I-66 Transit/TDM Study

Appendices

December 31, 2009

Developed by
I-66 Transit/TDM Technical Advisory Committee

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Appendices

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Appendix A

Public Information Report

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A. Public Information Report

This Appendix presents the efforts in providing a forum for public input into the planning process, and educating citizens and all regional transportation agencies on the findings of the study. A market research survey was also conducted as a part of the outreach effort from this study. The market research is presented in Section 5.

A.1 Key Stakeholder Interviews

A.1.1 Introduction

As part of the Public Information and Outreach portion of the I-66 Transit/TDM Study, a group of key stakeholders were identified with a broad and diverse cross-section of public interests to interview about their knowledge of the study, preferences on mobility solutions in the corridor and ways to communicate about the study. Between March and May 2009, approximately 40 stakeholders were individually interviewed to gather this information. The interviews took the form of a dialog, guided by tailored interview protocols.

A.1.2 Key Stakeholders

Key stakeholders interviewed included elected and appointed officials; local transportation agency leaders; and representatives from home owners associations, civic associations, chambers of commerce, special interest groups for land use and alternative transportation modes, and industry associations. Stakeholders were from Washington, D.C., and Arlington, Fairfax, Prince William, Loudoun and Fauquier Counties in Virginia. Table A-1 gives a complete list of the stakeholders interviewed.

Table A-1. Key Stakeholders Interviewed

Organization	Stakeholder
Arlington County Board of Supervisors	Barbara A. Favola, Chair
Arlington County Board of Supervisors	Christopher Zimmerman
Arlington County Board of Supervisors	Mary Hughes Hynes
Arlington County Commuter Services	Chris Hamilton, Manager
Arlington Transportation Center	Amy Brunner, Manager
Arlington Transportation Partners	Lois DeMeester, ED
City of Fairfax City Council	Robert F. Lederer, Mayor
City of Falls Church	Robin Gardner, Mayor
City of Manassas	Harry J. “Hal” Parrish II, Mayor
City of Manassas Park	Francis C. “Frank” Jones, Mayor
Commonwealth Transportation Board Member	Judy A. Connally, At-Large Urban Arlington
Commonwealth Transportation Board Member	J. Douglas Koelemay, Northern Virginia District
Metropolitan Council of Governments (MWCOG)	Ron Kirby

Table A-1. Key Stakeholders Interviewed (continued)

Organization	Stakeholder
Fairfax County Board of Supervisors	Sharon Bulova, Chair
Fairfax County Board of Supervisors	Michael F. Frey, Sully District
Fairfax County Board of Supervisors	Pat S. Herrity, Springfield District
Fairfax County Supervisors	Linda Q. Smith, Providence District
Fairfax County Department of Transportation	Kathy Ichter; Rollo Axton
Fairfax County Ridesources	Beth Francis, Chief TDM Marketing
Fairfax County Transportation Advisory Commission	Janyce Hedettriemi, Chair
Fauquier County Board of Supervisors	R. Holder Trumbo, Chair, Scott District
Loudoun County Rideshare	Nancy Gourley
Northern Virginia Regional Commission	Harry J. “Hal” Parrish II
Northern Virginia Transportation Authority	Martin Nohe, Chair, Prince William County
Northern Virginia Transportation Commission	Rick Taube
Potomac and Rappahannock Transportation Commission	Al Harf
Pentagon Transit – VIC.WHS.DFD	Lisa Passagaluppi
Prince William Board of Supervisors	John T. Stirrup, Jr., Gainesville District
Arlington Citizens Group, The Trust for Public Land	Peter Harnik
Virginia Bicycling Federation	Allen Muchnick
Virginia Railway Express	Dale Zehner, CEO
WMATA	Wendy Jia, staff
Arlington Chamber of Commerce	Rich Doud
Arlington East Falls Church Civic Association	Michael Nardolilli
Balston - Virginia Square Civic Association	Daniel B. Corts
Bradley Farms HOA	Marc Rigas
Bull Run Civic Association	Alan Bratsford
Fairfax County Chamber of Commerce	Bill Lecos
Northern Virginia Community College	Dr. Hinton; Dr. Alan Brunt
Oak Grove Community Association	Robert Pacardi
Prince William County - Greater Manassas Chamber of Commerce	Deborah L. Jones
Prince William Regional Chamber of Commerce	Laurie Wieder
Northern Virginia Association of Realtors	Mary Beth Coya

A.1.3 Findings

A.1.3.1 Project Awareness and Information Sources

Key stakeholders reported following the progress of the following projects: the I-95/I-395 and I-495 HOT Lanes, Virginia Railway Express (VRE) extension study, Reston Metrorail Access Group, BRT from Prince William County into Fairfax County on U.S. 1, TPB Scenarios for stimulus dollars, and The Spot Improvement Plan in Arlington.

Some elected and appointed officials and transportation representatives reported being aware of the I-66 Transit/TDM Study, but the majority of the other stakeholders were not. Some of the key stakeholders were already aware of the scope of the study.

Key stakeholders reported that they use a variety of sources to keep informed about regional transportation issues, including their staff and local transportation agencies, committees on which they serve, and their customers and civic organizations. In communicating with the public, local newspaper (including *The Washington Post*), television, and radio advertisements were thought to be effective. Also mentioned were public service announcements, web sites, and project updates sent by agencies.

A.1.3.2 Improvement to the I-66 Corridor

The key stakeholders felt that traffic congestion on the I-66 corridor needs to be addressed as soon as possible. Major concerns included the lack of mobility at all hours of the day and night, HOV policy issues, the need for bus priority treatments, regional rail improvements, and institutional cooperation.

Most of those interviewed stated that they drove on I-66 but rarely used public transportation, carpools, or vanpools in the corridor.

Overall, the general sense expressed was that there was not a single solution to solve congestion issues, but rather a mix of options needs to be employed. Ideas for improvement in the corridor included:

- Improving park-and-ride lots – Building additional lots, increasing the size of current lots, enhancing nonmotorized access to lots, and adding safety improvements to lots;
- Addressing HOV policy – increasing the occupancy requirement to three or more persons per vehicle, introducing HOV restrictions in the reverse direction, imposing stricter enforcement, and applying consistent hours to regional HOV facilities;
- Expanding regional rail services – in addition to the Metrorail extension to Dulles, extension of the VRE to Gainesville-Haymarket and the Orange Line to the west past Vienna;
- Bus priority treatments – dedicated bus lanes, queue jumping treatments, transit signal priority; and
- Other bus improvements – safer, easier-to-access bus stops and improved image of bus services to riders.

Most of the key stakeholders had heard of bus rapid transit (BRT) but had a limited understanding of the definition. When explained as defined in this study, stakeholders felt that it was a low-cost alternative to rail, that it was a precursor to rail, and that it made good sense for this region. Some of the concerns voiced about BRT included how to address reliability and to appropriately place BRT stations in the I-66 corridor. A dedicated bus-only lane or facility, easy on- and off-ramps, and consistent bi-directional operations were ideas expressed. Also expressed was the desire to have BRT run the entire length of the study corridor, from Haymarket to Washington, D.C. and serve major employment centers in between.

Key stakeholders noted that there is a need for the public to be better informed about the transportation options already available to them, including existing public transportation, ridematching, and guaranteed ride home services. With current financial constraints, enhancing the productivity of existing programs and services will be especially important. Concerns about the cost and the sources of funding for the potential transit improvement recommendations were expressed.

A.1.3.3 Public Involvement

Key stakeholders were given an opportunity to share concerns about the study and ideas for keeping the public informed. Their main concerns were that the public should be involved with and informed about each phase of the study. Short and easy-to-read fact sheets were endorsed as a means for communicating about the study. Key stakeholders suggested that the study team use newspapers, e-mail blasts, agency Web sites, and homeowner and civic associations as ways to inform the public about the study and about future plans.

A.1.4 Conclusions

The key stakeholder interview program helped raise awareness of the I-66 Transit/TDM Study. The program helped to shape the public information program as well as the study considerations themselves. Results and recommendations from the study will be sent to the stakeholders to further future dialog about mobility solutions for the corridor.

A.2 Public Information Meetings

The Virginia Department of Rail and Public Transportation (DRPT) produced three public information meetings in Northern Virginia. The first round was conducted during May and the second during September as part of the ongoing I-66 Transit/TDM Study. The purpose of these meetings was to inform the public about the project and to receive feedback about issues and potential solutions in the corridor. Several dozen public attendees took the opportunity to learn about the project, ask questions, and provide comments. One meeting was held in each of the counties within the study area during both rounds, as follows:

Arlington County
Tuesday, May 12, 2009
Williamsburg Middle School
3600 N. Harrison Street
Arlington, VA 22207

Wednesday, September 23, 2009
Arlington County Board Room
2100 Clarendon Boulevard
Arlington, VA 22201

Prince William County
Wednesday, May 13, 2009
Thursday, September 24, 2009
Battlefield High School
15000 Graduation Drive
Haymarket, VA 20169

Fairfax County
Wednesday, May 14, 2009
Wednesday, September 30, 2009
Oakton High School
2900 Sutton Road
Vienna, VA 22181

Each meeting consisted of an open house portion and a presentation portion. The open house included multiple posters with information about the study process and technical information about the study corridor and transit services. During this period, members of the study team and DRPT staff were available to discuss the project with the public and to answer individual questions from the attendees. The open house and the poster boards were available continuously from 6:30 p.m. to 9:00 p.m. DRPT staff members Corey Hill and Michael Harris were available to conduct two study information presentations at each venue. Three such presentations were held and afterward DRPT staff and the study team answered questions from the attendees. Figure A-1 through Figure A-4 are pictures taken at public meetings.

Among the clarifications and information offered at the meeting in response to questions were the following:

- Explaining the difference between this study and other I-66 studies such as the Multimodal Transportation and Environmental Study;
- Describing the potential extent of service, including Haymarket, Dulles, and Tysons Corner as origins/destinations;
- Describing the potential level of transit service, i.e., weekday and weekend; at least 10 minute frequency in the peak periods and 15 minute frequency in the off-peak periods; at least 14 hours of service on weekdays;
- Providing definitions for Bus Rapid Transit (BRT) and describing enhancements which might be incorporated;
- Describing the potential for service enhancements on U.S. 29 and U.S. 50;
- Describing current slugging activity and the potential for future slugging activity in the corridor given increases in high-occupancy vehicle (HOV) occupancy requirements;
- Clarifying that possible truck restrictions are not being addressed through this study;
- Explaining that the current regional financially constrained long range plan (CLRP) includes changing of the occupancy requirement on I-66 from HOV 2+ to HOV 3+ to align with the high-occupancy/toll (HOT) lane requirements, but that this is subject to change through action by the Transportation Planning Board;

- Indicating that any plans developed are intended to not preclude rail extensions in the future and will embrace current rail planning;

- Identifying two major bottlenecks at the I-66/Beltway interchange and entering D.C. which require coordination with other plans and indicating our efforts to engage in coordination (e.g., D.C. Department of Transportation K-Street Transitway and Beltway HOT Lanes);

- Indicating how park-and-ride lots were planned including analysis of capacity, bus ridership zoning regulations, and interviews with important local stakeholders;

- Describing the extent to which the effects of congestion on corridor bus service were being analyzed as part of this project, including the current VDOT study that is being completed;

- Explaining how and where Transit Oriented Development (TOD) is included in the analysis process and what land use assumptions were used for this study;

- Stating that elements of Bus Rapid Transit (BRT) are anticipated to be included among the study recommendations, but an all-stop, all-day, bi-directional, rail-service-like BRT service is not anticipated to be recommended at this time due to a lack of projected demand for such a service;

- Indicating that any plans developed are intended to not preclude rail extensions in the future and will embrace current rail planning; and

- Explaining the reasons for selecting one-way, long-haul service for the corridor, especially the lack of demand for reverse commute service and non-peak period service;

- Explaining what options are currently being developed to alleviate major congestion problems on I-66 in the short-term; and

- Detailing the types of access improvements that may be included as a part of this study at the proposed stations.

Key ideas and concerns heard at the meetings or indicated through written comment forms, included the following:

- Reviewing ways to enhance the perceived safety of using I-66 and the HOV lanes in particular, especially given potential lane speed differentials, is desired;

- Improving the reliability of the I-66 HOV lanes is critical to encouraging their use and ensuring reliability for BRT operations;

- Expanding I-66 to include a dedicated bus lane or barrier separated HOV lane was offered as a suggestion to improve reliability and expand usage;

- Enhancing enforcement of the HOV lane occupancy requirements is perceived as being helpful;

- Raising the HOV occupancy requirements would be helpful to improving the lane performance;

- Integrating and coordinating any new BRT services with the existing transit services is necessary and important;

- Exploring solutions both inside and outside the Beltway and for the reverse commuter is desired;
- Considering access to transit by non-motorized modes is important;
- Expanding the number and size of park-and-ride facilities could encourage ridership;
- Concern over which Orange Line stations should also be included as stops for this Express Bus service including Rosslyn, Ballston, and East Falls Church;
- Improving operations on I-66 is of immediate concern, not only during peak periods or in the peak direction;
- Park-and-ride lots in the western portion of the corridor will be important to attracting riders to this service;
- Support for expanding Express Bus service to locations outside of the Beltway, especially to the VA 28 Corridor;
- Support for construction of facilities for pedestrian and bicycle access to the proposed stations;
- Desire for changes that will improve the operation of the HOV lane, including broader hours of application for the time restrictions; and
- Support for bus-only infrastructure along I-66.

Written comments were also received via the forms distributed to all meeting attendees. These comments and suggestions have been reviewed and were taken into consideration in developing the idea and concern lists and were taken into consideration in forming the recommendations.

Figure A-1. Open House Portion of Public Information Meeting in Fairfax County

Figure A-2. Presentation Portion of Public Information Meeting in Arlington County

Figure A-3. Presentation Portion of Public Information Meeting in Arlington County

Figure A-4. Open House Portion of Public Information Meeting in Prince William County

A.3 Regional Commission Briefings

Two sets of presentations were made at the NVTC/PRTC regional commission briefings by DRPT. The first briefing in April provided an overview of the study while the second one in October/November was a study update that included preliminary findings and recommendations. PowerPoint presentations were prepared in coordination with DRPT for this purpose.

A.4 Study Information to the Public

Various media were used throughout the study to communicate the progress of the study to the public. The following sections outline a few of these activities.

A.4.1 Fact Sheets

Multiple fact sheets were developed during the course of the study at important junctures to inform citizens and stakeholders about the study. The Fact Sheets were made available on the DRPT project website (<http://www.drpt.virginia.gov/activities/I66study.aspx>) and distributed at the Public Information Meetings. Three of the four Fact Sheets are included at the end of this Appendix, the final Fact Sheet is to be finalized on publication of this report.

A.4.2 Web Site

A project webpage was developed, hosted and maintained by DRPT on their website under Key Projects (<http://www.drpt.virginia.gov/activities/I66study.aspx>). The study scope, study area map, fact sheets, overview presentation, public information meetings ads, public information meeting boards and the data collection report were posted on the website to extend the potential reach.

A.4.3 Listserve

A project-specific listserve was created in conjunction with DRPT to connect with all interested members of the community and the stakeholders. The list was used to keep the receivers up to date on the project and informed of public participation opportunities.

I-66 Transit/Transportation Demand Management Study Fact Sheet

May 2009

Study Goal

To identify more transportation choices through transit and TDM enhancements that will increase mobility in the I-66 corridor.

About the Study

The study will evaluate short- and medium-term transit and transportation demand management (TDM) improvements along the I-66 corridor. These improvements could include new bus services such as Bus Rapid Transit (BRT) and commuter choices such as carpooling, vanpooling and park and ride lots.

The Virginia Department of Rail and Public Transportation (DRPT) is managing the study in coordination with a Technical Advisory Committee (TAC) consisting of local, state, regional and federal jurisdictional/agency staff.

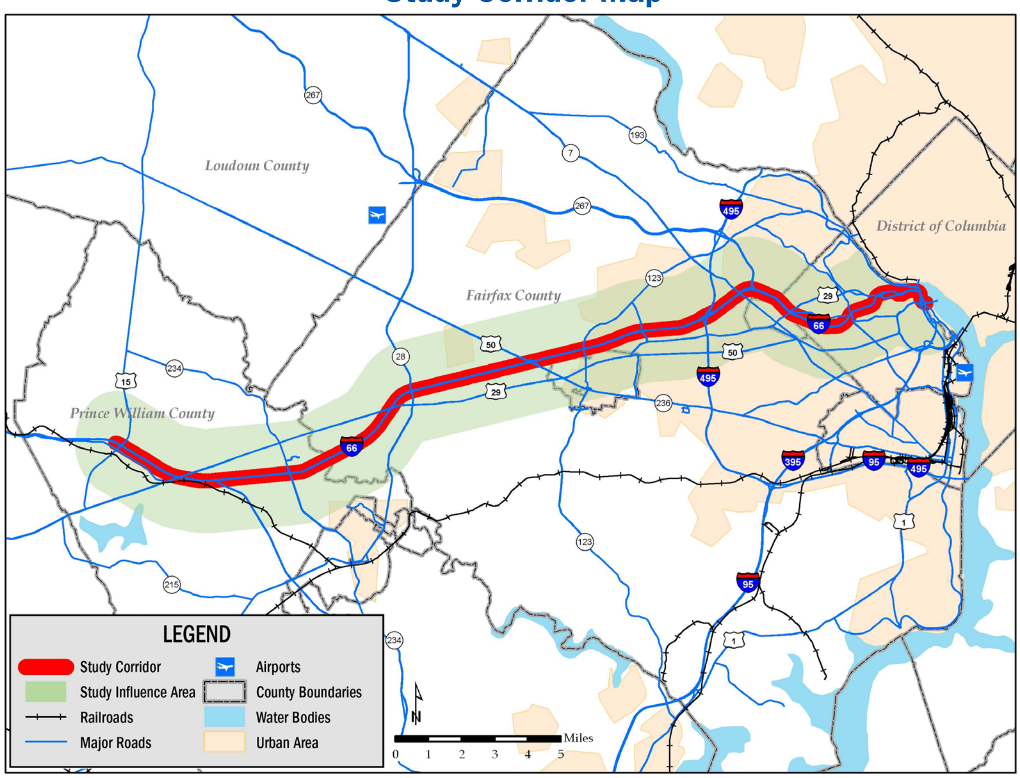
Existing Transit/TDM Services in the Corridor

- HOV lanes
- Metrorail service
- Virginia Railway Express commuter rail
- Park and ride lots
- Buses
- Vanpools
- Slugging (casual carpool) pick-up locations
- Rideshare/commuter service programs
- Telework centers

Potential Transit/TDM Improvements to be Studied

- Additional carpooling, vanpooling and slugging options
- Enhancements to transit routes
- New local feeder buses
- Neighborhood circulators/shuttle buses
- Bus Rapid Transit infrastructure and services
- Improvements to transit stations
- New or expanded park and ride lots
- Transit stations at major activity centers
- Operating buses on shoulders, queue jumpers, and other strategies

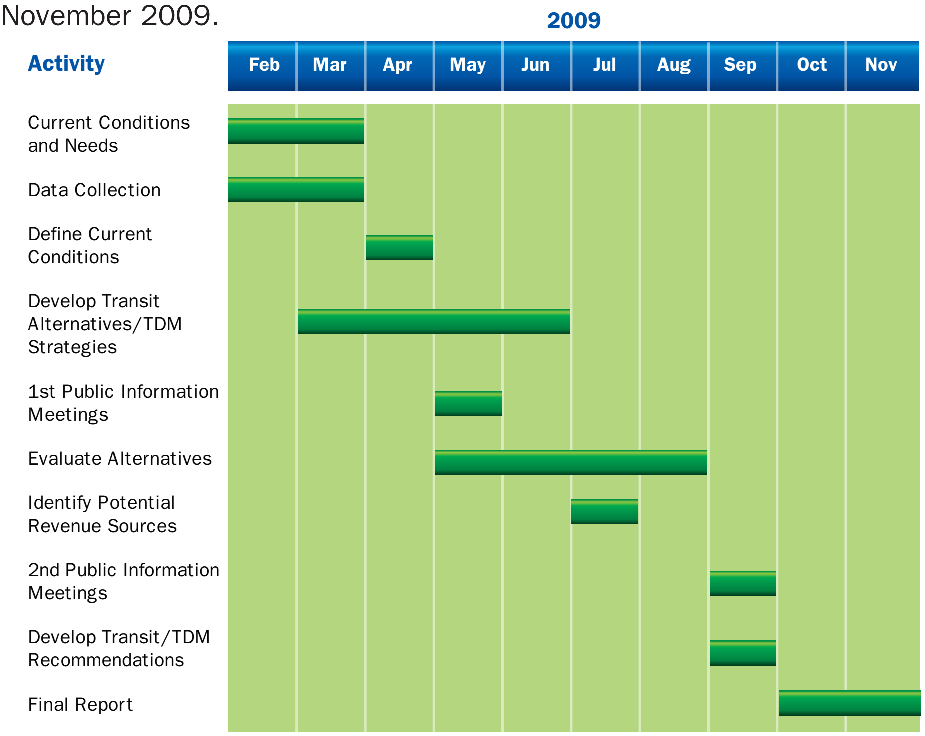
Study Corridor Map



For the purposes of this study, the corridor is defined as 35 miles of the I-66 corridor inside and outside the Beltway between Washington, D.C., and Haymarket, Virginia. The study includes consideration of U.S. 50 between Fair Oaks and Arlington and U.S. 29 between Manassas and Arlington.

Schedule

The study is currently underway and is scheduled for completion in November 2009.



Study Outcomes

The study will include the following principal outcomes:

- Inventory of existing transit and TDM services
- Analysis of transit and TDM options
- Identification of short- and medium-term improvements
- Development of cost estimates
- Analysis of potential revenue sources

Study Results and Next Steps

This study is a first step toward implementing transit and TDM improvements along the I-66 corridor. Results will be used to develop project-specific plans to implement enhanced transit and TDM services over the next 5 to 15 years. Study results will also inform the development of the I-66 Multimodal Transportation Environmental Study that will begin in 2009. The Multimodal Study will be conducted by VDOT and DRPT, and will examine potential long term transportation improvements in the I-66 corridor outside the Beltway, including but not limited to highway, Metrorail, commuter rail, bus and carpool/vanpool support improvements.

Public Participation Opportunities

The following public participation opportunities are available:

- Sign up to receive study updates electronically by sending an e-mail request to drptpr@drpt.virginia.gov.
- Attend a public information meeting on the study. Meetings are being scheduled for spring and fall 2009. Additional details on these meetings will be available soon.
- Send written comments to drptpr@drpt.virginia.gov or DRPT Public Information Office, 1313 E. Main St., Suite 300, Richmond, VA 23219.

More information on the I-66 Transit/TDM Study is available on DRPT's Web site at www.drpt.virginia.gov/activities/I66study.aspx.

What is BRT?

BRT is an enhanced bus system that combines the flexibility of buses with the efficiency of rail to provide service with faster speeds, greater service reliability and increased customer convenience than traditional transit.

BRT can incorporate:

- Technology solutions at stations and on vehicles
- Separate runningways to allow higher speeds
- Limited stop service
- Identifiable stations instead of traditional bus stops

Revised 04/28/09

I-66 Transit/Transportation Demand Management Study Fact Sheet #2

August 2009

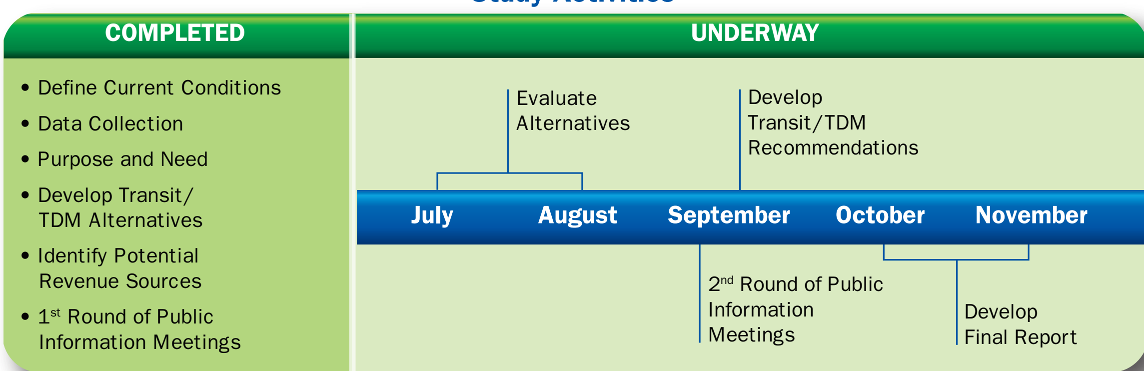
About the Study

The study is evaluating short- and medium-term transit and transportation demand management (TDM) improvements along the I-66 corridor between Washington, D.C., and Haymarket, VA that will increase mobility in the I-66 corridor. The improvements being evaluated include Bus Rapid Transit (BRT), express bus service, park and ride lots, carpooling and vanpooling.

Schedule

The study is currently underway and is scheduled for completion in November 2009.

Study Activities



Market Research Findings

The study team recently completed online market research to profile current travel patterns, identify factors guiding commuting decisions and identify interest in potential transit/TDM improvements in the I-66 study corridor. Highlights of findings are provided below:

- The most important factors in choosing transit modes are reliability of service and savings of time or commuting costs
- 66% of single occupancy vehicle commuters showed interest in shifting to carpools, commuter bus, or express bus if an attractive option exists
- Commuters recognize the benefits of ridesharing, and opportunities exist to develop new carpool/ vanpool programs
- Awareness of the BRT concept is low; however, BRT is of interest to current commuters once the concept is explained
- Improved access to stations, such as adequate parking, feeder bus opportunities and improved pedestrian facilities is likely to increase the use of Virginia Railway Express and Metrorail
- Employee transit programs provided by employers create a strong incentive for transit use

Public Participation Opportunities

Public meetings will be held in Arlington on September 23, Haymarket on September 24 and Vienna on September 30 to provide an opportunity for the public to review and comment on the study findings before the study recommendations are finalized.

To learn more about the study or provide feedback, you can sign up to receive updates electronically by sending an e-mail request to **drptpr@drpt.virginia.gov** or send written comments to **drptpr@drpt.virginia.gov** or DRPT Public Information Office, 600 E. Main St., Suite 2102, Richmond, VA 23219.

Example of a local park and ride lot

Example of a Metrobus Express bus

Transit/TDM Alternatives Are Now Being Studied

Alternatives are currently being tested that combine a variety of transit and TDM elements to develop recommendations for potential improvements. Each alternative explores a variation of how some or all of the following strategies could be employed at different levels and locations to assess the best overall approach for the corridor:

- BRT along different segments throughout the I-66 corridor
- Feeder buses to connect surrounding areas to BRT stations
- Additional express bus services
- Additional carpooling and vanpooling opportunities
- New transit stations to support additional riders
- Expanded and enhanced bus routes

BRT Elements Under Consideration

The study includes an exploration of BRT elements suitable for possible use in Northern Virginia applications. Northern Virginia applications of BRT have the following potential:

- Provide rail-like service for primary corridors and improved local, regional and commuter bus services regionwide
- Complement existing rail transit services like Metro and VRE
- Operate on shared runningways, including with both other bus services and with HOV users
- Provide superior performance to encourage transit-oriented development at station nodes
- Include segments that run along managed highway lanes and on arterials with transit signal priority
- Utilize stations with in-line, direct access or indirect access
- Emphasize branded vehicles and stations to enhance the ease of identification and use

95% of respondents indicated that time and cost considerations were the most important factors in choosing their commute mode

55% indicated that time was key factor

40% indicated that cost was key factor

Example of a BRT vehicle interior

Study Area Map

To view the study corridor map please see Fact Sheet #1 at **http://www.drpt.virginia.gov/activities/I66study.aspx**

Example of a BRT station

Next Steps

A first step…

- This study is examining short- and medium-term improvements and is the first step toward implementing transit and TDM improvements along the I-66 Corridor
- Results will be used to develop project-specific plans to implement enhanced transit and TDM services over the next 5 to 15 years

This study's results will inform the I-66 Multimodal Studies which are underway…

- Attributes study draft report due spring 2010
- Key issues draft report due spring 2010
- Draft NEPA document(s) due 2011

More information about the I-66 Multimodal Studies can be found at: www.virginiadot.org/projects/studynova-rt66.asp

Study Activities

COMPLETED

- Define Current Conditions
- Data Collection
- Purpose and Need
- Develop Transit/TDM Alternatives
- Identify Potential Revenue Sources
- 1st Round of Public Information Meetings
- Evaluate Alternatives

UNDERWAY

September	October	November
Develop Transit/TDM Recommendations		
2nd Round of Public Information Meetings		Develop Final Report

Public Participation Opportunities

To learn more about the study or provide feedback, you can sign up to receive updates electronically by sending an e-mail request to **drptpr@drpt.virginia.gov** or send written comments to **drptpr@drpt.virginia.gov** or DRPT Public Information Office, 600 E. Main St., Suite 2102, Richmond, VA 23219.

I-66 Transit/Transportation Demand Management Study Fact Sheet #3

September 2009

About the Study

The study is evaluating short- and medium-term transit and transportation demand management (TDM) improvements along the I-66 corridor between Washington, D.C., and Haymarket, VA that will increase mobility in the I-66 corridor. The improvements being evaluated include Bus Rapid Transit (BRT), express bus service, park and ride lots, carpooling and vanpooling.

Key Stakeholder Findings

Over 40 stakeholders were interviewed about their preferences for mobility in the I-66 corridor.

Key stakeholders included:

- Elected and appointed officials
- Homeowner and civic associations
- Chambers of commerce
- Northern Virginia Realtors Association
- Metro, Potomac and Rappahannock Transportaion Commission (OmniRide), Rideshare

Key findings included:

- Traffic congestion in the I-66 corridor should be addressed as soon as possible
- There is not just one solution to traffic congestion but rather a mix of improvements will be needed
- Recommended improvements include:
  - Improved HOV – hours of use, number of people required, consistency of regional networks, and reverse usage
  - Improved bus service including priority bus options until Metrorail can be expanded
  - Increased capacity at park and ride lots
  - Increased cooperation between agencies
- Bus Rapid Transit (BRT) – Most stakeholders consider that BRT is a low cost alternative to rail, a precursor to rail, and that it makes good sense for this region

Example of a local park and ride lot

STATIONS AND PARKING

Existing Conditions

I-66 Corridor, Outside Capital Beltway

- 198 buses per day
- Orange Line Metrorail service
- 47% of commuter trips are going to D.C. core on transit

I-66 Corridor, Inside Capital Beltway

- 144 buses per day
- Orange Line Metrorail service
- 75% of commuter trips are going to D.C. core on transit

Forecast Conditions (2030)

Growth in the Corridor

- Approximately 25% more trips originate in the corridor, but travel patterns change with less emphasis on “downtown” commutes
- Despite the gradual shift in commuter patterns, transit mode share in the I-66 corridor remains high
- Commuter market is most effectively served by transit

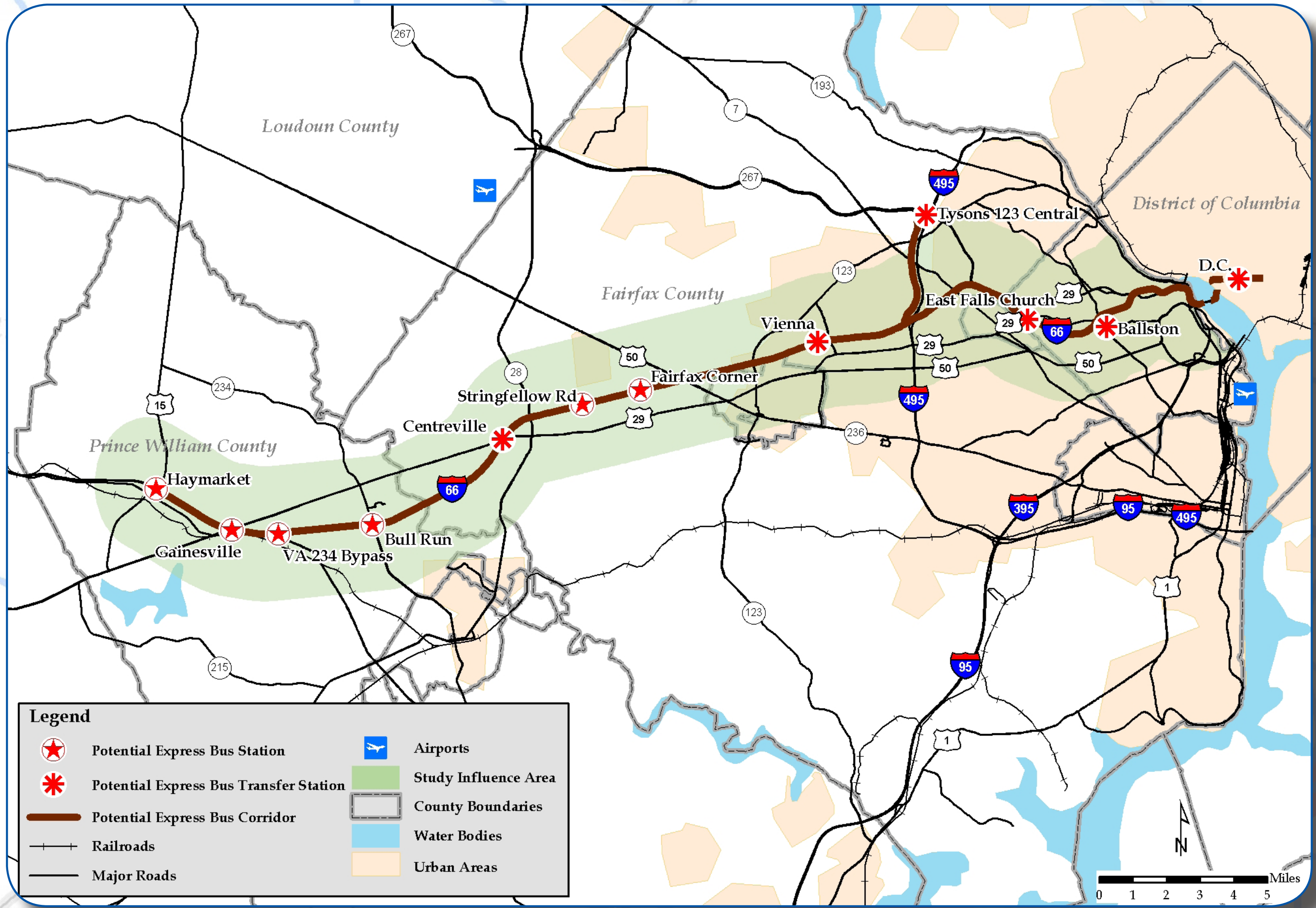
I-66 Corridor, Outside Capital Beltway

- Orange Line Metrorail service
- 48 to 114 more buses per day
- 50% of commuter trips are going to D.C. core on transit

I-66 Corridor, Inside Capital Beltway

- Orange Line Metrorail service
- 24 to 48 more buses per day
- 78% of commuter trips are going to D.C. core on transit

Example of an express bus station



Preliminary Findings

- Enhancing priority bus infrastructure and services contributes to transportation choices and improved mobility
- D.C., Rosslyn-Ballston, and Tysons Corner are major transit destinations
- Express services are most attractive
  - Operating express bus service to D.C. through the Ballston Station area generates significant ridership
  - Metrobus Express service on U.S. 29 and U.S. 50 offers 35 minutes of travel time savings
- Improved convenience and comfort amenities help attract more riders
- Reliable travel time performance of the HOV lane would enhance the transit ridership potential in the corridor
- Expanding park and ride opportunities is important to growing transit ridership
- Land use will play a critical role in determining the corridor transit usage potential
- Vienna Metrorail direct access ramp
  - Proposed ramp from HOV lane at Vaden Drive provides fast and direct transit access to the station
  - Yields about 5 minutes of transit travel time savings and operational efficiencies
  - Eliminates merging and weaving movements across general-purpose lanes, helping reduce congestion
  - Already moving toward preliminary engineering
- Important complementary transit services
  - Dulles Corridor Metrorail will benefit the I-66 corridor
    - Serves the strongest reverse transit markets
    - Becomes attractive option for some I-66 corridor commuters
- Route 28 corridor needs further study as to appropriate transit infrastructure and services

Study Recommendations: Proposed Infrastructure

All

- Proposed infrastructure does not preclude future rail service
- Proposed station locations will be selected with consideration of potential future rail service (i.e., can serve as future multimodal centers)

2015

- Enchance park and ride facilities, such as expanding existing Stringfellow Road lots and constructing new Cushing Road lot
- Implement recommendations from forthcoming VDOT I-66 HOV Lane Operational Study
- Construct direct access ramps from HOV lane at Vienna Metrorail Station, Stringfellow Road, and Monument Drive
- Dulles Corridor Metrorail opened to Wiehle Avenue

2030

- Further expand existing corridor park-and-ride lots and potentially construct new lots
- Continue constructing direct access ramps from HOV lane at additional locations, including (potentially) Centreville, Bull Run, VA 234, Haymarket
- Dulles Corridor Metrorail opened to Dulles Airport and Loudoun County

Study Recommendations: Proposed Services

Improve convenience of corridor express bus services

- Traveler information system upgrades (e.g., next bus, message notification)
- Customer comfort and productivity amenities (e.g., seating at stations, WiFi service)

Increase levels of bus service

- Higher frequency of service (shorter wait times) on selected routes (OmniRide Linton Hall to D.C., Manassas OmniLink, Manassas Park OmniLink, and WMATA Columbia Pike-Farragut Square Line)
- New express service on U.S. 29 and U.S. 50 (Metrobus Express services)

Serve additional transit destinations

- More service direct to Tysons Corner
- More bus service into D.C.

Enhance transit-supportive transportation demand management (TDM) strategies

- Rideshare programs
- Transit information programs

Appendix B

Arlington County Bicycle Map

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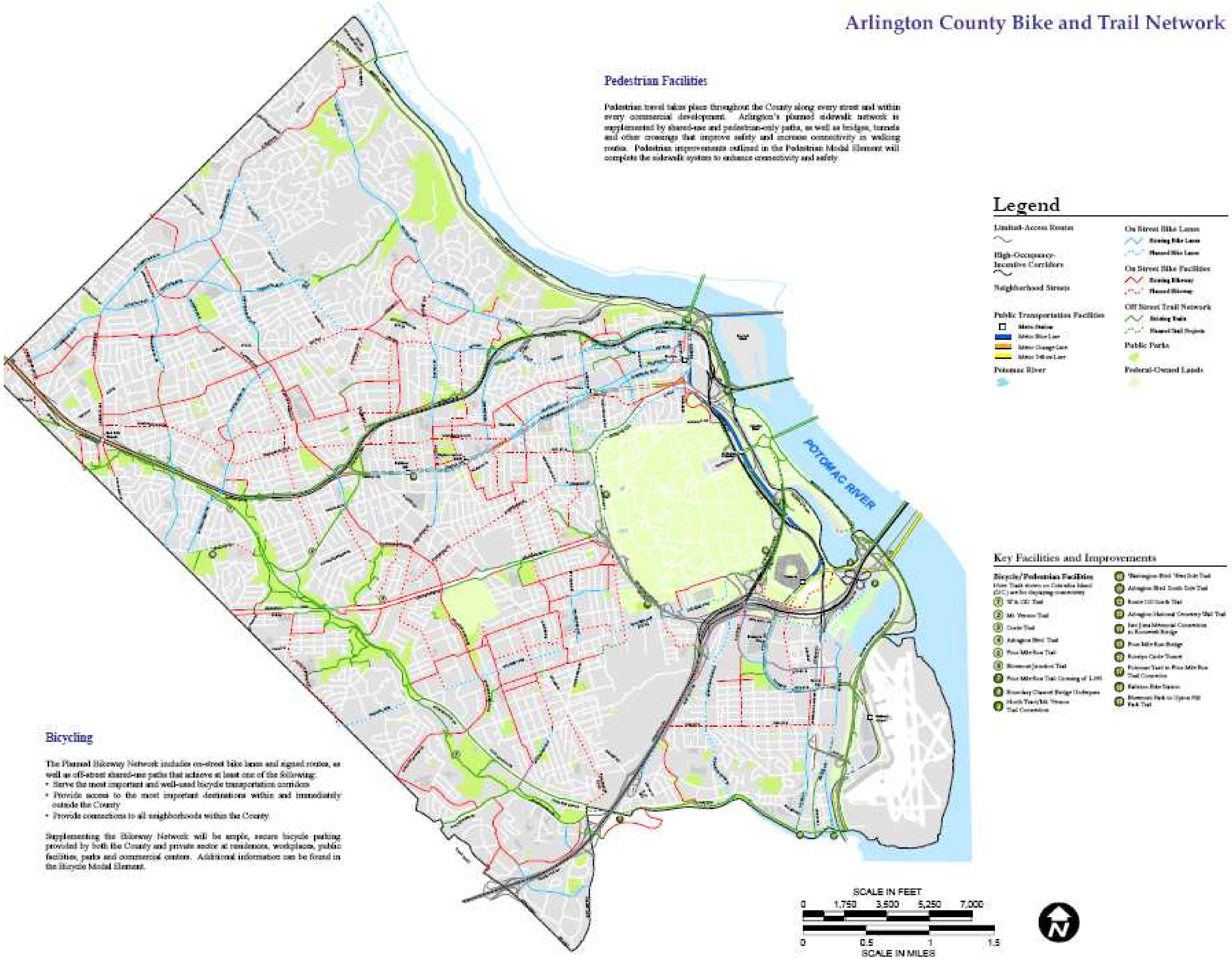
Arlington County Bike and Trail Network

Pedestrian Facilities

Pedestrian travel takes place throughout the County along every street and within every commercial development. Arlington's planned sidewalk network is supplemented by shared-use and pedestrian-only paths, as well as bridges, tunnels and other crossings that improve safety and increase connectivity in walking routes. Pedestrian improvements outlined in the Pedestrian Modal Element will complete the sidewalk system to enhance connectivity and safety.



Bicycling

The Planned Bikeway Network includes on-street bike lanes and signed routes, as well as off-street shared-use paths that achieve at least one of the following:

- Serve the most important and well-used bicycle transportation corridors
- Provide access to the most important destinations within and immediately outside the County
- Provide connections to all neighborhoods within the County.

Supplementing the Bikeway Network will be ample, secure bicycle parking provided by both the County and private sector at residences, workplaces, public facilities, parks and commercial centers. Additional information can be found in the Bicycle Modal Element.

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Appendix C

Fairfax County Bicycle Map

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Bicycling Routes

Bicycle routes shown on this map have been given one of two classifications: Preferred or Less Preferred. Classifications are based upon the expectations and tolerances of the average or typical bicyclist.

Preferred Streets and Roads
Generally suitable for bicycling due to a combination of low traffic volumes, low traffic speeds, and/or the presence of wide travel lanes, paved shoulders or bike lanes.

Less Preferred Streets and Roads
Less suitable for bicycling.

Bike Routes Outside Fairfax
Roads shown as part of bicycle networks in Arlington and Alexandria, irrespective of conditions.

Trails (Shared Use Paths)

Primary
Surface is paved or well-maintained crushed stone.

Secondary
May include a few fair-weather stream crossings and rough or narrow trail surfaces.

Metrorail M

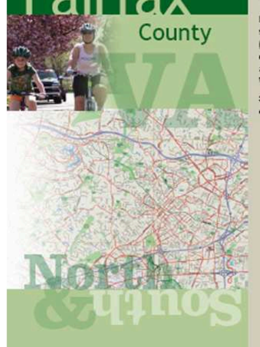
Virginia Railway Express VRE

Other Features

- Hazard
- Fair-weather Crossing
- Trail Parking
- Community Centers/ Rec Centers
- Park and Ride
- Government Complex
- College/University
- Hospital
- School
- Library
- Golf Course
- East Coast Greenway

Bicycle Map

Fairfax County VA



North & South

Fairfax County provides this bicycle map as a tool to encourage and assist people who wish to bicycle.

A message from Gerald E. Connolly, Chairman, Board of Supervisors

In 2006, the Fairfax County Board of Supervisors unanimously approved the Comprehensive Bicycle Initiative. Since then, we have equipped all Fairfax Connector buses with bicycle racks, added bicycle storage lockers and racks at park and ride lots, increased the miles of trails and shared use paths, and we are working with the Virginia Department of Transportation to add on-road bike lanes. With these improvements and more on the way, you've got more commuting choices than ever.

This map identifies a network of both on- and off- road routes to assist bicyclists in navigating Fairfax County. With more than 5000 miles of roadway, this map highlights the most desirable routes and major trails for recreational and commuter bicyclists.

I encourage you to explore Fairfax County by bike. Bicycling is good for our environment, eases congestion, reduces pollution, and promotes health. Please remember to bike responsibly and follow the rules of the road.

www.fairfaxcounty.gov/fcdot/bike
bicycleprograms@fairfaxcounty.gov
(703) 324-BIKE (2453)

Fairfax County is committed to a policy of nondiscrimination in all county programs, services and activities. Reasonable accommodations will be provided upon request.

For information or to request this information in an alternate format, call 703-324-1100, TTY 703-324-1102. Please allow seven working days.

FCDOT

County of Fairfax, Virginia

Toole Design Group

CAMBRIDGE

Map designed by Steve Spindler Cartography | steve@bikemap.com
Peter Volz Design
© May 2008

Bikes on Buses

Bringing your bike on a bus can help you go farther, faster. All Fairfax Connector buses, Falls Church George buses, Arlington Transit buses, and Metrobuses operated by the Washington Metropolitan Area Transit Authority (WMATA) have front-mounted bike racks. Each rack accommodates two bicycles of most standard sizes. There is no additional charge.

Bikes on Rail

Bicycles are welcome on Metrorail (limited to two bicycles per rail car) weekdays except 7 a.m. to 10 a.m. and 4 p.m. to 7 p.m. Use only the end doors of any car. Do not use the center emergency doors. Bicycles are welcome all day Saturday and Sunday as well as most holidays (limited to four bicycles per car). Bicycles are not permitted on Metrorail on July 4th and other special events or holidays when large crowds use the system. To access the station platforms, use the elevator rather than the escalator.

Only folding bicycles are allowed on VRE trains.

Bike to Rail Transit or Park and Ride

Bicycling to Metro, VRE or a Park and Ride lot may be quicker than driving, especially if you live within a mile of the station (the County Overview Map highlights a one mile radius around each station). Bike parking is available at every Blue, Orange and Yellow line Metrorail station in the County, every VRE station and all Park and Ride lots shown on this map.

See www.fairfaxcounty.gov/fcdot/bike for more information on bike parking and renting lockers.

Trails (Shared Use Paths)

Fairfax County has over 200 miles of off-road trails and shared use paths available for bicyclists, pedestrians and other non-motorized users. In addition to the trails shown on this map, there are recreational mountain bike trails and many miles of sidepaths along newer roadways.

Trail surface materials, surface quality and widths vary widely throughout the County. Some of the trails in stream valley parks have fair-weather stream crossings. At these crossings, cyclists should dismount and walk their bikes across a stream channel on concrete "stepping stones" or ride through shallow water 2-6 inches deep on a concrete section of stream bed.

On this map, trails are classified in two categories:

Primary trails are suitable for all types of bicycles including road bikes with narrow tires.

Secondary trails are suitable for hybrid or mountain bikes (medium to wide tires) because of surface conditions or trail width.

To further assist bicyclists, this map shows locations where trail users need to exercise caution. These locations are marked with an orange symbol ⚠. These locations may be narrow spots in trails, short segments of damaged trail surface, areas with poor sight distances, difficult street crossings, or other areas with potential challenges for cyclists.

More about this Map

The Fairfax County Department of Transportation is pleased to provide this map as an informational aid for bicyclists as they plan their routes in and around Fairfax County.

Roads in the study network were reviewed in the field to determine their conditions and characteristics. From this data, the Fairfax County Bicycle Program staff's familiarity with the roadway network, and input from County bicyclists, roadways were classified as Preferred, Less Preferred or unsuitable for bicycling. Trails and off-road paths were also inventoried in the field. Major trails suitable for transportation and important connections are shown.

The road and trail classification system used in the creation of this map is based on the perspective of a typical bicyclist. An individual rider's experience, skill and opinion may vary. The road and trail classification system is not an assessment of existing or future bicycle safety on any roadway or trail shown on the map, classified or unclassified. The user of this map is responsible for assessing road, path and traffic conditions to determine routes that are suitable for his or her individual riding skills.

