles Airport Exit 45.
- Take Exit 45 to Route VA 267 Dulles Access / Toll Road.
- Continue on VA 267 (Dulles Greenway) south to toll booth and exit 9A
- Follow exit 9A to ramp to Dulles Airport.
- Follow exit ramp to Dulles Airport and continue until reaching main terminal.

END

38. Manassas to Dulles International Airport

- Start at the intersection on Grant Avenue and Center Street in downtown Manassas.
- Continue on Center Street eastbound to Prescott Avenue.
- Turn left onto Prescott Avenue
- Turn right on Route 28 (Centerville Road)
- Continue on Route 28 north, cross Fairfax County line
- Continue on Route 28, cross US 29, cross I-66, cross US 50,
- Continue on Route 28 (Sully Road), take right lane exit to Dulles airport.
- Follow exit ramp to Dulles airport until main terminal.

END

39. Waldorf to Dulles International Airport

- Start at the intersection of Leonardtown Rd and Washington Rd.
- Proceed West on Leonardtown Rd.
- Turn Right on US 301 / Route 5 Crain Highway North
- Follow US 301 north and at the split with Route 5 stay on left lane and continue on Route 5 Branch Avenue to Washington.
- After crossing I-495 underpass, merge to left lane to exit sign to I-495/95 to Virginia.
- Cross Woodrow Wilson Bridge, and stay on right lane to merge to Exit 177.
- Continue on I-495/95 into Virginia and follow sign to Dulles Airport Exit 45.
- Take Exit 45 to Route VA 267 Dulles Access / Toll Road.
- Continue on VA 267 (Dulles Greenway) south to toll booth and exit 9A
- Follow exit 9A to ramp to Dulles Airport.
- Follow exit ramp to Dulles Airport and continue until reaching main terminal.

END