The Fairfax County Department of Transportation is dedicated to serving bicyclists' needs. We invite you to visit us on the web or contact Bicycle Program staff for additional resources including information about bicycle lockers at Metro and VRE stations and Park and Ride facilities, upcoming events, where to find more maps, commuting tips, safe bicycling recommendations and much more.

www.fairfaxcounty.gov/fcdot/bike
bicycleprograms@fairfaxcounty.gov
(703) 324-BIKE (2453)

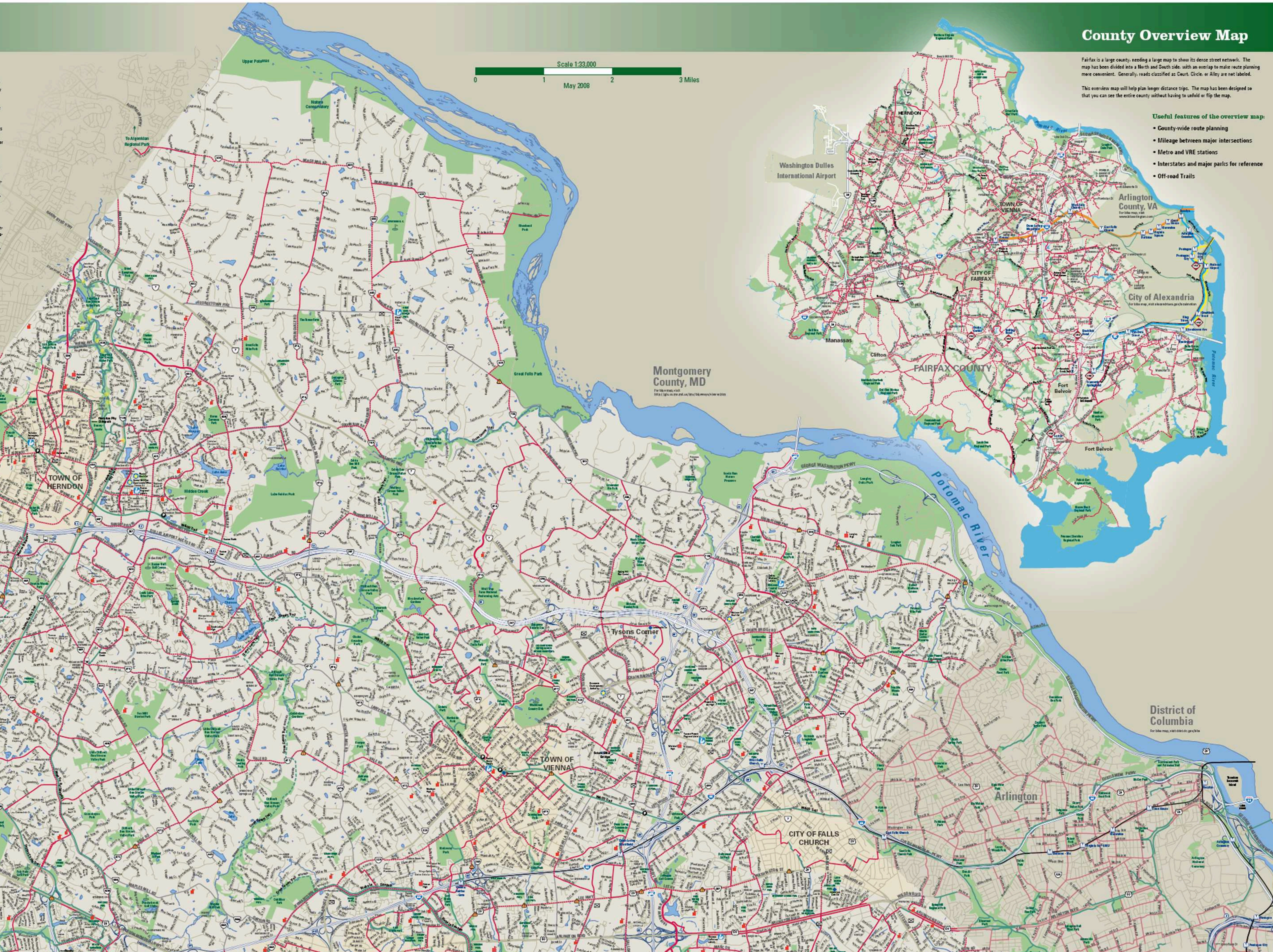
County Overview Map

Fairfax is a large county, needing a large map to show its dense street network. The map has been divided into a North and South side, with an overlap to make route planning more convenient. Generally, roads classified as Court, Circle, or Alley are not labeled.

This overview map will help plan longer distance trips. The map has been designed so that you can see the entire county without having to unfold or flip the map.

Useful features of the overview map:

- County-wide route planning
- Mileage between major intersections
- Metro and VRE stations
- Interstates and major parks for reference
- Off-road Trails

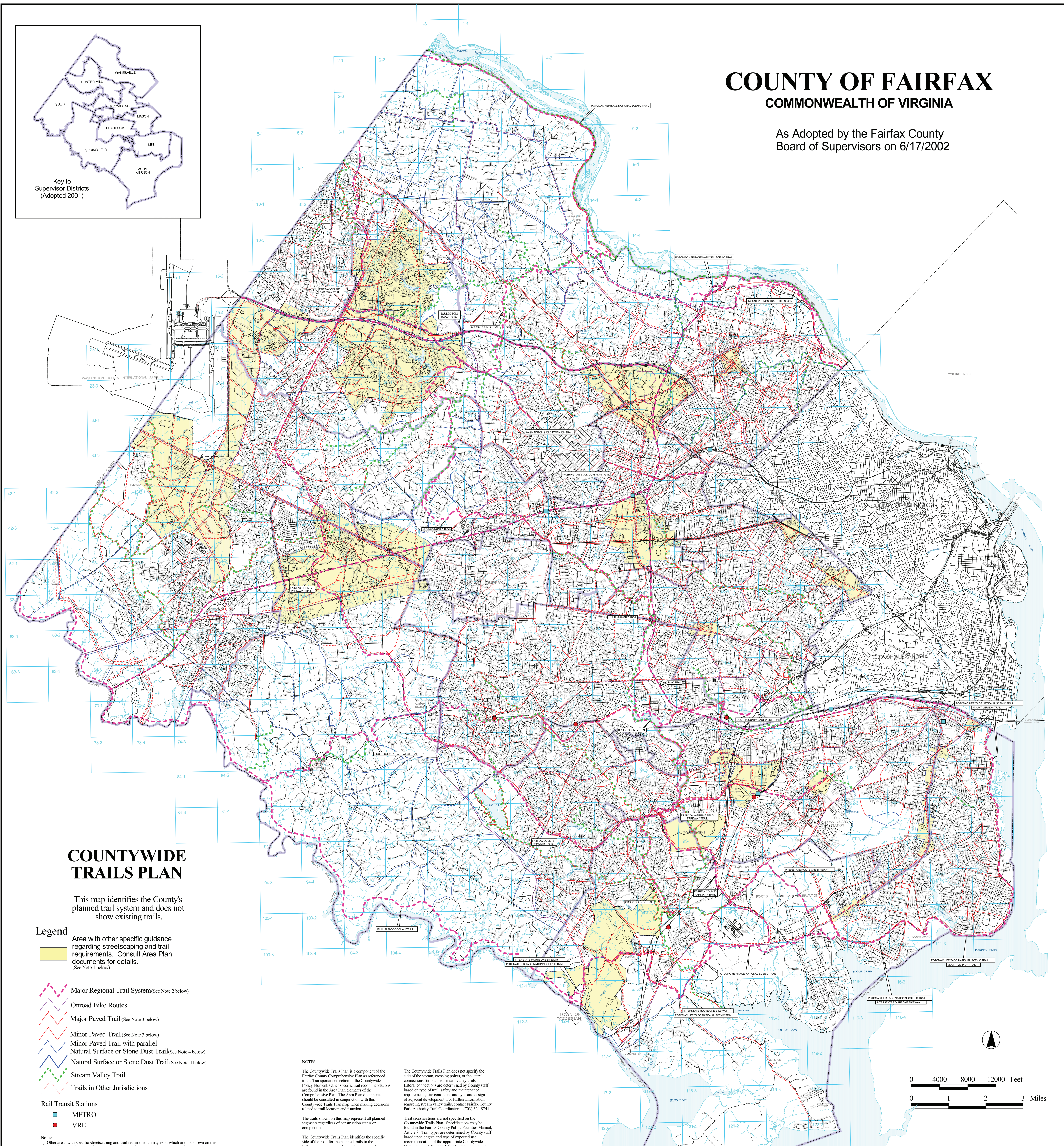



Navigating the Road
HAND SIGNALS
STOP
Trail crosses street or driveway
Trail crosses on/off ramp
Cyclist goes straight at intersection with right turn lane
Two ways to turn left at intersection
CITY OF FAIRFAX
Alexandria
TOWN OF CLIFTON
FORT BELVOIR
TOWN OF OCCOQUAN
Mason Neck Inset
Pohick Bay
Potomac River
See Mason Neck Inset
3 Miles
Fairfax County
VA
Bicycle Map

COUNTY OF FAIRFAX

COMMONWEALTH OF VIRGINIA

As Adopted by the Fairfax County
Board of Supervisors on 6/17/2002



COUNTYWIDE TRAILS PLAN

This map identifies the County's planned trail system and does not show existing trails.

Legend

- Area with other specific guidance regarding streetscaping and trail requirements. Consult Area Plan documents for details. (See Note 1 below)
- Major Regional Trail System (See Note 2 below)
- Onroad Bike Routes
- Major Paved Trail (See Note 3 below)
- Minor Paved Trail (See Note 3 below)
- Minor Paved Trail with parallel Natural Surface or Stone Dust Trail (See Note 4 below)
- Natural Surface or Stone Dust Trail (See Note 4 below)
- Stream Valley Trail
- Trails in Other Jurisdictions

Rail Transit Stations

- METRO
- VRE

Notes:

1) Other areas with specific streetscaping and trail requirements may exist which are not shown on this map. For Streetscaping & Trail requirements, please refer to appropriate Area Plan documents.
2) Major Regional Trail System includes Interstate Route One Bikeway, Cross County Trail and trails along I-495, I-66, DAAR, Fairfax County Parkway, Franconia-Springfield Parkway, Southern Railroad (South County East-West Trail), George Washington Memorial Parkway, Washington and Old Dominion Regional Park, Bull Run, Occoquan River and Potomac River. The Major Regional Trail System is Major Paved Trails with the exception of Interstate Route One Bikeway, South County East-West Trail, Cross County Trail, and those trails along Bull Run, Occoquan River and Potomac River, where surface materials vary from Paved, Natural Surface to Stonedust. The Northern Virginia Regional Park Authority will determine the type of trail along the Occoquan River and Bull Run.
3) Major Paved Trail (asphalt or concrete) is 8' or more in width.
   Minor Paved Trail (asphalt or concrete) varies from 4' to 7'-11".
4) Stone Dust Trail or Natural Surface Trail is typically 6' to 8' in width.

NOTES:

The Countywide Trails Plan is a component of the Fairfax County Comprehensive Plan as referenced in the Transportation section of the Countywide Policy Element. Other specific trail recommendations are found in the Area Plan elements of the Comprehensive Plan. The Area Plan documents should be consulted in conjunction with this Countywide Trails Plan map when making decisions related to trail location and function.

The trails shown on this map represent all planned segments regardless of construction status or completion.

The Countywide Trails Plan identifies the specific side of the road for the planned trails in the following supervisor districts: Dranesville, Hunter Mill, Providence, Springfield, Sully.

The Countywide Trails Plan does not specify side of road for the planned trails in the following supervisor districts: Braddock, Lee, Mason, Mt. Vernon.

Trails are to be located on one side of the Fairfax County Parkway.

The Countywide Trails Plan does not specify the side of the stream, crossing points, or the lateral connections for planned stream valley trails. Lateral connections are determined by County staff based on type of trail, safety and maintenance requirements, site conditions and type and design of adjacent development. For further information regarding stream valley trails, contact Fairfax County Park Authority Trail Coordinator at (703) 324-8741.

Trail cross sections are not specified on the Countywide Trails Plan. Specifications may be found in the Fairfax County Public Facilities Manual, Article 8. Trail types are determined by County staff based upon degree and type of expected use, recommendation of the appropriate Countywide Non-motorized Transportation Committee member, safety, and maintenance costs. Additional walkways or sidewalks may be required by County ordinances.

For further information contact the Fairfax County Department of Planning and Zoning at (703) 324-1210.

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Appendix D

CLRP Project Details

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Appendix D. CLRP Project Details

Table D-1 and Table D-2 provide details of the highway and transit projects included in the 2008 Metropolitan Washington Council of Governments (MWCOG) Constrained Long Range Plan (CLRP), respectively. These tables include the expected year of completion for each project and whether it was included in the 2015 and 2030 baseline scenarios, described in Section 6 of this report. Projects in the I-66 corridor are highlighted in light green throughout.

Table D-1. Highway CLRP Projects

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
District of Columbia						
DDOT	New York Avenue	Bladensburg Rd		post 2010	X	X
DDOT	New York Avenue	Florida Ave		post 2010	X	X
DDOT	Southeast/Southwest Freeway Reversible Lanes	14th St bridges	Pennsylvania Ave, SE		X	X
DDOT	Foxhall Rd, NW	W Place	Calvert St	2003	X	X
DDOT	Klingle Road Reconstruction	Porter St	Woodley Rd	2007	X	X
DDOT	Minnesota Ave, NE ext.	Sheriff Rd	Meade St, NE	2009	X	X
DDOT	South Capitol St Corridor: Frederick Douglass Bridge			2015	X	X
DDOT	South Capitol St. Corridor: S Capitol St	O St.	S. Capitol St. bridge	2015	X	X
DDOT	South Capitol St. Corridor: S Capitol St Intersection	At Potomac Ave		2015	X	X
DDOT	South Capitol St. Corridor: Suitland Pkwy Interchange	At MLK Jr. Blvd to complete movements		2015	X	X
DDOT	Reconstruct 11th Street Bridges (2 spans)			2011	X	X
DDOT	11th St Bridges	Ramp movements to/from the northbound Anacostia Freeway for each span		2011	X	X
Maryland – MDOT Freeway						
MDSHA	I-270 interchange at Watkins Mill Rd extended			2020		X
MDSHA	I-270/U.S. 15 Corridor SHOV	Shady Grove Metro	I-70	2020		X
MDSHA	I-270 Interchange	At MD 121		2010	X	X
MDSHA	Widen I-70	Mount Phillip Rd	MD 144FA	2010	X	X
MDSHA	I-95	Contee Rd relocated w/CD roads		2020	X	X
MDSHA	I-95/I-495 (Capital Beltway)	Branch Avenue Metro access (Phases I and II)		2009	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
MDSHA	I-95/I-495 (Capital Beltway) Interchange	At Greenbelt Metro		2010	X	X
MDSHA	Widen I-95/I-495 Woodrow Wilson Bridge	MD 210 interchange	Virginia line	2008	X	X
MDSHA	I-95/I-495/Arena Dr Interchange	MD 214	MD 202	2009	X	X
MDSHA	Intercounty Connector	I-270	I-95/U.S. 1	2012	X	X
Maryland – MDOT Primary						
MDSHA	Reconstruct U.S. 1	College Ave	Cherry Hill Rd	2020		X
MDSHA	Widen U.S. 1	Cherry Hill Rd	I-95/U.S. 1	2010	X	X
MDSHA	MD 2/4 at Lusby Southern Conn. Rd	MD 765	MD 2/4 at Lusby	2010	X	X
MDSHA	MD 2/4	MD 231 intersection improvements		2010	X	X
MDSHA	MD 3 (Robert Crain Hwy)	U.S. 50	Anne Arundel County line	2020		X
MDSHA	MD 4 (Pennsylvania. Ave) Interchange	At Westphalia Rd		2010	X	X
MDSHA	MD 4 (Pennsylvania Ave) Interchange	At Suitland Pkwy		2011	X	X
MDSHA	Upgrade MD 4	MD 223	I-95/I-495	2020		X
MDSHA	MD 5 (Branch Ave) Interchange	At Easrnshaw/Burch Hill Roads		2010	X	X
MDSHA	Upgrade MD 5 (Branch Ave)	U.S. 301 at T.B.	North of the Capital Beltway	2030		X
MDSHA	MD 5 (Branch Ave) Interchange	At MD 373		2010	X	X
MDSHA	MD 5 (Branch Ave) Interchange	At Surratts Rd		2010	X	X
MDSHA	MD 5 Relocated at Hughesville	End of divided highway south of Hughesville	End of divided highway north of Hughesville	2007	X	X
MDSHA	U.S. 15 Catoctin Mountain Hwy	MD 26		2006	X	X
MDSHA	U.S. 15 Catoctin Mountain Hwy	At Monocacy Blvd		2010	X	X
MDSHA	Upgrade U.S. 29 (Columbia Pike)	Musgrove/Fairland Rd		2010	X	X
MDSHA	Upgrade U.S. 29 (Columbia Pike)	MD 198		2005	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
MDSHA	Upgrade U.S. 29 (Columbia Pike)	Briggs Chaney Rd		2006	X	X
MDSHA	Upgrade U.S. 29 (Columbia Pike)	Randolph Rd		2005	X	X
MDSHA	Upgrade U.S. 29 (Columbia Pike)	Stewart Ln, Tech Rd, Greencastle Rd, and Blackburn Rd		2020		X
MDSHA	Upgrade U.S. 29 (Columbia Pike)	Sligo Creek Pkwy	South of MD 193	2020		X
MDSHA	Upgrade U.S. 29 (Columbia Pike)	North of MD 193	South of MD 650	2020		X
MDSHA	Upgrade U.S. 29 (Columbia Pike)	North of MD 650	Howard County line	2020		X
MDSHA	MD 75 relocated	MD 80		2010	X	X
MDSHA	MD 80/MD 355 Relocated	South of Urbana	North of Urbana	2005	X	X
MDSHA	Widen MD 85 (Buckeystown Pike)	English Muffin Way	North of Grove Rd	2020		X
MDSHA	MD 97 (Brookeville Bypass)	South of Brookeville	North of Brookeville	2015	X	X
MDSHA	Upgrade MD 97 (Georgia Ave) Interchange	At MD 28		2010	X	X
MDSHA	Upgrade MD 97 (Georgia Ave) Interchange	At Randolph Rd		2010	X	X
MDSHA	Reconstruct MD 202 (Largo Town Ctr Metro Access Improvements)	North of Brightseat Rd	South of Technology Way	2010	X	X
MDSHA	Upgrade MD 210 with interchange improvements at Wilson Bridge Dr, Livingston Rd/Kirby Hill Rd, Livingston Rd/Palmer Rd, Old Fort Rd North, Ft. Washington Rd, and Livingston Rd/Swan Creek Rd intersections	MD 228	Capital Beltway	2030		X
MDSHA	Widen U.S. 301	North of Mount Oak Rd	U.S. 50	2020		X
MDSHA	U.S. 340 Interchange	At U.S. 340 at Jefferson Tech Park		2009	X	X
MDSHA	MD 355	Montrose/Randolph Roads	CSX RR	2010	X	X
MDSHA	Reconstruct MD 450	CSX grade separation at Peace Cross		2008	X	X
Maryland – MDOT Secondary						
MDSHA	Widen MD 27	MD 355	A 305	2006	X	X
MDSHA	Widen MD 28 (Darnestown Rd)	Riffle Ford Rd	Great Seneca Hwy	2004	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
MDSHA	MD 28/Rockville Town Center Interchanges	MD 586/MD 911		2030		X
MDSHA	MD 28 (Norbeck Rd)/MD 198 (Spencerville Rd)	MD 97	I-95	2020		X
MDSHA	Widen MD 117	I-270	Seneca Creek State Park	2010	X	X
MDSHA	Widen MD 121	I-270	W. Old Baltimore Rd	2010	X	X
MDSHA	Widen MD 124 (Woodfield Road)	Midcounty Hwy	S. of Airpark Dr	2015	X	X
MDSHA	Widen MD 124 (Woodfield Road)	S. of Airpark Dr	N. of Fieldcrest Rd	2010	X	X
MDSHA	Widen MD 124 (Woodfield Road)	N. of Fieldcrest Rd	Warfield Rd	2015	X	X
MDSHA	Widen MD 201 (Kenilworth Ave)	Rittenhouse Rd	Pontiac St	2020		X
MDSHA	MD 212 Relocated	U.S. 1	I-95	2007	X	X
MDSHA	MD 414 Extended	MD 210 interchange	I-295	2008	X	X
MDSHA	Widen MD 450 (Annapolis Rd)	Stonybrook Dr	West of MD 3	2020		X
MDSHA	Widen MD 450 (Annapolis Rd)	Whitfield Chapel Rd	Seabrook Rd	2005	X	X
MDSHA	Widen MD 450 (Annapolis Rd)	MD 193	Stonybrook Dr	2005	X	X
MDSHA	MD 475 (East St Extended)	South St	Proposed Monocacy Blvd	2010	X	X
Montgomery County						
Mont. Co.	A-305 - MidCounty Hwy Extended	Stringtown Rd	MD 27	2010	X	X
Mont. Co.	A-305 - MidCounty Hwy Extended	MD 355	Stringtown Rd	2010	X	X
Mont. Co.	Burtonsville Access Rd	MD 198	School Success Rd	2009	X	X
Mont. Co.	Century Blvd/Crystal Rock Loop	Existing Century Blvd	Crystal Rock Dr	2008	X	X
Mont. Co.	Chapman Ave	Randolph Rd	Old Georgetown Rd	2010	X	X
Mont. Co.	Citadel Ave Extended	Dead end of existing road south of Marinelli Rd	Nicholson Lane	2008	X	X
Mont. Co.	Widen Fairland Rd	U.S. 29	Briggs Chaney Rd	2008	X	X
Mont. Co.	Father Hurley Blvd	Wisteria	MD 118 relocated	2010	X	X
Mont. Co.	Widen Father Hurley/Ridge Rd	I-270	Existing MD 27	2010	X	X
Mont. Co.	Widen Goshen Rd Facility Planning	Odenhal Ave	Warfield Rd	2015	X	X
Mont. Co.	I-4 Bridge over I-270	Century Blvd	Milestone Center Dr	2015	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
Mont. Co.	Widen Longdraft Rd	MD 124	MD 117	2015	X	X
Mont. Co.	M-83 - Midcounty Hwy Extended	MD 27	Middlebrook Rd	2020		X
Mont. Co.	M-83 - Midcounty Hwy Extended	Middlebrook Rd	Montgomery Village Ave	2020		X
Mont. Co.	Widen MD 118 Ext.	MD 355	M-83	2020		X
Mont. Co.	Middlebrook Road Ext. Widening	MD 355	M-83	2015	X	X
Mont. Co.	Montrose Pkwy East Facility Planning	Parklawn Dr	MD 586	2015	X	X
Mont. Co.	Montrose Pkwy West	Montrose Rd (Tower Oaks Blvd.)	Old Old Georgetown Rd	2008	X	X
Mont. Co.	Nebel St Extended	Randolph Rd	Target store site	2010	X	X
Mont. Co.	Widen Norbeck Rd Ext.	MD 28	MD 198	2020		X
Mont. Co.	Observation Dr Extended	Existing terminus	MD 355 Bypass	2020		X
Mont. Co.	Randolph Rd	Parklawn Dr	Rock Creek Park	2010	X	X
Mont. Co.	Snouffer School Rd Facility Planning	Goshen Rd	MD 124	2015	X	X
Mont. Co.	Widen Stringtown Rd Ext.	MD 355	Piedmont Rd	2015	X	X
Mont. Co.	Stringtown Rd Ext.	I-270/MD 121 interchange	Existing Stringtown Rd at MD 355	2007	X	X
Mont. Co.	Valley Park Dr	East of MD 27	exist. Valley Park Dr	2006	X	X
Mont. Co.	Watkins Mill Rd ext.	MD 117	MD 355	2015	X	X
Mont. Co.	Woodfield Rd	1200' north of MD 108	MD 27	2009	X	X
Prince George's County						
PG Co.	Widen Addison Rd	MD 214	Walker Mill Rd	2014	X	X
PG Co.	Addison Rd	Sheriff Rd	MD 704	2014	X	X
PG Co.	Allentown Road Relocated	Indian Head Hwy	Brinkley Rd	2025		X
PG Co.	Widen Ammendale/Virginia Manor Rd	I-95	West of U.S. 1	2008	X	X
PG Co.	Widen Ardwick-Ardmore Rd	MD 704	91st Ave	2015	X	X
PG Co.	Baltimore Washington Pkwy/Greenbelt Rd	Ramp to southbound Baltimore Washington Pkwy		2025		X
PG Co.	Bell Station Rd	Annapolis Rd	Church Rd	2006	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
PG Co.	Widen Berry Rd	Livingston Rd	Accokeek Rd	2010	X	X
PG Co.	Widen Bowie Race Track Rd	Laurel-Bowie Rd	Old Chapel Rd	2015	X	X
PG Co.	Widen Bowie Race Track Rd	Annapolis Rd	Old Chapel Rd	2015	X	X
PG Co.	Widen Brandywine Rd	North of Piscataway Rd	Thrift Rd	2020		X
PG Co.	Widen Briggs Chaney Rd	Montgomery County line	Old Gunpowder Rd	2010	X	X
PG Co.	Widen Brightseat Rd	Sheriff Rd	MD 214	2004	X	X
PG Co.	Widen Brinkley Rd	St. Barnabas Rd	Allentown Rd	2015	X	X
PG Co.	Brooks Dr Extended	Marlboro Pike	Rollins Ave	2020		X
PG Co.	Widen Cabin Branch Dr	Columbia Park Rd	North of Sheriff Rd	2015	X	X
PG Co.	Campus Way North	Lake Arbor Way	South of Lottsford Rd	2004	X	X
PG Co.	Campus Way North Extended	South of Lottsford Rd	Evarts Dr	2010	X	X
PG Co.	Widen Cherry Hill Rd	Montgomery County line	U.S. 1	2012	X	X
PG Co.	Widen Church Rd	Oak Grove Rd	Annapolis Rd	2005	X	X
PG Co.	Widen Columbia Park Rd	Cabin Branch Rd	Columbia Terrace	2015	X	X
PG Co.	Widen Columbia Park Rd	U.S. 50	Cabin Branch Rd	2015	X	X
PG Co.	Contee Rd	U.S. 1	Van Dusen Rd	2004	X	X
PG Co.	Widen Contee Rd	Briarwood Dr	U.S. 1	2000	X	X
PG Co.	Widen Dangerfield Rd	Cheltenham Ave	Woodyard Rd	2015	X	X
PG Co.	Widen Dower House Rd	Woodyard Rd	Foxley Rd	2025		X
PG Co.	Widen Dower House Rd	Foxley Rd	Pennsylvania Ave	2015	X	X
PG Co.	Widen Fisher Rd	Brinkley Rd	Holton Ln	2012	X	X
PG Co.	Forbes Blvd Extended	south of Amtrak	Greenbelt Rd	2015	X	X
PG Co.	Widen Forestville Rd	Allentown Rd	Pennsylvania Ave	2012	X	X
PG Co.	Widen Fort Washington Rd	Riverview Rd	Indian Head Hwy	2015	X	X
PG Co.	Widen Good Luck Road	East of Kenilworth Ave	Cipriano Rd	2020		X
PG Co.	Widen Good Luck Road	Cipriano Rd	Greenbelt Rd	2015	X	X
PG Co.	Widen Governor Bridge Rd	U.S. 301	Anne Arundel County line	2012	X	X
PG Co.	Widen Hill Rd	Central Ave	MLK Jr Hwy	2013	X	X
PG Co.	Hill Rd	MLK Jr Hwy	Sheriff Rd	2015	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
PG Co.	Iverson St. Extended	Wheeler Rd	19th Ave	2010	X	X
PG Co.	Widen Karen Blvd	Walker Mill Rd	Central Ave	2020		X
PG Co.	Widen Livingston Rd	Indian Head Hwy at Eastover	Kerby Hill Rd	2015	X	X
PG Co.	Widen Livingston Rd	Piscataway Creek	Farmington Rd	2020		X
PG Co.	Widen Lottsford Rd	Archer Ln	Enterprise Rd	2011	X	X
PG Co.	Widen Lottsford Vista Rd	MLK Jr Hwy	Ardwick-Ardmore Rd relocated	2020		X
PG Co.	Widen Metzerott Rd	Adelphi Rd	University Blvd	2020		X
PG Co.	Widen Metzerott Rd	New Hampshire Ave	Adelphi Rd	2020		X
PG Co.	Widen Mitchellville Rd	Mount Oak Rd	Collington Rd	2000	X	X
PG Co.	Widen Mt. Oak Rd	Church Rd	Mitchellville Rd	2015	X	X
PG Co.	Widen Murkirk Rd	west of U.S. 1	Odell Rd	2020		X
PG Co.	National Harbor Main Circulation Roads	I-95/I-295 interchange	Waterfront parcel, National Harbor	2008	X	X
PG Co.	Eiden Oak Grove and Leeland Roads	Watkins Park Rd	Robert Craine Hwy	2005	X	X
PG Co.	Widen Old Alexandria Ferry Rd	Woodyard Rd	Branch Ave	2015	X	X
PG Co.	Old Baltimore Pike extended	Muirkirk Rd	Contee Rd	2020		X
PG Co.	Widen Old Branch Ave	north of Piscataway Rd	Allentown Rd	2015	X	X
PG Co.	Old Fort Rd Extended	Picataway Rd	Old Fort Rd	2010	X	X
PG Co.	Widen Old Gunpowder Rd	Powder Mill Rd	Greencastle Rd	2015	X	X
PG Co.	Widen Oxon Hill Rd	Fort Foote Rd - North	MD 210	2010	X	X
PG Co.	Widen Oxon Hill Rd	National Harbor entrance	Fort Foote Rd - North	2011	X	X
PG Co.	Presidential Pkwy	Suitland Pkwy	Melwood Rd	2025		X
PG Co.	Regency Pkwy/Regency Lane	Regency Lane	Hil-Mar Dr	2007	X	X
PG Co.	Widen Rhode Island Ave	University Blvd	U.S. 1	2015	X	X
PG Co.	Widen Ritchie Marlboro Rd	Ritchie Rd	White House Rd	2003	X	X
PG Co.	Widen Ritchie Rd/Forestville Rd	Alberta Dr	MD 4	2009	X	X
PG Co.	Widen Ritchie Rd/Forestville Rd	Alberta Dr	Edgeworth Dr	2004	X	X
PG Co.	Widen Rollins Ave	Central Ave	Walker Mill Rd	2020		X
PG Co.	Widen Rosaryville Rd	Robert Crain Hwy	Woodyard Rd	2020		X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
PG Co.	Widen Spine Rd	Branch Ave/ U.S. 301	Brandywine Rd	2015	X	X
PG Co.	Widen Springfield Rd	Lanham-Severn Rd	Goodluck Rd	2015	X	X
PG Co.	St. Joseph's Dr	MD 202	Ardwick-Ardmore Rd	2015	X	X
PG Co.	Suitland Pkwy	Interchange at Rena/Forestville Rds		2025		X
PG Co.	Widen Suitland Rd	Allentown Rd	Suitland Pkwy	2009	X	X
PG Co.	Widen Suitland Rd	Suitland Pkwy	Silver Hill Rd	2015	X	X
PG Co.	Widen Sunnyside Ave	U.S. 1	Kenilworth Ave	2015	X	X
PG Co.	Widen Surratts Rd	Beverly Ave	Brandywine Rd	2005	X	X
PG Co.	Widen Temple Hill Rd	Piscataway Rd	St. Barnabas Rd	2015	X	X
PG Co.	U.S. 50/Columbia Park Rd Ramp	Westbound ramp to Columbia Park Rd		2025		X
PG Co.	U.S. 50/Columbia Park Rd Ramp	Eastbound ramp Cheverly vicinity		2003	X	X
PG Co.	Widen Van Dusen Rd	Contee Rd	Sandy Springs Rd	2020		X
PG Co.	Van Dusen Rd Interchange	At Contee Rd		2025		X
PG Co.	Widen Virginia Manor Rd	Muirkirk Rd	Contee Rd	2015	X	X
PG Co.	Widen Walker Mill Rd	Silver Hill Rd	I-95	2015	X	X
PG Co.	Widen Wheeler Rd	St. Barnabas Rd	D.C. limit	2020		X
PG Co.	Widen White House Rd	Ritchie-Marlboro Rd	Largo-Landover Rd	2015	X	X
PG Co.	Widen Whitfield Chapel Rd	Annapolis Rd	Ardwick-Ardmore Rd	2020		X
PG Co.	Woodmore Rd	Enterprise Rd	Church Rd	2015	X	X
PG Co.	Widen Woodyard Rd (MD 223)	Rosaryville Rd	Dower House Rd	2007	X	X
PG Co.	Woodyard Rd Relocated (MD 223)	Piscataway Creek	Livingston Rd	2010	X	X
PG Co.	Widen Woodyard Rd Relocated (MD 223)	Piscataway Creek	Livingston Rd	2020		X
Frederick County						
Fred. Co.	Monocacy Blvd	Hughes Ford Rd	Gas House Pike	2009	X	X
Charles County						
Chas. Co.	Widen/Realign Cross County Connector	Middletown Rd	MD 210	2009	X	X
Anne Arundel County						
BMC	Widen I-97	U.S. 50/301	MD 32/3	2010	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
BMC	Widen I-295	I-695	MD 100	2010	X	X
BMC	Widen MD 2	U.S. 50	MD 100	2020		X
BMC	Widen MD 2	MD 450	South River Bridge	2030		X
BMC	Widen MD 3	MD 32	Prince George's County line	2030		X
BMC	MD 32	BW Pkwy	Howard County line	2020		X
BMC	Widen U.S. 50/MD 301	AA/PG line	Bay Bridge	2020		X
BMC	Widen MD 100	Howard County line	MD 2	2020		X
BMC	Widen MD 170	MD 175	MD 100	2015	X	X
BMC	Widen MD 175	MD 170	BW Pkwy	2010	X	X
BMC	Widen MD 177	MD 100	South Carolina Ave	2020		X
BMC	Widen MD 198	MD 32	BW Pkwy	2025		X
BMC	Widen MD 198	PG line	BW Pkwy	2025		X
BMC	Widen MD 607	Woods Rd	MD 173	2025		X
Carroll County						
BMC	Hampstead Bypass	Wolf Hill Dr	Brodbeck Rd	2008	X	X
BMC	Widen MD 140	MD 31	Market St	2020		X
BMC	MD 140 - 3 New Interchanges	At MD 97S, Center St, and Englar Rd		2020		X
BMC	Widen MD 26	MD 32	Liberty Reservoir	2015	X	X
BMC	Widen MD 32	MD 26	Howard County line	2020		X
BMC	Widen MD 97	MD 140	Pleasant Valley Rd	2020		X
Howard County						
BMC	Widen I-70	U.S. 29	U.S. 40	2030		X
BMC	I-70 (Partial to Full Interchange)	At Marriotsville Rd		2020		X
BMC	Widen I-95	Howard/PG line	Balt./Howard line	2020		X
BMC	Widen U.S. 29	I-70	MD 100	2030		X
BMC	Widen U.S. 29 NB	South of MD 175	Middle Patuxent River	2010	X	X
BMC	Widen MD 32	Cedar Ln	Anne Arundel Cty line	2015	X	X
BMC	Widen MD 32	MD 108	I-70	2015	X	X
BMC	Widen MD 32	I-70	Carroll County line	2030		X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
BMC	MD 32 Interchange	At Burntwoods Rd		2009	X	X
BMC	Widen MD 108	Trotter Rd	MD 32	2025		X
BMC	Widen MD 108	Woodland Rd	1200' west of Centennial Ln	2011	X	X
BMC	Widen MD 216	West of U.S. 29	Sanner Rd	2020		X
BMC	Dorsey Run Rd, North	MD 103	MD 175	2011	X	X
BMC	Dorsey Run Rd, South	MD 175	Gulford Rd	2010	X	X
BMC	Widen Gorman Rd	Stephens Rd	U.S. 1	2025		X
BMC	Widen Marriotsville Rd	MD 99	MD 144	2015	X	X
BMC	Widen Patuxent Range Rd	U.S. 1	Dorsey Run Rd	2015	X	X
BMC	Widen Rodgers Ave	U.S. 40	Courthouse Dr	2010	X	X
BMC	Sanner Rd South	Johns Hopkins Rd	MD 216	2015	X	X
BMC	Widen Sanner Rd North	Johns Hopkins Rd	Pindell School Rd	2015	X	X
BMC	Widen Snowden River Pkwy	MD 100	Broken Land Pkwy	2020		X
Federal Lands						
Fed. Lands	Widen Old Mill Rd	U.S. 1	Pole Rd	2009	X	X
Fed. Lands	Old Mill Rd	Pole Rd	Telegraph Rd	2009	X	X
Virginia – VDOT Freeway						
VDOT	Widen I-66 HOV (peak)	U.S. 15 (includes interchange reconstruction)	U.S. 29	2015	X	X
VDOT	Reconstruct I-66 Interchange	At U.S. 29		2017		X
VDOT	Widen I-66 HOV (peak)	VA 234	VA 234 Business	2006	X	X
VDOT	Widen I-66 HOV (peak)	U.S. 29	VA 234	2010	X	X
VDOT	I-66 Access Interchange	At I-495		2013	X	X
VDOT	I-66 WB Operational/Spot Improvements: Extend Accel./Decel. Lanes	Fairfax Dr	Sycamore St	2013	X	X
VDOT	I-66 WB Operational/Spot Improvements: Extend Accel./Decel. Lanes	Washington Blvd	Dulles Airport Access Rd connector	2013	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	I-66 WB Operational/Spot Improvements: Extend Accel./Decel. Lanes	Lee Hwy/Spout Run	Glebe Rd	2013	X	X
VDOT	Widen I-95	VA 241	U.S. 1	2011	X	X
VDOT	Widen I-95	U.S. 1	MD 210	2009	X	X
VDOT	I-95 Interchange	At VA 613		2015	X	X
VDOT	I-95 (Provide 4th lane)	Newington	VA 123	2010	X	X
VDOT	Reconstruct I-95 Interchange	At VA 642		2010	X	X
VDOT	I-95 interchange	At VA 7900	LOV Access to and from west/from and to north	2015	X	X
VDOT	I-395/I-95 HOV/Bus/HOT Lanes	Eads St	VA 234	2010	X	X
VDOT	I-395/I-95 HOV/Bus/HOT Lanes Transition	VA 234	VA 610 in Stafford Co	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	NB HOV/Bus/HOT lanes	Eads St	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	Eads St	SB HOV/Bus/HOT lanes	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	SB express to SB gen. use lanes	Between S Hayes St and Washington Blvd	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	NB HOV/Bus/HOT lanes	Shirlington Circle	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	Shirlington Circle	SB HOV/Bus/HOT lanes	2010	X	X
VDOT	I-95 HOV/Bus/HOT Bus Only Ramp	NB HOV/Bus/HOT lanes	Seminary Rd (bus only)	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	Seminary Rd (bus only)	SB HOV/Bus/HOT lanes	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	NB HOV/Bus/HOT to gen use lanes	Between VA 236 and VA 648	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	VA 7100	SB HOV/Bus/HOT lanes	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	SB HOV/Bus/HOT to gen. use lanes	Between VA 7100 and VA 638	2010	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	I-95 HOV/Bus/HOT Ramp	NB HOT lanes to new bus station, back to NB HOT lanes (bus only)	Between VA 7100 and VA 642	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	SB HOT lanes to new bus station, back to SB HOT lanes (bus only)	Between VA 7100 and VA 642	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	NB HOV/Bus/HOT to gen. use lanes	Between VA 7100 and VA 642	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	SB HOV/Bus/HOT to gen. Use lanes	Between VA 123 and VA 3000	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	NB HOV/Bus/HOT to gen. use lanes	Between VA 123 and VA 3000	2010	X	X
VDOT	I-95 HOV/Bus/HOT Ramp	NB HOV/Bus/HOT to gen. use lanes	Between VA 610 and VA 234	2010	X	X
VDOT	I-95/395/495 Interchange			2008	X	X
VDOT	I-495 Access Ramps	I-95/395/495 interchange to/from I-495 HOV lanes		2013	X	X
VDOT	I-495 HOT (peak)	I-395	South of VA 193	2013	X	X
VDOT	I-495 HOT Lanes Interchange	Provides SB to WB, SB to EB, EB to SB and NB to WB HOV to HOT or HOT to HOV movements	At VA 267	2013	X	X
VDOT	I-495 HOT Lanes Interchange	All movements	At VA 123	2013	X	X
VDOT	I-495 HOT Lanes Interchange	Provides SB to WB, WB to SB, EB to SB, NB to WB and EB to NB HOV to HOT	At I-66 HOV lanes	2013	X	X
VDOT	I-495 HOT Lanes Interchange	HOT movements to and from South only	At U.S. 29	2013	X	X
VDOT	I-495 HOT Lanes Interchange	All movements	At VA 620	2013	X	X
VDOT	I-495 (peak)	South of VA 193	American Legion Bridge	2015	X	X
VDOT	VA 267 Interchange	VA 674		2012	X	X
VDOT	VA 267 Ramps	I-495 interchange		2005	X	X
VDOT	Widen Dulles Airport Access Road	Dulles Airport	VA 123	2010	X	X
VDOT	Widen Dulles Greenway	Goose Creek Bridge	VA 901	2005	X	X
VDOT	Widen Dulles Greenway	VA 7/15 Bypass	Goose Creek Bridge	2007	X	X
VDOT	Dulles Greenway Interchanges	VA 653 at Battlefield Pkwy		2007	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT Primary						
VDOT	Widen U.S. 1	Stafford County line	VA 235 south	2015	X	X
VDOT	Widen U.S. 1	VA 235 south	VA 235 north	2015	X	X
VDOT	Widen U.S. 1 (Bus/Right-Turn Lanes)	VA 235 north	SCL Alexandria	2025		X
VDOT	Widen U.S. 1	VA 619	U.S.MC Heritage Center Access	2006	X	X
VDOT	Widen U.S. 1 (3 Lanes NB; 4 Lanes SB)	Lorton Rd	Telegraph Rd	2005	X	X
VDOT	Widen U.S. 1	Armistead Rd	Lorton Rd	2005	X	X
VDOT	Widen U.S. 1 (Neabsco Creek Bridge)	S. Cardinal Dr	North Blackburn Rd	2009	X	X
VDOT	Widen U.S. 1	Occoquan Rd	Annapolis Way	2012	X	X
VDOT	U.S. 1 Interchange	At Russel Rd		2010	X	X
VDOT	Widen VA 7	Route 9	Market St (Leesburg)	2015	X	X
VDOT	Widen VA 7 Bypass	VA 7 West	VA 7/U.S. 15 East	2015	X	X
VDOT	VA 7 (New Interchanges)	VA 7/15	VA 28	2015	X	X
VDOT	Widen VA 7	Rolling Holly Drive	Reston Ave	2011	X	X
VDOT	Widen VA 7	Reston Ave	Tyco Rd	2020		X
VDOT	Widen VA 7	Dulles Toll Rd	I-495	2013	X	X
VDOT	Widen VA 7	Seven Corners	Bailey's Crossroads	2020		X
VDOT	VA 7	VA 606		2005	X	X
VDOT	VA 7 Interchange	Claiborne Pkwy/West Spine Rd		2006	X	X
VDOT	VA 7 Interchange	Ashburn Village Blvd		2008	X	X
VDOT	VA 7 Interchange	Loudoun County Pkwy		2010	X	X
VDOT	VA 7	At VA 711		2006	X	X
VDOT	VA 9	At VA 662		2006	X	X
VDOT	Widen U.S. 15 (James Madison Hwy)	U.S. 29	I-66	2020		X
VDOT	Widen U.S. 15 (James Madison Hwy)	I-66	VA 234	2008	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	Widen U.S. 15 (James Madison Hwy)	VA 234	Loudoun County line	2020		X
VDOT	Reconstruct U.S. 15 (James Madison Hwy)	Wihtes Ferry Rd	Maryland State line	2008	X	X
VDOT	Reconstruct VA 27 Interchange	VA 244		2011	X	X
VDOT	Widen VA 28	Fauquier County line	VA 652	2020		X
VDOT	Widen VA 28	VA 652	VA 215	2013	X	X
VDOT	Upgrade VA 28	VA 215	VA 234 Bypass	2012	X	X
VDOT	Reconstruct VA 28	Bridge over Broad Run		2007	X	X
VDOT	Widen VA 28 (Centreville Rd)	N. City limits of Manassas Park	Old Centreville Rd	2025		X
VDOT	VA 28 PPTA (Phase II)	I-66	VA 7	2010	X	X
VDOT	VA 28	Dulles Toll Rd	VA 606	2008	X	X
VDOT	VA 28 Interchange	VA 209		2007	X	X
VDOT	VA 28 Interchange	New Braddock Rd		2008	X	X
VDOT	VA 28 PPTA (Phase I)	VA 668		2006	X	X
VDOT	VA 28 PPTA (Phase I)	Sterling Park		2007	X	X
VDOT	VA 28 PPTA (Phase I)	VA 625		2006	X	X
VDOT	VA 28 PPTA Interchange	Nokes Blvd		2009	X	X
VDOT	Reconstruct VA 28 Intersection	At Braddock Rd/Walney Rd		2008	X	X
VDOT	Remove VA 28 SB ramp	at I-66		2008	X	X
VDOT	Remove VA 28 NB ramp	at I-66		2008	X	X
VDOT	U.S. 29 Interchange	At VA 55/VA619		2016		X
VDOT	Widen U.S. 29	Virginia Oaks Dr	I-66	2016		X
VDOT	Widen U.S. 29	I-66	Entrance to Conway Robinson MSF	2016		X
VDOT	Widen U.S. 29	U.S. 50	I-66	2010	X	X
VDOT	Widen U.S. 29	ECL City of Fairfax (Nutley St)	Espana Court	2020		X
VDOT	Widen U.S. 29	Espana Court	I-495	2015	X	X
VDOT	Route 29 (Parallel)	U.S. 29 near U.S. 15	Sommerset Crossing Dr	2025		X
VDOT	U.S. 50 Traffic Circle	U.S. 15		2010	X	X
VDOT	Widen U.S. 50	VA 659	VA 742	2010	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	Widen U.S. 50	VA 742	VA 609	2012	X	X
VDOT	Widen U.S. 50	VA 609	VA 661	2012	X	X
VDOT	U.S. 50 Intersection Improvements	Waples Mill Rd		2005	X	X
VDOT	Widen U.S. 50	I-66	Waples Mill Rd	2020		X
VDOT	Widen U.S. 50	I-66	WCL Fairfax City	2020		X
VDOT	Widen U.S. 50	ECL City of Fairfax	Arlington County line	2020		X
VDOT	Widen U.S. 50 (Arlington Blvd)	ARC/FFX Line	Washington Blvd	2015	X	X
VDOT	Reconstruct U.S. 50 (Arlington Blvd)	Pershing Dr	Ft. Meyer Dr	2015	X	X
VDOT	U.S. 50 interchange	At Jaguar Trail		2007	X	X
VDOT	U.S. 50 interchange	At VA 120		2010	X	X
VDOT	U.S. 50 interchange	At VA 27		2015	X	X
VDOT	U.S. 50 interchange	At Courthouse Road/10th St		2010	X	X
VDOT	U.S. 50 Interchange	VA 110		2020		X
VDOT	Widen VA 55 (John Marshall Hwy)	Gainesville UM Church	U.S. 29 at VA 619	2016		X
VDOT	VA 120 (Glebe Rd)	At VA 244		2004	X	X
VDOT	VA 120 (Glebe Rd)	At Arlington Ridge Rd		2005	X	X
VDOT	Reconstruct VA 120 (Glebe Rd)	Military Rd	DC limit	2020		X
VDOT	Reconstruct VA 120 (Glebe Rd)	Quebec St	2nd St	2006	X	X
VDOT	Reconstruct VA 120 (Glebe Rd)	W. Glebe Rd	24th Rd	2010	X	X
VDOT	Widen VA 123	VA 7	I-495		X	X
VDOT	Widen VA 123 (Dolley Madison Blvd)	DTR ramps	VA 694	2006	X	X
VDOT	VA 123 Interchange	At U.S. 1		2012	X	X
VDOT	Widen VA 123	U.S. 1	Horner Rd	2008	X	X
VDOT	Widen VA 123	Horner Rd	Devil's Reach Rd	2015	X	X
VDOT	Widen VA 123 (Ox Rd)	VA 722 north	Hooes Rd	2006	X	X
VDOT	Widen VA 123 (Ox Rd)	Hooes Rd	Fairfax County Pkwy	2015	X	X
VDOT	Widen VA 123 (Ox Rd)	Fairfax County Pkwy	Burke Center Pkwy	2015	X	X
VDOT	Widen VA 123	Burke Center Pkwy	Braddock Rd	2020		X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	Reconstruct VA 123	At VA 620		2005	X	X
VDOT	Widen VA 123 (Occoquan River Bridge)	South Approach	VA 722	2007	X	X
VDOT	Reconstruct VA 123	At Riverbend Rd & Nethercliff Hall Rd		2007	X	X
VDOT	VA 215	0.5 mile west of VA 28	VA 28	2011	X	X
VDOT	VA 234 interchange	At U.S. 1		2015	X	X
VDOT	Widen VA 234 (Dumfries Rd)	I-95	U.S. 1	2011	X	X
VDOT	Widen VA 234 (Dumfries Rd)	Country Club Dr	Eclipse Dr	2007	X	X
VDOT	Widen VA 234 (Dumfries Rd)	Eclipse Dr	Snowfall Dr	2006	X	X
VDOT	Widen VA 234 (Dumfries Rd)	VA 234 Bypass	SCL of Manassas	2010	X	X
VDOT	Widen VA 234 (Manassas Bypass)	VA 234 S. of Manassas	I-66	2020		X
VDOT	Tri-County Pkwy	I-66	Loudoun County line	2012	X	X
VDOT	Widen VA 236	Pickett Rd	I-395	2020		X
VDOT	VA 236 Intersection/Spot Improvements	Pickett Rd	Lake Dr	2008	X	X
VDOT	Reconstruct VA 236 EB	At VA 620		2009	X	X
VDOT	Reconstruct VA 236 WB	At VA 620		2009	X	X
VDOT	VA 28 Bypass	VA 234 at Godwin Dr	I-66	2015	X	X
VDOT	VA 28 Bypass	I-66	VA 620 at VA 613	2020		X
VDOT Urban						
VDOT	Battlefield Pkwy	U.S. 15 south of Leesburg	Dulles Greenway	2005	X	X
VDOT	Battlefield Pkwy	Dulles Greenway	Sycolin Rd	2007	X	X
VDOT	Battlefield Pkwy/Lawson Rd	Sycolin Rd	Kincaid Blvd	2007	X	X
VDOT	Battlefield Pkwy	Kincaid Blvd	Route 7	2008	X	X
VDOT	Battlefield Pkwy	Route 7	Fort Evans Rd	2005	X	X
VDOT	Battlefield Pkwy	Fort Evans Rd	Edwards Ferry Rd	2010	X	X
VDOT	Battlefield Pkwy	U.S. 15 south of Leesburg	U.S. 15 Bypass north	2010	X	X
VDOT	Clemont Ave	Eisenhower Ave	Duke St	2015	X	X
VDOT	Duke St	Fairfax County line	Washington St	2005	X	X
VDOT	Widen East Elden St	Herndon Pkwy east	Fairfax County Pkwy	2012	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	Widen Eisenhower Ave	Stovall St	Holland Ln	2010	X	X
VDOT	George Mason Blvd	Univ. Dr. at Armstrong St	Univ. Dr. at Parking Entr.	2009	X	X
VDOT	Mill Road Extension	Telegraph Rd	DMV complex	2010	X	X
VDOT	Potomac Yard Spine Rd	U.S. 1	Chrystal Dr	2009	X	X
VDOT	Widen Richmond Ave	Dumfries Rd	Nagel St	2005	X	X
VDOT	Widen South Elden St/Centreville Rd	Worldgate Dr	Herndon Pkwy	2006	X	X
VDOT	Widen Spring St	Herndon Pkwy East	Fairfax County Pkwy	2011	X	X
VDOT	Widen Sycolin Rd	VA 7/U.S. 15 Bypass	SCL of Leesburg	2007	X	X
VDOT	Widen U.S. 15 (South King St)	Evergreen Mill Rd	SCL of Leesburg	2007	X	X
VDOT	VA 28 Overpass and Interchange	Overpass Norfolk-Southern RR B line	Interchange w/ Wellington Rd	2012	X	X
VDOT	Widen U.S. 29 (Lee Hwy)	U.S. 50	Chain Bridge Rd	2011	X	X
VDOT	Widen U.S. 29 (Lee Hwy)	Chain Bridge Rd	Eaton Pl	2010	X	X
VDOT	VA 123 (Chain Bridge Rd)	U.S. 50	I-66	2010	X	X
VDOT	VA 234 (Dumfries Rd)	South Corporate Limits	Hastings Dr	2011	X	X
VDOT	Widen VA 234 (Sudley Rd) 3rd NB Lane	Dorsey Circle	Godwin Dr	2010	X	X
VDOT	Widen Wellington Rd	Godwin Dr	VA 28	2010	X	X
Arlington Secondary						
VDOT	Widen N. Pershing Dr	George Mason Dr	VA 120	2012	X	X
VDOT	Widen N. Quincy St	Wilson Blvd	VA 237	2007	X	X
VDOT	Widen VA 244 (Columbia Pike)	Oakland St	Washington Blvd	2010	X	X
VDOT	Widen Washington Blvd	Wilson Blvd	Kirkwood	2015	X	X
VDOT	Wilson Blvd	N. Quincy	Washington Blvd	2010	X	X
Fairfax Secondary						
VDOT	VA 602 (Reston Pkwy)	Sunrise Valley Dr	Baron Cameron Ave	2015	X	X
VDOT	Widen VA 608 (West Ox Rd)	Ox Trail	Lawyers Rd	2006	X	X
VDOT	Widen VA 608 (West Ox Rd)	Penderbrook Dr	Ox Trail	2008	X	X
VDOT	Widen VA 611 (Telegraph Rd)	Beulah St	Hayfield Rd	2020		X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	Widen VA 611 (Telegraph Rd)	Hayfield Rd	S. Kings Hwy	2014	X	X
VDOT	Widen VA 611 (Telegraph Rd)	S. Kings Hwy	VA 644	2015	X	X
VDOT	VA 613 (Van Dorn St) Interchange	At VA 644		2013	X	X
VDOT	Widen VA 618 (Woodlawn Rd)	U.S. 1	Beulah Rd	2015	X	X
VDOT	Widen VA 620 (Braddock Rd)	Fairfax County Pkwy	VA 123	2015	X	X
VDOT	VA 620 (New Braddock Rd)	VA 28	U.S. 29 at VA 662	2015	X	X
VDOT	Widen VA 638 (Pohick Rd)	U.S. 1	I-95	2015	X	X
VDOT	Widen VA 638 (Rolling Rd)	Delong Dr	Odell St/Fairfax County Pkwy	2010	X	X
VDOT	Widen VA 638 (Rolling Rd)	Fairfax County Pkwy	Old Keene Mill Rd	2012	X	X
VDOT	Widen VA 642 (Lorton Rd)	Silverbrook Rd	U.S. 1	2006	X	X
VDOT	Widen VA 642 (Lorton Rd)	Furnace Rd	Silverbrook Rd	2015	X	X
VDOT	Widen VA 642 (Lorton Rd)	Craft Rd	Telegraph Rd	2015	X	X
VDOT	Widen VA 645 (Burke Lake Rd)	Lee Chapel Rd	Fairfax County Pkwy	2005	X	X
VDOT	Widen VA 645 (Clifton Rd)	Braddock Rd	U.S. 29	2007	X	X
VDOT	Widen VA 645 (Stringfellow Rd)	U.S. 50	Fairfax County Pkwy	2010	X	X
VDOT	Widen VA 645 (Stringfellow Rd)	Fair Lakes Blvd	U.S. 50	2013	X	X
VDOT	Widen VA 650 (Gallows Rd)	Gatehouse Rd	Providence Forest Dr	2013	X	X
VDOT	Widen VA 651 (Guinea Rd)	Braddock Rd	Braeburn Rd	2015	X	X
VDOT	Widen VA 651 (Guinea Rd)	Roberts Pkwy	Pommeroy Dr	2015	X	X
VDOT	VA 651 (New Guinea Rd)	VA 123	Roberts Rd	2015	X	X
VDOT	VA 655 (Shirley Gate Rd)	Fairfax County Pkwy	Braddock Rd	2015	X	X
VDOT	Widen VA 657 (Centreville Rd)	Metrotech Dr	McLearen Rd	2020		X
VDOT	Widen VA 657 (Centreville Rd)	McLearen Rd	Frying Pan Rd	2015	X	X
VDOT	Widen VA 657 (Centreville Rd)	West Ox Rd	Frying Pan Rd	2012	X	X
VDOT	Widen VA 666 (Monroe St)	Fox Mill	Herndon	2010	X	X
VDOT	Widen VA 673 (McLearen Rd)	VA 28	Centreville Rd	2020		X
VDOT	VA 673 (McLearen Rd)	VA 608	VA 602/ Interchange at Fairfax County Pkwy	2015	X	X
VDOT	Widen VA 673 (McLearen Rd)	Centreville Rd	VA 608	2015	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	Widen VA 674 (Hunter Mill Rd)	Vale Rd	VA 123	2012	X	X
VDOT	Widen VA 674 (Hunter Mill Rd)	Dulles Toll Rd	Crowell Rd	2015	X	X
VDOT	Relocate VA 675 (Sunset Hills Rd)	West of Eldin School	Crowell Rd	2012	X	X
VDOT	Widen VA 684 (Spring Hill Rd)	VA 7	International Dr	2008	X	X
VDOT	VA 7100 Fairfax County Pkwy HOV	Dulles Toll Rd	Sunrise Valley Dr	2015	X	X
VDOT	Widen VA 7100 (Fairfax County Pkwy HOV)	Sunrise Valley Dr	Rugby Rd	2015	X	X
VDOT	Widen VA 7100 (Fairfax County Pkwy HOV)	Rugby Rd	U.S. 50	2015	X	X
VDOT	Widen VA 7100 (Fairfax County Pkwy HOV)	U.S. 50	Fair Lakes Pkwy	2010	X	X
VDOT	Widen VA 7100 (Fairfax County Pkwy HOV)	Fair Lakes Pkwy	I-66	2010	X	X
VDOT	Widen VA 7100 (Fairfax County Pkwy)	I-66	VA 123	2015	X	X
VDOT	Widen VA 7100 (Fairfax County Pkwy)	VA 636	Sydenstricker Rd	2015	X	X
VDOT	VA 7100 (Fairfax County Pkwy HOV)	Sydenstricker Rd	Franconia-Springfield Pkwy	2015	X	X
VDOT	VA 7100 (Fairfax County Pkwy)	Fullerton Rd	Franconia-Springfield Pkwy	2011	X	X
VDOT	VA 7100 Interchange	Fair Lakes Pkwy	Monument Dr	2010	X	X
VDOT	Widen VA 7735 (Fair Lakes Pkwy)	Fairfax County Pkwy	Fair Lakes Circle	2010	X	X
VDOT	VA 7900 HOV (Franconia-Springfield Pkwy)	Fairfax County Pkwy	Frontier Dr	2010	X	X
VDOT	VA 7900 HOV (Franconia-Springfield Pkwy)	Interchange at Neuman St		2020		X
VDOT	VA 7900 HOV (Franconia-Springfield Pkwy)	Rolling Rd	Backlick Rd	2020		X
VDOT	Widen VA 8460 (Stonecroft Blvd)	Old Lee Rd	Willard Rd	2010	X	X
VDOT	Widen Old Mill Rd	U.S. 1	Pole Rd	2009	X	X
VDOT	Old Mill Rd Extended	Pole Rd	Telegraph Rd	2009	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
Loudoun Secondary						
VDOT	Atlantic Blvd	Church Rd	VA 7	2010	X	X
VDOT	Broadlands Blvd	VA 659	VA 625	2005	X	X
VDOT	Widen VA 606 (Loudoun County Pkwy)	VA 634	VA 621	2015	X	X
VDOT	Widen VA 606 (Dulles Greenway Interchange)	Within Greenway ROW		2004	X	X
VDOT	VA 607 (Loudoun County Pkwy)	VA 606/VA 842	VA 772/VA 607	2010	X	X
VDOT	Widen VA 607 (Loudoun County Pkwy)	VA 620 at VA 613	Edgewater St	2005	X	X
VDOT	Widen VA 607 (Loudoun County Pkwy)	Waxpool Rd	W&OD Trail	2010	X	X
VDOT	Widen VA 607 (Loudoun County Pkwy)	W&OD Trail	Redskin Park Dr	2010	X	X
VDOT	Widen VA 607 (Loudoun County Pkwy) (Dirt Road)	Redskin Park Dr	Gloucester Pkwy	2005	X	X
VDOT	Widen VA 607 (Loudoun County Pkwy)	Redskin Park Dr	Gloucester Pkwy	2015	X	X
VDOT	Widen VA 607 (Loudoun County Pkwy)	Gloucester Pkwy	VA 7	2005	X	X
VDOT	Widen VA 625 (Church Rd)	VA 28	VA 637	2006	X	X
VDOT	Widen VA 625 (Waxpool Rd)	Loudoun County Pkwy	Broad Run	2005	X	X
VDOT	Widen VA 625 (Waxpool Rd)	Broad Run	VA 28	2005	X	X
VDOT	Widen VA 634 (Lockridge/Moran Rd)	Old Ox Rd	Randolph Dr	2006	X	X
VDOT	Widen VA 643 (Sycolin Rd) Phase II	Leesburg Town limits	Belmont Ridge Rd	2015	X	X
VDOT	Widen VA 659 (Belmont Ridge Rd)	National Rec. and Park Ent.	Dulles Greenway	2020		X
VDOT	Widen VA 659 (Belmont Ridge Rd)	Dulles Greenway	VA 7	2015	X	X
VDOT	Widen VA 659 (Belmont Ridge Rd)	VA 659 Relocated	National Rec. and Park Ent.	2010	X	X
VDOT	Widen VA 659 (Gum Spring Rd)	Braddock Rd	U.S. 50	2006	X	X
VDOT	Widen VA 659 (Gum Spring Rd)	Prince William County Line	Braddock Rd	2010	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	VA 659 Relocated	PWCL/VA 234 Bypass	U.S. 50	2015	X	X
VDOT	VA 659 Relocated	U.S. 50	Belmont Ridge Rd	2012	X	X
VDOT	Widen VA 772 (Ryan Rd)	Belmont Ridge Rd	Dulles Greenway at Exit #6	2004	X	X
VDOT	Widen VA 901 (Claiborne Pkwy)	Ashburn Farm Pkwy	W&OD Trail	2007	X	X
VDOT	VA 901 (Claiborne Pkwy)	W&OD Trail	VA 7	2006	X	X
VDOT	VA 868 (Davis Dr)	Old Ox Rd	Church Rd	2007	X	X
VDOT	VA 1036 (Pacific Blvd)	Sterling Blvd	Gloucester Pkwy	2010	X	X
VDOT	Widen River Creek Pkwy	Riverside Pkwy	Edwards Ferry Rd	2007	X	X
VDOT	Riverside Pkwy	River Creek Pkwy	Ashburn Village Blvd	2007	X	X
VDOT	Russell Branch Pkwy	Belmont Ridge Rd	Loudoun County Pkwy	2015	X	X
VDOT	Widen VA 773 (Fort Evans Rd)	Leesburg Town limits	River Creek Pkwy	2007	X	X
Prince William Secondary						
VDOT	Heathcote Blvd	Old Caroline Rd	U.S. 15	2010	X	X
VDOT	Heathcote Blvd	U.S. 29	Catharpin Rd	2007	X	X
VDOT	Neabsco Mills Rd	Dale Blvd	Opitz Blvd	2007	X	X
VDOT	North/South Rd at Innovation	VA 840	VA 674/VA 660	2010	X	X
VDOT	Peaks Mill (Purcell Rd East)	Purcell Rd	Prince William Pkwy	2025		X
VDOT	Widen Russell Rd	I-95	Dunlap Ave	2010	X	X
VDOT	VA 1566 (Sudley Manor Dr Extension)	Linton Hall Rd	VA 234 Bypass	2007	X	X
VDOT	VA 1566 (Sudley Manor Dr Extension)	VA 234 Bypass	Chatsworth Dr	2007	X	X
VDOT	VA 1596 (Williamson Blvd)	Sudley Manor Dr	Portsmouth Rd	2020		X
VDOT	Widen VA 1600 (Ashton Ave)	Coverstone Dr	Balls Ford Rd	2010	X	X
VDOT	Widen VA 1781 (New Telegraph Rd/Summit School Rd)	Caton Hill Rd	Minnieville Rd	2015	X	X
VDOT	Widen VA 1781 (Telegraph Rd)	Prince William Pkwy	Caton Hill Rd	2015	X	X
VDOT	VA 2480 (Benita Fitgerald Dr, Extended)	Cardinal Dr	Benita Fitzgerald Dr	2006	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	Widen VA 3000 (Prince William Pkwy)	Liberia Ave	Minnieville Rd	2025		X
VDOT	Widen VA 619 (Linton Hall Rd)	U.S. 29	Glenkirk Rd	2007	X	X
VDOT	Widen VA 619 (Linton Hall Rd)	Glenkirk Rd	Devlin Rd	2007	X	X
VDOT	Widen VA 619 (Linton Hall Rd)	Devlin Rd	Sudley Manor Dr	2006	X	X
VDOT	Widen VA 619 (Linton Hall Rd)	Sudley Manor Dr	Nokesville Rd	2009	X	X
VDOT	Widen VA 619 (Joplin Rd)	I-95 Exit Ramp	U.S. 1	2006	X	X
VDOT	Widen VA 621 (Balls Ford Rd)	VA 234	Bethlehem Rd	2015	X	X
VDOT	Widen VA 621 (Balls Ford Rd)	Bethlehem Rd	VA 234 Bypass	2015	X	X
VDOT	Widen VA 621 (Devlin Rd)	Wellington Rd	Linton Hall Rd	2025		X
VDOT	Widen VA 625 (Old Carolina Rd)	I-66 Underpass	Piedmont Vista Dr	2010	X	X
VDOT	VA 635 (Cherry Hill VRE Access Rd)	U.S. 1	Future VRE station site	2010	X	X
VDOT	Widen VA 640 (Minnieville Rd)	Cardinal Dr	Spriggs Rd	2007	X	X
VDOT	Widen VA 640 (Minnieville Rd)	Spriggs Rd	VA 234	2020		X
VDOT	Widen VA 640 (Minnieville Rd)	Caton Hill Rd	Old Bridge Rd	2008	X	X
VDOT	Widen VA 643 (Purcell Rd)	VA 234	Hoadly Rd	2020		X
VDOT	Widen VA 643 (Spriggs Rd)	VA 234	Hoadly Rd	2007	X	X
VDOT	Widen VA 674 (Wellington Rd)	Devlin Rd	Rixlew Ln	2012	X	X
VDOT	Widen VA 674 (Wellington Rd)	Limestone Dr	Vicinity Cellar Door Dr	2006	X	X
VDOT	Widen VA 676 (Catharpin Rd)	VA 55	Heathcote Blvd	2020		X
VDOT	Widen VA 784 (Dale Blvd)	I-95	Minnieville Rd	2020		X
VDOT	Widen VA 784 (Rippon Blvd Extension)	U.S. 1	Rippon VRE station	2010	X	X
VDOT	VA 840 (University Blvd)	Hornbaker Rd	Wellington Rd	2025		X
VDOT	VA 840 (University Blvd)	Wellington Rd	U.S. 29 at Ent. to Conway Robinson MSF	2006	X	X
VDOT	VA 861 (Clover Hill Rd ext./Airport Access Rd)	VA 234 Bypass	Manassas Airport	2006	X	X
VDOT	Rollins Ford Dr	Songsparrow Dr	U.S. 15	2012	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
FAMPO						
FAMPO	I-95 Diamond Interchange	At VA 627		2008	X	X
FAMPO	I-95 Interchange	At VA 627		2030		X
FAMPO	I-95 CD lanes	VA 630	VA 627	2025		X
FAMPO	I-95 Interchange	At VA 630		2020		X
FAMPO	Widen U.S. 1	Rt 212	Princess Anne St	2030		X
FAMPO	Widen U.S. 1	Princess Anne St	VA 3	2015	X	X
FAMPO	Widen U.S. 1	VA 3 interchange	SCL	2030		X
FAMPO	Widen U.S. 1	SCL Fredericksburg	VA 208	2030		X
FAMPO	Widen U.S. 1	VA 208	Mills Dr	2010	X	X
FAMPO	Widen U.S. 1	Widewater Pkwy	Rt 610	2025		X
FAMPO	Widen U.S. 1	Rt. 610	Rt 630	2025		X
FAMPO	Widen U.S. 17 Bypass	VA 1	VA 2	2025		X
FAMPO	Widen U.S. 17 Bypass	I-95	Village Pkwy	2010	X	X
FAMPO	Widen VA 212 (Butler Rd)	U.S. 1	VA 212/VA 218 Connection	2025		X
FAMPO	VA 208 Bypass (Spotsylvania)	West of Ta River	East of Po River	2009	X	X
FAMPO	VA 208 Bypass (Spotsylvania)	East of Po River	West of Ni River	2007	X	X
Stafford County Secondary						
FAMPO	Widen VA 607 (Deacon Rd)	VA 626	VA 218	2010	X	X
FAMPO	Widen VA 610 (Garrisonville Rd)	VA 610	VA 643	2020		X
FAMPO	Widen VA 610 (Garrisonville Rd)	Mine Rd	I-95 SB ramp	2020		X
FAMPO	Widen VA 610 (Garrisonville Rd)	I-95 SB ramp	U.S. 1	2020		X
FAMPO	Widen VA 610 (Garrisonville Rd)	Mine Rd	VA 641	2030		X
FAMPO	Widen VA 610 (Garrisonville Rd)	VA 641	VA 648	2025		X
FAMPO	VA 624	U.S. 1	VA 626	2010	X	X
FAMPO	Widen VA 626 (Leeland Rd)	new connection with VA 624	VA 607	2015	X	X
FAMPO	Widen VA 630 (Courthouse Rd)	I-95	VA 648	2010	X	X
FAMPO	VA 648 (Shelton Shop Rd)	VA 610	VA 627	2015	X	X
FAMPO	VA 684 Extension	Existing Mine Rd	VA 628	2020		X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
FAMPO	VA 684 Extension	VA 628	VA 652	2030		X
City of Fredericksburg						
FAMPO	Widen VA 3 (William St)	Mahone Dr	U.S. 1	2020		X
FAMPO	Widen Princess Anne St	U.S. 1	Herndon St	2010	X	X
Spotsylvania County Secondary						
FAMPO	Widen VA 3 (Spotsylvania)	Rutherford Dr	VA 627	2020		X
FAMPO	Widen VA 606 (Mudd Tavern Rd)	U.S. 1	I-95	2030		X
FAMPO	Widen VA 606 (Morris Rd)	U.S. 1	VA 208	2030		X
FAMPO	Widen VA 608	VA 628	U.S. 1	2030		X
FAMPO	Widen VA 610 (Old Plank Rd)	VA 627	VA 612	2030		X
FAMPO	Widen VA 612 (Catharpin Rd)	Ni River Reservoir	VA 610	2030		X
FAMPO	Widen VA 620 (Harrison Rd)	VA 639	U.S. 1 Bypass	2020		X
FAMPO	Widen VA 627 (Gordon Rd)	VA 628	VA 620	2030		X
FAMPO	Widen VA 628 (Smith Station Rd)	VA 608	VA 267	2030		X
FAMPO	Widen VA 636 (Hood Dr)	U.S. 1	VA 208	2020		X
FAMPO	Widen VA 636 (Mine Rd)	U.S. 1	VA 638	2030		X
FAMPO	Widen VA 639 (Leavells Rd)	VA 620	VA 208	2005	X	X
FAMPO	Widen VA 639 (Leavells Rd)	VA 208	VA 628	2030		X
FAMPO	Widen VA 639 (Bragg Rd)	VA 618	VA 3	2010	X	X
FAMPO	Parallel Facility to I-95	U.S. 1	VA 620	2020		X

Table D-2. Transit CLRP Projects

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
Washington Metropolitan Area Transit Authority						
WMATA	Revised Metrorail Operating Plan			2010	X	X
WMATA	Revised Metrorail Operating Plan			2011	X	X
WMATA	Revised Metrorail Operating Plan			2015	X	X
District of Columbia						
DDOT	Anacostia Streetcar Project Phase I (Replaces CSX Shepherd Branch project)	Firth Sterling and S. Capitol St	Howard Rd and MLK Jr. Ave	2007	X	X
DDOT	Banneker Circle Parking	1200 spaces				
DDOT	Georgia Ave Rapid Bus (Operation Enhancements)	Eastern Ave./ Silver Spring Metro Station	Archives Navy Memorial Metro Station	2007	X	X
DDOT	Pennsylvania Rapid Bus (Operation Enhancements)	Archives Navy Memorial Metro Station	Naylor Road Metrorail Station	2007	X	X
DDOT	K St. Busway	Mt. Vernon Sq./7th St. NW	Washington Circle / 23rd St. NW	2008	X	X
Maryland						
MTA	Purple Line Transitway	Bethesda	Silver Spring	2015	X	X
MTA	Silver Spring Transit Center	Phase II		2007	X	X
MTA	Corridor Cities Transitway	Shady Grove	Metropolitan Grove	2012	X	X
MTA	Corridor Cities Transitway	Metropolitan Grove	COMSAT	2020		X
MTA	Southern MD Commuter Bus Initiative	Park-and-Ride lots and increase bus service	MD 5 Corridor (La Plata)	2010	X	X
MDOT	ICC Corridor Bus Service Improvements			2010	X	X
Montgomery County						
Mont. Co.	Clarksburg Transit Center	Clarksburg		2015	X	X
Mont. Co.	Four Corners Transit Center	US 29/MD 193		2015	X	X
Mont. Co.	Metropolitan Grove Transit Center	Vicinity of Watkins Mills Road and MD 117		2015	X	X
Mont. Co.	NIH Naval Medical Transportation Management	Bethesda				

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
Mont. Co.	Norbeck Road Bus Enhancement			2020		X
Mont. Co.	Norbeck Road Park and Ride	Norbeck Rd at Georgia Ave		2015	X	X
Mont. Co.	Olney Transit Center	Adjacent to or north of MD 108		2015	X	X
Mont. Co.	Randolph Rd Bus Enhancement			2010	X	X
Mont. Co.	University Blvd Bus Enhancement	Kensington	Silver Spring	2020		X
Mont. Co.	Veirs Mill Rd Bus Enhancement	Rockville	Wheaton	2020		X
Virginia						
VDOT	Widen US Route 1 (Bus/Right-Turn Lanes)	VA 235 north	SCL Alexandria (I-95 Capital Beltway)	2025		X
Arl. Cty	Crystal City/Potomac Yard Busway (2-Lane) Segment 1	Vicinity of Glebe Rd. Ext. - Cty line	26th St. south	2008	X	X
Arl. Cty	Crystal City/Potomac Yard Busway (2-Lane) Segment 2	26th St. South	Crystal City Metro Station	2009	X	X
Arl. Cty	Upgrade Crystal City/Potomac Yard Busway to BRT	Vicinity of Glebe Rd. Ext.	Crystal City Metro Station	2012	X	X
VDOT	Potomac Yard Transit Bus Lanes (2 Lanes)	Four Mile Run	Braddock Rd	2011	X	X
VDOT	Metro Station at Potomac Yards			2030		X
VDOT	Transit Center (Reston)	Reston Town Center	Explorer Dr and Bluemont Way	2006	X	X
VDOT	Transit Center (Bradlee Shopping Center)	King St and Braddock Rd		2008	X	X
VDOT	Transit Center (Seven Corners)	Seven Corners Shopping Center		2008	X	X
VDOT	Reston East Parking Structure	Reston East park-and-ride lot		2011	X	X
VDOT	VA 7900 (F-S Pkwy) Park-and-Ride Lot	Gambrill Rd Location		2006	X	X
VDOT	Dulles Corridor Park-and-Ride Lots	Reston East at Wiehle Ave and Herndon-Monroe		2006	X	X
VDOT	VA 7900 (F-S Pkwy) Park-and-Ride Lot	Backlick Road North		2007	X	X
VDOT	Park-and-Ride Lot Enhancements	Reston, Centreville, West Springfield		2006	X	X
VDOT	Springfield CBD Park-and-Ride Lot	Vicinity of I-95 & Old Keene Mill Rd		2011	X	X

Agency	Project	From	To	Year Expected	2015 Baseline	2030 Baseline
VDOT	Relocate Leesburg Park-and-Ride Lot	Relocate to vicinity of Leesburg Bypass	VA 7 and /or the Dulles Greenway	2007	X	X
VDOT	Purcellville park-and-ride lot	Purcellville	100-space park-and-ride lot	2006	X	X
VDOT	Park-and-Ride Lot in Town of Leesburg - Harrison St & Catoctin Circle	Loudoun County Commuter Bus Service	400-space park-and-ride lot	2007	X	X
VDOT	VA 772 (Ryan) Station Park-and-Ride Lot	Loudoun County Commuter Bus Service	300-space park-and-ride lot	2008	X	X
VDOT	Dulles Town Center Park-and-Ride lot		100 spaces	2006	X	X
VDOT	Park-and-Ride lot	VA 643 east of Leesburg	700 spaces	2009	X	X
VDOT	Park-and-Ride lot	US 50 at Stone Ridge	250 spaces	2006	X	X
VDOT	Park-and-Ride lot	US 50 at Dulles		2009	X	X
VDOT	Park-and-Ride lot	VA 234 (vicinity of I-66)		2009	X	X
VDOT	Dulles Corridor Metrorail	East Falls Church Metrorail station	Wiehle Ave	2011	X	X
VDOT	Dulles Corridor Metrorail	Wiehle Ave. station	Route 772	2015	X	X
VRE	Cherry Hill Commuter Rail Station	Cherry Hill	Prince William County	2010	X	X
VRE	VRE Service Improvements (Reduce Headways)	Fredericksburg and Manassas Lines		2010	X	X
Not specified	Beltway HOT Lanes Transit Service				X	X
VDOT	I-95/I-395 HOV/Bus/HOT Lanes Transit Service				X	X

Figures D-1 and D-2 show the highway networks used for the 2015 and 2030 baseline scenarios respectively. These highway networks were developed based on the adopted CLRP.

Figure D-1. 2015 Baseline Highway Network

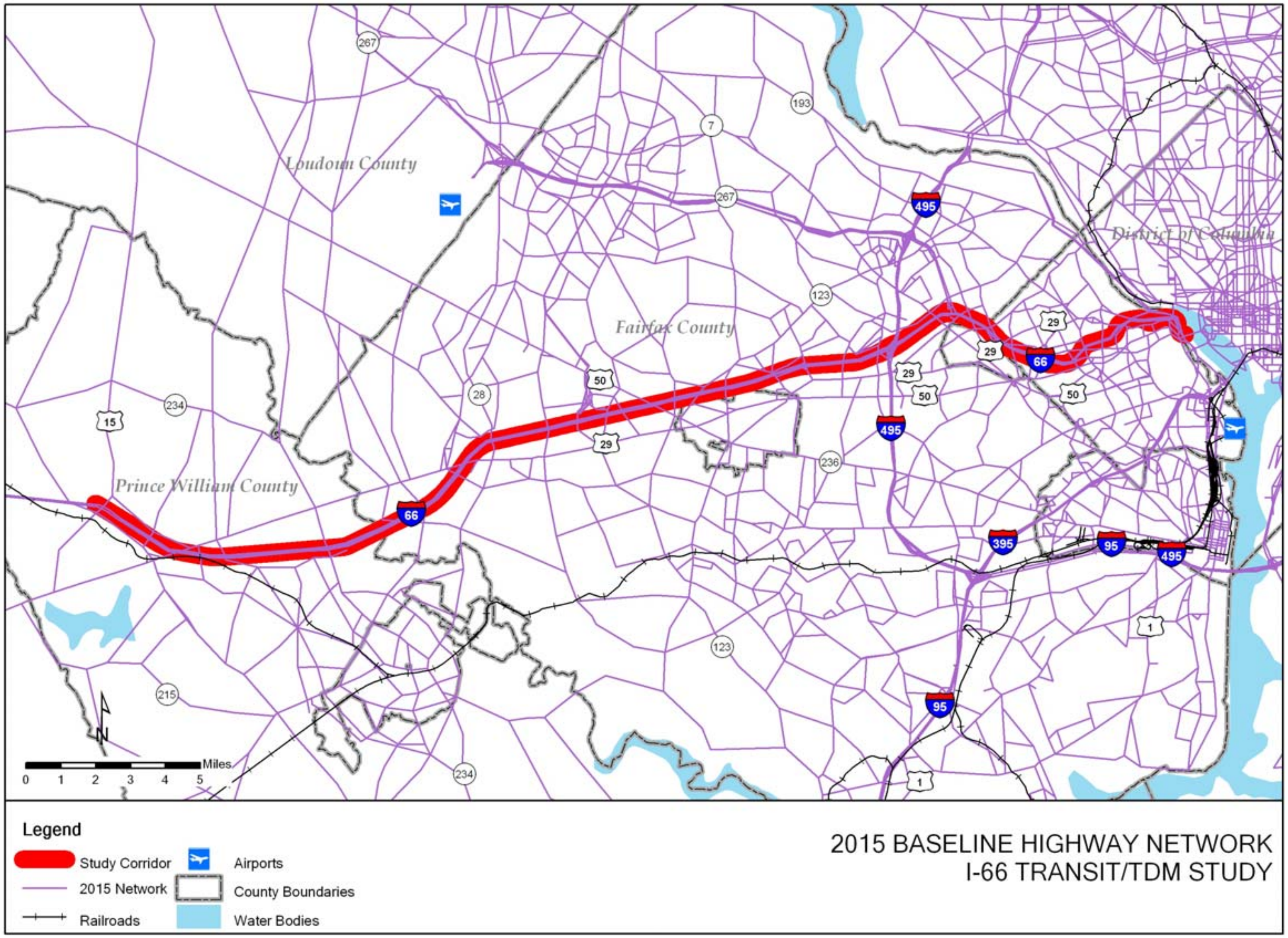
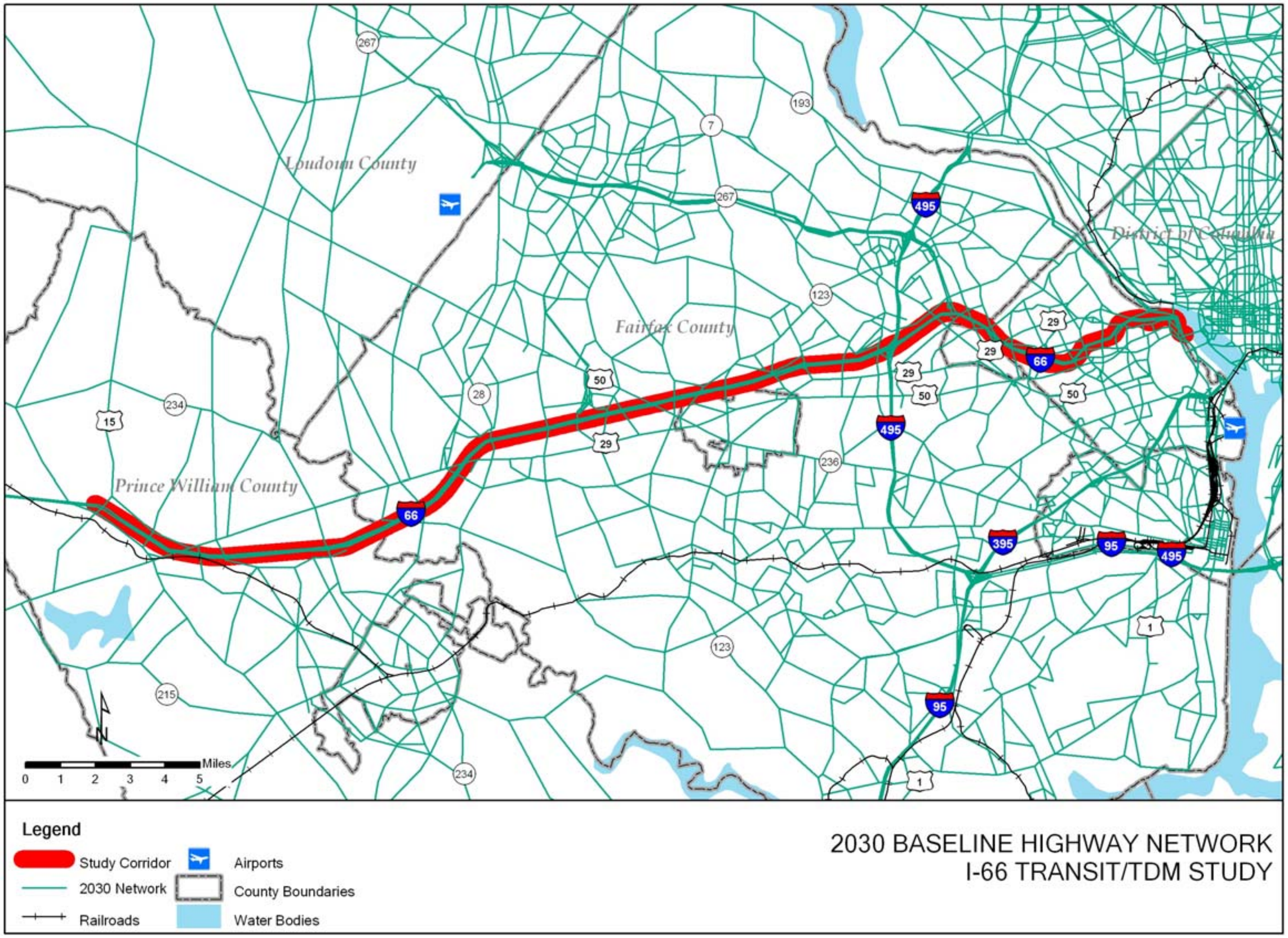


Figure D-2. 2030 Baseline Highway Network



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Appendix E

Market Research Study Report

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I-66 Transit/TDM Market Research Study

September 30, 2009

Table of Contents

Objectives and Methodology

Study Objectives

- Profile current travel patterns by modes on the I-66 corridor in Northern Virginia, including U.S. 29 and U.S. 50.
- Identify the factors guiding commute choice decisions.
- Assess the propensity of commuters to change their current mode decisions.
- Identify the relative appeal of specific enhancements and programs (transit/TDM alternatives) needed to increase the likelihood of using non-SOV modes.
- Assess the appeal of specific transit/TDM alternatives, particularly bus and Bus Rapid Transit.

Study Methodology

- An online survey was designed and conducted in order to meet the objectives of this research.
- The survey topics guide and survey instrument were developed with input from TAC (Technical Advisory Committee) members.
- The questionnaire was programmed and tested prior to launch. It included elaborate skip patterns to accommodate multiple modes, travel behaviors and commute patterns. It required approximately 25 minutes for respondents to complete the survey.
- The questionnaire included scaled attitude and opinion questions, open-ended questions, and "scenario testing," addressing specific bus and Bus Rapid Transit (BRT) options.
- A $5 gourmet coffee card was offered to respondents as a "thank you" incentive.

Study Methodology

- In order to qualify for this study, respondents had to commute to work/school along I-66, U.S. 29 or U.S. 50.
  - Their commute had to occur during morning peak travel times.
  - Their commute had to be at least 5 miles.
  - They could be headed either east or west.
  - Eligible respondents resided in a predetermined study area defined by zip codes. Based on findings from previous research, residents of the study area were most likely to be traveling in the I-66 corridor. In total, 65 zip codes in Northern Virginia defined the study area.

Study Methodology

- The sample consisted of commuters across a variety of transportation modes:
  - SOV (gasoline engine and hybrid)
  - Formal carpool
  - Vanpool
  - Commuter/express bus
  - Local bus
  - Metrorail
  - VRE
- Sample size quotas were established for each commute mode, headed east and headed west. Target sample sizes ranged from 100 to 500.

Survey Invitation Approach By Mode

- Residents (SOVers and other modes): Mailed 75,000 postcards announcing this study to residents living across the study area.
- Carpoolers: Emailed an online survey invitation and link to COG's Commuter Connections' database registrants who live in the study area.
- Vanpoolers: In addition to COG's database, reached vanpoolers by email invitations to available lists of Virginia vanpool drivers and riders who originate from the study area.
- Local Bus: Emailed an online survey invitation to lists provided by bus companies. Other bus riders participated via postcard invitation distribution.
- Express Bus: Emailed an online survey invitation to lists provided by PRTC and Loudoun County. Other bus riders participated via postcard distribution.
- Metrorail: Hand distributed postcard invitations at various Metrorail stops during peak travel times.
- VRE: Posted survey invitation in VRE's electronic newsletter.

Research Sample by Mode

- Mode classification is based on primary commute mode, using this question:

  Which of the following types of transportation do you use as your **primary mode of commute** on your morning trip to work or school? That is, which do you use most days of the week? If you use more than one type of transportation on a single day, please tell us the type you use for the **longest portion** of your trip to work or school.

- Some commuters ride a bus although it is not their primary commute mode. Thus, regardless of whether bus is their primary mode, all bus riders are classified as either "local" or "express" bus riders. They are also classified by their primary mode. Consequently, some of the mode classifications are not mutually exclusive.

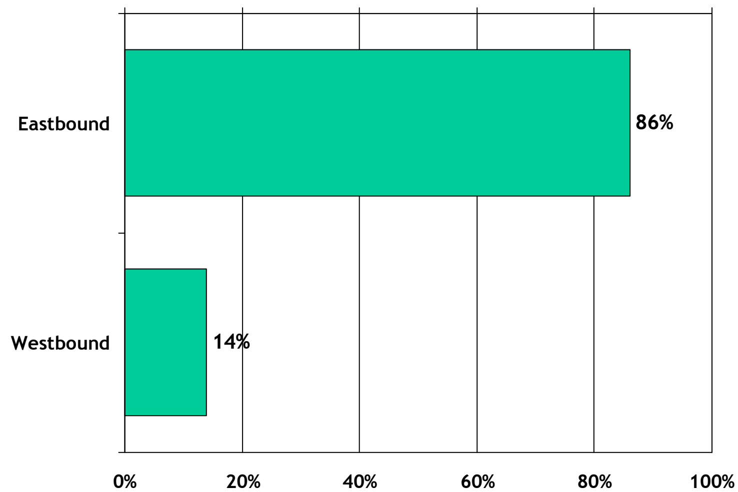
Research Sample by Mode

Mode and direction defined by morning commute. VRE runs only east during morning peak.

Mode	Target Quota	Completed Interviews
SOV		
Gas engine - Eastbound	500	949
Gas engine - Westbound	400	219
Hybrid - Eastbound	-	109
Hybrid - Westbound	-	12
Formal carpool - Eastbound	200	365
Formal carpool - Westbound	200	11
Vanpool - Eastbound	100	27
Vanpool - Westbound	-	-
Local bus - Eastbound	200	143
Local bus - Westbound	200	9
Express bus - Eastbound	100	328
Express bus - Westbound	100	4
Metrorail - Eastbound	200	547
Metrorail - Westbound	200	29
VRE - Eastbound	200	210
Total	**2600**	**2962**

Note: These data are taken from the random sample based on the random mailing to 75,000 households in the 65 zip codes defining the study area.

Random Sample Indicates that Commuters in this Corridor Are Predominantly Eastbound



11

I-66 Transit/TDM Study

Who Are Westbound Commuters?

- It can be hypothesized that Westbound commuters in the targeted zip codes are more likely to have local commutes. The data in this study indicate that Westbound commuters:
  - Have shorter commutes than Eastbound commuters.
  - Tend to leave for work/school later in the morning.
  - If carpooling, are more likely to be traveling with family member.

(Note: Data on next three slides report these patterns in more specific detail.)

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I-66 Transit/TDM Study

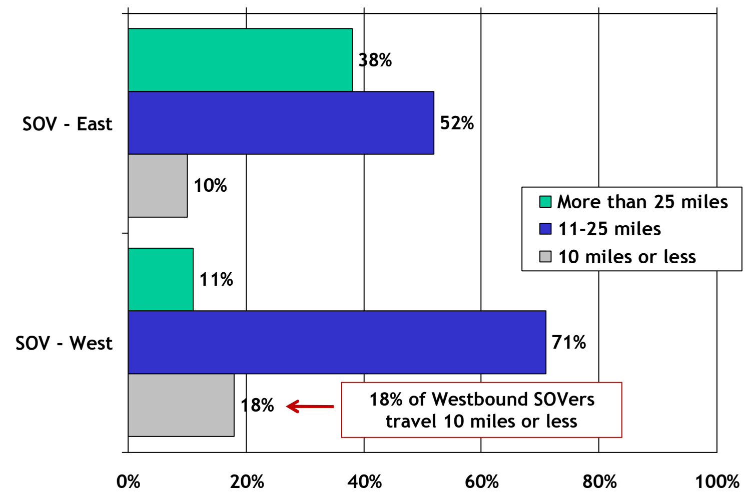
Length of commute (miles)

Average:

SOV - East: 24 miles

SOV - West: 18 miles

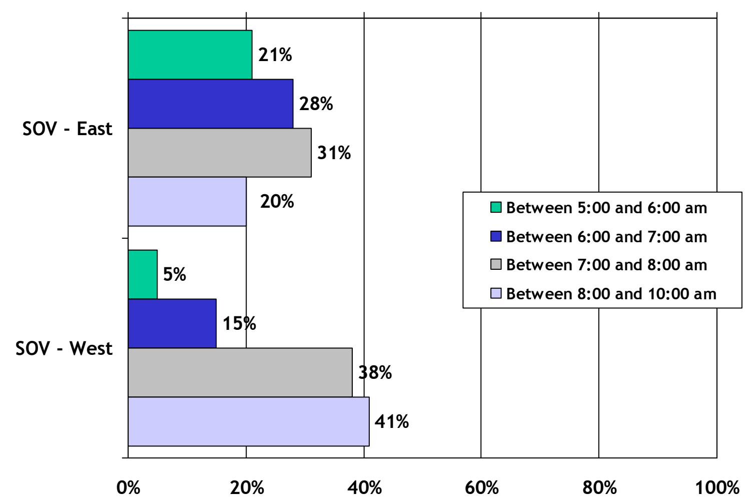
38% of SOVers Headed East Commute Further than 25 Miles; Only 11% of SOVers Westbound Commute Further than 25 Miles



Q47. About how many miles long is your total morning commute, door to door?

Time leave home for morning commute

21% of Eastbound SOVers Leave Between 5:00 and 6:00 am; Only 5% of Westbound SOVers Leave this Early. But, 79% of Westbound SOVers Leave after 7:00 am

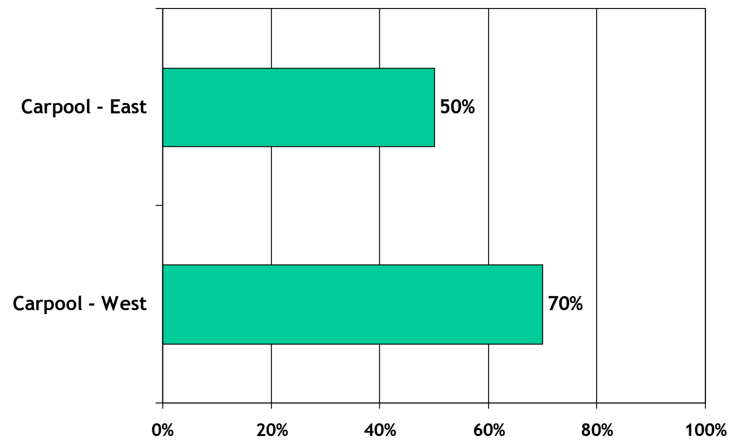


Q15. About what time do you typically leave your house for your morning commute?

Carpool composition

Carpoolers Headed West Are More Likely to Commute with a Family Member than Are Carpoolers Headed East

Proportions indicate carpoolers with family member in carpool. Base size for Westbound carpoolers is quite small (n=11). Interpret with caution.



Q19. Is at least one of the members of your carpool a family member?

Focus of Report

- Due to the lower number of Westbound commuters who qualified for this research and because their commutes do not represent as strong an opportunity for transit and TDM development, this report focuses on the following respondent groups:

Westbound SOVers included in report due to large sample size and the opportunity they represent as potentially new transit and TDM users.

	Number of interviews
SOV - East	949
SOV - West	219
Carpool - East	365
Local bus - East	143
Express bus - East	328
Metrorail - East	547
VRE - East	210

- Unless otherwise noted in this report, findings for carpoolers, local bus riders, express bus riders, Metrorail riders and VRE riders always refer to Eastbound commuters.

Detailed Findings

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I-66 Transit/TDM Study

Detailed Findings

Tripographics

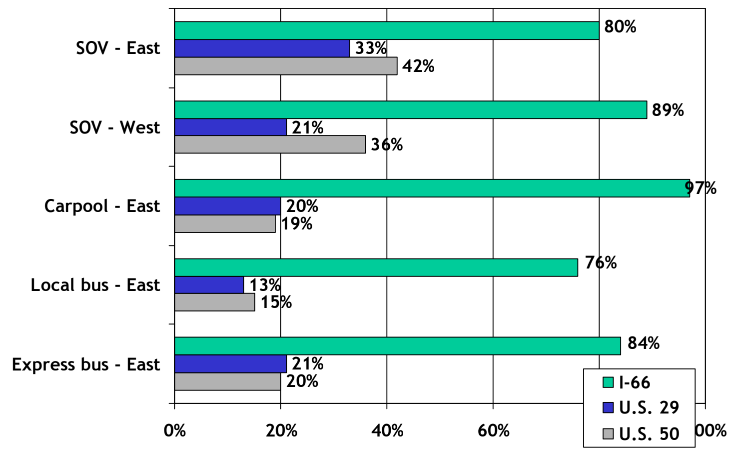
18

I-66 Transit/TDM Study

Routes traveled in corridor

Proportions indicate commuters who travel the roadway at least 3 days per week. Metrorail and VRE riders not shown because these commuters may not consider themselves traveling on these roadways.

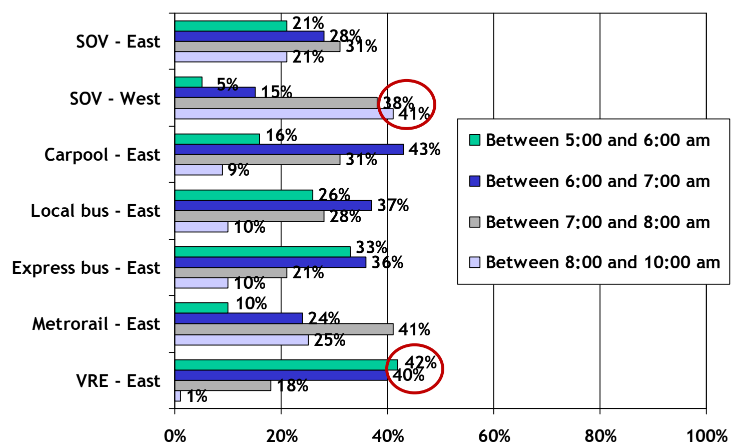
Peak Hour Commuters in this Corridor Are More Likely to Travel along I-66 than U.S. 29 or U.S. 50



Q3/Q6/Q9. How many days a week (Monday through Friday) do you travel on I-66 / U.S. 29 / U.S. 50?

Time leave home for morning commute

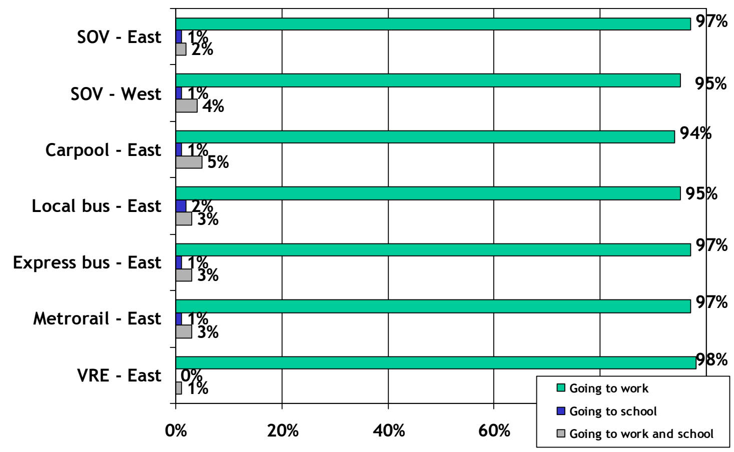
VRE Commuters Have the Earliest Commutes; 82% of VRE Commuters Leave Home by 7:00 am. In Contrast, SOVers Traveling West Leave Home Latest; 79% of SOVers Traveling West Leave Home after 7:00 am.



Q15. About what time do you typically leave your house for your morning commute?

Purpose of trip

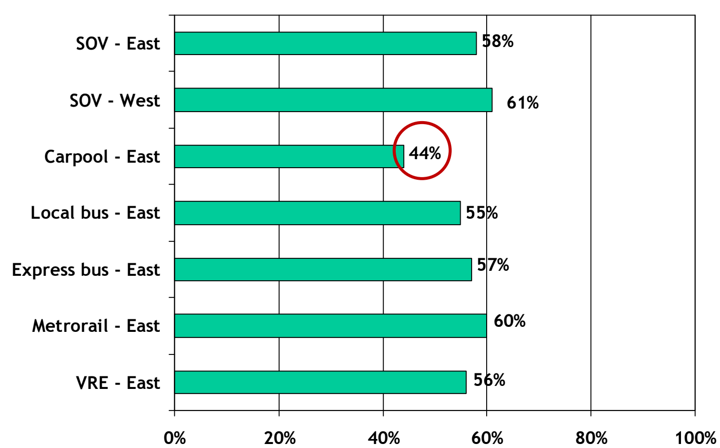
Predominantly, Commuters Are Headed to Work; Only a Few Are Going to School or to Work and School



Q14. What is the purpose of your morning travel in the I-66, U.S. 29, or U.S. 50 corridor? Are you going to work, going to school, or going to work and school?

Have flexibility in morning departure time

With the Exception of Carpoolers, Half or More Have Some Flexibility in their Morning Departure Time – Only 44% of Eastbound Carpoolers Say that They Have Flexibility in their Daily Departure Time

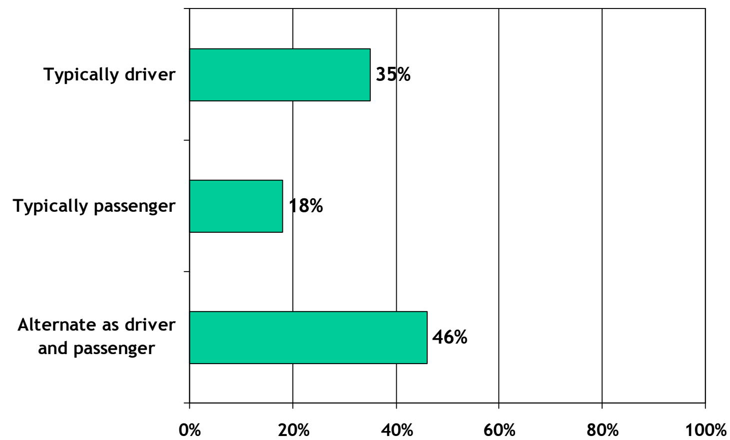


Q16. Do you have flexibility in your daily departure time – that is, can you vary your arrival time at work/school?

Carpool role Eastbound Carpoolers

Base size for Westbound carpoolers too small to report.

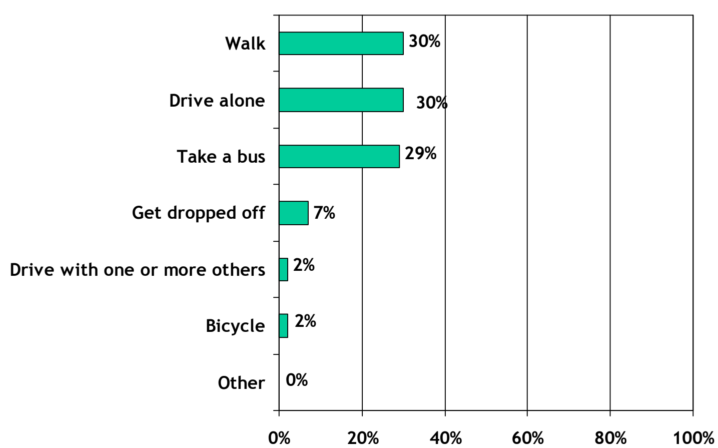
Most Often, Eastbound Carpoolers Alternate as the Driver or Passenger in their Carpool



Q18. What is your typical role when carpooling or vanpooling?

Mode to Metrorail

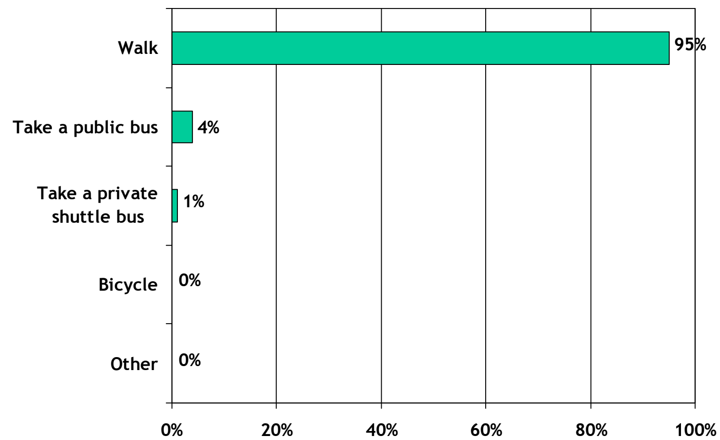
Most Often, Metrorail Riders Walk, Drive Alone or Take a Bus to the Metrorail Station for their Morning Commute



Q28. How do you get to the Metrorail station that you use for your morning commute?

Mode from Metrorail to final destination

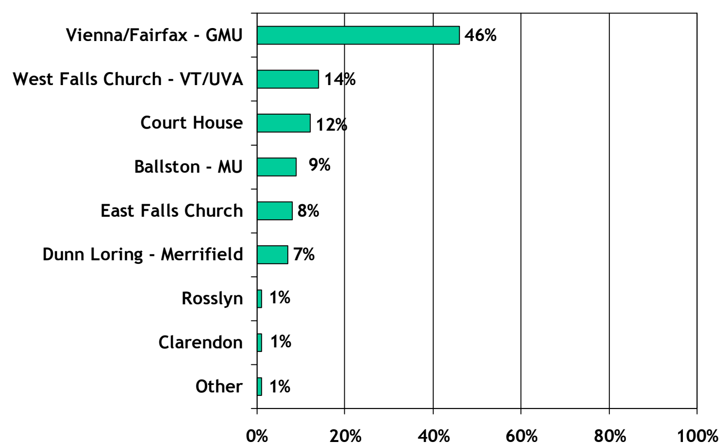
Metrorail Riders Most Often Walk from the Metrorail Train to their Final Destination



Q35. How do you typically get from the Metrorail train to the final destination of your morning commute?

Metrorail station at start of Metrorail trip

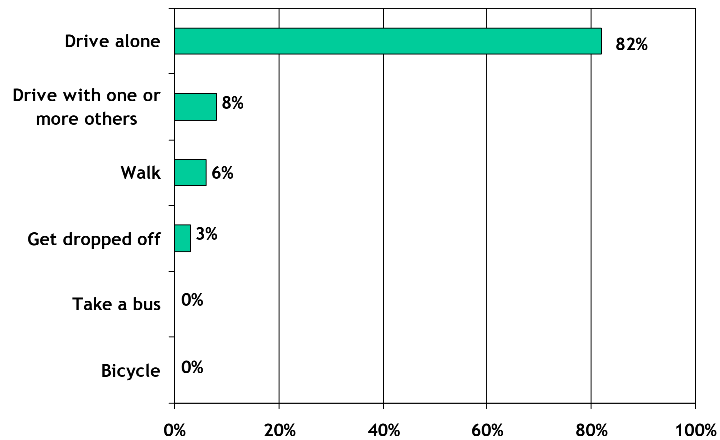
In This Study, the Largest Proportion of Metrorail Riders Boarded Metrorail at Vienna/Fairfax - GMU



Q23. At which Metrorail station do you typically begin the Metrorail portion of your commute?

Mode to VRE

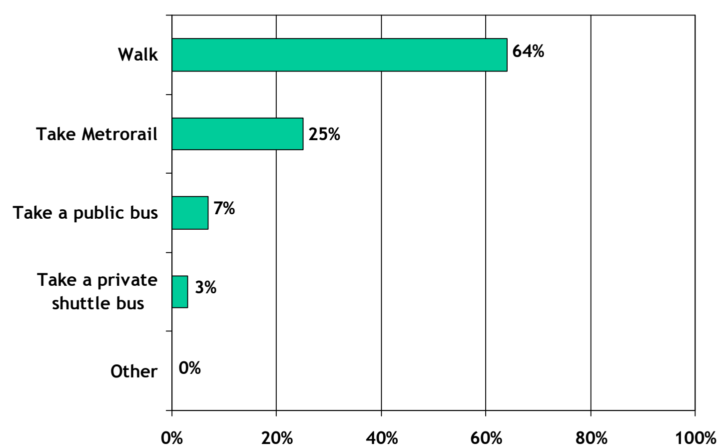
Typically, VRE Riders Report that They Drive Alone to the Train



Q33. How do you get to the VRE train for your morning commute?

Mode from VRE to final destination

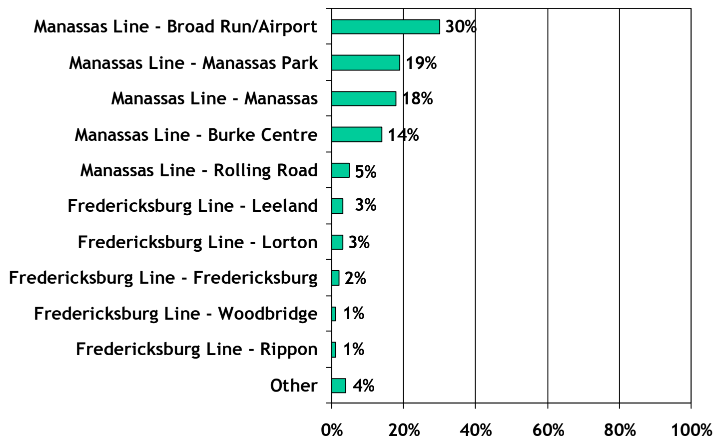
VRE Riders Often Walk from VRE to their Final Destination; But, a Fourth Take Metrorail



Q36. How do you typically get from the VRE train to the final destination of your morning commute?

VRE station at start of VRE trip

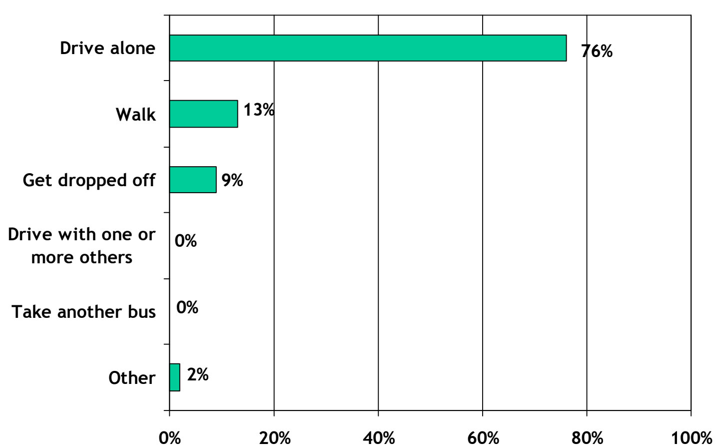
In This Study, the Largest Proportion of VRE Riders begin their VRE Ride on the Manassas Line, Either Broad Run/Airport, Manassas Park, Manassas, or Burke Centre



Q25. At which VRE station do you typically begin the rail portion of your commute?

Mode to bus stop - Local Bus

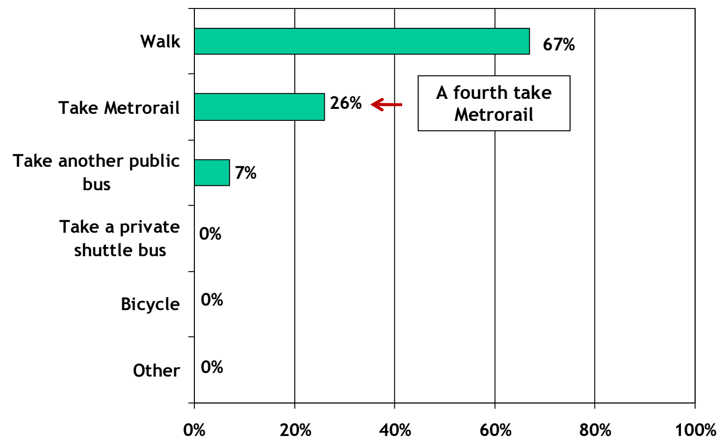
Those Who Travel on a Local Bus Typically Drive Alone to their Bus Stop or Bus Service



Q27. How do you get to the bus stop or bus service that you use for your morning commute?

Mode from bus to final destination - Local Bus

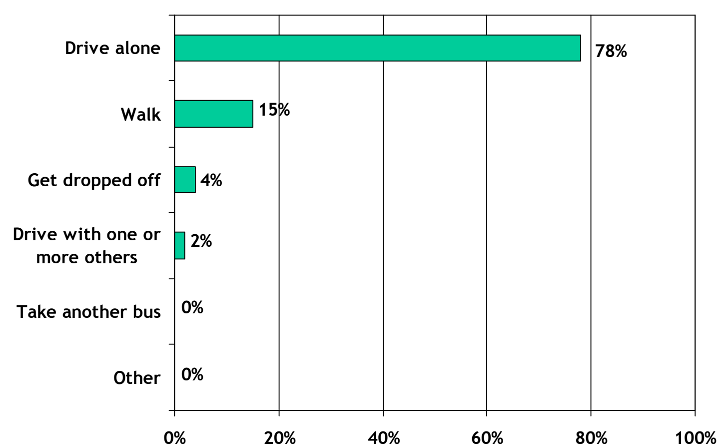
Local Bus Riders Most Often Walk from their Bus Drop-off to Their Final Destination



Q34. How do you typically get from the bus drop-off to the final destination of your morning commute?

Mode to bus stop - Express Bus

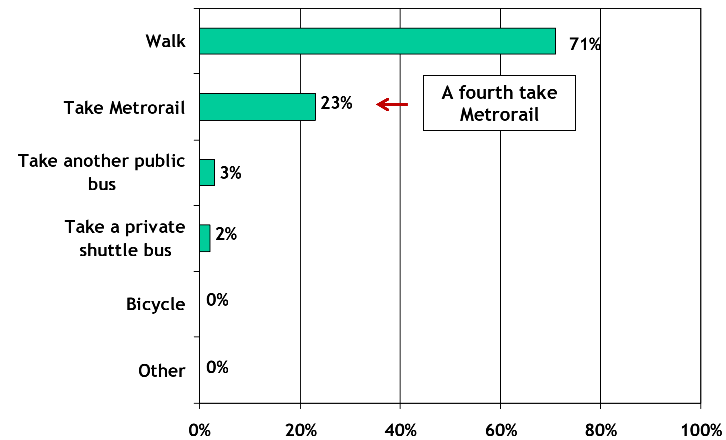
Express Bus Riders Most Often Drive Alone to Get to the Bus for their Morning Commute



Q27. How do you get to the bus stop or bus service that you use for your morning commute?

Mode from bus to final destination - Express Bus

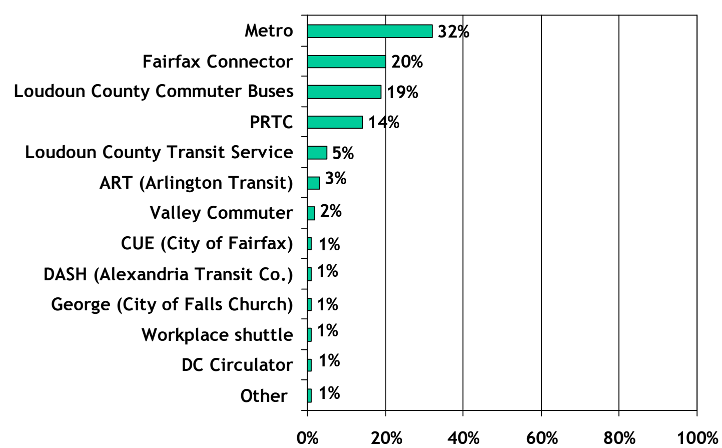
Express Bus Riders Most Often Walk from their Bus Drop-off to Their Final Destination



Q34. How do you typically get from the bus drop-off to the final destination of your morning commute?

Bus companies used

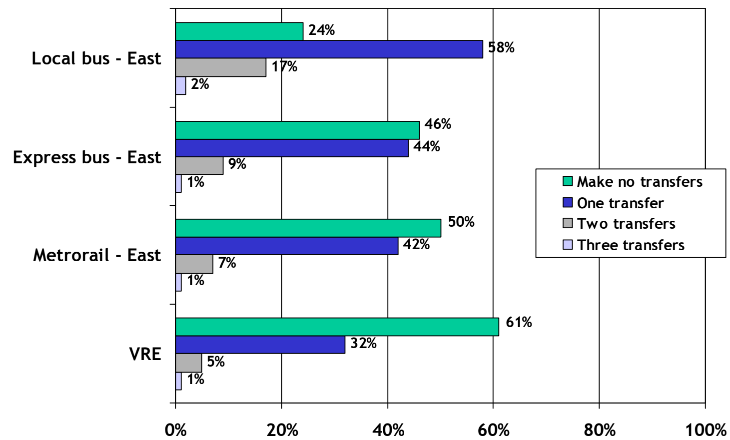
Among these Respondents, Metro, Fairfax Connector, Loudoun County Commuter Buses and PRTC Are the Most Frequently Used Bus Services



Q21. What bus service do you typically use? Q22. What is the name of the bus service you use?

Number of transfers

VRE Riders Are Most Likely to Make No Transfers on their Morning Commute; Local Bus Riders Are Most Likely to Make Transfers

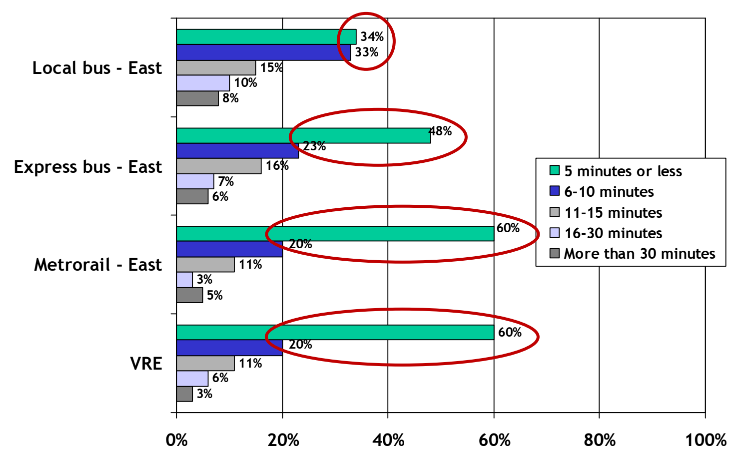


Q29. During your usual trip from home to work or school, how many times do you transfer to a different bus or train? A transfer is when a rider switches from one vehicle or mode to another. For example, switching from one bus to another is a transfer, as is switching from bus to train. So, if you rode on a bus and a train or two buses, that would be one transfer.

Time spent on transfers

Calculations include all transit riders, even if they make no transfers.

Most Transit Riders Spend 10 Minutes or Less Making Transfers

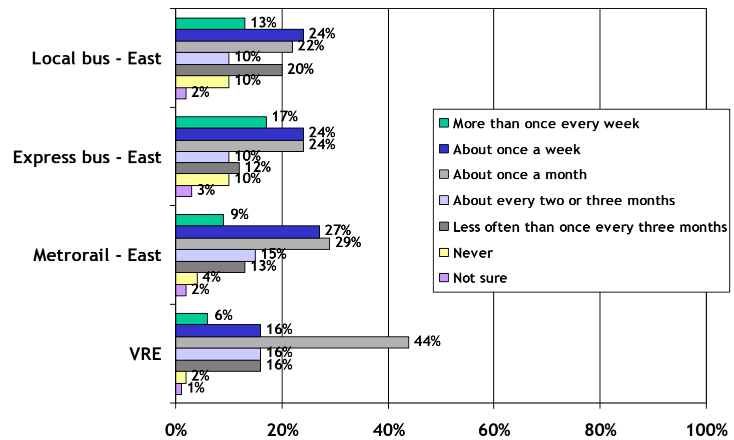


Q32. About how much time in total do you spend making transfers on your typical morning commute?

Frequency of late to work

Proportions shown indicate frequency of arriving late to work.

Among Transit Riders, Local and Express Bus Riders Are Most Likely to Say that They Are Never Late to Work by 15 Minutes or More; But, Bus Riders – Both Local and Express – along with Metrorail Riders Are Most Likely to Say that They Are Late to Work 15 Minutes or More at Least Once Every Week



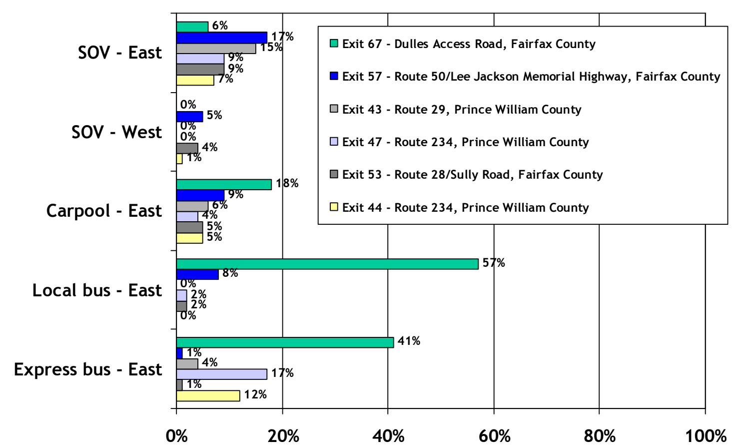
Q31. About how often are you late to work 15 minutes or more because the train or bus is late?

Entrance to I-66

Only most frequent mentions are shown.

Local Bus Riders and Express Bus Riders Most Often Enter I-66 at Exit 67 – Dulles Access Road; SOVers and Carpoolers Enter I-66 at Various Exits; No Other Distinct Patterns Are Posted for these Entrances to I-66

-- List of Entrances Continues on Next Two Slides --



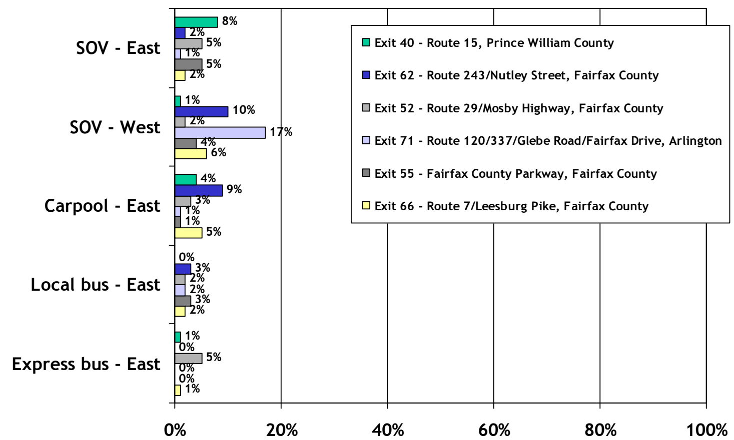
Q37. Which entrance to I-66 do you use on your morning commute? Q38. Which entrance to I-66 do you use?

Entrance to I-66 (con't.)

Only most frequent mentions are shown.

Some I-66 Commuters Use these Entrances to Access I-66

-- List of Entrances Continues on Next Slide --



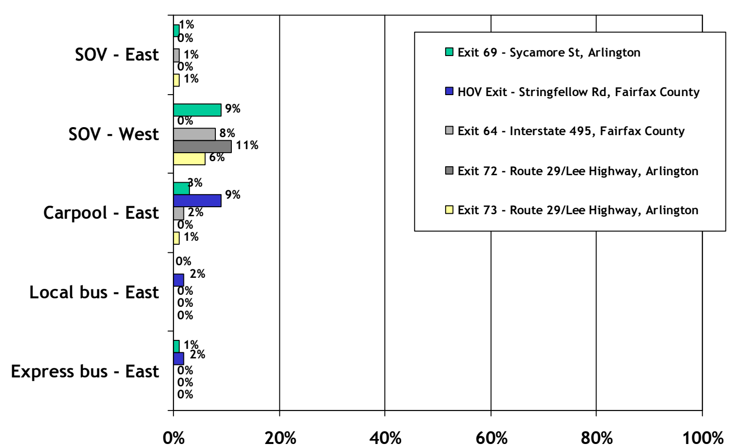
Q37. Which entrance to I-66 do you use on your morning commute? Q38. Which entrance to I-66 do you use?

Entrance to I-66 (con't.)

Only most frequent mentions are shown.

A Few Commuters – Primarily Westbound SOVers – Use these Entrances to I-66

-- List of Entrances Also Reported on Previous Two Slides --



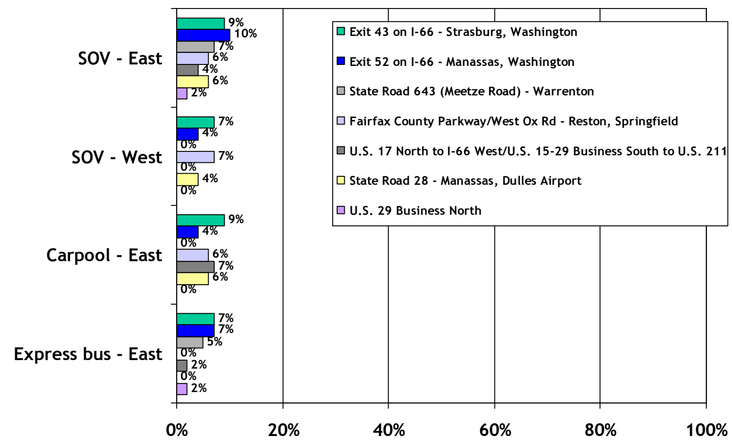
Q37. Which entrance to I-66 do you use on your morning commute? Q38. Which entrance to I-66 do you use?

Entrance to U.S. 29

Only most frequent mentions are shown. Local bus not shown due to small sample size.

Commuters Who Use U.S. 29 Enter at a Variety of Points with No One or Two Locations Dominating

-- List of Entrances Continues on Next Two Slides --



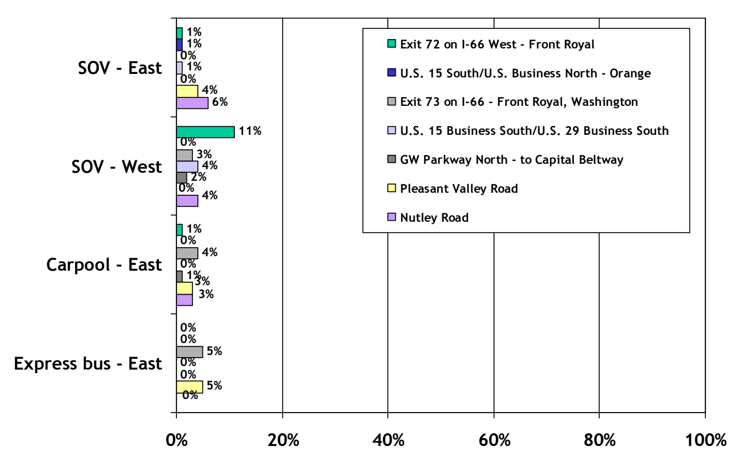
Q39. Which entrance to U.S. 29 do you use on your morning commute? Q40. Which entrance to U.S. 29 do you use?

Entrance to U.S. 29 (con't.)

Only most frequent mentions are shown. Local bus not shown due to small sample size.

Commuters Who Use U.S. 29 Enter at a Variety of Points with No One or Two Locations Dominating

-- List of Entrances Continues on Next Slide --

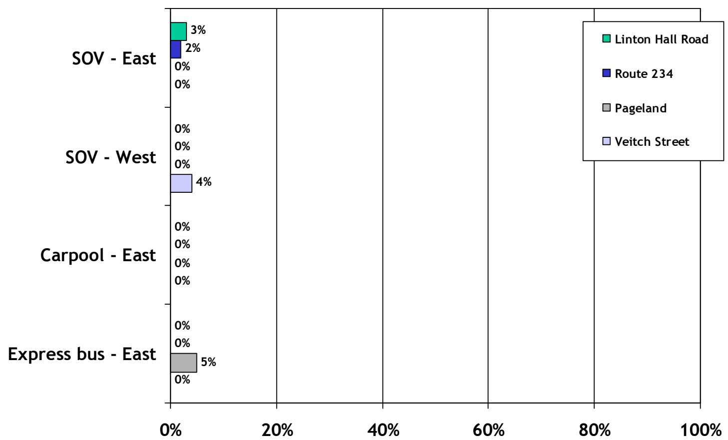


Q39. Which entrance to U.S. 29 do you use on your morning commute? Q40. Which entrance to U.S. 29 do you use?

Entrance to U.S. 29 (con't.)

Westbound SOVers Are More Likely to Access U.S. 29 via Veitch Street than Are Eastbound SOVers

-- List of Entrances Also Reported on Previous Two Slides --



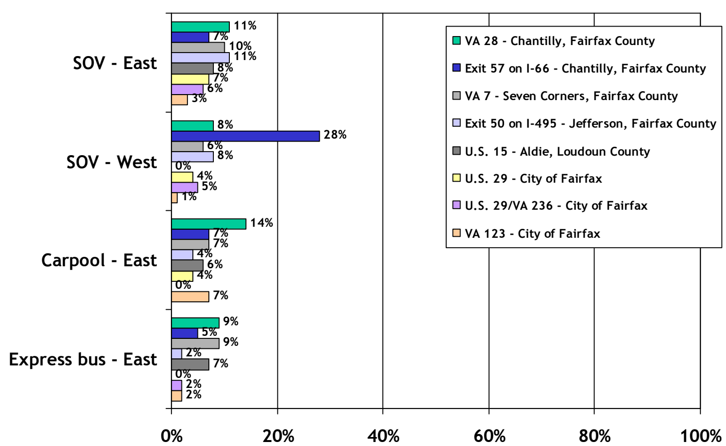
Only most frequent mentions are shown. Local bus not shown due to small sample size.

Q39. Which entrance to U.S. 29 do you use on your morning commute? Q40. Which entrance to U.S. 29 do you use?

Entrance to U.S. 50

Commuters Using U.S. 50 Access this Route at a Variety of Points; Westbound SOVers Are Especially Likely to Use Exit 57 on I-66 in Chantilly

-- List of Entrances Continues on Next Two Slides --



Only most frequent mentions are shown. Local bus not shown due to small sample size.

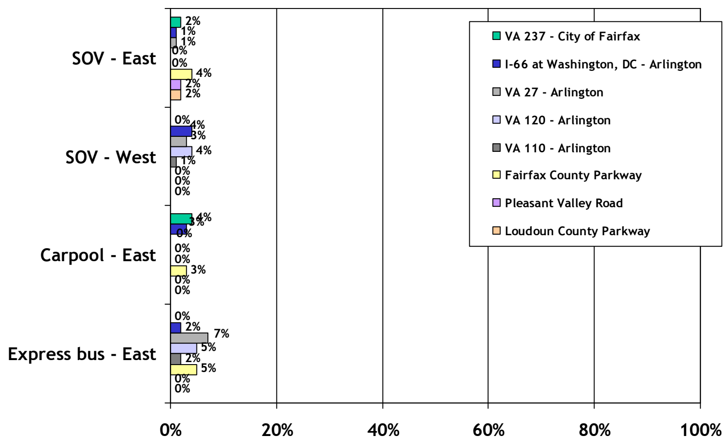
Q41. Which entrance to U.S. 50 do you use on your morning commute? Q42. Which entrance to U.S. 50 do you use?

Entrance to U.S. 50 (con't.)

Only most frequent mentions are shown. Local bus not shown due to small sample size.

Some Commuters Use these Entrances to U.S. 50

-- List of Entrances Continues on Next Slide --



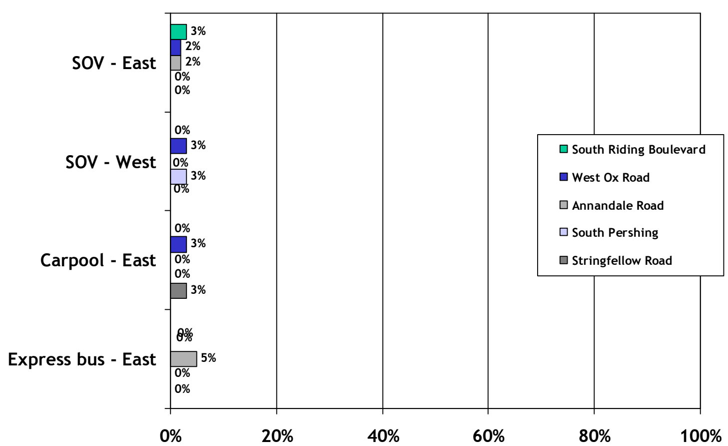
Q41. Which entrance to U.S. 50 do you use on your morning commute? Q42. Which entrance to U.S. 50 do you use?

Entrance to U.S. 50 (con't.)

Only most frequent mentions are shown. Local bus not shown due to small sample size.

A Few Commuters Enter U.S. 50 Via the Entrances Listed Below

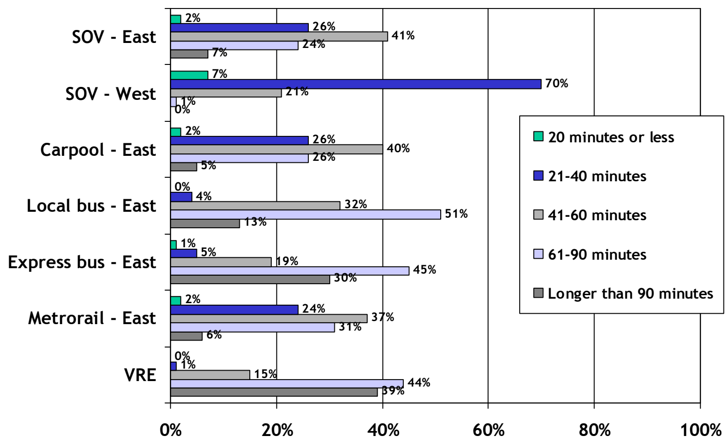
-- List of Entrances Also Reported on Previous Two Slides --



Q41. Which entrance to U.S. 50 do you use on your morning commute? Q42. Which entrance to U.S. 50 do you use?

Length of commute - minutes

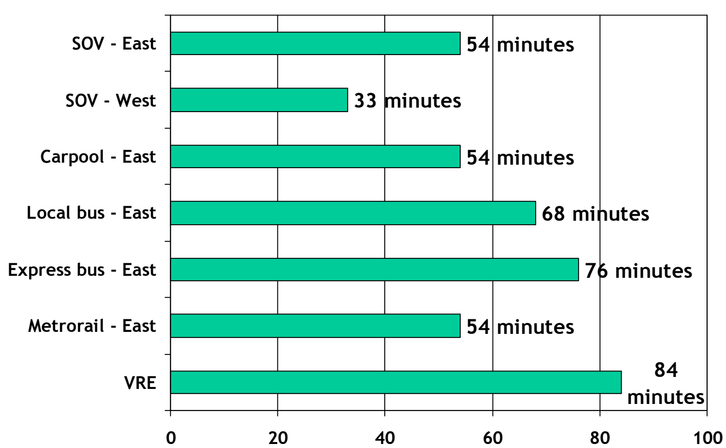
Westbound SOVers Have the Shortest Commutes (in minutes), While Express Bus Riders, Metrorail Riders and VRE Riders Have the Longest



Q46. On average, about how many minutes long is your **total** morning commute, door-to-door?

Length of commute - minutes *Average*

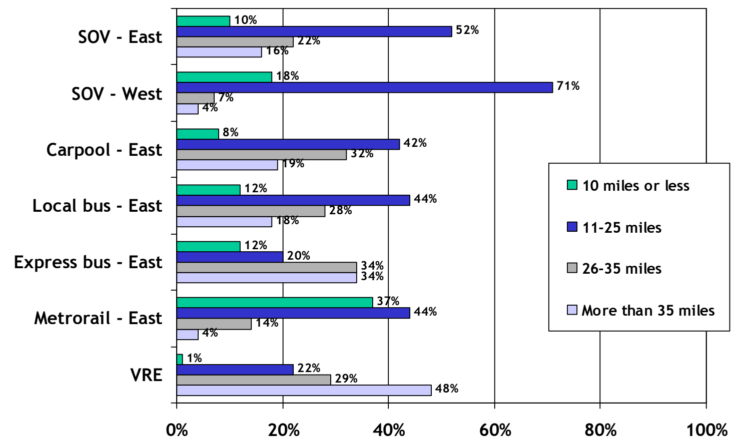
Based on Average Minutes for their Commute, VRE Commuters Have the Longest Commute – 84 Minutes on Average; at 33 Minutes, Westbound SOVers Have the Shortest Commute



Q46. On average, about how many minutes long is your **total** morning commute, door-to-door?

Length of commute - miles

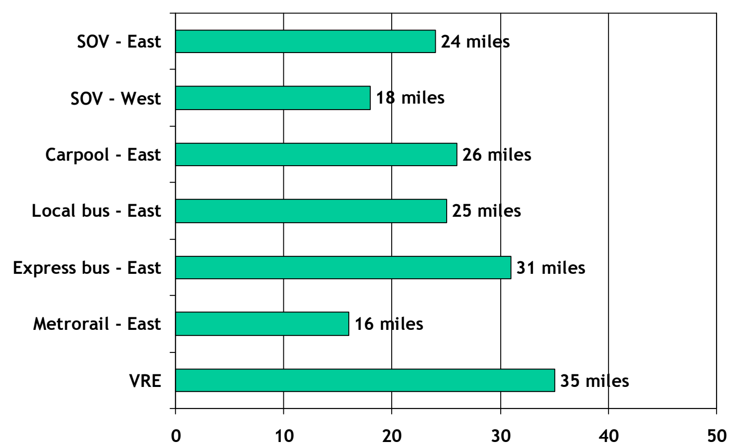
Westbound SOVers Also Travel the Shortest Distance; VRE Riders and Express Bus Riders Travel the Longest Distance



Q47. About how many miles long is your **total** morning commute, door to door?

Length of commute - miles ***Average***

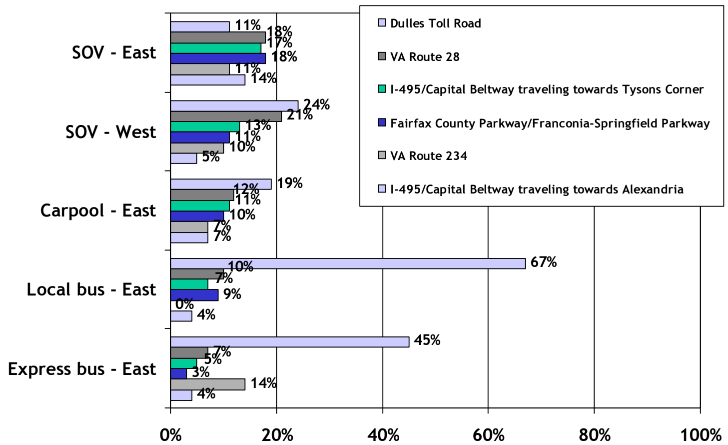
Based on Average Distance Traveled, VRE Riders Have the Longest Average Commute, at 35 Miles; Metrorail Eastbound Riders and SOVers Westbound Have the Shortest Average Commutes at 16 Miles and 18 Miles, Respectively



Q47. About how many miles long is your **total** morning commute, door to door?

Other roadways used

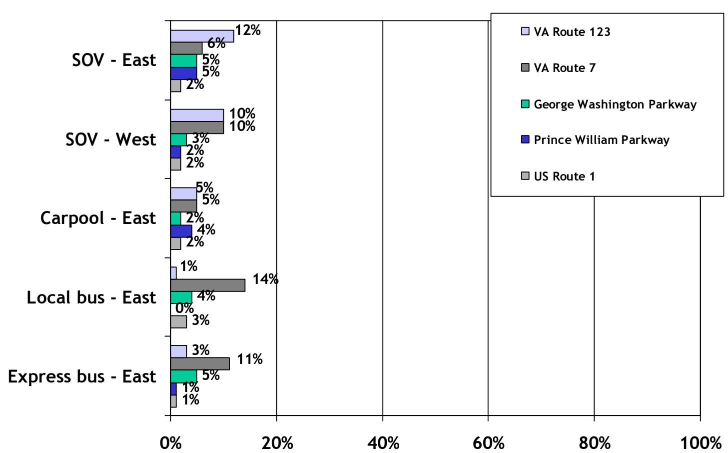
I-66/U.S. 29/U.S. 50 Commuters Use a Variety of Other Roadways on their Morning Commutes – Bus Riders Are Especially Likely to Be Traveling on the Dulles Toll Road



Q43. On which other major highways, if any, do you typically travel during your regular morning commute?

Other roadways used (con't.)

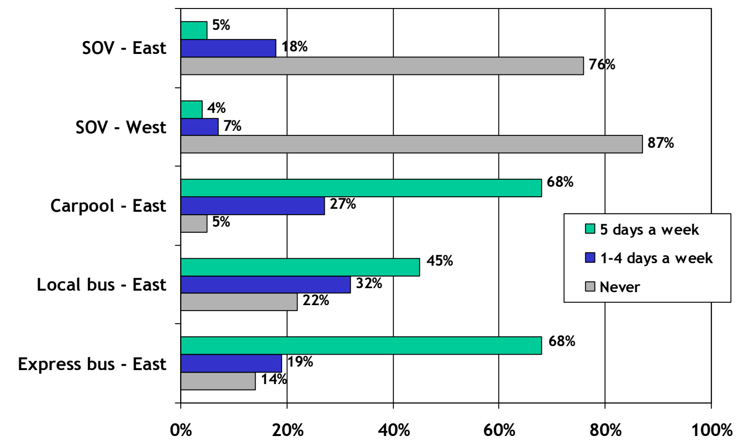
Some Commuters Also Travel these Roadways on their Morning Commutes – Bus Riders Are More Likely to Be Traveling on Virginia Route 7 than Are Carpoolers and those Who Drive Alone



Q43. On which other major highways, if any, do you typically travel during your regular morning commute?

Use of HOV Lanes

For the Most Part, SOVers Say That They Do Not Use the HOV Lanes; Carpoolers and Express Bus Riders Are Most Likely to Use the HOV Lanes



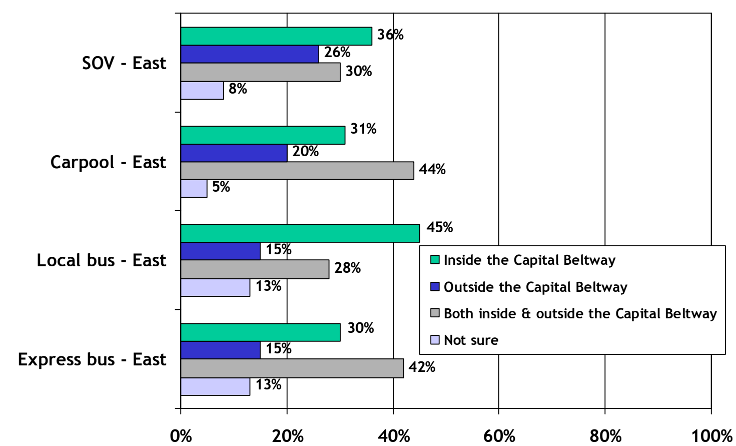
Q48. How frequently during your weekday morning commute do you use the HOV lanes on I-66, either driving alone in your vehicle or traveling in a carpool, vanpool, or bus?

53 I-66 Transit/TDM Study

Use of HOV Lanes inside or outside Capital Beltway

Question asked of those who said that they used the HOV lanes. Westbound SOV not shown due to small base size.

Carpoolers and Express Bus Riders Are More Likely to Use the HOV Lanes Both *Inside and Outside* the Beltway; Local Bus Riders Are More Likely than the Other Modes to Only Use the HOV Lanes *Inside* the Beltway; No Distinct Pattern Is Posted for SOVers



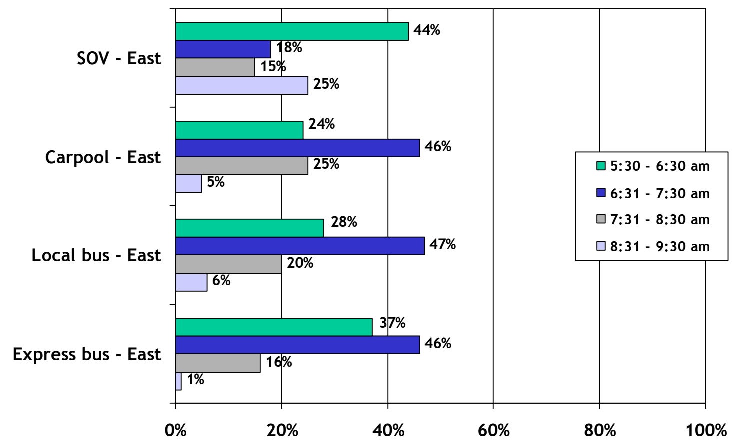
Q49. Do you use the HOV lanes on I-66 **inside** the Capital Beltway or **outside** the Capital Beltway on your regular morning commute?

54 I-66 Transit/TDM Study

Time enter HOV lanes

Question asked of those who said that they used the HOV lanes. Westbound SOV not shown due to small base size.

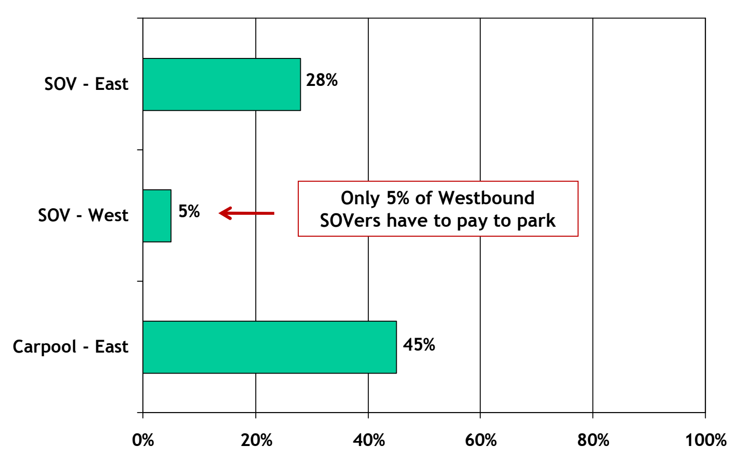
Regardless of the Mode, Most HOV Users Enter the HOV Lanes by 7:30 am; Eastbound SOVers Are More Likely than the Other Modes to Enter the HOV Lanes after 7:30 am



Q50. About what time do you typically enter the HOV lanes most mornings?

Pay to park at destination

Carpoolers Are More Likely to Have to Pay to Park at their Destination than SOVers; For the Most Part, Westbound SOVers Do Not Have to Pay to Park



Q51. Do you have to pay to park at your destination?

Cost of parking at destination

Only a few respondents reported parking cost for time period other than per day or per month.

Among those Who Pay to Park at their Destination, SOVers and Carpoolers Pay about the Same Amount

-- Example of how to read table: The average cost to park among SOVers who pay to park and answered with a per day parking cost is $12 per day. The average cost to park among SOVers who pay to park and answered with a per month parking fee is $129 per month. --

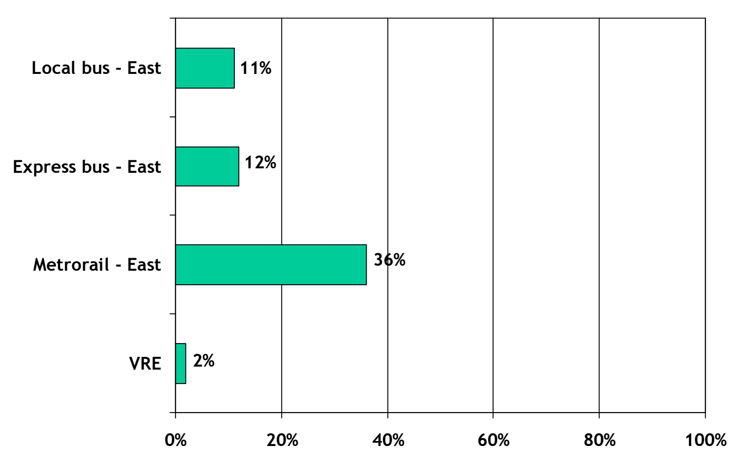
SOV	Carpool
Average: Pay Per Day	
$12	$10
Average: Pay Per Month	
$129	$127

Note: For these calculations, Eastbound and Westbound commuters have been combined.

Q52. How much do you pay to park? Q53: Is that per day, per week, every two weeks, per month, per year, other?

Pay to park at train station or pick-up point

Metrorail Riders Are More Likely to Have to Pay to Park at the Station or Pick-Up Point than Are Eastbound Local or Express Bus Riders or VRE Riders



Q54. Do you have to pay to park at the train station or other pick-up point?

Cost of parking at train station or pick-up point

Only a few respondents reported parking cost for time period other than per day.

On Average, Both Express Bus Riders and Metrorail Riders Who Pay to Park at the Station or Pick Up Point Pay $5 Per Day for Parking

-- How to read table: The average cost to park at their pick-up point is $5 per day for Express Bus riders who pay to park. The average cost to park at their station or pick-up point is $5 per day for Metrorail riders who pay to park. --

Express Bus	Metrorail
Average: Pay Per Day	
$5	$5

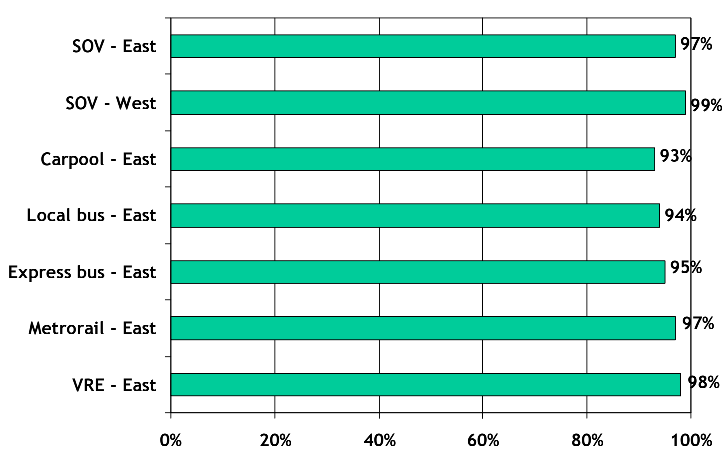
Note: For these calculations, Eastbound and Westbound commuters have been combined.

Q55a. How much do you pay at the train station or other pick-up point? Q55b: Is that per day, per week, every two weeks, per month, per year, other?

Use same mode in afternoon as morning

Carpoolers who switch in the afternoons most often drive alone in the afternoons. Local bus riders and express bus riders who switch in the afternoon most often take Metrorail in the afternoon.

Commuters in this Corridor Tend to Use the Same Commute Mode in Both the Morning and the Afternoon



Q56. Do you typically use the same mode of transportation for your afternoon commute as you do for your morning commute during a typical week, Monday through Friday?

Reasons for using different mode in afternoon

No Distinct Patterns of Reasons for Changing Modes in the Afternoon Are Evident; and, Due to Small Base Sizes, Frequencies Rather than Percentages Are Reported

	SOV	Carpool	Local bus	Express bus	Metrorail	VRE
Too congested in afternoon	5	1	0	0	0	0
Traffic flow/patterns	7	0	1	0	0	0
HOV restrictions/opportunities	1	0	0	0	0	0
Do not leave from office	3	0	0	0	0	0
Carpool available in afternoon	1	0	0	0	0	0
Carpool not available in afternoon	0	12	0	0	0	0
Childcare responsibilities	1	0	0	0	0	0
Take transit/another form of transit in afternoon	1	8	1	4	1	1
Scheduling issues	0	2	0	0	0	0
Cost/save money	0	1	0	0	0	1
Bus/train not available/crowded/late in afternoon	0	0	4	1	2	1
Ride to/from bus/train not available in afternoon	0	0	1	2	1	0
Save time	0	0	1	1	1	1
Walk/jog home	0	0	0	0	3	0
Convenience	0	0	0	0	1	0
Other	6	4	3	3	3	1

Note: Due to small sample sizes, responses for Eastbound and Westbound commuters are combined.

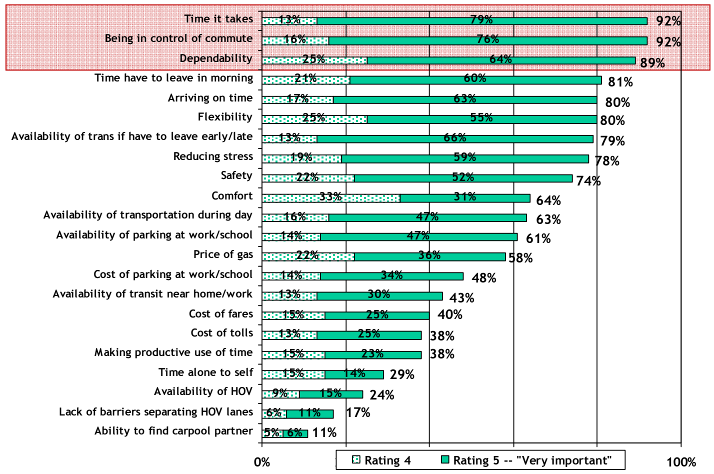
Q62. Earlier, you indicated that you use a different commute mode(s) in the afternoon than you do in the morning. Why do you use a different mode(s) in the afternoon?

Detailed Findings

Factors Influencing Mode Choice

Attribute importance Eastbound SOVers

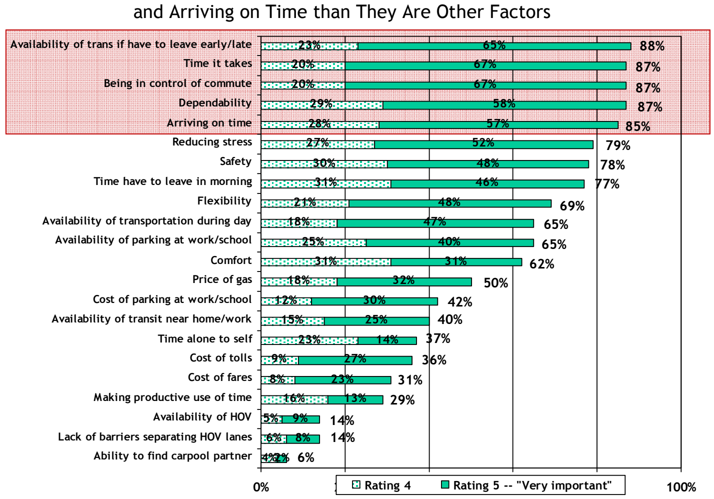
When Selecting their Commute Mode, Eastbound SOVers Are Most Concerned with How Long their Commute Will Take, Being in Control of their Commute and Dependability



Q58. Next, think about what factors are important to you when deciding how you will commute. How important to you are the following factors in choosing how you commute on your morning commute trip? For your answers, please use a scale of 1 to 5 where "1" means it is "not at all important" and "5" means it is "very important" in choosing your mode of transportation. How important is each of the following?

Attribute importance Westbound SOVers

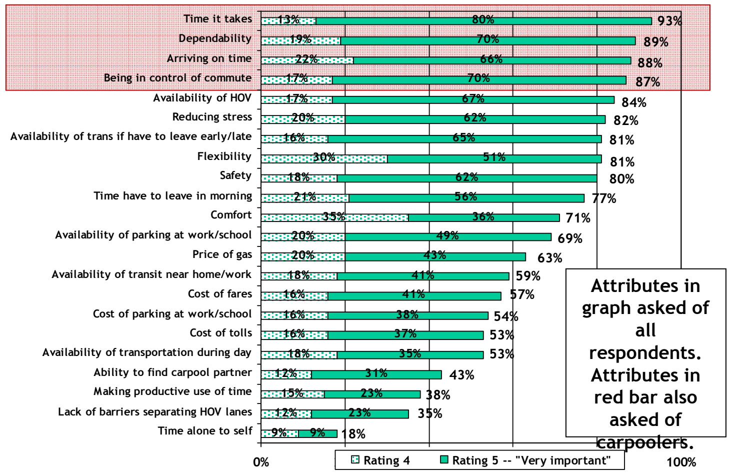
When Selecting their Commute Mode, Westbound SOVers Are More Concerned with Availability of Transportation if Have to Leave Early/Late, How Long their Commute Will Take, Being in Control of their Commute, Dependability, and Arriving on Time than They Are Other Factors



Q58. Next, think about what factors are important to you when deciding how you will commute. How important to you are the following factors in choosing how you commute on your morning commute trip? For your answers, please use a scale of 1 to 5 where "1" means it is "not at all important" and "5" means it is "very important" in choosing your mode of transportation. How important is each of the following?

Attribute importance Eastbound Carpoolers

When Selecting their Commute Mode, Eastbound Carpoolers Are Most Concerned with How Long their Commute Will Take, Dependability, Arriving on Time, and Being in Control of their Commute



Carpoolers were also asked the importance of:

Preferential parking for carpools
41%

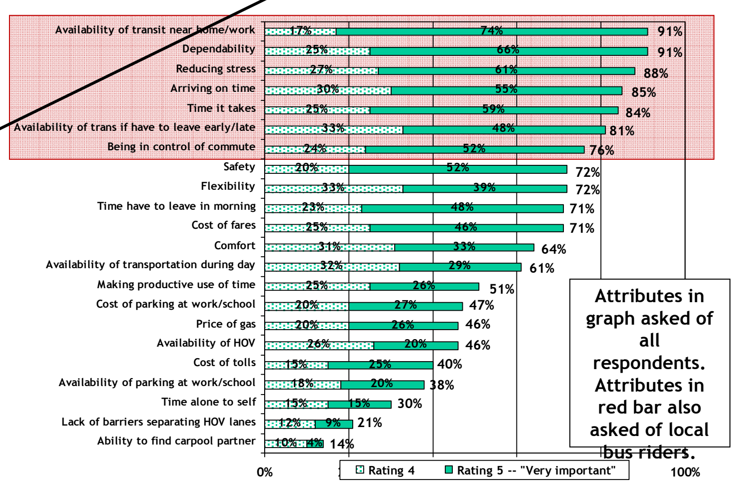
Avail. of parking at pick-up point
36%

Slug lines
14%

Q58. Next, think about what factors are important to you when deciding how you will commute. How important to you are the following factors in choosing how you commute on your morning commute trip? For your answers, please use a scale of 1 to 5 where “1” means it is “not at all important” and “5” means it is “very important” in choosing your mode of transportation. How important is each of the following?

Attribute importance Eastbound Local Bus Riders

Local Bus Riders Are Impacted by a Variety of Criteria, Especially the Availability of Transit Near Where They Live and Work, Dependability and Availability of Bus at Right Time



Bus riders were also asked the importance of:

Avail. of bus at right time
93%

Employer provided trans subsidy
76%

Avail. of parking at pick-up point
74%

Cost of parking at pick-up point
68%

Q58. Next, think about what factors are important to you when deciding how you will commute. How important to you are the following factors in choosing how you commute on your morning commute trip? For your answers, please use a scale of 1 to 5 where “1” means it is “not at all important” and “5” means it is “very important” in choosing your mode of transportation. How important is each of the following?

Attribute importance Eastbound Express Bus Riders

Bus riders were also asked the importance of:

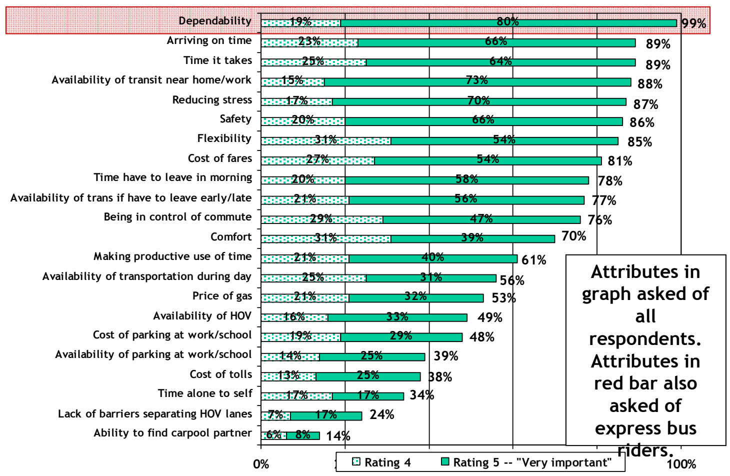
Avail. of bus at right time
95%

Avail. of parking at pick-up point
76%

Employer provided trans subsidy
72%

Cost of parking at pick-up point
63%

Dependability Is the Single Most Important Factor Influencing the Commute Decisions of Express Bus Riders -- But, Several Other Factors Also Receive High Importance Ratings, Including Availability of Bus at Right Time



Q58. Next, think about what factors are important to you when deciding how you will commute. How important to you are the following factors in choosing how you commute on your morning commute trip? For your answers, please use a scale of 1 to 5 where "1" means it is "not at all important" and "5" means it is "very important" in choosing your mode of transportation. How important is each of the following?

Attribute importance Eastbound Metrorail Riders

Metrorail riders were also asked the importance of:

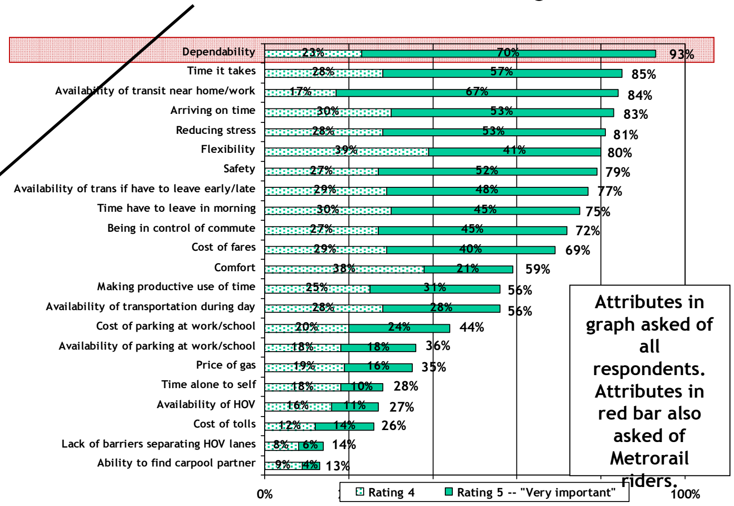
Avail. of train at right time
92%

Employer provided trans subsidy
74%

Avail. of parking at pick-up point
55%

Cost of parking at pick-up point
48%

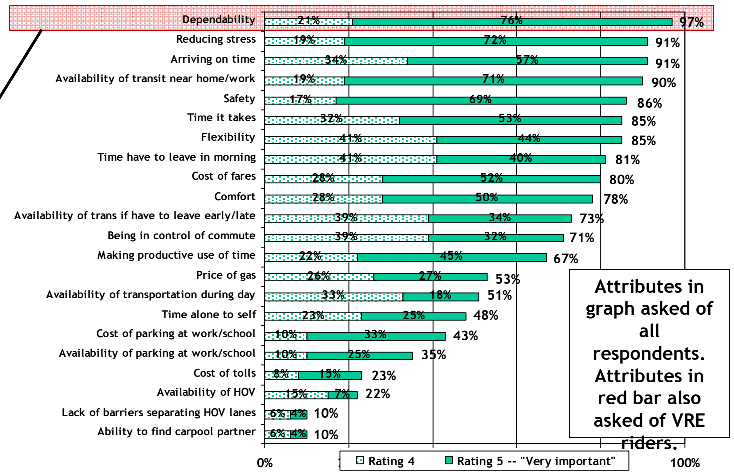
Dependability Is Also Important to Metrorail Riders; But, the Train Needs to Be Available at the Right Time



Q58. Next, think about what factors are important to you when deciding how you will commute. How important to you are the following factors in choosing how you commute on your morning commute trip? For your answers, please use a scale of 1 to 5 where "1" means it is "not at all important" and "5" means it is "very important" in choosing your mode of transportation. How important is each of the following?

Attribute importance VRE Riders

VRE Riders Also Give Priority to Dependability and Availability



VRE riders were also asked the importance of:

Avail. of train at right time 97%

Avail. of parking at pick-up point 76%

Employer provided trans subsidy 76%

Cost of parking at pick-up point 69%

Q58. Next, think about what factors are important to you when deciding how you will commute. How important to you are the following factors in choosing how you commute on your morning commute trip? For your answers, please use a scale of 1 to 5 where "1" means it is "not at all important" and "5" means it is "very important" in choosing your mode of transportation. How important is each of the following?

Top 3 most important attributes

Commuters Who Use Different Modes Often View the Same Attributes as Important; Both SOVers and Local Bus Riders Value Flexibility; Carpoolers and Transit Riders Consider the Time It Will Take; But, the Availability of Certain Services and Programs Help Make Use of Transit Possible, Such as Availability of Transit Near their Work and Home and Employer Provided Transportation Subsidies

Percent refers to the proportion of "top three" votes each attribute received for each mode. The proportion was calculated by assigning three points for each 1st place ranking, 2 points for each 2nd place ranking, and 1 point for each 3rd place. The proportion is based to the total points assigned for all attributes by commuters using each mode.

SOV - East	%	SOV - West	%	Carpool - East	%	Local bus - East	%	Express bus - East	%	Metrorail - East	%	VRE	%
Flexibility	20	Flexibility	19	Time it takes	23	Time it takes	19	Time it takes	14	Time it takes	15	Time it takes	16
Being in control	16	Time have to leave	18	Avail HOV lanes	15	Flexibility	8	Avail transit near home/work	9	Employer provided subsidy	13	Employer provided subsidy	15
Time have to leave	12	Being in control	17	Time have to leave	8	Cost of fares	7	Cost of fares	8	Avail transit near home/ work	11	Avail transit near home/ work	12
						Price of gas	7						

These summary patterns are consistent with stated importance ratings.

Q59. What are the three most important reason you have chosen (INSERT RESONSE FROM Q17) as your primary form of commute? In the list below, rank the most important reason as 1, the second most important reason as 2, and third most important reason as 3.

Reasons for not using bus / train

Only most frequent responses are shown.

The Primary Reason Given for Not Commuting by Bus or Train Is One of Time – It Takes Too Long with these Commute Modes; But, Availability and Convenience Are Also Important

-- Note that 21% of Westbound SOVers said that train/bus does not go to their work/school --

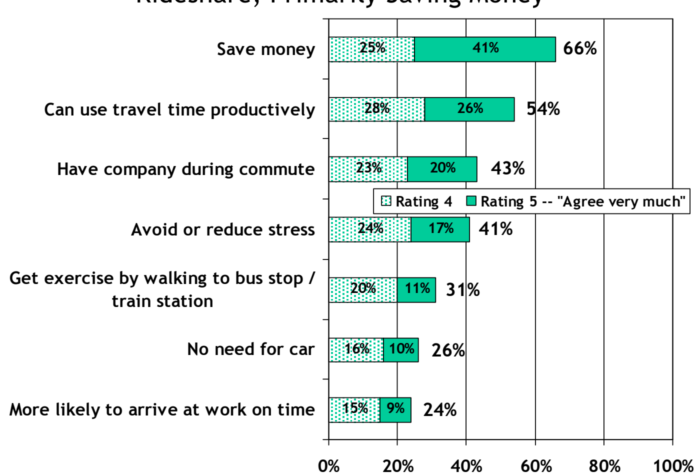
	SOV Eastbound	SOV Westbound	Carpool Eastbound
Travel time is too long	16%	22%	31%
Too far to the station or stop from home	16%	2%	15%
Bus/train does not go to my work/school	12%	21%	3%
Need my car for my job	13%	15%	1%
Need to make stops on way to work/school	9%	9%	6%
Too many transfers required	7%	6%	5%
Too far to station or stop from work/school	4%	8%	3%
Bus or train does not come often enough	3%	5%	5%

Q61. What is the main reason you do not commute by bus or train more often to get to work or school from your home?

Perceived personal benefits of ridesharing Eastbound SOVers

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Even Though They Do Not Rideshare, Eastbound SOVers Recognize Benefits for those Who Do Rideshare, Primarily Saving Money

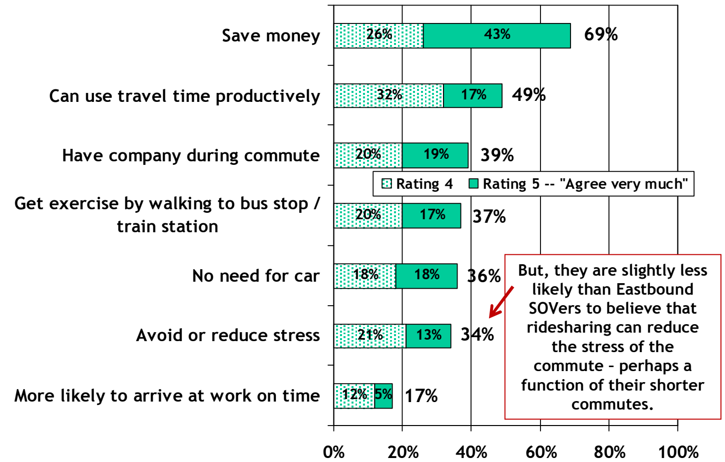


Q63. Regardless of the mode of transportation you currently use for your commute, to what extent do you agree that each of the following is a benefit of ridesharing over driving alone?

Perceived personal benefits of ridesharing Westbound SOVers

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Westbound SOVers Also Recognize the Benefits that Ridesharers Experience, Especially Saving Money



Q63. Regardless of the mode of transportation you currently use for your commute, to what extent do you agree that each of the following is a benefit of ridesharing over driving alone?

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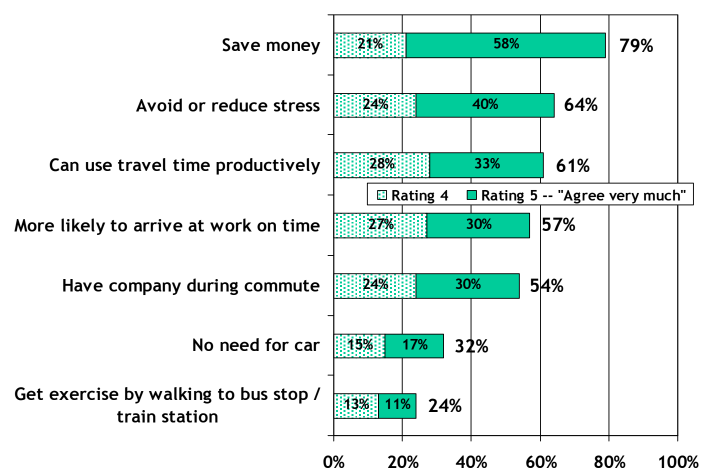
Perceived personal benefits of ridesharing Eastbound Carpoolers

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Carpoolers Recognize that Ridesharing Helps Them Save Money - and Reduces Stress, Allows for Productive Use of Travel Time, Allows Them to Arrive at Work on Time and Provides Company During their Commute



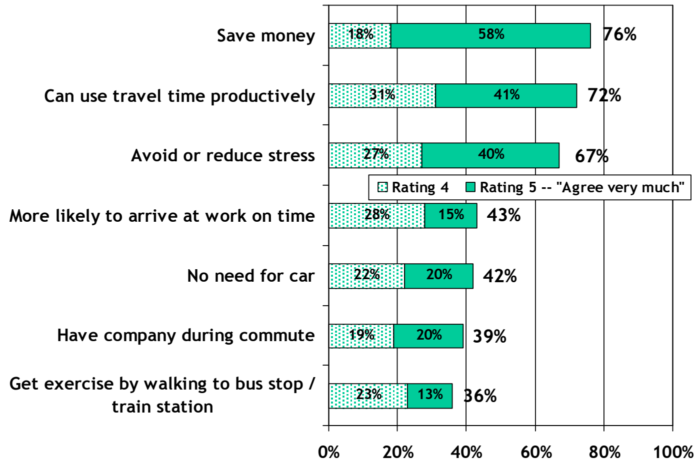
Q63. Regardless of the mode of transportation you currently use for your commute, to what extent do you agree that each of the following is a benefit of ridesharing over driving alone?

74 I-66 Transit/TDM Study

Perceived personal benefits of Eastbound Local Bus Riders

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Local Bus Riders Most Often Recognize Three Key Benefits of Ridesharing: Saving Money, Productive Use of Travel Time, and Reducing Stress

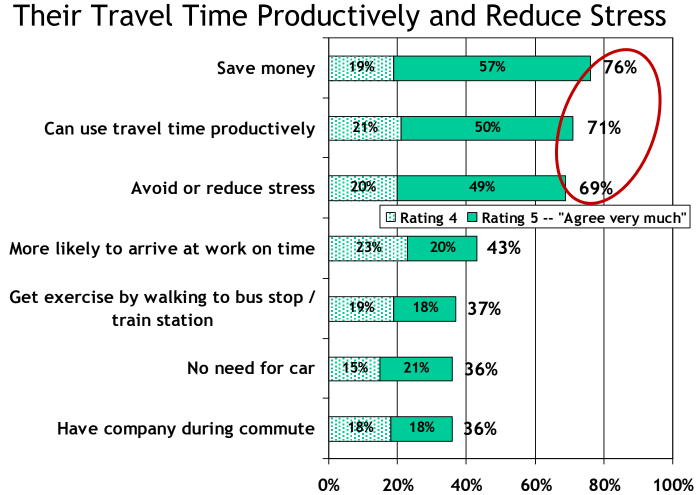


Q63. Regardless of the mode of transportation you currently use for your commute, to what extent do you agree that each of the following is a benefit of ridesharing over driving alone?

Perceived personal benefits of ridesharing Eastbound Express Bus Riders

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Express Bus Riders Especially Appreciate that Ridesharing Allows Commuters to Save Money, to Use Their Travel Time Productively and Reduce Stress

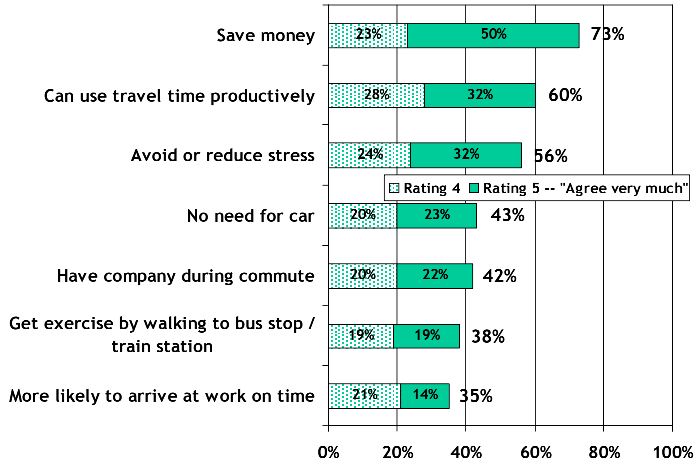


Q63. Regardless of the mode of transportation you currently use for your commute, to what extent do you agree that each of the following is a benefit of ridesharing over driving alone?

Perceived personal benefits of ridesharing Eastbound Metrorail Riders

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Metrorail Riders Are Especially Likely to Say that Ridesharing Saves the Commuter Money

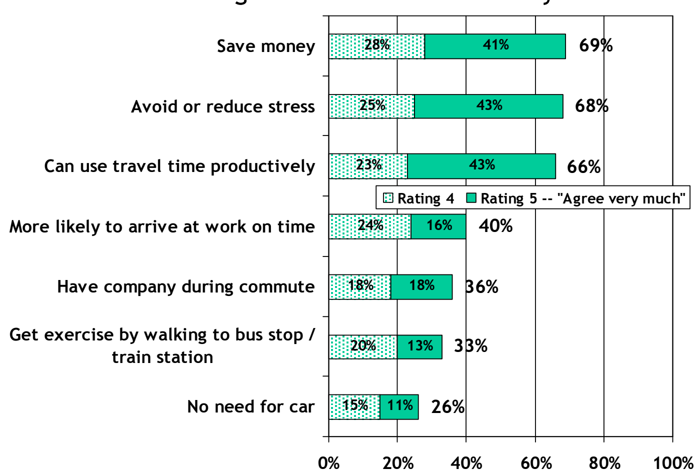


Q63. Regardless of the mode of transportation you currently use for your commute, to what extent do you agree that each of the following is a benefit of ridesharing over driving alone?

Perceived personal benefits of ridesharing VRE Riders

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

VRE Riders Recognize These Personal Benefits Most Often: Saving Money, Reducing Stress, and Using Travel Time Productively

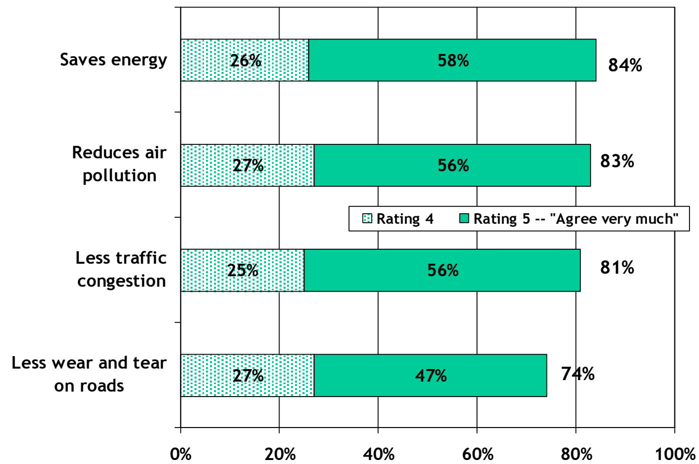


Q63. Regardless of the mode of transportation you currently use for your commute, to what extent do you agree that each of the following is a benefit of ridesharing over driving alone?

Perceived societal benefits of ridesharing Eastbound SOVers

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Eastbound SOVers Recognize that Society Benefits When Others Rideshare



Q64. Now, think about how society benefits from ridesharing. To what extent do you agree that society benefits in the following ways when commuters rideshare?

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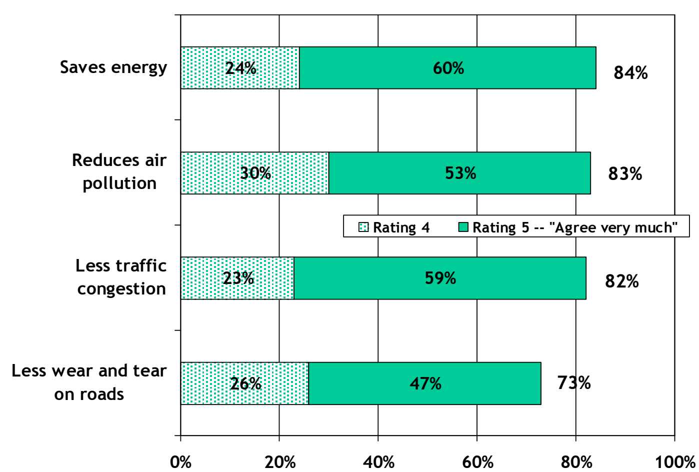
Perceived societal benefits of ridesharing Westbound SOVers

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Westbound SOVers Also Recognize Societal Benefits of Ridesharing



Q64. Now, think about how society benefits from ridesharing. To what extent do you agree that society benefits in the following ways when commuters rideshare?

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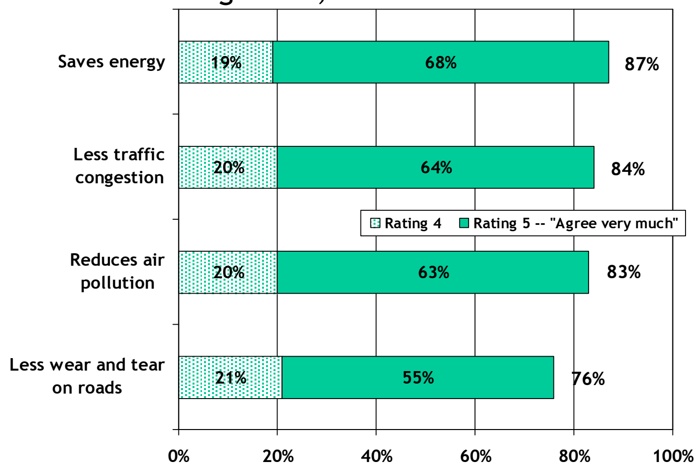
Perceived societal benefits of ridesharing Eastbound Carpoolers

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

More than Eight of Ten Eastbound Carpoolers Believe that Ridesharing Saves Energy, Results in Less Traffic Congestion, and Reduces Air Pollution

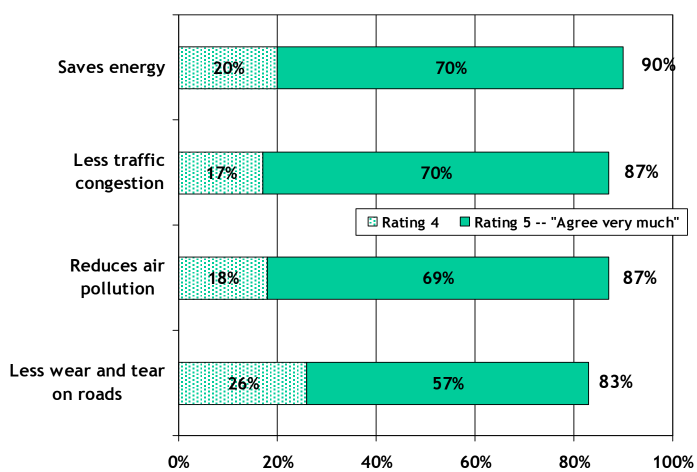


Q64. Now, think about how society benefits from ridesharing. To what extent do you agree that society benefits in the following ways when commuters rideshare?

Perceived societal benefits of ridesharing Eastbound Local Bus Riders

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Local Bus Riders Are Especially Likely to See How Society Benefits from Ridesharing

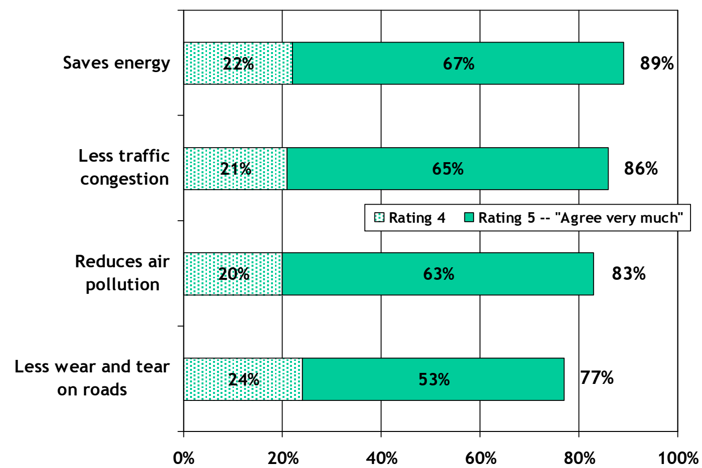


Q64. Now, think about how society benefits from ridesharing. To what extent do you agree that society benefits in the following ways when commuters rideshare?

Perceived societal benefits of ridesharing Eastbound Express Bus Riders

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Similarly, Express Bus Riders Recognize How Society Benefits from Ridesharing

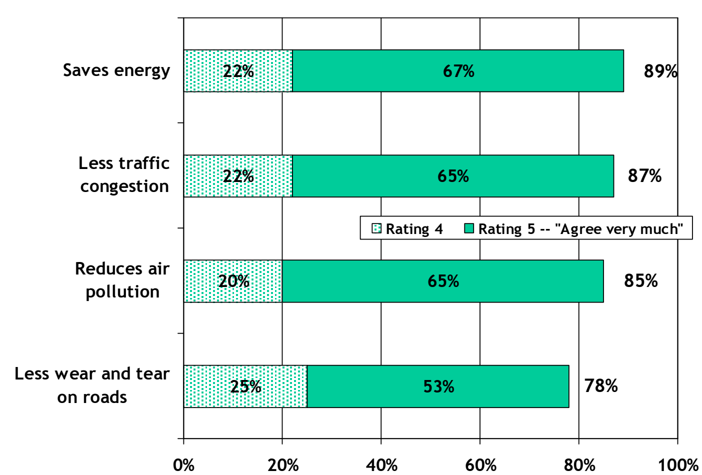


Q64. Now, think about how society benefits from ridesharing. To what extent do you agree that society benefits in the following ways when commuters rideshare?

Perceived societal benefits of ridesharing Eastbound Metrorail Riders

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

The Pattern for Metrorail Riders Is Comparable to that of Other Commuters

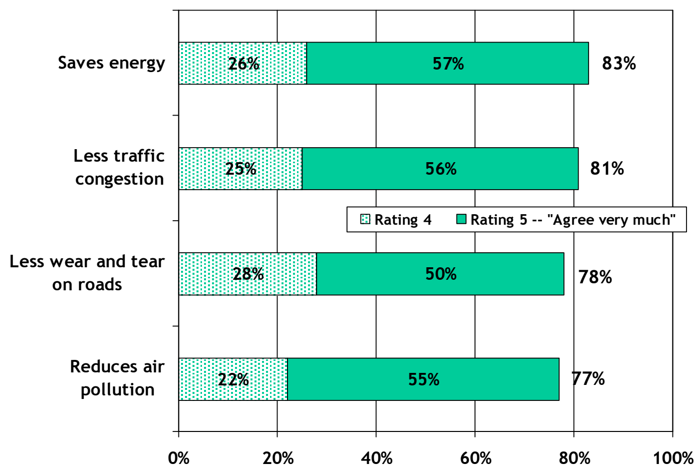


Q64. Now, think about how society benefits from ridesharing. To what extent do you agree that society benefits in the following ways when commuters rideshare?

Perceived societal benefits of ridesharing VRE Riders

Proportions indicate those who agree that the statement describes a benefit of ridesharing.

Similarly, VRE Riders Recognize How Society Benefits from Ridesharing



Q64. Now, think about how society benefits from ridesharing. To what extent do you agree that society benefits in the following ways when commuters rideshare?

Demand Discount Factor

Many of the following slides report stated likelihood of usage of specific transit and TDM enhancements and alternatives. Research on research indicates that respondents often overstate their likelihood of usage in research surveys. A demand discount factor has been developed that allows researchers to more accurately project behavior.

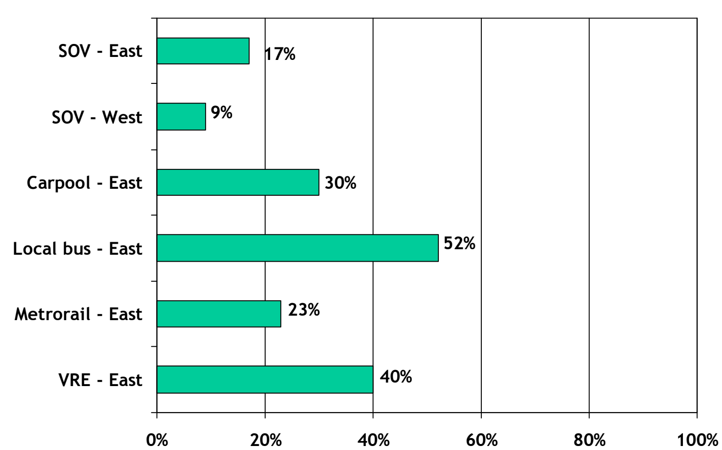
This demand discount factor has been applied to the measures reported on the following slides when a 5-point "likelihood" scale is used, as appropriate. The values obtained by applying the demand discount factor are reported in (red parentheses).

Detailed Findings

Express Bus

Availability of express bus service

With the Exception of Metrorail Riders, Express Bus Service Is Most Likely to Be Currently Available for Current Transit Users; It Is Least Likely to Be Available for SOVers

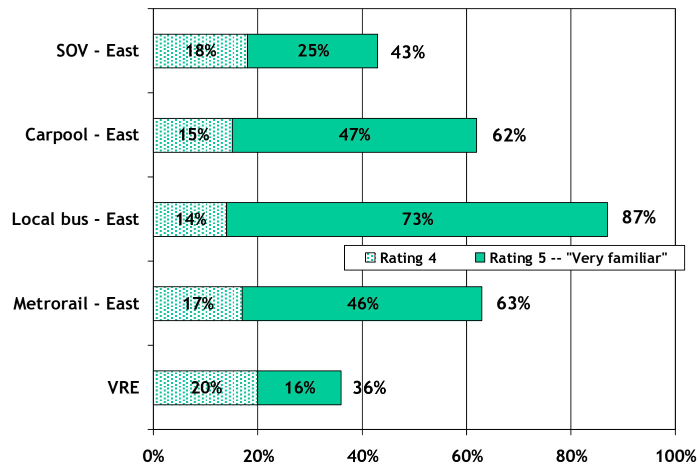


Q65. Is express bus service available from the area where you live to where you work or attend school that you could use?

Familiar with express bus service

Question asked of those who said they have express bus service available.

Not Surprisingly, Eastbound Local Bus Riders Are Most Familiar with Express Bus Service; Eastbound SOVers and VRE Riders Are Least Familiar

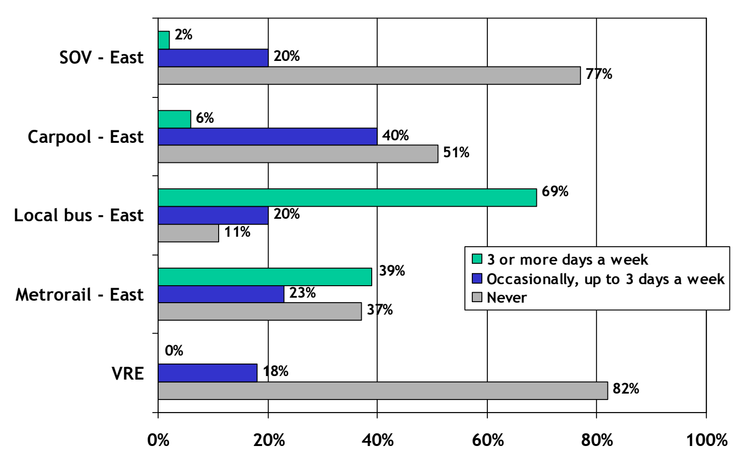


Q66. How familiar are you with the express bus service operating in your area? How well do you know the destinations or route of the bus, its schedule and cost?

Frequency of use of express bus

Question asked of those who said they have express bus service available. SOV - West not shown due to small base size.

Even if They Have Express Bus Service Available, SOVers and VRE Riders Seldom Use It

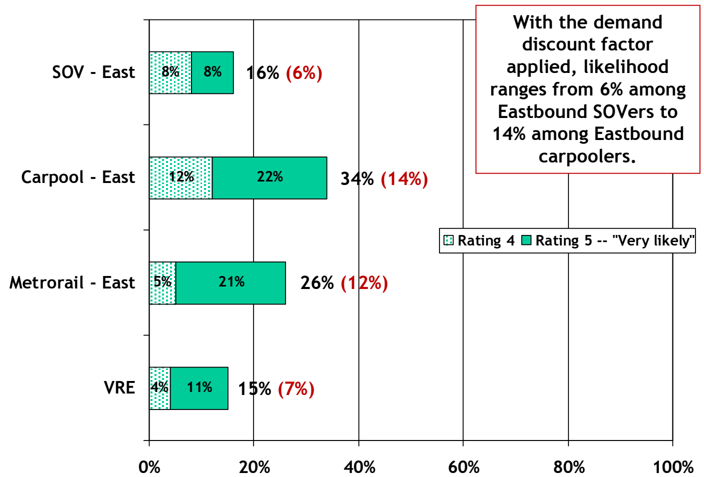


Q67. How often do you use that express bus service for your commute to work or school?

Likelihood of using express bus

Question asked of those who have express bus available but do not use it or is not their primary mode. Only modes shown that have adequate base size.

Carpoolers State the Greatest Interest in Using Express Bus Service for their Commute

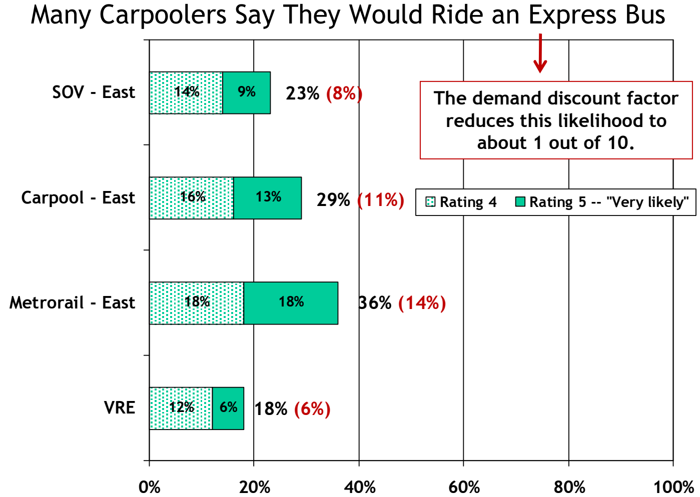


Q68. Regardless of the mode of transportation you use today for your commute, how likely are you to take an express bus in the future?

Likelihood of using express bus if congestion increased commute by 15 minutes

Question asked of those who have express bus available but do not use it or is not their primary mode. Only modes shown that have adequate base size.

If Congestion Increased their Commutes by 15 Minutes, a Third of Metrorail Riders and Nearly that Many Carpoolers Say They Would Ride an Express Bus

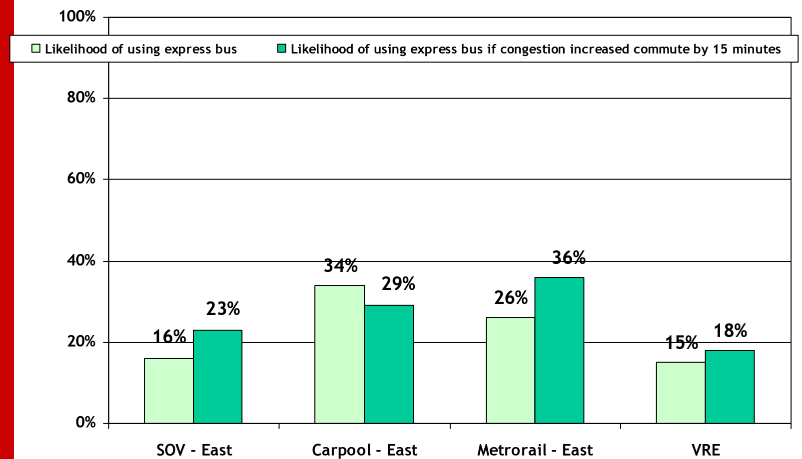


Q69. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to take an express bus at least 1-2 days a week if congestion lengthened your current commute by 15 minutes?

Likelihood of using express bus

Q69. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to take an express bus at least 1-2 days a week if the congestion lengthened your current commute by 15 minutes? Q69. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to take an express bus at least 1-2 days a week if congestion lengthened your current commute by 15 minutes?

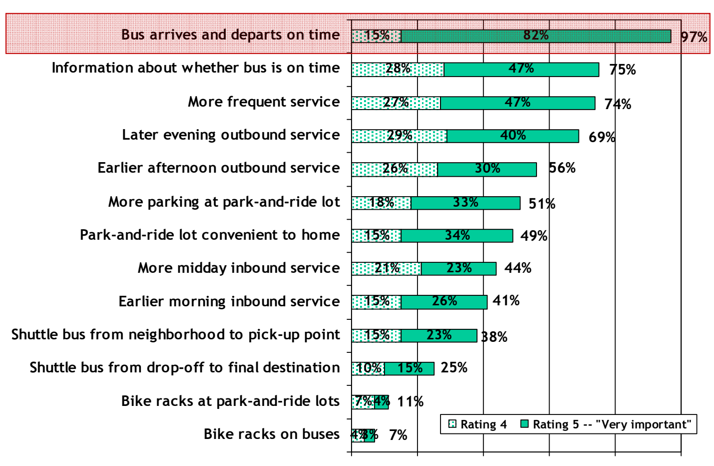
Congestion Increases the Appeal of Express Bus among SOVers and Metrorail Riders



Improvements to retain express bus riders

Question asked of those who currently use express bus service.

Timeliness Is the Single Most Important Factor to Convince Current Riders to Continue Riding an Express Bus, Followed by Information about Whether Bus Is On Time, More Frequent Service, and Later Evening Outbound Service

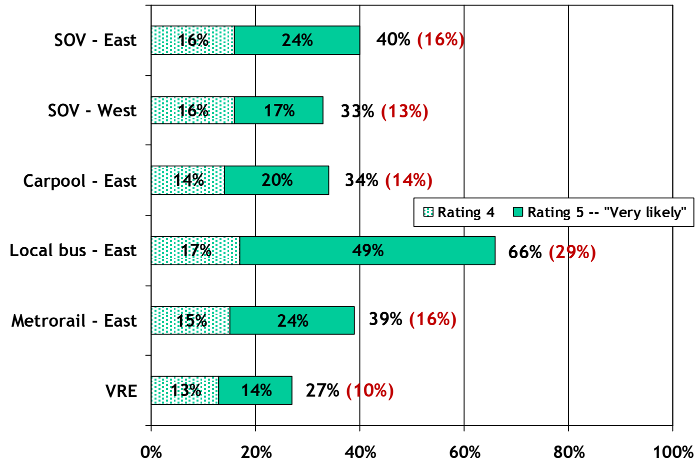


Q70. Next is a list of potential improvements to express bus service in your area. Please indicate how important each improvement would be in helping you choose to continue riding express bus service or to increase your usage.

Likelihood of using express bus

Question asked of those who do not currently have express bus service available.

If New Bus Service Were Introduced to their Area, Current Eastbound Local Bus Riders Posted the Greatest Interest in Riding an Express Bus; VRE Riders Express the Least Interest

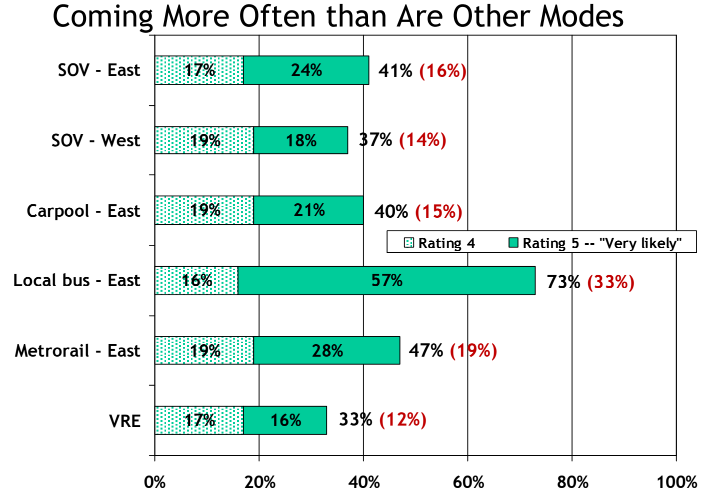


Q72. If new express bus service were available from where you live to where you work, how likely would you be to use it at least 1-2 days a week?

Likelihood of using express bus if buses came more often

Question asked of those who have express bus available but do not use it or is not their primary mode. Only modes shown that have adequate base size.

Local Bus Riders Are More Likely to Respond Favorably to the Idea of Buses Coming More Often than Are Other Modes

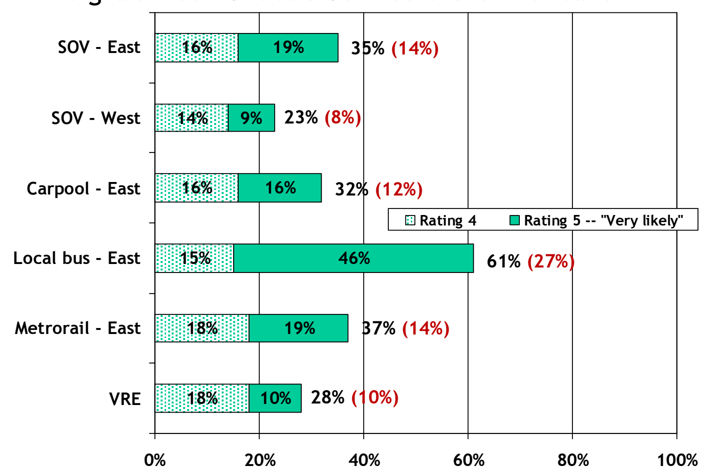


Q73. If the schedule were revised so that express buses came more often, how likely would you be to ride an express bus at least 1-2 days a week?

Likelihood of using express bus with neighbor-hood shuttle

Question asked of those who do not currently have express bus service available or is not primary mode.

Similarly, Eastbound Local Bus Riders Post the Greatest Stated Interest in Riding an Express Bus if Neighborhood Shuttle Service Were Available



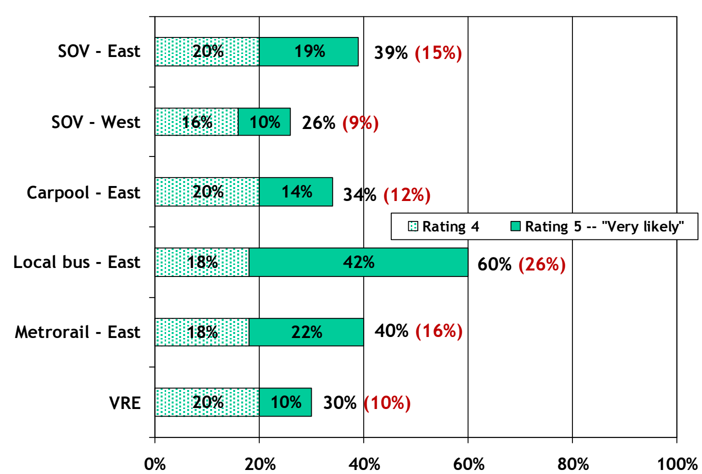
Q74. Suppose that a shuttle bus could operate frequently in your neighborhood that would circulate and connect to an express bus stop. How likely would you be to ride an express bus at least 1-2 days a week if such a shuttle bus service operated?

97 I-66 Transit/TDM Study

Likelihood of using express bus with shuttle to destination

Question asked of those who do not currently have express bus service available or is not primary mode.

A Shuttle to their Destination Also Has Greatest Appeal among Local Bus Riders

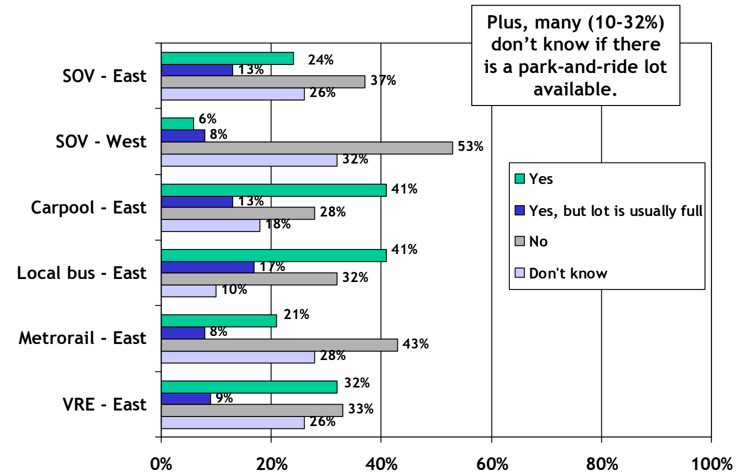


Q75. Suppose that a shuttle bus service could operate frequently in the morning and afternoon peak hours between the express bus drop-off point and your commute destination. How likely would you be to ride an express bus at least 1-2 days a week if such a shuttle bus service operated?

98 I-66 Transit/TDM Study

Availability of park-and-ride lot for express bus

A Fourth to Half of All Commute Modes Have No Park-and-Ride Lot Available for Express Bus Use

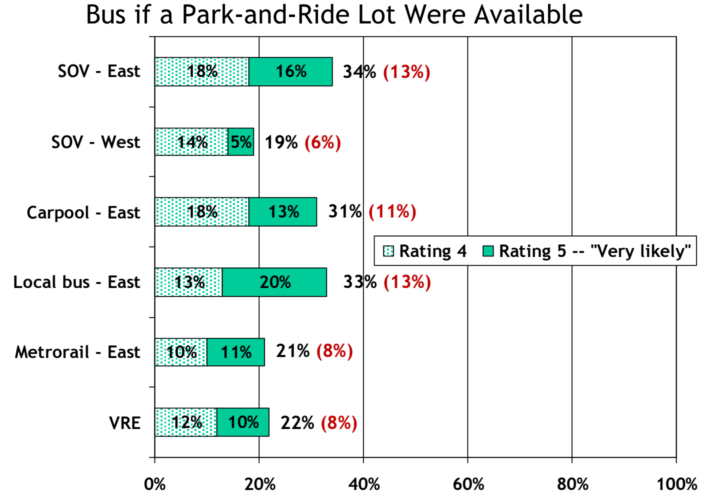


Q76. Is there a park-and-ride lot located along your commute where you could catch an express bus?

Likelihood of using park-and-ride lot for express bus

Question asked of those who do not have park-and-ride lot or lot is usually full.

Eastbound SOVers, Carpoolers and Local Bus Riders Would Be Most Likely to Use a Park-and-Ride Lot and Take an Express Bus if a Park-and-Ride Lot Were Available



Q77. If there were a new park-and-ride lot located along your commute, how likely would you be to use it at least 1-2 days a week in order to take an express bus?

Locations for park-and-ride lot

Respondents Suggested a Variety of Specific Locations for Park-and-Ride Lots

- Each respondent seemed to have a different idea of where a new park-and-ride lot should be located – depending upon their own origin and destination
- Some locations received multiple votes, including:

- Road/Route 29, Sully area	- West Falls Church
- Manassas	- Sudley Road
- Fair Oaks Mall	- Fairfax County Government Center
- East Falls Church Metro	- Route 50, Chantilly area
- Braddock Road/Stone	- Intersection of U.S. 50 and I-66
- Rt. 7, Sterling	- Greenbriar Shopping Center
- Gainesville	- Linton Hall
- Reston/Reston Town Center	- South Riding
- Haymarket	- Tysons Corner
- Sudley Manor	- Near VA 234 bypass and I-66
- Route 15/Dominion Valley	

Q78. Where, specifically, would be the best place for that park-and-ride lot?

Detailed Findings

Carpooling

Reasons for not carpooling

Only most frequent mentions are shown.

Those Who Currently Commute in an Alternate Mode Other than Carpooling Say They Do Not Carpool because They Prefer their Current Mode; SOVers Do Not Carpool because their Hours Vary, Have No One to Carpool with, or Need Car for Job

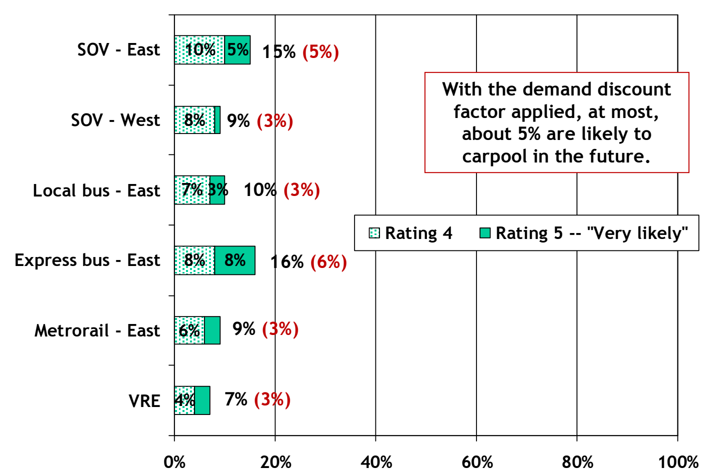
	SOV - Eastbound	SOV - Westbound	Local bus - Eastbound	Express bus - Eastbound	Metrorail - Eastbound	VRE
Prefer current commute mode	8%	8%	29%	27%	31%	39%
Work/school hours vary	19%	16%	18%	17%	18%	11%
No one to carpool with	17%	20%	13%	12%	8%	9%
Need my car for job	14%	16%	0%	0%	1%	0%
Might need to stay late	10%	7%	5%	5%	5%	5%
Need to make stops	10%	11%	2%	1%	2%	4%
Would not save time	3%	5%	5%	4%	6%	8%
Might need to leave early	5%	4%	4%	3%	3%	1%
No carpools in my area	4%	5%	3%	5%	2%	2%

Q79. You indicated that you do not currently commute in a carpool. What is the most important reason you do not commute in a carpool?

Likelihood of carpooling

Question asked of those who do not currently carpool.

Eastbound Express Bus Riders and SOVers Are Most Likely to Say They Will Carpool at Some Time in the Future

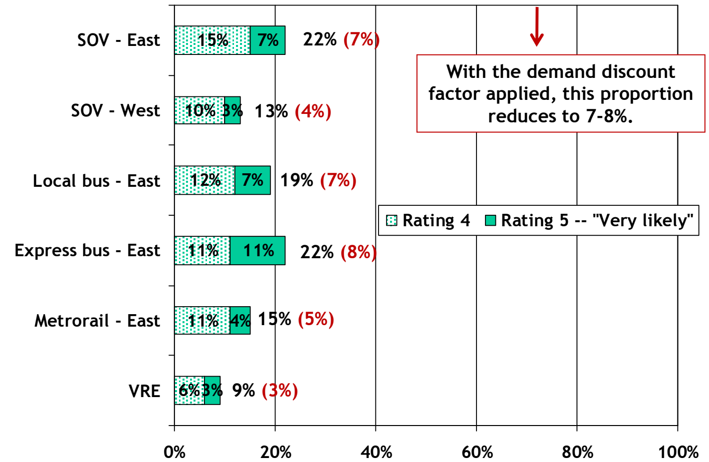


Q80. Regardless of the mode of transportation you use today for your commute, how likely are you to carpool in the future?

Likelihood of carpooling if congestion lengthened commute by 15 minutes

Question asked of those who do not currently carpool.

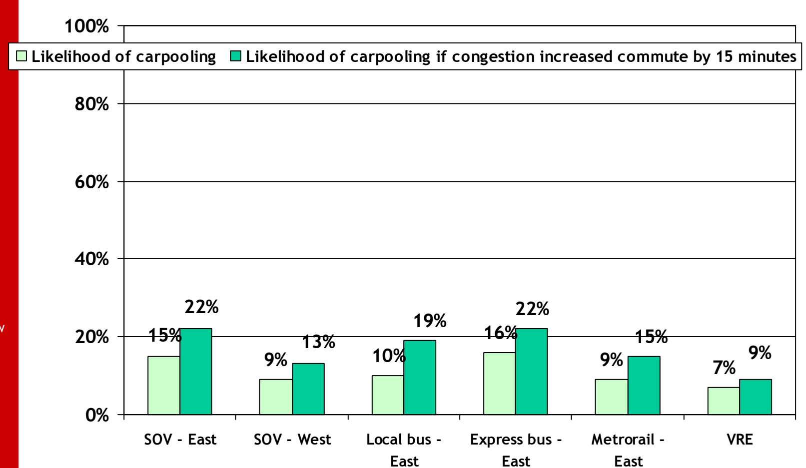
About 2 out of 10 Eastbound SOVers, Express Bus Riders and Local Bus Riders Say They Are Likely to Carpool if Congestion Increased their Commute by 15 Minutes



Q81. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to carpool if congestion lengthened your commute by 15 minutes?

Likelihood of carpooling

With the Exception of VRE, a 15-minute Increase in Commute Time Could Increase the Appeal of Carpooling among Commuters Not Currently Carpooling



Q80. Regardless of the mode of transportation you use today for your commute, how likely are you to carpool in the future? Q81. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to carpool if congestion lengthened your commute by 15 minutes?

Detailed Findings

Vanpooling

Reasons for not vanpooling

Generally, Those Who Do Not Vanpool Prefer their Current Form of Commute; But, Having No Vanpools in their Area, Varied Work Hours, and the Need to Stay Late Are Also Cited as Reasons Not to Vanpool

Only most frequent mentions are shown.

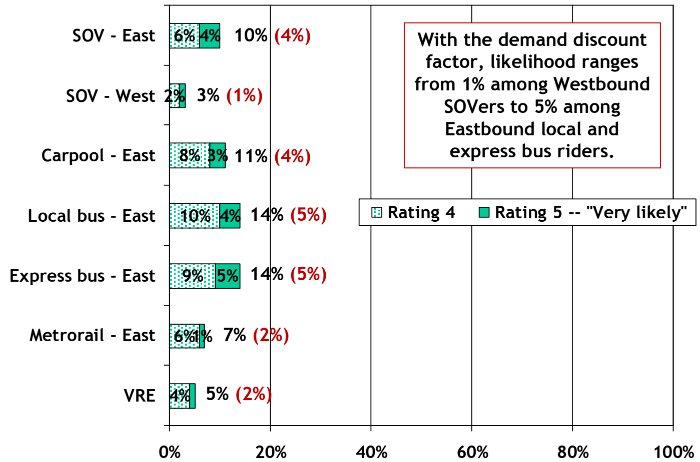
	SOV - East-bound	SOV - West-bound	Carpool - East-bound	Local bus - East-bound	Express bus - East-bound	Metrorail - East-bound	VRE
Prefer current commute mode	14%	12%	28%	30%	34%	34%	41%
No vanpools in my area	22%	30%	19%	19%	20%	16%	13%
Work/school hours vary	19%	14%	9%	16%	13%	15%	9%
Might need to stay late	11%	8%	3%	5%	5%	6%	5%
Would not save time	4%	5%	10%	6%	5%	7%	9%
Might need to leave early	8%	7%	4%	3%	2%	3%	2%
Would not save any money	0	0	4%	4%	2%	2%	2%

Q82. You indicated that you do not currently commute in a vanpool. What is the most important reason you do not commute in a carpool?

Likelihood of vanpooling

Question asked of those who do not currently vanpool.

Although Likelihood of Vanpooling in the Future Is Low Overall, Stated Interest Is Highest Among Eastbound SOVers, Carpoolers, Local Bus Riders and Express Bus Riders

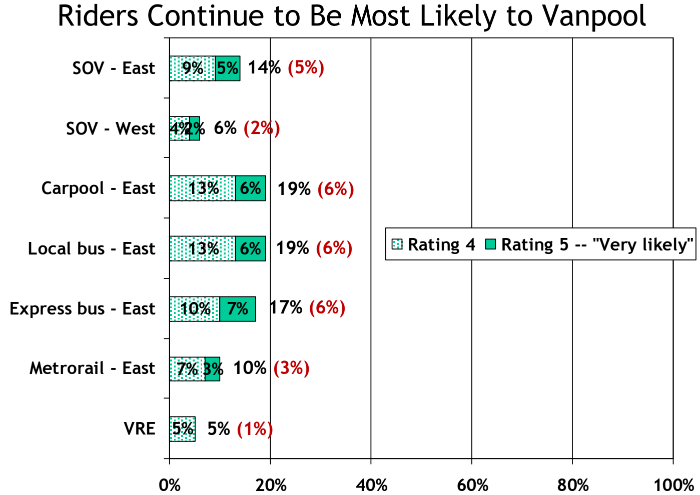


Q83. Regardless of the mode of transportation you use today for your commute, how likely are you to vanpool in the future?

Likelihood of vanpooling if congestion lengthened commute by 15 minutes

Question asked of those who do not currently vanpool.

If Congestion Increased their Commute by 15 Minutes, Eastbound SOVers, Carpoolers and Bus Riders Continue to Be Most Likely to Vanpool

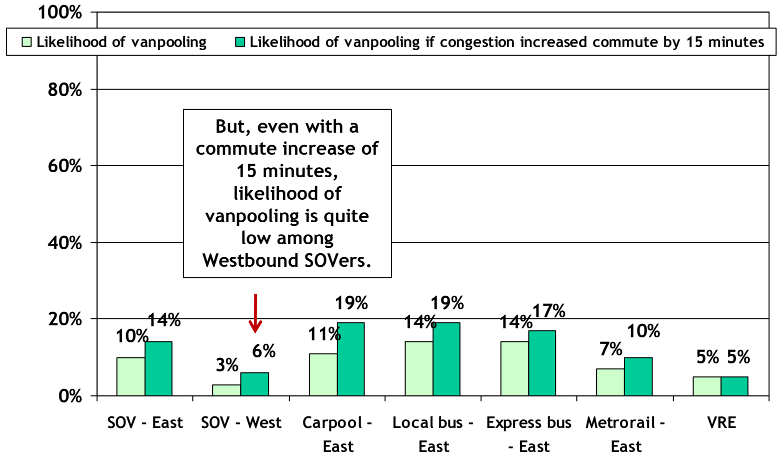


Q84. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to vanpool if congestion lengthened your commute by 15 minutes?

Likelihood of vanpooling

Q83. Regardless of the mode of transportation you use today for your commute, how likely are you to vanpool in the future? Q84. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to vanpool if congestion lengthened your commute by 15 minutes?

With the Exception of VRE Riders, Vanpooling Becomes More Attractive when Congestion Lengthens the Commute by 15 Minutes



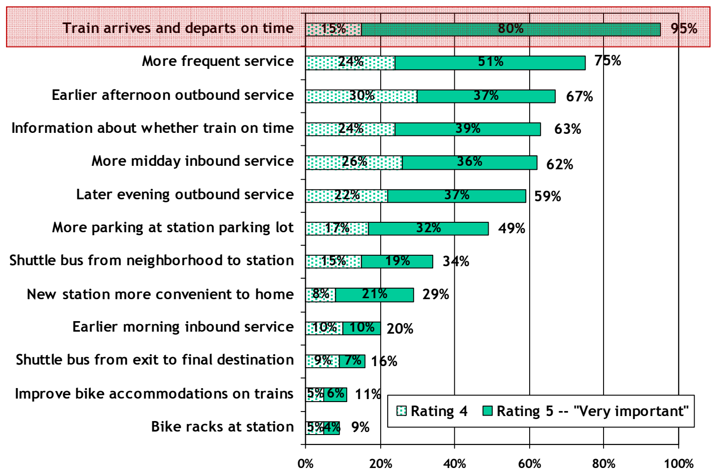
Detailed Findings

Virginia Railway Express

Improvements to retain current VRE riders

Question asked of those who currently ride VRE.

On Time Service Is the Single Most Compelling Reason to Continue Riding VRE

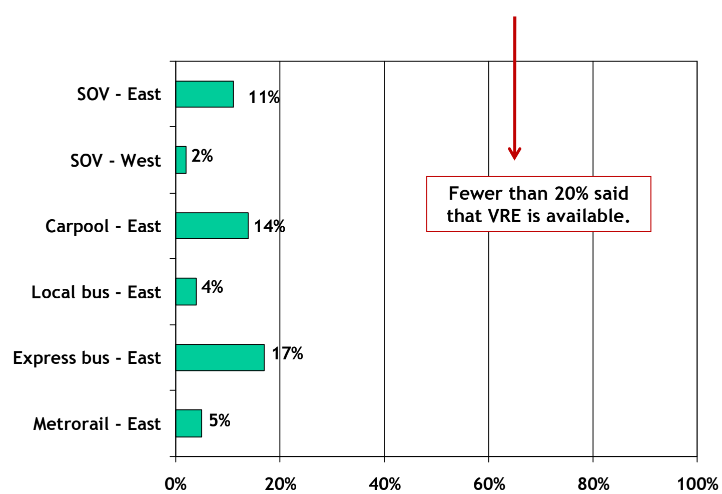


Q85. Earlier you indicated that you use the VRE service. Following is a list of potential improvements to that service. Please indicate how important each improvement would be in helping you choose to continue riding VRE or to increase your usage.

Availability of VRE

Question asked of those who do not currently ride VRE.

VRE Is Available to Only a Few Commuters in this Corridor

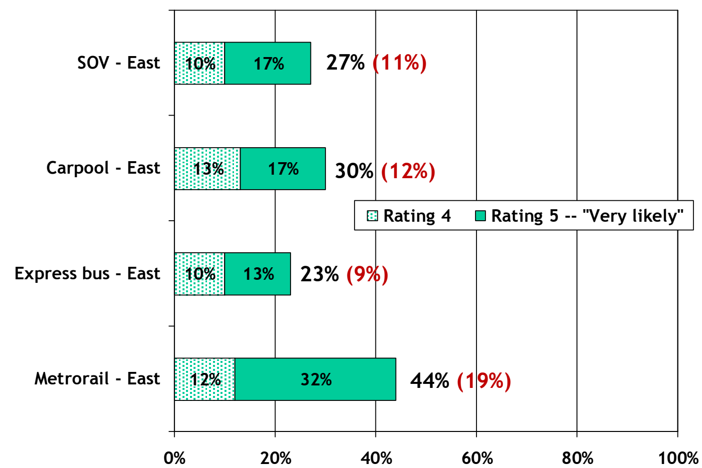


Q87. Is Virginia Railway Express (VRE) conveniently available for at least a portion of your commute?

Likelihood of riding VRE

Question asked of those with VRE available but do not ride it. SOV - West and Local bus - East not shown due to small base sizes.

Interest in Riding VRE Is Highest Among Current Eastbound Metrorail Riders

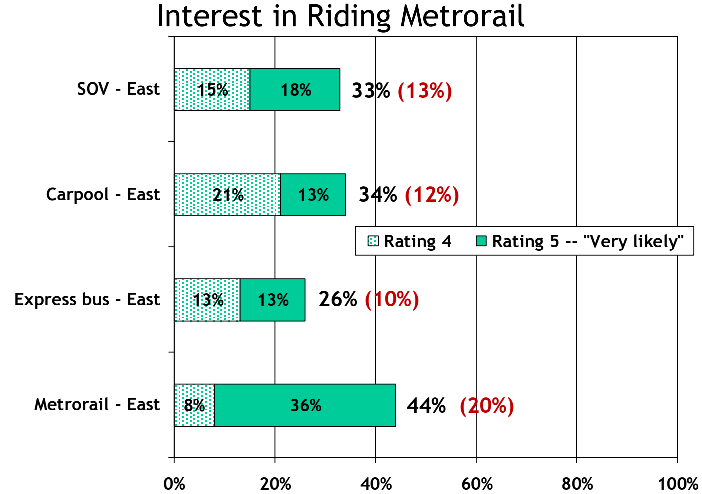


Q88. Regardless of the mode of transportation you use today for your commute, how likely are you to use VRE for at least part of your commute in the future?

Likelihood of riding VRE - if congestion lengthened commute by 15 minutes

Question asked of those with VRE available but do not ride it. SOV - West and Local Bus - East not shown due to small base size.

With Increased Congestion, Eastbound Metrorail Riders Continue to Express the Greatest Interest in Riding Metrorail

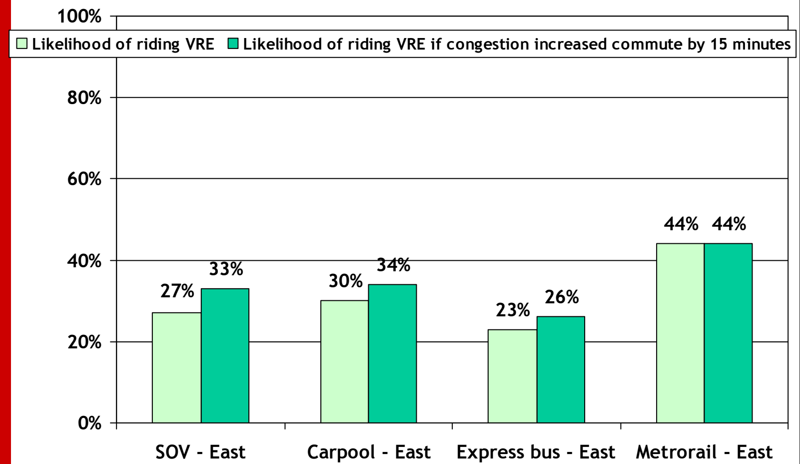


Q89. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to use VRE for at least part of your commute 1-2 days a week if congestion lengthened your current commute by 15 minutes?

Likelihood of riding VRE

Q88. Regardless of the mode of transportation you use today for your commute, how likely are you to use VRE for at least part of your commute in the future? Q89. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to use VRE for at least part of your commute 1-2 days a week if congestion lengthened your commute by 15 minutes?

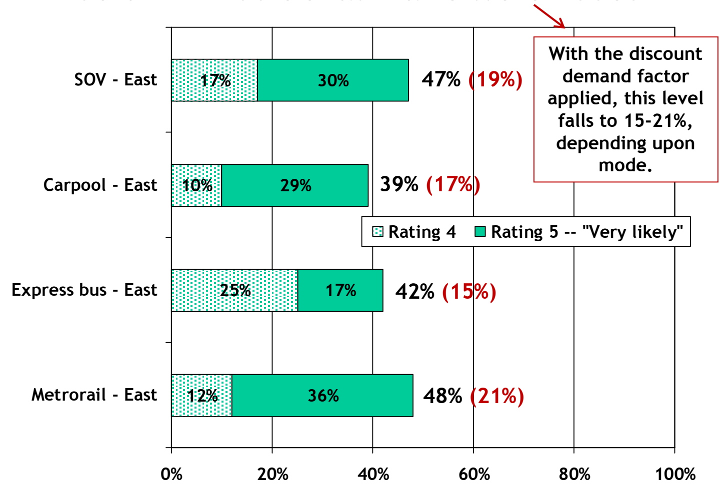
With Increased Congestion, Likelihood of Riding VRE Is Still Highest among Current Metrorail Riders – But, Congestion Does Not Increase the Likelihood of Metrorail Riders Using VRE



Likelihood of riding VRE - if additional trains

Question asked of those with VRE available but do not ride it. SOV - West and Local Bus - East not shown due to small base size.

About 4 out of 10 (or more) Say They Would Ride VRE If Additional Trains Were Added

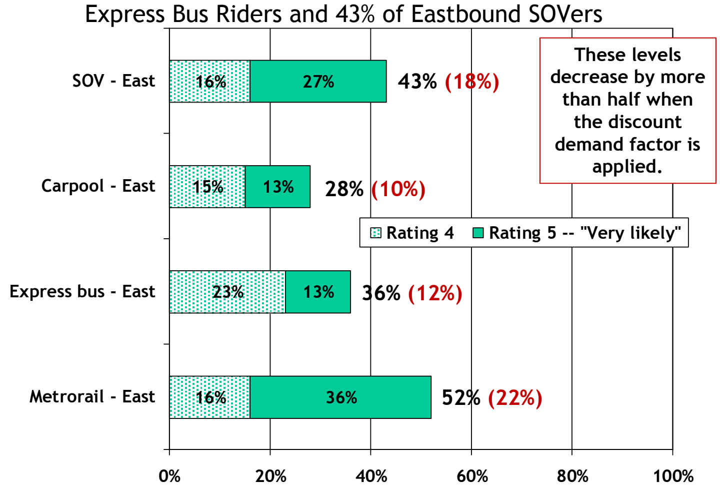


Q90. If additional VRE trains were added so that they came more often, how likely would you be to use the Virginia Railway Express for your commute at least 1-2 days a week?

Likelihood of riding VRE - if more seats

Question asked of those with VRE available but do not ride it. SOV - West and Local Bus - East not shown due to small base size.

Over Half of Eastbound Metrorail Riders Say They Would Ride VRE If More Seats Were Added, Compared to a Fourth of Eastbound Carpoolers, a Third of Eastbound Express Bus Riders and 43% of Eastbound SOVers

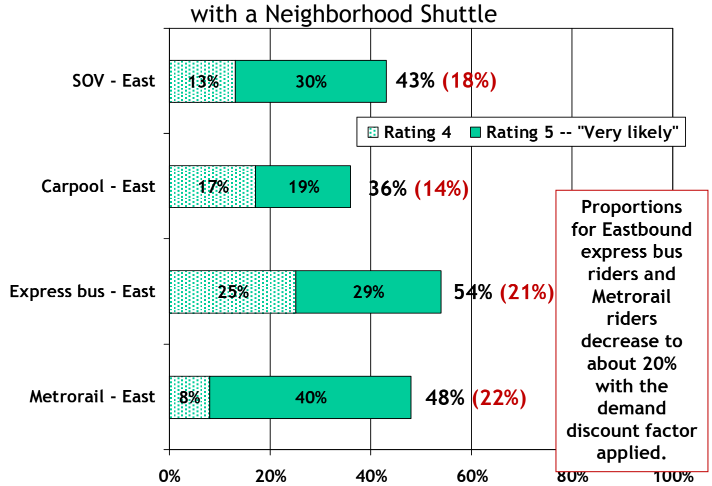


Q91. If VRE trains had more seats available, how likely would you be to use the Virginia Railway Express for your commute at least 1-2 days a week?

Likelihood of riding VRE - if neighbor-hood shuttle

Question asked of those with VRE available but do not ride it. SOV - West and Local Bus - East not shown due to small base size.

A Neighborhood Shuttle Most Persuades Current Express Bus Riders to Ride VRE; But, One-third to Nearly One-half of Eastbound SOVers, Carpoolers and Metrorail Riders Also Express Interest in Riding VRE with a Neighborhood Shuttle

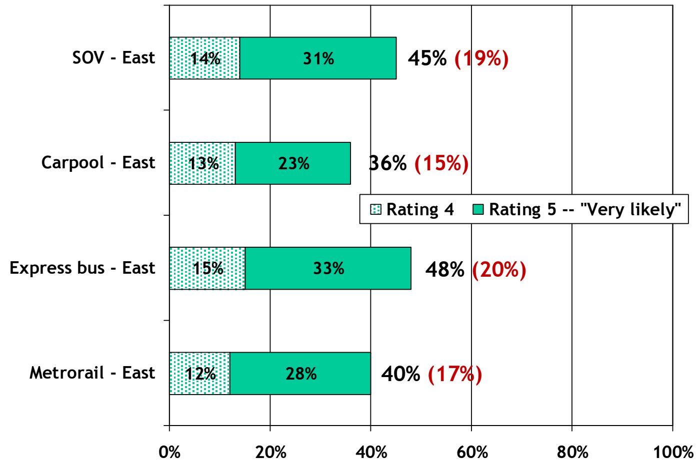


Q92. Suppose that a shuttle bus could operate frequently in your neighborhood that would circulate and connect to the VRE train station. How likely would you be to use this feeder bus and take VRE at least 1-2 days a week?

Likelihood of riding VRE - if shuttle to/from destination

Question asked of those with VRE available but do not ride it. SOV - West and Local Bus - East not shown due to small base size.

A Third to Nearly One-half Say They Would Ride VRE if There Were a Work Shuttle; The Demand Discount Factor Decreases these Values by Slightly More than Half

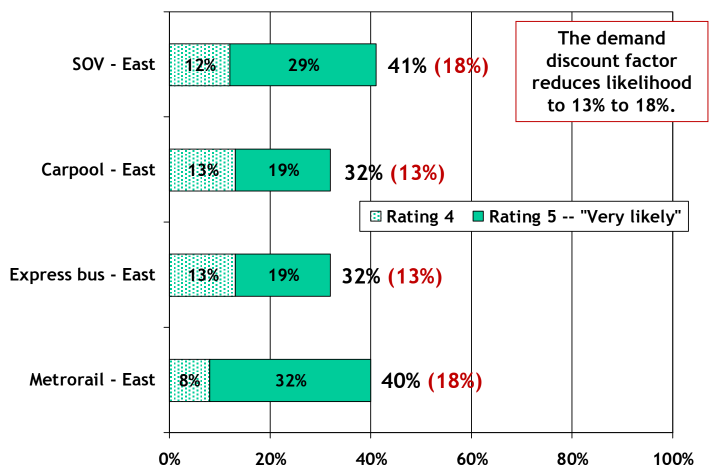


Q93. Suppose a shuttle bus service could operate frequently in the morning and afternoon peak hours between the VRE train station and your commute destination (e.g., work). How likely would you be to ride VRE at least 1-2 days a week if this shuttle bus service were offered?

Likelihood of riding VRE - if more parking at VRE stations

Question asked of those with VRE available but do not ride it. SOV - West and Local Bus - East not shown due to small base size.

If There Were More Parking at VRE Stations, 32% to 41% of Commuters Say They Would Likely Ride VRE



Q94. If more parking were available at VRE train stations, how likely would you be to take VRE at least 1-2 days a week?

Likelihood of riding VRE

All Services Tested Can Increase VRE Ridership – Especially Shuttles

-- But, Adding More Seats Would Not Be Especially Persuasive among Carpoolers --

	Likelihood riding VRE	15 min congestion increase	Adding trains	More seats	Neighborhood shuttle	Destination shuttle	More parking at stations
SOV - East	27%	33%	47%	43%	43%	45%	41%
Carpool - East	30%	34%	39%	28%	36%	36%	32%
Express bus - East	23%	26%	42%	36%	54%	48%	32%
Metrorail - East	44%	44%	48%	52%	48%	40%	40%

Note: Proportions shown are stated likelihood, prior to application of demand discount factor.

The Strength of Specific VRE Programs and Services Was Evaluated Using TURF Analysis

-- TURF: Total Unduplicated Reach and Frequency --

- TURF analysis was used to identify the strongest program or service and determine its potential impact.
- The impact of other programs was assessed – one program at a time – in order of their strength.
- By summing the totals, a combined estimate of their appeal was calculated.

Likelihood of riding VRE - TURF analysis

The Greatest Opportunity for VRE to Add New Riders Is through the Addition of Neighborhood Shuttles; 35% of Non-VRE Riders Say They Are Likely to Ride VRE without Any New Services or Programs; Another 16% Say They Would Ride VRE if there Were a Neighborhood Shuttle; Other Programs and Services Attract Only a Small Percent of Additional New Riders

Likelihood riding VRE + Likelihood of riding with 15-minute congestion increase	Neighborhood shuttle	Adding trains	Destination shuttle	More parking at stations	More seats
35%	16%	2%	1%	1%	<1%

Results shown for all those with VRE available but do not ride it, including vanpools and hybrids.

In total, 55% say they are likely to ride VRE. Application of the demand discount factor reduces this proportion to 29%.

Likelihood of riding VRE - TURF analysis (no neighbor-hood shuttles)

When Neighborhood Shuttles Are Eliminated from the Scenario, Shuttles to the Work Destination Offer the Greatest Opportunity to Attract New Riders to VRE

-- Since Neighborhood Shuttles May Not Be a Realistic Possibility, the TURF Analysis Was Also Conducted without this Possible Service --

Likelihood riding VRE + Likelihood of riding with 15-minute congestion increase	Destination shuttle	Adding trains	More parking at stations	More seats
35%	14%	2%	1%	1%

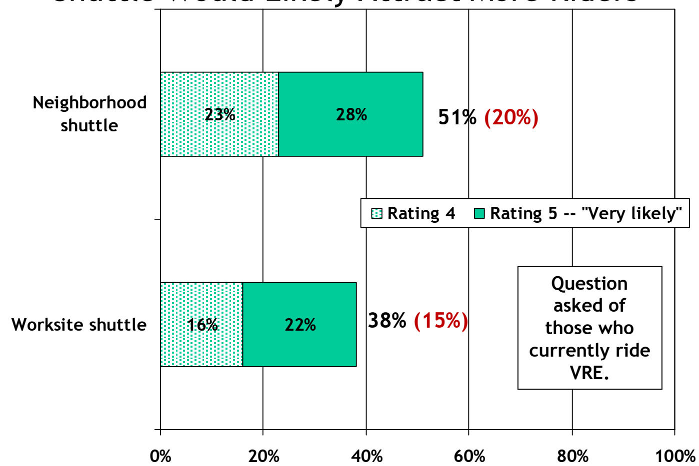
Results shown for all those with VRE available but do not ride it, including vanpools and hybrids.

Without a neighborhood shuttle, 53% say they are likely to ride VRE. Application of the demand discount factor reduces this proportion to 18% under the above scenario.

Likelihood of using shuttles among current VRE riders

Q95. Suppose a shuttle bus service could operate frequently in the morning and afternoon peak hours between the VRE train station and your commute destination (e.g., work). How likely would you be to take this shuttle bus? Q96. Suppose a shuttle bus could operate frequently in your neighborhood that would circulate and connect to the VRE train station. How likely would you be to use this feeder bus?

While Both Neighborhood and Worksite Shuttles Appeal to Current VRE Riders, A Neighborhood Shuttle Would Likely Attract More Riders



Detailed Findings

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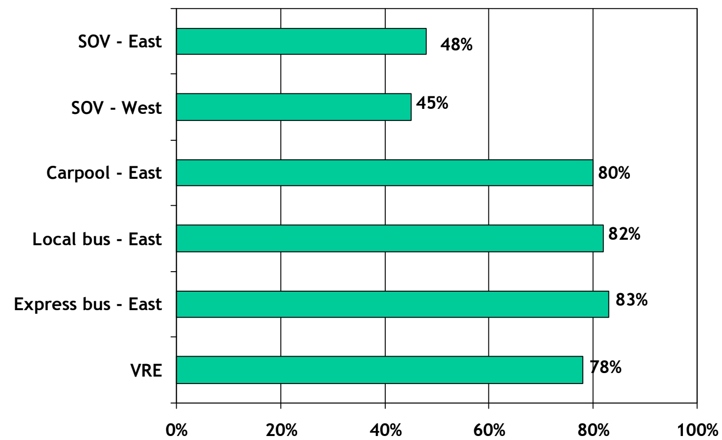
Metrorail

Availability of Metrorail

Question asked of those who do not currently ride Metrorail.

SOVers Are Less Likely to Have Metrorail Available for their Commutes than Are Eastbound Carpoolers and Bus Riders and VRE Riders

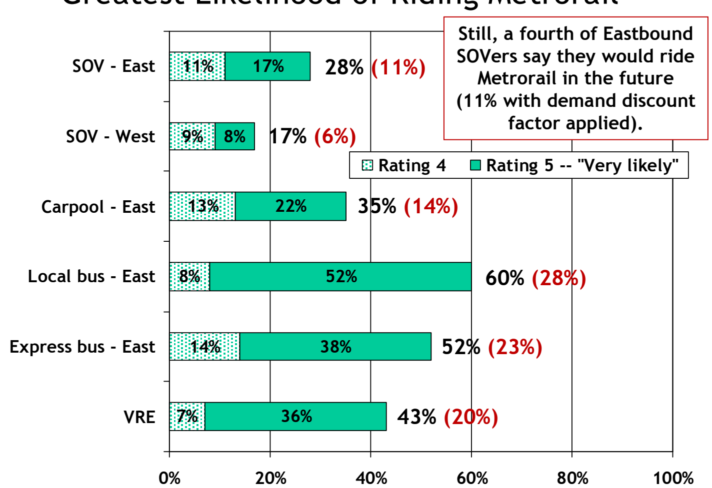


Q97. Is Metrorail available for at least a portion of your commute?

Likelihood of riding Metrorail

Question asked of those with Metrorail available but do not ride it.

Eastbound Bus Riders and VRE Riders Express the Greatest Likelihood of Riding Metrorail

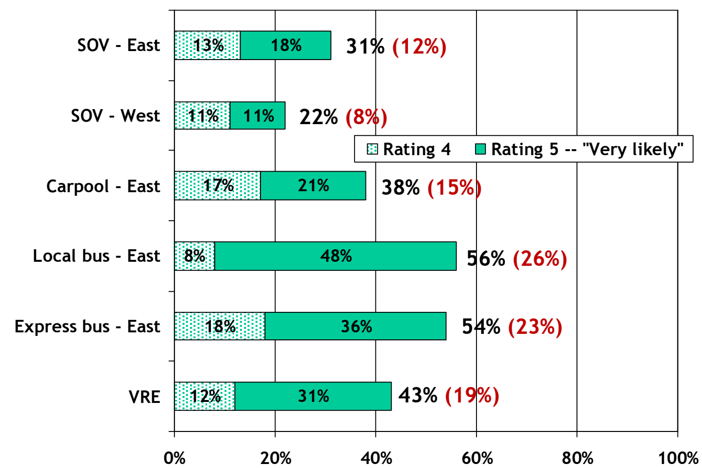


Q98. Regardless of the mode of transportation you use today for your commute, how likely are you to use Metrorail for at least part of your commute at least 1-2 days a week in the future?

Likelihood of riding Metrorail if congestion lengthened commute by 15 minutes

Question asked of those with Metrorail available but do not ride it.

Bus Riders Would Be Most Attracted to Metrorail if Congestion Increased their Commute by 15 Minutes

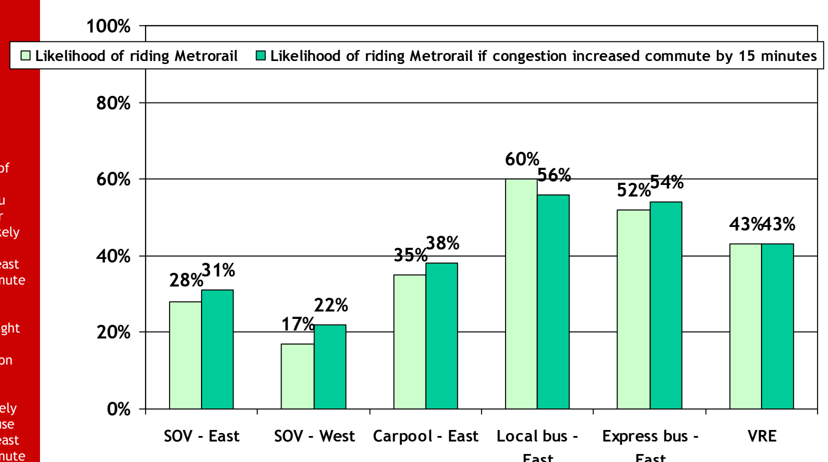


Q99. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to take Metrorail for at least part of your commute at least 1-2 days a week if congestion lengthened your current commute by 15 minutes?

Likelihood of riding Metrorail

Q98. Regardless of the mode of transportation you use today for your commute, how likely are you to use Metrorail for at least part of your commute in the future?
Q99. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes. How likely would you be to use Metrorail for at least part of your commute 1-2 days a week if congestion lengthened your commute by 15 minutes?

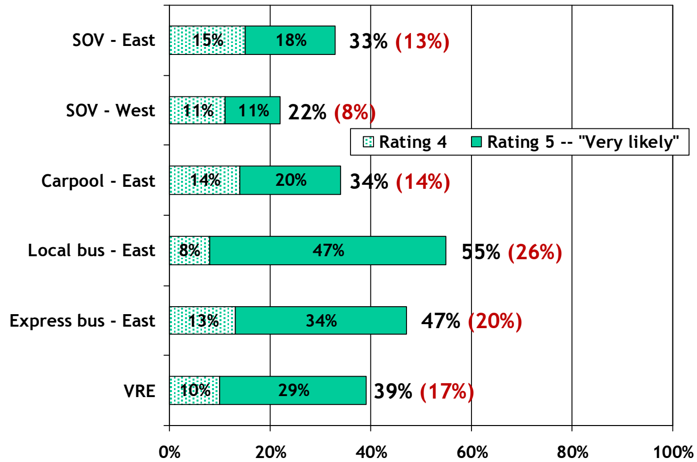
Increased Congestion Does Little to Impact the Potential Use of Metrorail



Likelihood of riding Metrorail if trains came more often

Question asked of those with Metrorail available but do not ride it.

Increasing the Frequency of Trains Would Most Likely Attract Eastbound Local Bus Riders to Metrorail

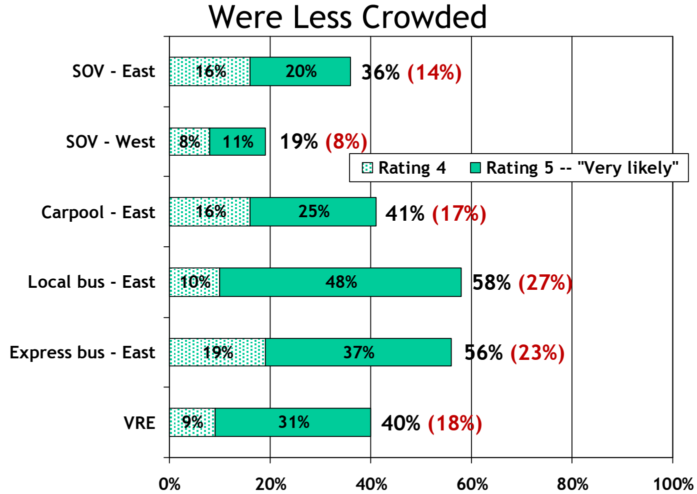


Q100. If the schedule were revised so that trains came more often, how likely would you be to use Metrorail for your commute at least 1-2 days a week?

Likelihood of riding Metrorail if trains less crowded

Question asked of those with Metrorail available but do not ride it.

Eastbound Bus Riders Are Most Likely to Be Persuaded to Ride Metrorail if Trains Were Less Crowded

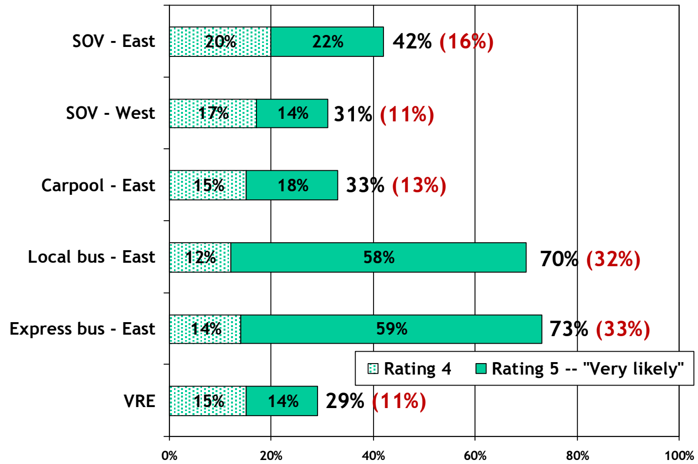


Q101. If trains were less crowded, how likely would you be to use Metrorail for your commute at least 1-2 days a week?

Likelihood of riding Metrorail if neighbor-hood shuttle every 15 minutes

Question asked of those with Metrorail available but do not ride it. Half were asked about shuttle running every 15 minutes. Half were asked about shuttle running every 6 minutes.

Nearly Three-fourths of Local Bus Riders and Express Bus Riders Say They Would Ride Metrorail if a Neighborhood Shuttle Ran Every 15 Minutes; with the Demand Discount Factor, this Level Decreases to about One-third



Q103. Suppose that a shuttle bus could operate every 15 minutes in your neighborhood that would circulate and connect to the Metrorail station. How likely would you be to ride Metrorail at least 1-2 days a week if a feeder bus operated in your neighborhood?

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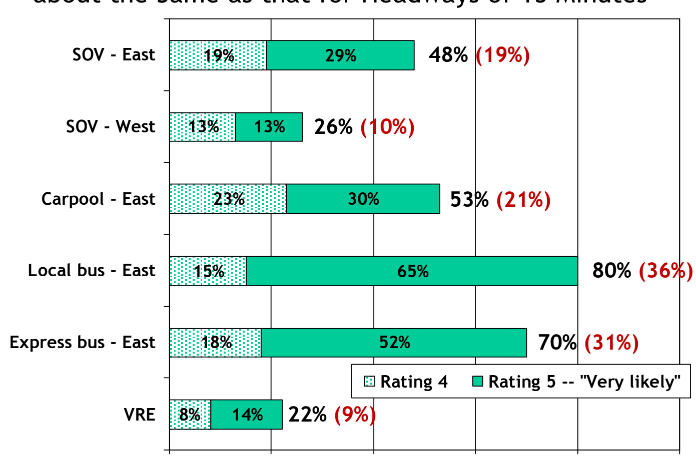
Likelihood of riding Metrorail if neighbor-hood shuttle every 6 minutes

Question asked of those with Metrorail available but do not ride it. Half were asked about shuttle running every 15 minutes. Half were asked about shuttle running every 6 minutes.

Shorter Headways Do Not Increase Appeal of a Neighborhood Shuttle; Interest in the Shuttle with Headways of 6 Minutes Is about the Same as that for Headways of 15 Minutes



Q103. Suppose that a shuttle bus could operate every 6 minutes in your neighborhood that would circulate and connect to the Metrorail station. How likely would you be to ride Metrorail at least 1-2 days a week if a feeder bus operated in your neighborhood?

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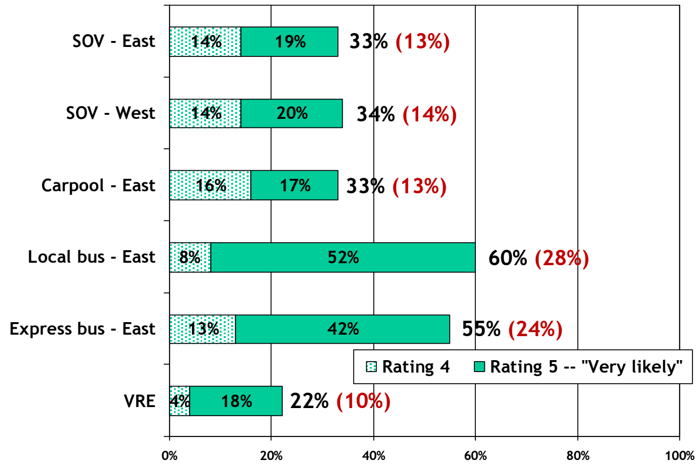
I-66 Transit/TDM Study

Likelihood of riding Metrorail if shuttle to destination every 15 minutes

Question asked of those with Metrorail available but do not ride it. Half were asked about shuttle running every 15 minutes. Half were asked about shuttle running every 6 minutes.

If a Shuttle Ran Every 15 Minutes from the Train Station to their Destination, Stated Likelihood of Riding Metrorail Ranges from 22% among Current VRE Riders to 60% among Current Eastbound Local Bus Riders; with the Demand Discount Factor, about One-fourth of Eastbound Bus Riders Would Ride Metrorail with a 15-minute Destination Shuttle

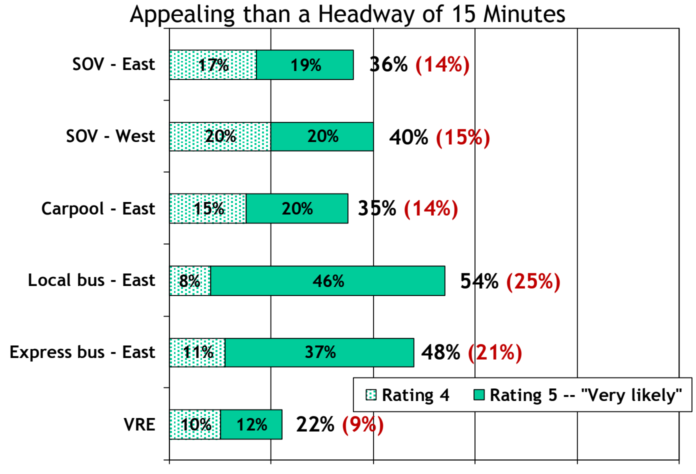


Q102. Suppose that a shuttle bus service between the Metrorail train station and your commute destination (e.g., work) could operate every 15 minutes in morning and afternoon peak hours. How likely would you be to ride Metrorail if this shuttle bus service were offered?

Likelihood of riding Metrorail if shuttle to destination every 6 minutes

Question asked of those with Metrorail available but do not ride it. Half were asked about shuttle running every 15 minutes. Half were asked about shuttle running every 6 minutes.

Interest in Metrorail Is Also Greatest among Eastbound Bus Riders if a Shuttle to their Destination Ran Every 6 Minutes; But, a Headway of 6 Minutes Is Not More Appealing than a Headway of 15 Minutes

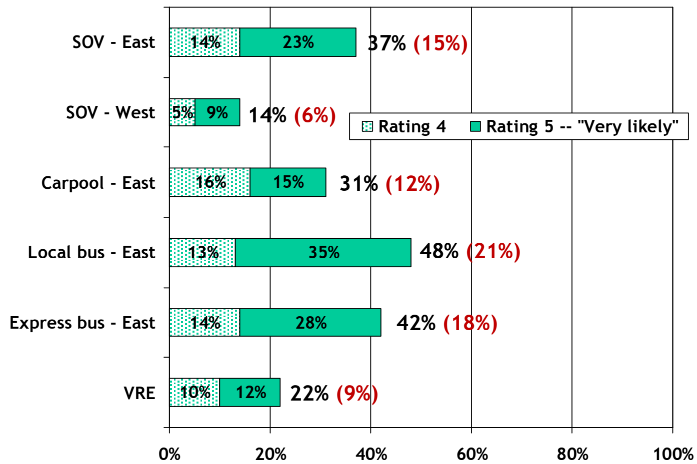


Q102. Suppose that a shuttle bus service between the Metrorail train station and your commute destination (e.g., work) could operate every 6 minutes in morning and afternoon peak hours. How likely would you be to ride Metrorail if this shuttle bus service were offered?

Likelihood of riding Metrorail if more parking at Metrorail stations

Question asked of those with Metrorail available but do not ride it.

More Parking at Metrorail Would Be Most Likely to Convert Eastbound Bus Riders and Eastbound SOVers to Metrorail



Q104. If more parking were available at Metrorail stations, how likely would you be to take Metrorail at least 1-2 days a week?

Likelihood of riding Metrorail

A Neighborhood Shuttle Is the Single Strongest Program to Attract New Riders to Metrorail; However, a Neighborhood Shuttle Is Not as Persuasive among Westbound SOVers and VRE Riders as among Commuters Using Other Modes

	Likeli-hood of riding Metrorail	15 min congestion increase	Trains come more often	Trains less crowded	Neighbor-hood shuttle every 15 min	Neighbor-hood shuttle every 6 min	Work shuttle every 15 min	Work shuttle every 6 min	More parking at stations
SOV - East	28%	31%	33%	36%	42%	48%	33%	36%	37%
SOV - West	17%	22%	22%	19%	31%	26%	34%	40%	14%
Carpool - East	35%	38%	34%	41%	33%	53%	33%	35%	31%
Local bus - East	60%	56%	55%	58%	70%	80%	60%	54%	48%
Express bus - East	52%	54%	47%	56%	73%	70%	55%	48%	42%
VRE	43%	43%	39%	40%	29%	22%	22%	22%	22%

Note: Proportions shown are "stated likelihood," prior to application of demand discount factor.

The Strength of Specific Metrorail Programs and Services Was Evaluated Using TURF Analysis

-- TURF: Total Unduplicated Reach and Frequency --

- TURF analysis was used to identify the strongest program or service and determine its potential impact.
- The impact of other programs was assessed – one program at a time – in order of their strength.
- By summing the totals, a combined estimate of their appeal was calculated.

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Likelihood of riding Metrorail - TURF analysis

The Greatest Opportunity to Attract New Metrorail Riders Is by Offering Neighborhood Shuttles; In Addition to the 41% Who Say They Are Likely to Ride Metrorail with No Specific Programs or Services Described, another 37% of those Who Have Metrorail Available But Do Not Currently Ride It Say They Are Likely to Ride Metrorail if there Were a Neighborhood Shuttle

Likelihood riding Metrorail + Likelihood of riding with 15-minute congestion increase	Neighborhood shuttle	More Parking at stations	Trains less crowded	Shuttle to destination	Trains come more often
41%	37%	7%	3%	2%	<1%

Results shown for all those with Metrorail available but do not ride it, including vanpools and hybrids.

In total, 90% of those who have Metrorail available but do not currently ride it say they are likely to ride Metrorail under various conditions. Application of the demand discount factor reduces this proportion to 37%.

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Likelihood of riding Metrorail - TURF analysis

If Neighborhood Shuttles Are Removed from the Model as Not Representing a Realistic Possibility of Development, The Greatest Opportunity to Attract New Metrorail Riders Is by Offering Shuttles to (Work) Destinations; In Addition to the 41% Who Say They Are Likely to Ride Metrorail with No Specific Programs or Services Described, another 10% of those Who Have Metrorail Available But Do Not Currently Ride It Say They Are Likely to Ride Metrorail if there Were a Shuttle from the Train Station to their Destination

Likelihood riding Metrorail + Likelihood of riding with 15-minute congestion increase	Shuttle to destination	More Parking at stations	Trains less crowded	Trains come more often
41%	10%	4%	3%	<1%

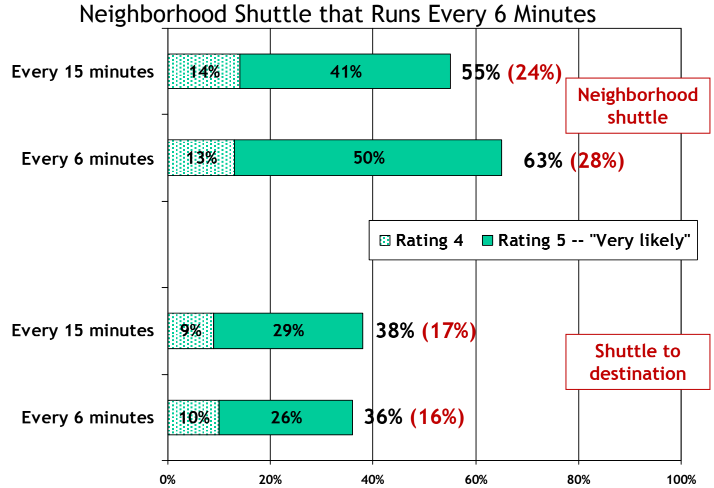
Results shown for all those with Metrorail available but do not ride it, including vanpools and hybrids.

With no neighborhood shuttle tested, 58% of those who have Metrorail available but do not currently ride it say they are likely to ride Metrorail under various conditions. Application of the demand discount factor reduces this proportion to 22%.

Likelihood of using shuttle among current Metrorail riders

Q105. Suppose that a shuttle bus service between the Metrorail train station and your place of work could operate every 15 (or 6) minutes in morning and afternoon peak hours. How likely would you be to use this shuttle bus service? Q106. Suppose that a shuttle bus could operate every 15 (or 6) minutes in your neighborhood that would circulate and connect to the Metrorail station. How likely would you be to ride this feeder bus if it operated in your neighborhood?

Current Metrorail Riders Are More Likely to Be Interested in Riding a Neighborhood Shuttle than a Shuttle to their Destination; They Express Slightly Greater Interest in a Neighborhood Shuttle that Runs Every 6 Minutes



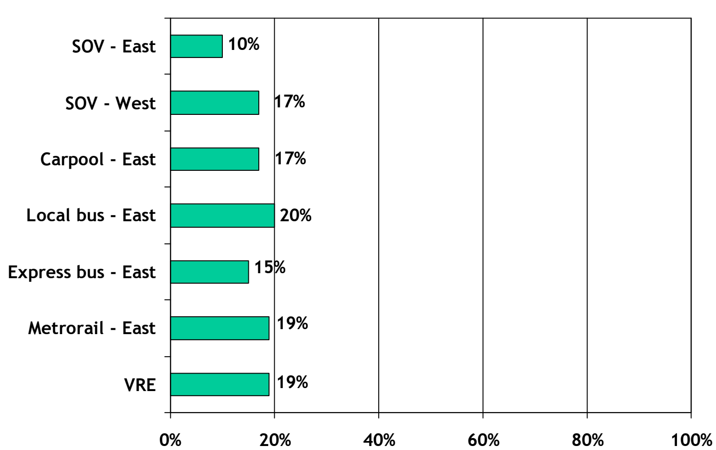
Questions asked of those who currently ride Metrorail. Half were asked about shuttle running every 15 minutes. Half were asked about shuttle running every 6 minutes.

Detailed Findings

Bus Rapid Transit

Awareness of Bus Rapid Transit

Current Awareness of BRT Is Fairly Low, Ranging from 10% to 20%



Q107. Have you ever heard or seen anything about a form of transportation known as “Bus Rapid Transit” or BRT?

Under-standing of Bus Rapid Transit

Question asked of those who said they had heard or seen something about BRT - prior to being provided any information about BRT in the survey.

Those Aware of BRT Know Few Specific Facts about It

- When asked what they knew about BRT, respondent comments fell into three broad categories:
  - Lack of familiarity or understanding of BRT
  - Faster commute possible with BRT
  - Comparable to commuter rail
  - Aware of its availability in other markets

Q108. What have you heard or seen about Bus Rapid Transit or BRT?

Under-standing of Bus Rapid Transit

Question asked of those who said they had heard or seen something about BRT - prior to being provided any information about BRT in the survey.

Representative Comments about BRT

"Do not recall [specifics], but have seen it mentioned in articles."

"That it's quicker because it doesn't stop very often."

"Buses are used in lieu of rail service."

"It is available in Seattle."

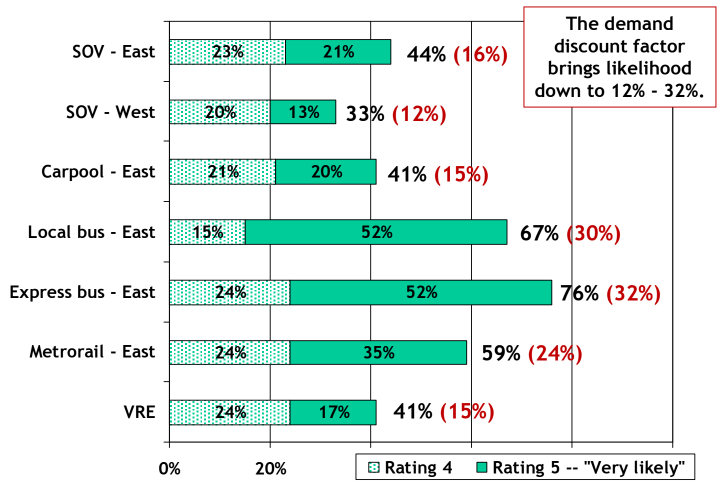
Q108. What have you heard or seen about Bus Rapid Transit or BRT?

Respondents Were Presented with this Description of BRT

Bus Rapid Transit is an innovative, high capacity public transit solution that can achieve many of the performance benefits of rail transportation modes. This system uses advanced buses or specialized vehicles on roadways or dedicated lanes to quickly and efficiently transport passengers to their destinations. BRT is like express bus, but design improvements, such as fewer stops than other buses; faster service; and, specialized, efficient vehicles help make this an attractive transportation option. Passengers board and exit BRT at stations, rather than bus stops.

Likelihood of riding Bus Rapid Transit

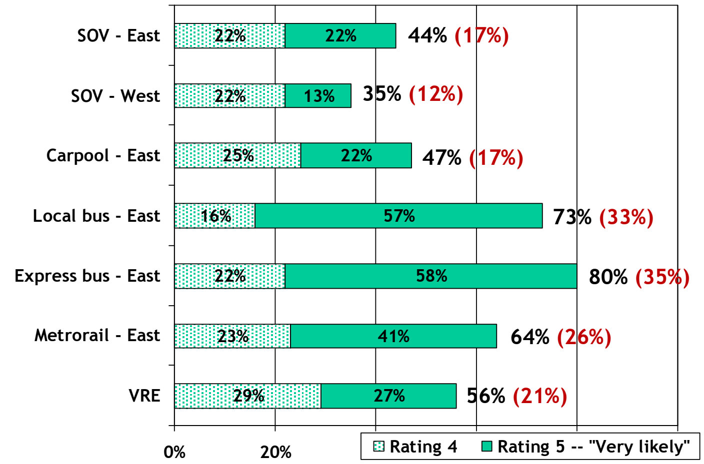
Stated Interest in Riding BRT Ranges from 33% to 76%; It Is Highest among Bus Riders and Metrorail Riders



Q109. Suppose Bus Rapid Transit were conveniently accessible from the area where you live to your destination, that is the place where you work or attend school. How likely would you be to use BRT for your regular commute to work or school at least 2 days per week?

Likelihood of riding Bus Rapid Transit if reduced cost of commute by 15%

Saving Money Is Reason to Ride BRT – Especially for Current Eastbound Bus Riders, Both Local and Express Bus Riders



Q110. Bus Rapid Transit can help you save money on your commute. If you could reduce the cost of your commute by 15% by using Bus Rapid Transit, how likely would you be to use BRT for your regular commute to work or school at least 1-2 days per week?

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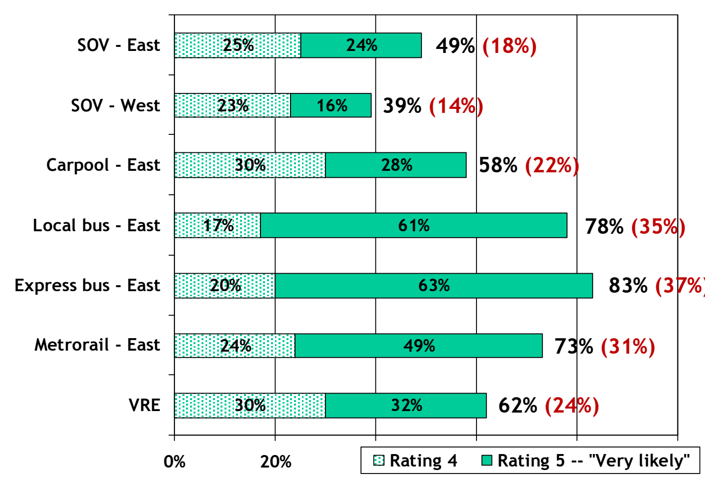
I-66 Transit/TDM Study

Likelihood of riding Bus Rapid Transit if reduced commute by 15 minutes

Saving Time Is Also a Reason to Ride BRT – Especially for Current Bus Riders



Q111. Bus Rapid Transit can save you time on your commute. If you could reduce the time it takes to get to work or school by 15 minutes, how likely would you be to use BRT for your regular commute to work or school at least 1-2 days per week?

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I-66 Transit/TDM Study

Likelihood of riding Bus Rapid Transit

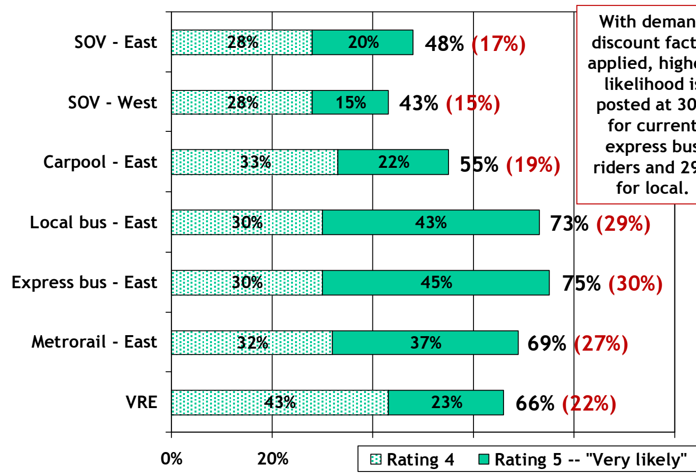
The Greatest Interest in BRT Is Expressed by Current Transit Users, Even without Money or Time Savings

	Likelihood of riding BRT	Reduced cost by 15%	Reduced commute by 15 minutes
SOV – East	44%	44%	49%
SOV – West	33%	35%	39%
Carpool – East	41%	47%	58%
Local bus – East	67%	73%	78%
Express bus – East	76%	80%	83%
Metrorail – East	59%	64%	73%
VRE	41%	56%	62%

Note: Proportions shown are "stated likelihood," prior to application of demand discount factor.

Likelihood of riding Bus Rapid Transit - advanced technology

Nearly Half to Three-fourths of Commuters Say They Would Ride BRT because of Its Advanced Technology - But This Is Less True for SOVers than Other Modes

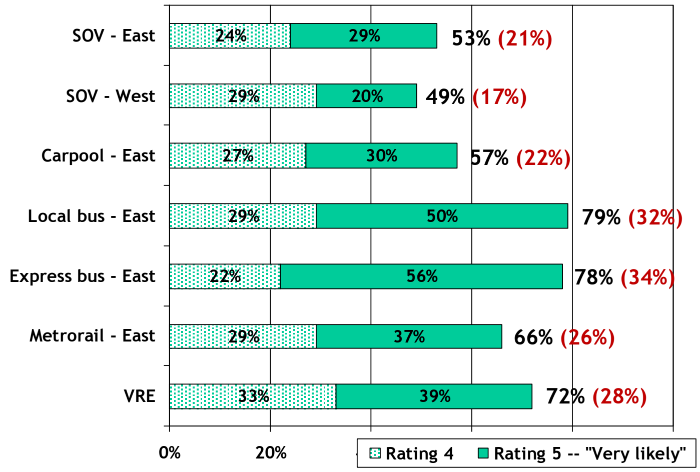


With demand discount factor applied, highest likelihood is posted at 30% for current express bus riders and 29% for local.

Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Uses advanced technologies to improve performance reliability over other bus systems.*

Likelihood of riding Bus Rapid Transit - runs every 15 minutes

BRT with 15-minute Headways Has the Greatest Appeal to Bus Riders, Metrorail and VRE Riders



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Runs every 15 minutes.*

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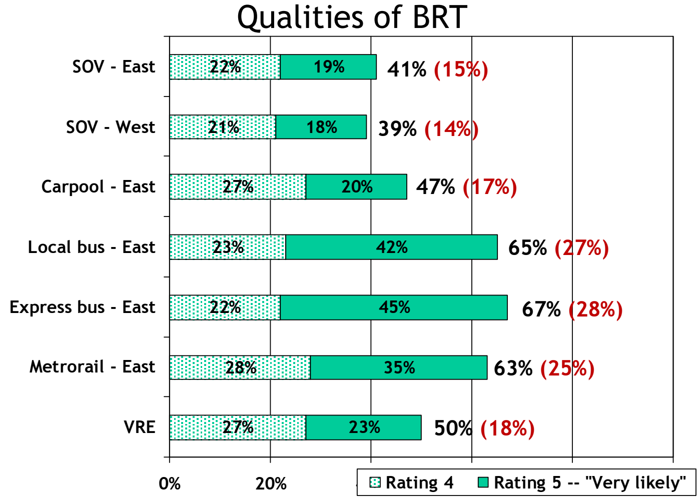
Likelihood of riding Bus Rapid Transit - cleaner environ-mentally

Eastbound Bus and Metrorail Riders Are Most Attracted to the Improved Environmental Qualities of BRT



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Uses advanced vehicles with cleaner propulsion systems and emission controls for improved environmental quality.*

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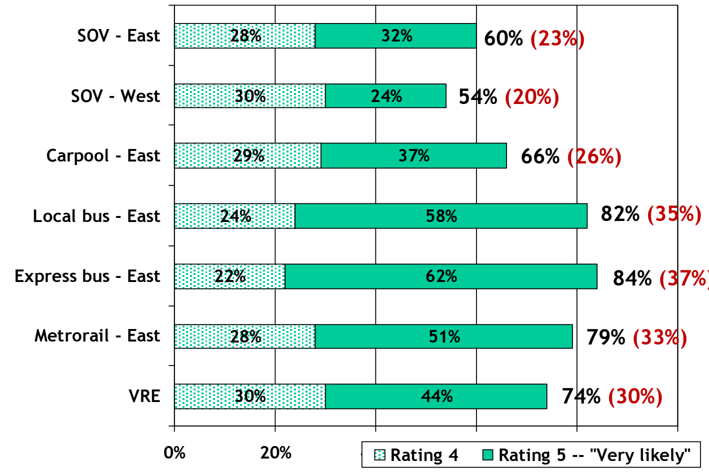
Likelihood of riding Bus Rapid Transit - limited stops

Stated Likelihood of Riding BRT because It Has Limited Stops Ranges from 54% to 84%; With the Demand Discount Factor Applied, It Is Posted at 20% - 37%



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Has limited stops, getting you to your destination faster.*

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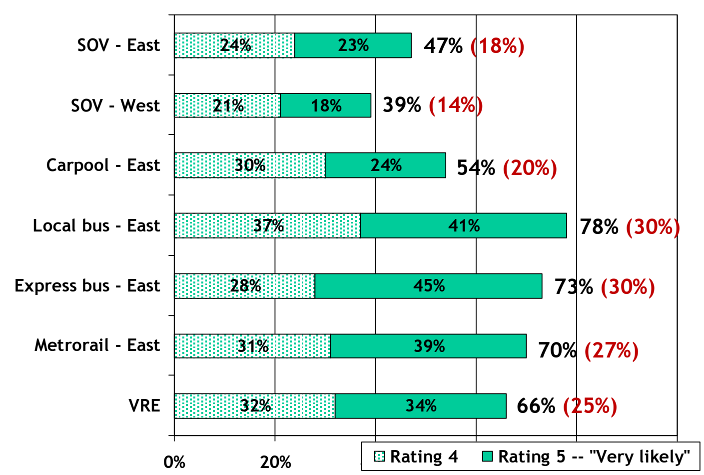
Likelihood of riding Bus Rapid Transit - transit hubs

The Transit Hubs of BRT Have the Greatest Appeal to Commuters Already Using Transit



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Stations are developed as transit hubs, making it easy to transfer to other forms of transportation.*

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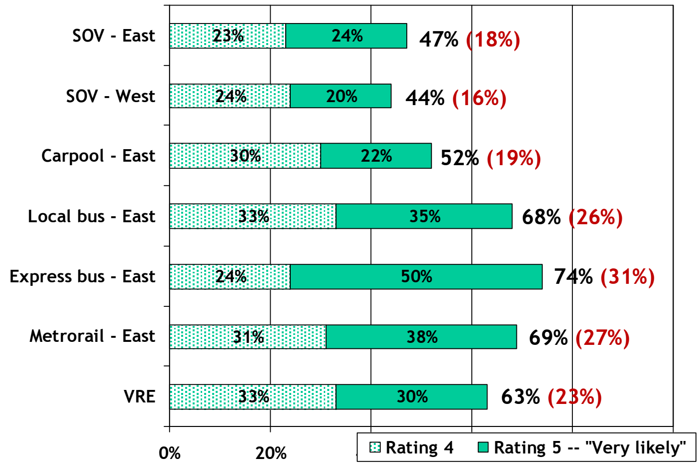
Likelihood of riding Bus Rapid Transit - real-time service informa-tion

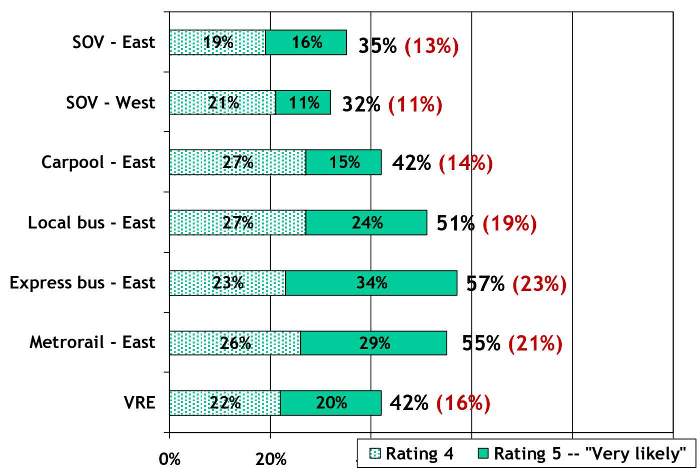
Real-time Information Also Most Attracts Current Transit Users to BRT, Although this Service Could Be Provided for Express Bus



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Provides real-time service information, available on phones and internet, as well as displays at the stations.*

Likelihood of riding Bus Rapid Transit - stations as activity centers

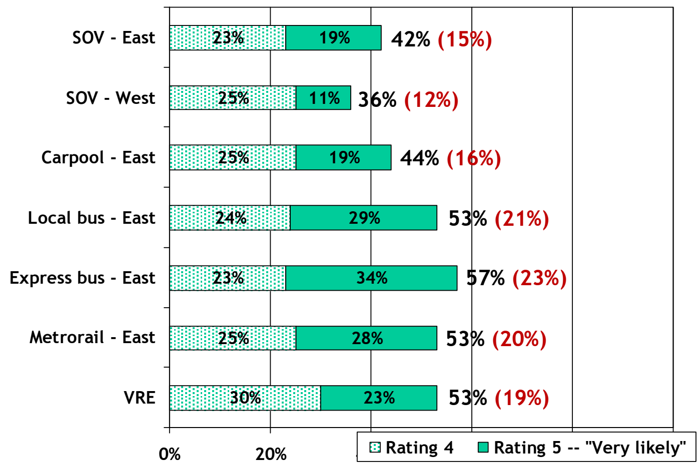
The Development of BRT Stations as Centers of Activity Has Relatively Less Appeal than Most Other BRT Features Tested



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Stations are developed to encourage higher density areas, creating key activity centers at the stations.*

Likelihood of riding Bus Rapid Transit - off-vehicle ticketing

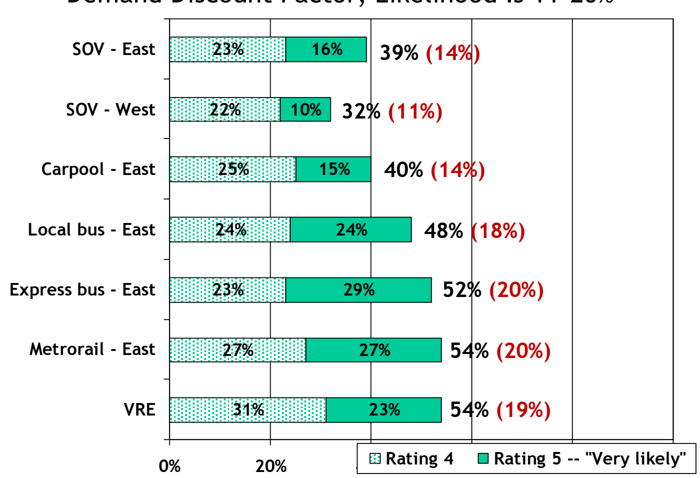
Off-vehicle Ticketing Also Has Less Appeal than Other BRT Features



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Ticketing is done off of the vehicle.*

Likelihood of riding Bus Rapid Transit - stations not stops

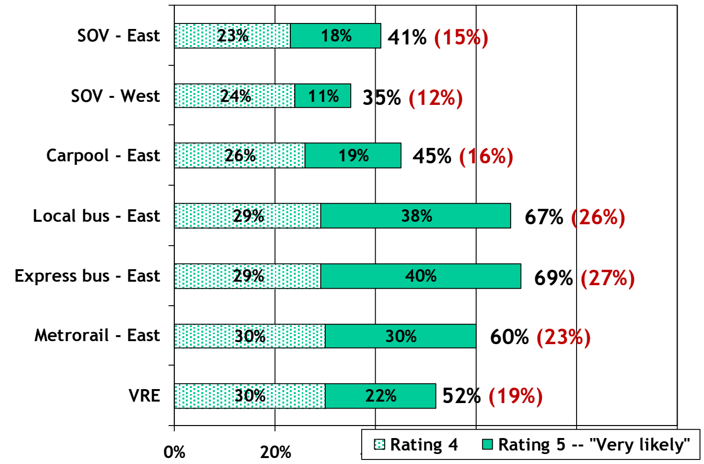
A Third to a Half Say They Are Likely to Ride BRT because It Has "Stations" Rather than "Stops"; With the Demand Discount Factor, Likelihood Is 11-20%



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Passengers board and exit at stations rather than stops.*

Likelihood of riding Bus Rapid Transit - front and rear loading

Current Transit Users Are Most Attracted to the Front and Rear Loading of BRT



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Has front and rear loading on the bus, to encourage faster stops.*

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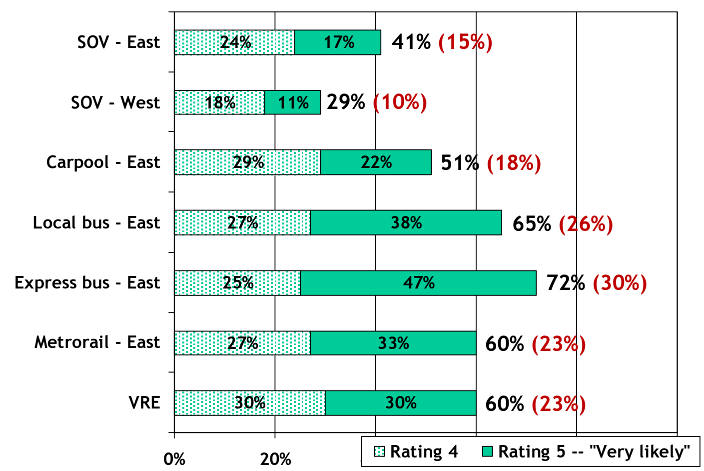
Likelihood of riding Bus Rapid Transit - larger vehicles

The Increased Capacity of The Larger Vehicles of BRT Has Greatest Appeal to Current Express Bus Riders



Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information? *Uses larger vehicles than other bus systems so it has increased passenger capacity.*

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Likelihood of riding Bus Rapid Transit

Potentially Most Compelling Feature of BRT Is Fewer Stops

	Adv tech	Runs every 15 min	Cleaner environ	Limited stops	Transit hubs	Real-time info	Stations as activity centers	Off-vehicle ticketing	Stations not stops	Front & rear loading	Larger vehicles
SOV - East	48%	53%	41%	60%	47%	47%	35%	42%	39%	41%	41%
SOV - West	43%	49%	39%	54%	39%	44%	32%	36%	32%	35%	29%
Carpool - East	55%	57%	47%	66%	54%	52%	42%	44%	40%	45%	51%
Local bus - East	73%	79%	65%	82%	78%	68%	51%	53%	48%	67%	65%
Express bus - East	75%	78%	67%	84%	73%	74%	57%	57%	52%	69%	72%
Metrorail - East	69%	66%	63%	79%	70%	69%	55%	53%	54%	60%	60%
VRE	66%	72%	50%	74%	66%	63%	42%	53%	54%	52%	60%

Note: Proportions shown are "stated likelihood," prior to application of demand discount factor.

The Strength of Specific BRT Programs and Services Was Evaluated Using TURF Analysis

-- TURF: Total Unduplicated Reach and Frequency --

- TURF analysis was used to identify the strongest services and attributes and determine the potential impact of each.
- The impact of other services and attributes was assessed individually, in order of their strength.
- By summing the totals, a combined estimate of their appeal was calculated.

Likelihood of riding BRT - TURF analysis

On a Base Description of BRT, about Half of Commuters (48%) Say They Would Be Likely to Ride BRT; When Explained that BRT Would Run with Limited Stops, another 23% Say They Are Likely to Ride BRT; No Other Attributes Attract Large Numbers of New Riders

"Limited stops" is the single most compelling feature of BRT.

Likeli-hood riding BRT	Limited stops	Runs every 15 minutes	Reduce commute by 15 minutes	Real-time info	Cleaner environ	Off-vehicle ticketing	Reduce cost of commute by 15%	Transit hubs	Larger vehicles	Stations as activity centers	Stations not stops	Adv tech	Front & rear loading
48%	23%	2%	2%	1%	<1%	<1%	<1%	1%	<1%	<1%	<1%	0%	0%

A core group of 71% are most interested in BRT.

Questions asked of all respondents.

In total, approximately 76% of commuters say they are likely to ride BRT under various conditions. Application of the demand discount factor reduces this proportion to 28%.

Detailed Findings

BRT and Express Bus Scenario Testing

Scenario Testing Using Choice Based Conjoint Analysis

- Appeal of Bus Rapid Transit is compared to Express Bus.
- Importance of time and importance of cost are compared.
- Importance of time and importance of cost are compared to importance of mode (BRT and Express Bus).

Choice Based Conjoint Analysis Was Used

- Conjoint analysis allows us to identify and prioritize the factors important in (purchase) decision making. It is sometimes referred to as "trade-off analysis" because respondents are asked to make trades that reflect what is and is not important to them. It is a multivariate technique that measures the relative importance of different variables, attributes, or product features related to a brand, product, or service.
- Choice Based Conjoint was used for this analysis because it works well for decisions that are made for longer periods of time. That is, commuters do not typically change commute modes every day or even every week.
- In these carefully controlled experiments, respondents are asked which one product they would select, given scenarios that vary specific conditions. In each scenario, the respondent is presented with a different combination of attributes and asked which combination they select. The type of decision that the respondents make in each scenario is designed to mimic the real market.

Question Used for Scenario Testing

Q115. Please read the following 3 options, Option A, Option B, and Option C.

Option A	Option B	Option C
You could commute by (insert commute mode). Your commute trip would (be ____ minutes shorter than your current commute / be ____ minutes longer than your current commute /require the same amount of time as it currently does). It would cost ______ compared to your current commute.	You could commute by (insert commute mode). Your commute trip would (be ____ minutes shorter than your current commute / be ____ minutes longer than your current commute /require the same amount of time as it currently does). It would cost ______ compared to your current commute.	You could commute by (insert commute mode). Your commute trip would (be ____ minutes shorter than your current commute / be ____ minutes longer than your current commute /require the same amount of time as it currently does). It would cost ______ compared to your current commute.

Which would you be most likely to select for your commute, Option A, B, or C?

Attribute Levels Tested

Commute mode:
1. Express Bus
2. Bus Rapid Transit

Time :
1. 10% less than current commute
2. 20% less than current commute
3. 30% less than current commute
4. the same as current commute
5. 30% more than current commute
6. 20% more than current commute
7. 10% more than current commute

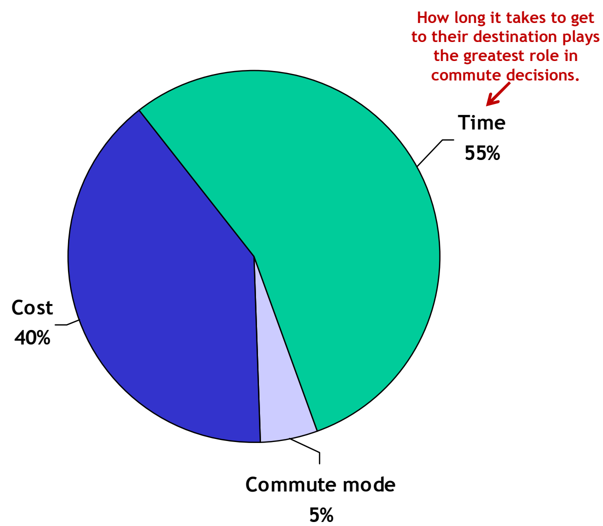
(Note: Times were asked in terms of minutes based on current commute time, rather than as percentages.)

Cost:
1. 5% less than current commute
2. 10% less than current commute
3. 15% less than current commute
4. the same as current commute
5. 15% more than current commute
6. 10% more than current commute
7. 5% more than current commute

Relative impact of commute mode, cost and time

Results for total respondents - all commute modes

Time and Cost Drive Commute Decisions, Rather than Commute Mode (i.e., Express Bus or BRT)



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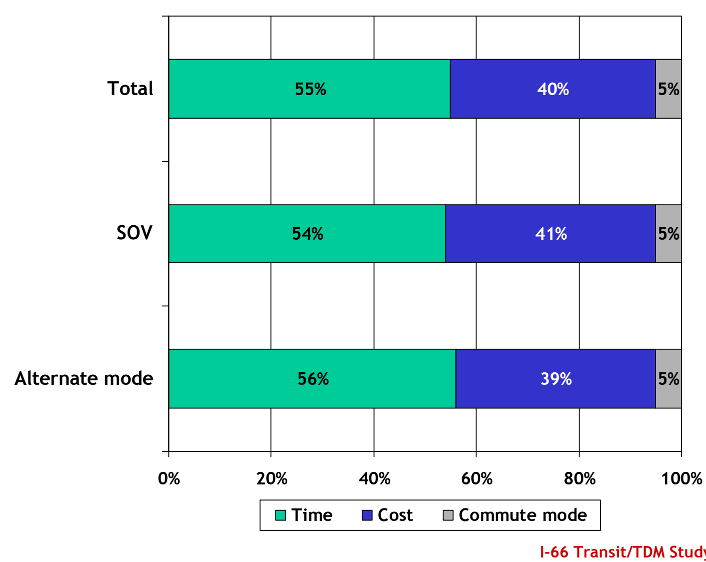
I-66 Transit/TDM Study

Relative impact of commute mode, cost and time - by current commute mode

Detailed results for SOVers reported on pages 187-190.

Impact on Commute Choice Does Not Vary by Current Mode



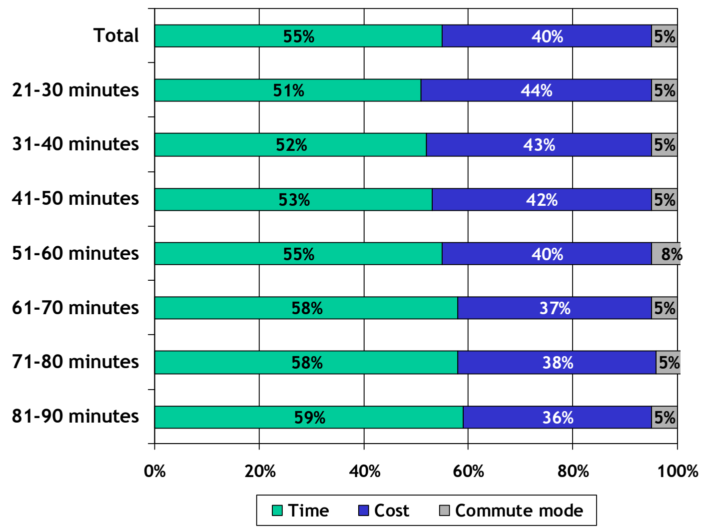
174

I-66 Transit/TDM Study

Relative impact of commute mode, cost and time - by current length of commute

Results for total respondents - all commute modes

Nor Does It Vary by Length of Current Commute



Part-worth Utilities Reflect the Desirability of (Preference for) Specific Features

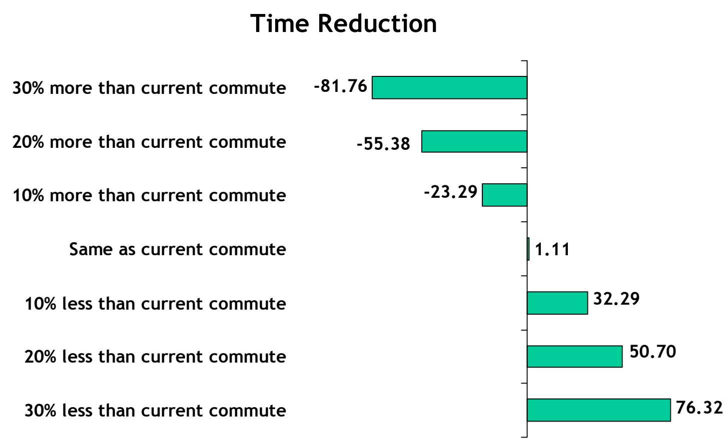
- The higher the utility, the more important the attribute.
- One level of an attribute should not be compared with one level from another attribute because conjoint utilities are scaled to an arbitrary constant within each attribute (zero-centered).
- Differences between two levels of one attribute can be compared to two levels of another attribute.

Impact of time savings

Results are shown for total respondents. Results for SOVers reported on pages 187-190.

The larger the positive value, the more the attribute is preferred. The larger the negative value, the less an attribute is preferred.

Preference Is Related to Time Reduction. The More Time Saved, the Greater Is the Preference for that Option. The Longer the Time, the Less Is the Preference for that Option.

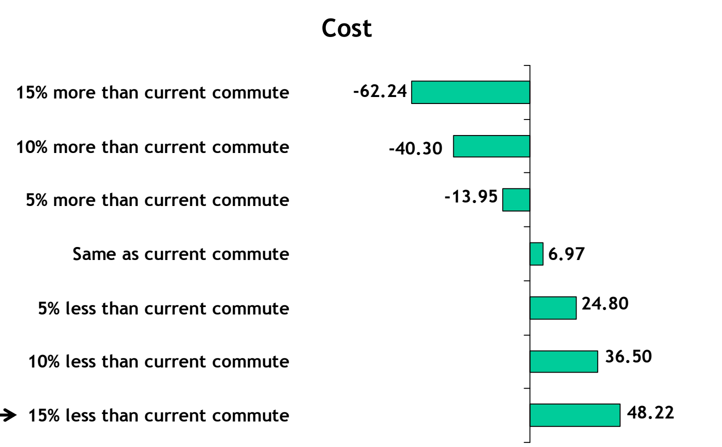


Impact of cost

Results are shown for total respondents. Results for SOVers reported on pages 187-190.

The greater the current commute length, the higher the utility for a 15% cost savings.

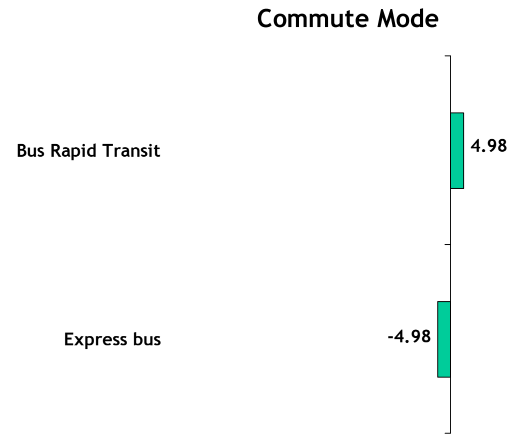
Similarly, Preference Is Related to Cost. The Lower the Cost, the Greater Is the Preference.



Impact of mode

Results are shown for total respondents. Results for SOVers reported on pages 187-190.

Commute Mode Does Not Play a Major Role in Decisions



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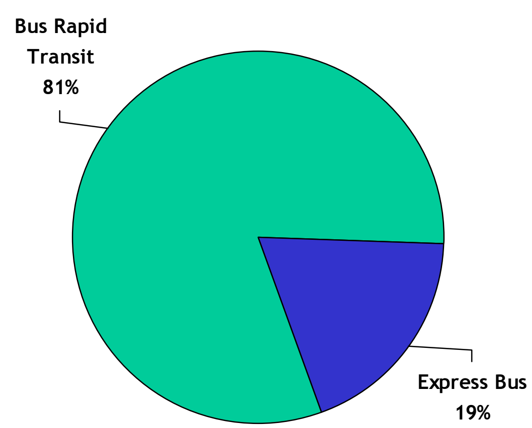
I-66 Transit/TDM Study

Preference for BRT or Express Bus

Results for total respondents - all commute modes

Yet, All Other Options Held Constant, the Majority of Commuters Prefer Bus Rapid Transit



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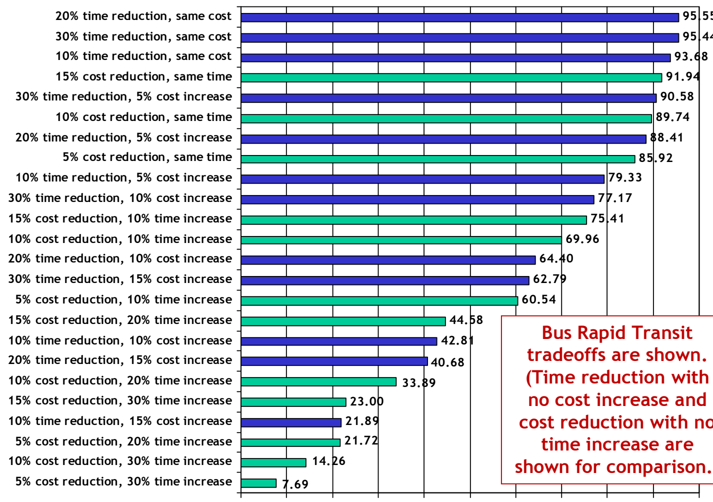
I-66 Transit/TDM Study

Bus Rapid Transit

The longer the commute, the more likely commuters are to make tradeoffs between large time reductions and large cost increases. Similarly, commute length leads to making tradeoffs between large cost decreases and large time increases.

Note: Numbers indicate a relative desirability index on a scale of 0 to 100.

Commuters Are Willing to Accept Cost Increases for Significant Time Reductions with Bus Rapid Transit



Results for total respondents - all commute modes

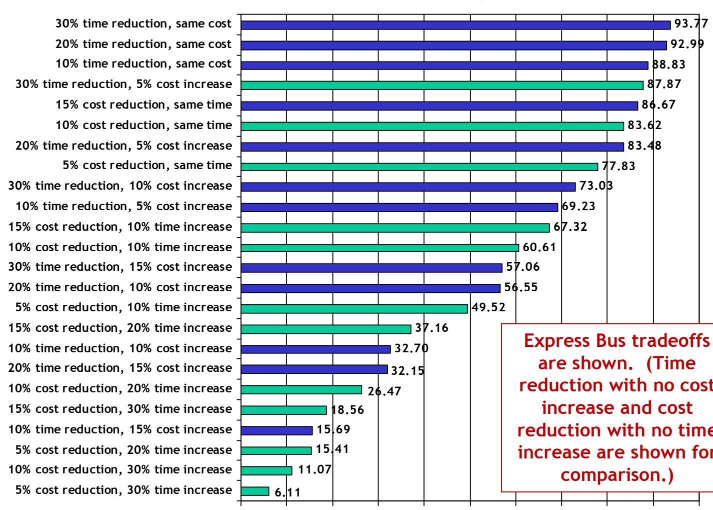
181 I-66 Transit/TDM Study

Express Bus

The longer the commute, the more likely commuters are to make tradeoffs between large time reductions and large cost increases. Similarly, commute length leads to making tradeoffs between large cost decreases and large time increases.

Note: Numbers indicate a relative desirability index on a scale of 0 to 100.

Similarly, Commuters Are Also Willing to Accept Cost Increases for Significant Time Reductions when Using Express Bus



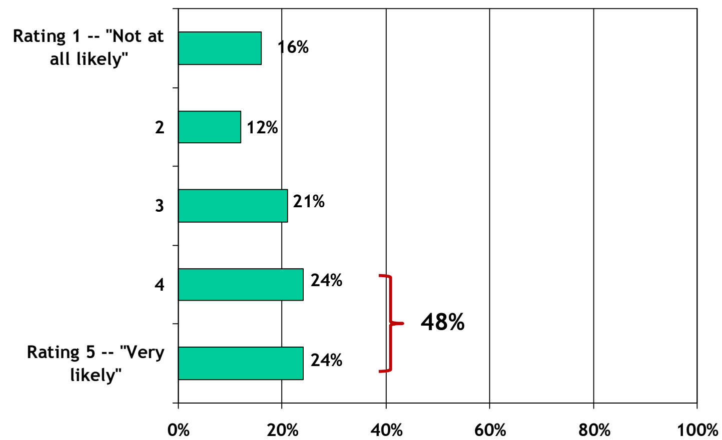
Results for total respondents - all commute modes

182 I-66 Transit/TDM Study

Likelihood of using the option

Results for total respondents - all commute modes

About Half Say They Are Likely to Use the Option They Selected

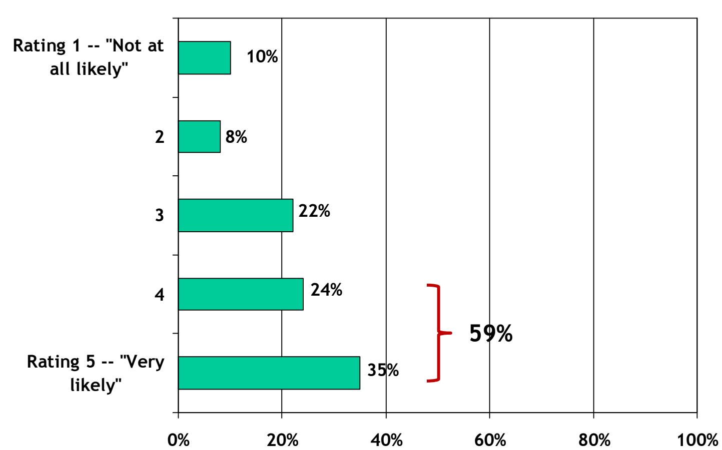


Q115b. How likely would you be to actually make this decision under the conditions described?

Likelihood of using the “best” option

Results for total respondents - all commute modes

6 of 10 Would Use BRT or Express Bus Under the Very Best Option (30% Time Decrease and 15% Cost Savings)

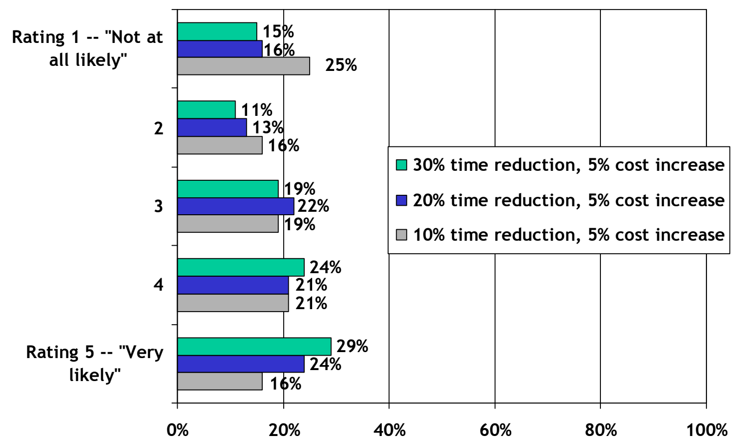


Q115b. How likely would you be to actually make this decision under the conditions described?

Likelihood of using the option

Results for total respondents - all commute modes

Commuters Are Likely to Pay More Money if It Means a Shorter Commute

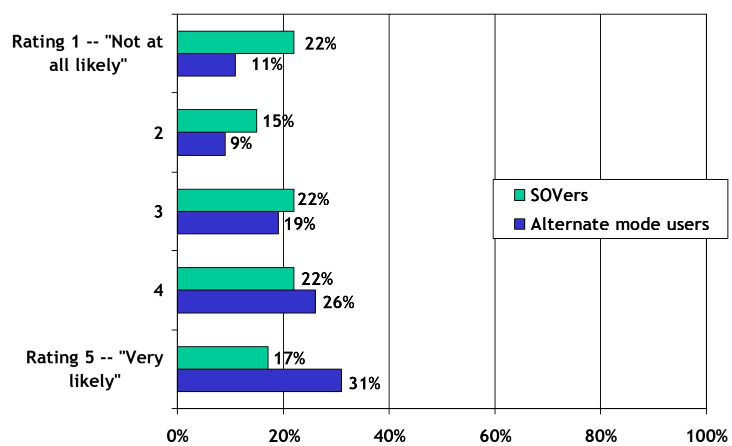


Q115b. How likely would you be to actually make this decision under the conditions described?

185 I-66 Transit/TDM Study

Likelihood of using the option

Current Alternate Mode Users Are More Likely to Say that They Would Use the Option They Selected



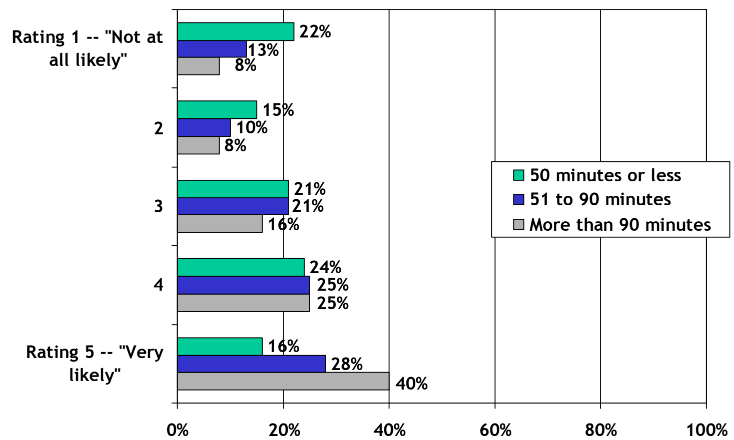
Q115b. How likely would you be to actually make this decision under the conditions described?

186 I-66 Transit/TDM Study

Likelihood of using the option

Results for total respondents - all commute modes

The Longer the Current Commute, the More Likely the Commuter Is to Say They Would Use the Option They Selected

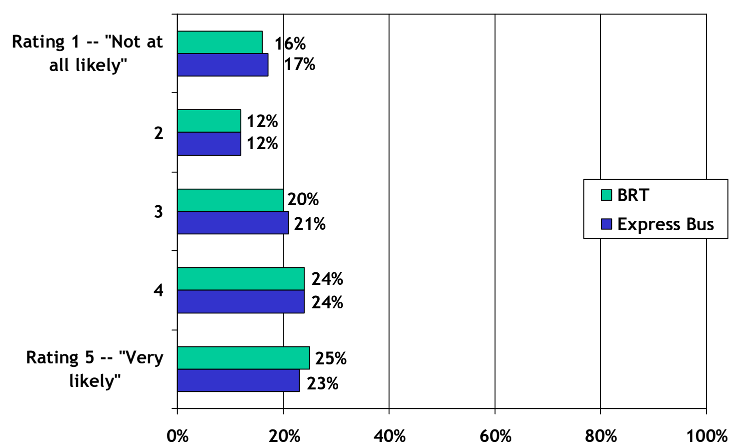


Q115b. How likely would you be to actually make this decision under the conditions described?

Likelihood of using the option

Results for total respondents - all commute modes

Regardless of Whether They Selected a BRT or Express Bus Option, Commuters Are Equally Likely to Say They Would Actually Use the Option They Selected

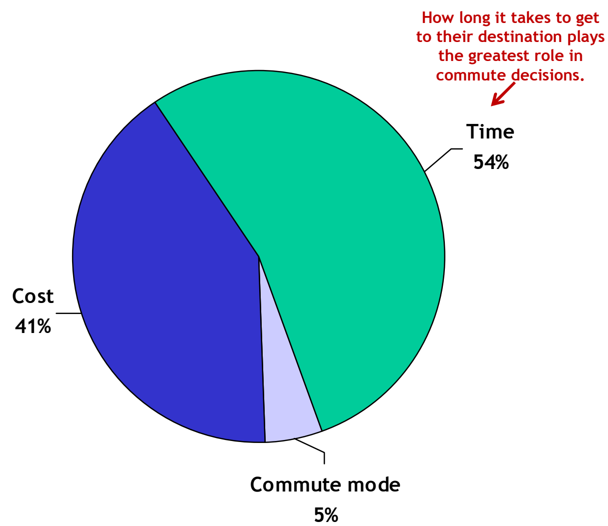


Q115b. How likely would you be to actually make this decision under the conditions described?

Relative impact of commute mode, cost and time: SOVers only

Results of conjoint analysis conducted among SOVers only (excluding hybrids)

As for All Corridor Commuters as a Group, Time and Cost also Drive Commute Decisions of SOVers



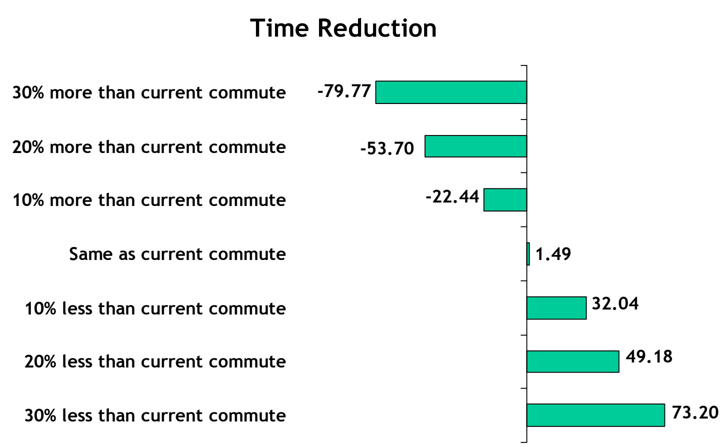
189 I-66 Transit/TDM Study

Impact of time savings: SOVers only

Results of conjoint analysis conducted among SOVers only (excluding hybrids)

The larger the positive value, the more the attribute is preferred. The larger the negative value, the less an attribute is preferred.

Among SOVers, Preference Is also Related to Time Reduction. The More Time Saved, the Greater Is the Preference for that Option. The Longer the Time, the Less Is the Preference for that Option.



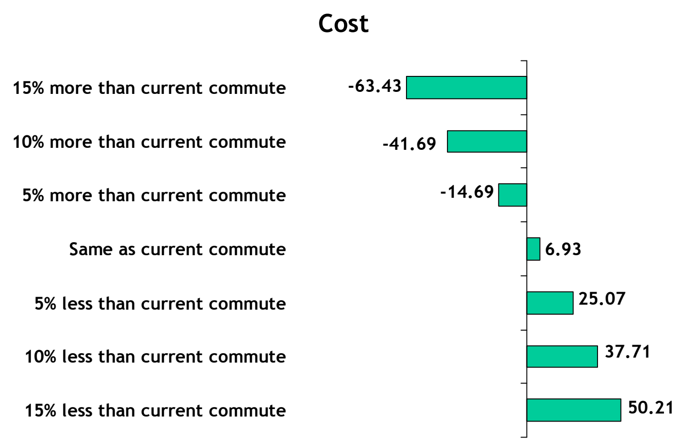
190 I-66 Transit/TDM Study

Impact of cost: among SOVers only

Results of conjoint analysis conducted among SOVers only (excluding hybrids)

The larger the positive value, the more the attribute is preferred. The larger the negative value, the less an attribute is preferred.

Similarly, Preference Is Related to Cost. The Lower the Cost, the Greater Is the Preference.



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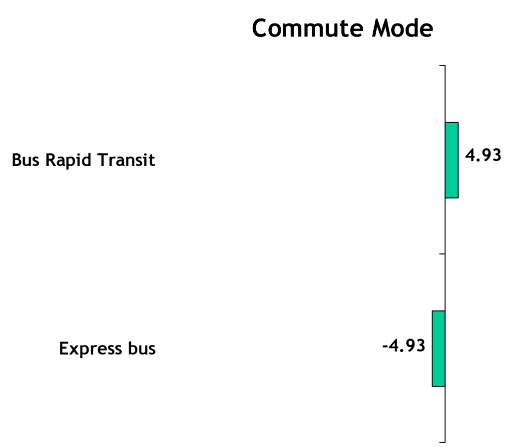
I-66 Transit/TDM Study

Impact of mode

Results of conjoint analysis conducted among SOVers only (excluding hybrids)

Commute Mode Does Not Play a Major Role in Decisions



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I-66 Transit/TDM Study

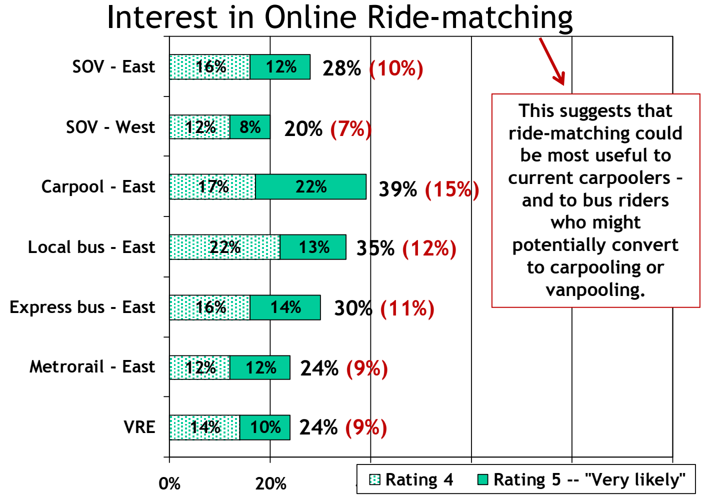
Detailed Findings

Support Programs

Likelihood of using online ride-matching to carpool/vanpool

Q116. Suppose that you could use a self-assisted, online ride-matching service to find a partner to carpool or vanpool. This service provides you with a list of commuters who live in your area, commute to the same area as you do, and are also looking for a vanpool or carpool partner. You register for this service online and receive the information online. How likely would you be to use this type of ride-matching service if you wanted to carpool or vanpool?

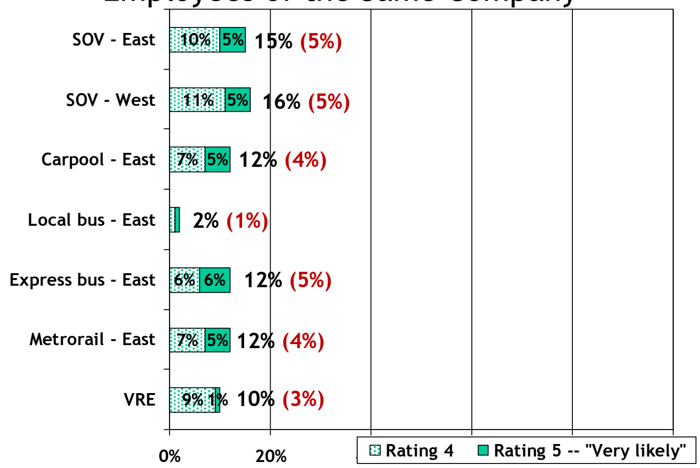
Eastbound Carpoolers, Local Bus Riders, and Express Bus Riders Express the Greatest Interest in Online Ride-matching



Likelihood of using online ride-matching for same employer

Question asked of those who said they would not likely use online ride-matching. Proportions based to only those asked the question. These values are re-based to total respondents and added to responses from previous question on next slide. This indicates total potential for ride-matching.

Additionally, a Few Are Interested in Online Ride-matching if Matching Is Limited to Employees of the Same Company



Q116a. How likely would you be to use an online ride-matching service to find a partner to carpool or vanpool if matching were limited to those who worked for the same employer as you do and at the same location?

Total Likelihood of using online ride-matching

Total Interest in Using Online Ride-matching Ranges from 10% among Westbound SOVers to 26% among Eastbound Metrorail Riders (Using Demand Discount Factor)

	SOV - Eastbound	SOV - Westbound	Carpool - Eastbound	Local bus - Eastbound	Express bus - Westbound	Metrorail - Eastbound	VRE
Likelihood of using online ride-matching (scores of 4 + 5)	28%	20%	39%	35%	30%	24%	24%
Likelihood of using online employer ride-matching (scores 4 + 5)	9%	9%	6%	2%	6%	7%	7%
TOTAL LIKELIHOOD	37% (13%)	29% (10%)	45% (17%)	37% (13%)	36% (13%)	31% (26%)	31% (11%)

These calculations total those who responded favorably to using online ride-matching and those who responded favorably to employer online ride-matching (based to total respondents). Values in red indicate total likelihood with demand discount factor applied.

Q116. Suppose that you could use a self-assisted, online ride-matching service to find a partner to carpool or vanpool. This service provides you with a list of commuters who live in your area, commute to the same area as you do, and are also looking for a vanpool or carpool partner. You register for this service online and receive the information online. How likely would you be to use this type of ride-matching service if you wanted to carpool or vanpool? Q116a. How likely would you be to use an online ride-matching service to find a partner to carpool or vanpool if matching were limited to those who worked for the same employer as you do and at the same location?

Commute programs offered by employer

Transit Users Often Work for Organizations that Provide Transit Subsidies; SOVers Often Work for Organizations that Have Free or Subsidized Parking

-- Carpoolers Are More Likely than the Other Mode Users to Work for an Organization that Offers Ride-matching --

	SOV - East	SOV - West	Carpool - East	Local bus - East	Express bus - East	Metrorail - East	VRE
Free/subsidized parking	71%	82%	59%	37%	33%	28%	40%
Preferred parking for car/vanpools	16%	12%	33%	25%	20%	19%	26%
Transit fare subsidies	39%	20%	67%	79%	76%	78%	86%
Ride-matching	11%	7%	22%	15%	14%	13%	19%
Flexible work hours	66%	64%	69%	69%	66%	66%	73%
Compressed work week	31%	30%	44%	45%	41%	45%	52%
Telework	40%	39%	49%	56%	43%	49%	54%
Shuttle to transit station	11%	10%	13%	16%	10%	11%	11%

Q117. Which of the following does your employer offer?

Commute programs used by employees

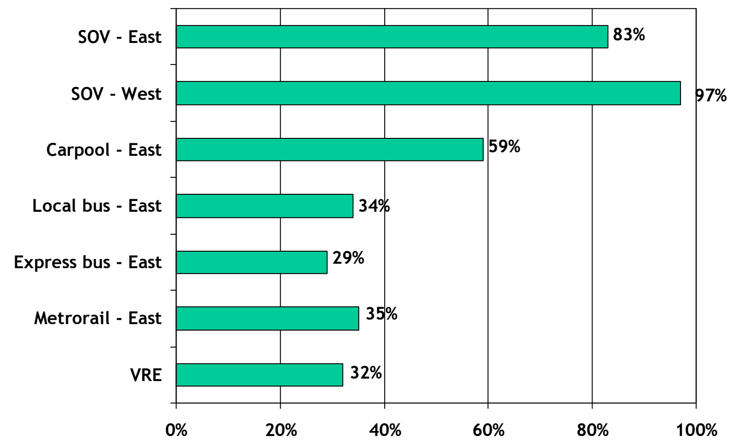
Transit Riders Utilize Transit Fare Subsidies; SOVers and Carpoolers Take Advantage of the Free or Subsidized Parking their Employers Provide; Carpoolers Use Preferred Parking; Flexible Work Hours Appeal to All

	SOV - East	SOV - West	Carpool - East	Local bus - East	Express bus - East	Metrorail - East	VRE
Free/subsidized parking	92%	92%	84%	29%	23%	29%	17%
Preferred parking for car/vanpools	5%	4%	45%	11%	3%	1%	2%
Transit fare subsidies	26%	9%	29%	96%	96%	97%	97%
Ride-matching	7%	6%	15%	5%	13%	6%	3%
Flexible work hours	86%	83%	75%	70%	76%	70%	75%
Compressed work week	51%	51%	40%	51%	44%	45%	46%
Telework	72%	72%	60%	55%	61%	58%	65%
Shuttle to transit station	24%	45%	24%	45%	62%	41%	64%

Q118a. Do you use this program?

Ample parking at worksite

Transit Riders Are Less Likely to Have Ample Parking Available at their Worksite; SOVers Are Likely to Work Where there Is Ample Parking – Especially Westbound SOVers

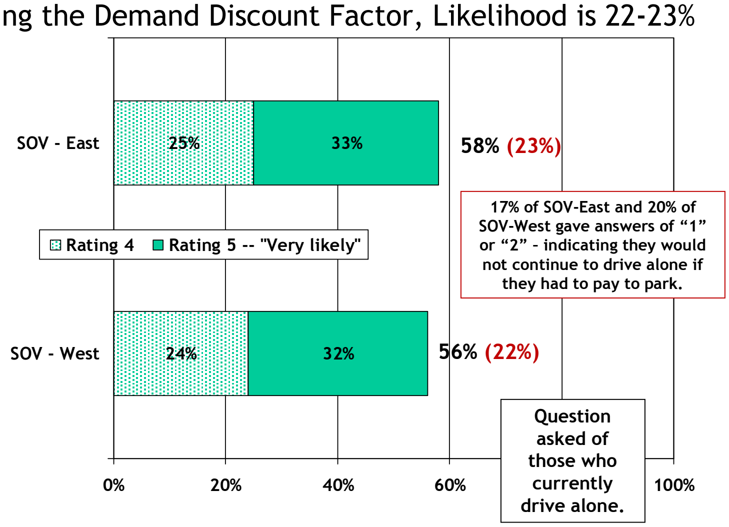


Q119. Is there ample parking at your worksite?

Likelihood of driving alone if had to pay to park

Q120. Assume that there is ample parking at your worksite or school. Suppose that commuters who drive alone to work or school would be charged a fee to park their vehicles. How likely would you be to continue driving alone to work or school and pay to park your vehicle there?

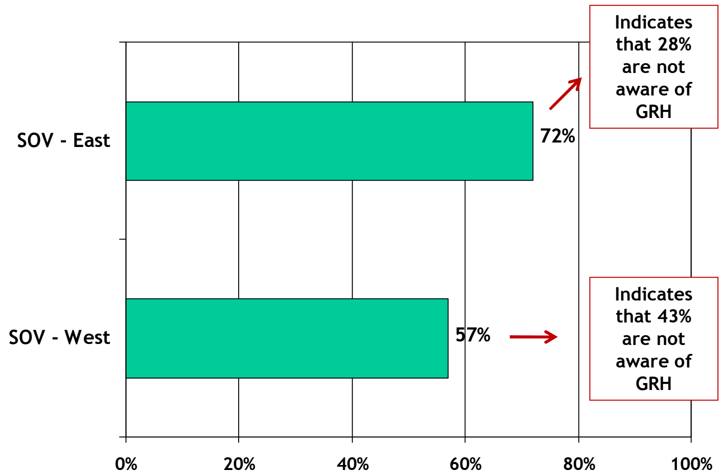
Slightly More than Half of SOVers Say They Would Continue Driving Alone if They Had to Pay to Park; Using the Demand Discount Factor, Likelihood is 22-23%



Awareness of Guaranteed Ride Home

Question asked of those who currently drive alone.

Three-fourths of Eastbound SOVers and Slightly More than Half of Westbound SOVers Are Aware of Guaranteed Ride Home

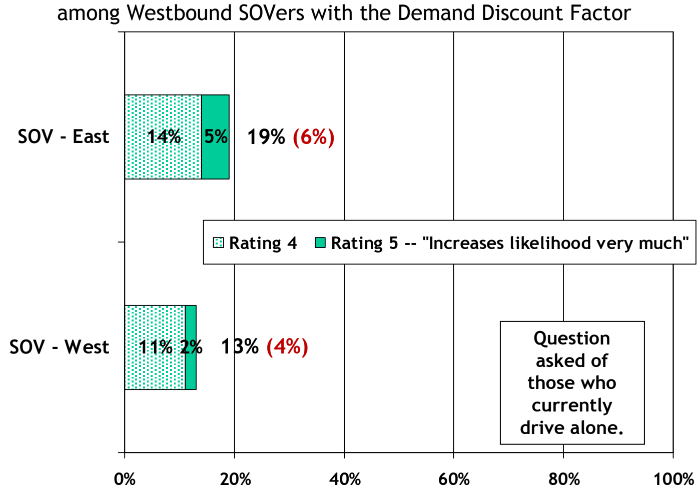


Q121. Have you ever heard of a program called “Guaranteed Ride Home”?

Increased likelihood of transit/TDM with Guaranteed Ride Home

Q122. Commuters who travel in carpools, vanpools, buses or trains can enroll in a Guaranteed Ride Home program. This program takes them home or to their car in case of an emergency or unscheduled overtime. This service can be used up to four times per year. How much does this program increase the likelihood that you would carpool, vanpool, or ride a bus or train?

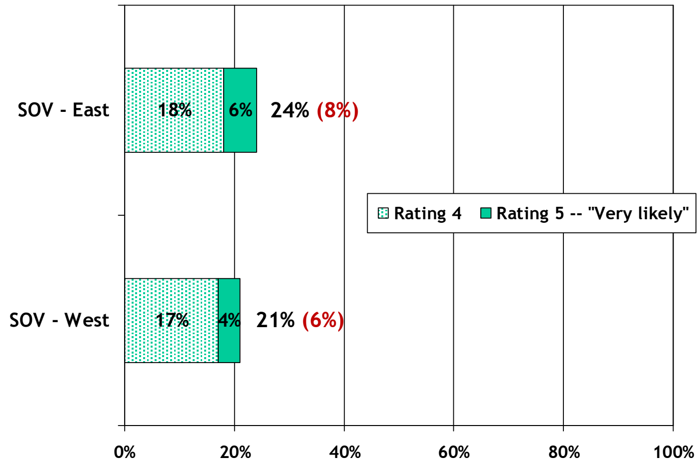
More than 10% of SOVers Say that the Guaranteed Ride Home Program Increases the Likelihood that They Would Carpool, Vanpool, Ride a Bus or Ride a Train; Likelihood Drops to 6% among Eastbound SOVers and 4% among Westbound SOVers with the Demand Discount Factor



Likelihood of ridesharing if rewards program

Question asked of those who currently drive alone.

Nearly a Fourth of SOVers Say They Would Rideshare if there Were a Rewards Incentive Program; With the Demand Discount Factor, It Is Slightly Less than One out of Ten



Q123. Assume that you could earn points that can be redeemed towards rewards at various retailers every time you share a ride to work. How likely would you be to share a ride if you could earn points that can be redeemed for rewards?

Conclusions and Implications

Conclusion and Implication

Conclusion: Eastbound and Westbound commuters in the I-66 corridor differ. There are markedly more Eastbound commuters, and their commutes are longer and require them to leave earlier each morning. Westbound commuters tend to be making local trips. Their trips are shorter and allow Westbound commuters to leave later in the morning than Eastbound commuters.

Implication: Historically, alternate mode options tend to appeal to those who are looking for ways to make a long commute better. It may be more difficult to attract Westbound commuters to alternate modes if they do not see a real "need" to make a change.

Conclusion and Implication

Conclusion: Commuters in this corridor tend to use the same commute mode in the afternoons as in the morning. At most, 1-6% (depending on the mode) use a different form of transportation in the afternoon than in the morning.

Implication: Transportation strategies and programs – as well as marketing strategies and programs – can be dual in focus, addressing both the morning and afternoon commutes. Two strategies and programs – one morning and one afternoon – are not necessary.

Conclusion and Implication

Conclusion: When selecting the mode of transportation they use for their regular travel to work or school, commuters tend to place greatest importance on time and timeliness. They want to know how long the trip will take. They want the transportation to be dependable and on time. This holds true regardless of the mode of transportation used most often.

Implication: These priorities have important implications for marketing and for communications advancing alternate modes. If time is important to SOVers – and it is – messaging must work to associate alternate modes with time savings, dependability, and so forth. The primary objection to commuting by bus or train is that it takes too long. Marketing and communications must work to overcome this objection.

Timeliness, saving time and dependability all relate to quality of life. This connection offers a potential area of creative development for marketing and communication because it relates to emotion. Audiences often relate well to emotional messages about quality of life. Explore the development of marketing messages that relate to better quality of life through time savings – and be emotional about it. But, be careful not to overpromise by making a time or speed commitment that the mode cannot meet.

Conclusion and Implication

Conclusion: Commuters recognize the benefits of ridesharing, both personal benefits and societal benefits. Regardless of the commute mode they currently use, commuters recognize, for example, that ridesharing saves energy, results in less traffic and reduces air pollution.

Implication: Commuter recognition of the benefits of ridesharing – even by those who do not rideshare – gives credibility to TDM and transit. Recognition of these benefits leads to support for investment in TDM and transit – support even from those who do not use these alternatives. Ultimately, support can lead to trial. Continue to grow awareness and appreciation for the benefits of ridesharing among all commuters – regardless of their current mode.

Conclusion and Implication

Conclusion: Keeping current bus riders happy and satisfied is dependent upon timeliness. Virtually all (97%) of current Express Bus riders say that the most important factor for their continued riding the bus is that the bus arrives and departs on time.

Implication: Work to ensure the buses arrive and depart on time. Importantly, **remind** commuters of bus on-time records.

Conclusion and Implication

Conclusion: On-time service is also the single-most-compelling feature for retaining current VRE riders. Nearly all (95%) of current VRE riders say that on-time arrival and departure would keep them riding VRE – or even increase their ridership.

Implication: Work to ensure on-time train service to retain current riders. To the extent that VRE has a strong on-time record, explore ways to use this record to attract new riders by crafting marketing communications messages with an on-time theme.

Conclusion and Implication

Conclusion: About a third of SOVers and carpoolers say they would ride an express bus 1-2 days a week if buses came more often. Slightly fewer SOVers say they would ride an express bus if there were a shuttle running in their neighborhood to the bus stop, a shuttle bus ran from the bus drop-off point to their destination, or if there were a park-and-ride lot where they could catch an express bus.

Implication: There is opportunity to convert SOVers and carpoolers to express bus. Reflecting the priority they place on timeliness and saving time, shorter headways offer the greatest opportunity to attract these potential new riders to express bus. The convenience of neighborhood and workplace shuttles for express bus users could enhance the perception of timeliness and thereby increase the appeal of express bus as a commute alternative. If shuttles are put in place, explore ways to develop a marketing approach that integrates more frequent buses with the convenience of shuttles.

Conclusion and Implication

Conclusion: SOVers do not carpool because their hours vary, they have no one to carpool with, or they need their car for their job. Those who currently commute in an alternate mode other than carpooling do not carpool because they prefer their current mode.

Implication: Many objections or concerns about carpooling raised by SOVers can be overcome by programs already in place, such as ride-matching, carsharing and Guaranteed Ride Home. But, commuters must know that these programs exist; and, they must know how to use them. (Recall that 43% of Westbound SOVers had never heard of Guaranteed Ride Home.) Continue to advance and promote these programs.

Conclusion and Implication

Conclusion: SOVers traveling on I-66, U.S. 29 or U.S. 50 say most often that the reason they do not vanpool is that there are no vanpools operating in their area. This finding is supported by the low incidence of vanpoolers in this study.

Implication: There may be opportunity to develop new vanpools to serve I-66, U.S. 29 and U.S. 50. – at least to the extent that few exist today. But, commuters in this corridor must be educated about vanpools and persuaded to try commuting in a vanpool. Strong and persistent communications about the benefits and ease of vanpooling will be needed. Additionally, the infra-structure to support vanpools – e.g., "pick-up" points, park-and-ride lots – must be in place.

Conclusion and Implication

Conclusion: Slightly more than 40% of SOVers say they would ride VRE if there were a neighborhood shuttle or a shuttle to their destination. Nearly as many carpoolers say they would ride VRE if there were shuttles. While both neighborhood and worksite shuttles appeal to current VRE riders, a neighborhood shuttle would likely attract more riders.

Implication: While both neighborhood and worksite shuttles can enhance the appeal of VRE, a neighborhood shuttle is the first best bet. But, to be successful, shuttles must be designed with the attributes and features that commuters want. Additional product development research is needed before launching any such program.

Resources may prohibit the implementation of shuttles. Nevertheless, the positive responses of respondents to the idea of shuttles offers important insight into what attracts commuters to alternate modes. Preference for shuttles suggests that commuters value such attributes as convenience and accessibility. These important attributes should be included in commuter programs.

Conclusion and Implication

Conclusion: Shuttles also increase the appeal of Metrorail. As with VRE, neighborhood shuttles have greater appeal. Running the shuttles every 6 minutes does not have remarkably greater impact over running the shuttles every 15 minutes. This holds true for both current Metrorail riders and potential new riders.

Implication: Consider the adoption of neighborhood shuttles to serve Metrorail riders and potential new riders. But, recognize that shuttles may not need to run as frequently as every six minutes. A shuttle running every 15 minutes may very well meet commuters' need for frequency.

Conclusion and Implication

Conclusion: On a one-to-one comparison, commuters prefer Bus Rapid Transit over express bus. While the two modes may offer some of the same benefits (e.g., limited stops), commuters may be more attracted to the "new" opportunity BRT represents. Nevertheless, current awareness of Bus Rapid Transit is fairly low, ranging from 10%-19% across current mode usage.

Implication: Expect initial positive response to BRT should it be launched in the I-66 corridor. But, due to low awareness and understanding of the mode, introduction of BRT will require the support of a strong marketing campaign. The campaign will need to be educational in nature in that it must grow both awareness <u>and</u> understanding.

Conclusion and Implication

Conclusion: Saving time and money are both reasons to use BRT. But, saving time is more important than saving money. In fact, commuters would pay more than the cost of their current commute to save time. In addition, they would select express bus over BRT if they could save time with express bus over BRT.

Implication: Commuters are attracted to BRT for the time savings it promises. It will be challenging for BRT to differentiate itself in terms of end benefits for the commuter if it is no faster than express bus service.

Conclusion and Implication

Conclusion: Saving time and money are both reasons to use BRT. Commuters are also attracted to the idea that BRT has limited stops, perhaps because this concept allows them to visualize how they could save time by riding BRT. Other less direct benefits and "logistics" of BRT are less compelling. For example, front and rear loading and using stations rather than stops are less compelling reasons to use BRT.

Implication: Messages about BRT should give priority to end benefits to the commuter, saving time and saving money. Helping commuters to visualize these benefits (for example, through images of limited stops) can help to market BRT successfully. Marketing should not, however, abandon other potential benefits and attributes of BRT. These other benefits and attributes can be used to support the direct benefits that commuters most value. These other benefits can also be used to help ensure trial because they help to grow understanding and familiarity of this new commute option.

Conclusion and Implication

Conclusion: Employer support and employer programs make a difference. Transit riders are more likely to work for companies that provide transit fare subsidies. SOVers and carpoolers are more likely to work for companies that provide free or subsidized parking. Carpoolers are more likely to work for companies that provide ridematching.

Implication: Take advantage of the opportunities to reach commuters through their work. Continue employer outreach programs to educate and persuade commuters about transit and TDM.

Conclusion and Implication

Conclusion: Online ride-matching offers potential to grow alternate mode usage in the I-66 corridor. While current carpoolers and bus riders express greatest interest in online ride-matching, SOVers also express interest in using this service. Up to 10% of Eastbound SOVers would use online ride-matching.

Implication: Continue to develop and promote online ride-matching. Make it easy, fast and convenient for commuters to use. Explore utilization of new social media, such as *twitter* and *facebook*, as expedient and popular ways to make ride-matching "fit" easily into contemporary lifestyles.

Appendix

Hybrid SOVers

I-66 Transit/TDM Study

Analysis of Hybrid SOVers

- A total of 122 hybrid SOVers participated in this research: 110 Eastbound and 12 Westbound.
- This section of the report analyzes their responses.
- All hybrid SOVers are grouped together for this analysis, regardless of direction of their morning commute.
- Hybrid responses to questions related to VRE are not shown due to small number of hybrid drivers who have VRE available for their commute.

Selected tripo-graphics - Hybrid SOVers

81% of hybrid SOVers use the HOV lanes 3 or more days a week, compared to 6% of SOVers driving gasoline-powered vehicles.

Hybrid SOVers Have Commutes that Are about Equal in Time and Distance to Gasoline SOVers; The Two Groups Are Equally Likely to Have Flexible Departure Times

	SOV: Hybrid	SOV: Gasoline
Length of commute (average in minutes)	46 minutes	50 minutes
Length of commute (average in miles)	24 miles	23 miles
Flexibility in departure time		
Yes	59%	59%
No	41%	41%

Q46. On average, about how many minutes long is your total morning commute, door-to-door? Q47. About how many miles long is your total morning commute, door-to-door? Q16. Do you have flexibility in your daily departure time - that is, can you vary your arrival time at work/school?

Hybrid drivers place greatest importance on being in control and dependability when selecting their commute mode.

Q58. Next, think about what factors are important to you when deciding how you will commute. How important to you are the following factors in choosing how you commute on your morning commute trip? For your answers, please use a scale of 1 to 5 where "1" means it is "not at all important" and "5" means it is "very important" in choosing your mode of transportation. How important is each of the following?

	SOV: Hybrid	SOV: Gasoline
Being in control	89%	90%
Dependability	89%	89%
Flexibility	85%	78%
Time it takes	82%	90%
Availability of trans if stay late/leave early	80%	81%
Reducing stress	79%	78%
Arriving on time	76%	81%
Time have to leave	73%	80%
Availability of HOV lanes	73%	21%
Safety	70%	74%
Comfort	70%	63%
Parking at work/school	62%	62%
Availability of trans during day	58%	63%
Parking cost at work/school	43%	47%
Availability of transit	40%	43%
Time alone	35%	31%
Cost of fares	36%	39%
Cost of tolls	34%	38%
Price of gas	32%	56%
Making productive use of commute time	25%	37%
Lack of barriers separating HOV lanes	22%	17%
Ability to find a carpool partner	9%	10%

Perceived personal benefits of ridesharing Hyprid SOVers

Hybrid Drivers Are as Likely to Recognize the Personal Benefits of Ridesharing as Are SOVers Who Drive Gasoline-Powered Vehicles

	SOV: Hybrid	SOV: Gasoline
By ridesharing, a commuter saves money over driving alone	71%	66%
A commuter can avoid or reduce stress by ridesharing	37%	40%
With ridesharing, a commuter does not need to have a car	37%	29%
By ridesharing, a commuter can use travel time productively	55%	53%
By ridesharing, a commuter can have company during the commute trip	39%	43%
By ridesharing, a commuter can be more likely to arrive at work on time	16%	23%
By ridesharing, a commuter can get exercise such as by walking to a bus stop or train station	23%	33%

Q63. Regardless of the mode of transportation you currently use for your commute, to what extent do you agree that each of the following is a benefit of ridesharing over driving alone?

Perceived societal benefits of ridesharing Hybrid SOVers

Just as Do Gasoline SOVers, Hybrid Drivers Also Recognize How Society Benefits When Commuters Rideshare

	SOV: Hybrid	SOV: Gasoline
Reduces air pollution	85%	82%
Saves energy	85%	83%
There's less traffic, less congestion	83%	81%
There's less wear and tear on the roads	77%	73%

Q64. Now, think about how society benefits from ridesharing. To what extent do you agree that society benefits in the following ways when commuters rideshare?

Frequency of use of express bus Hybrid SOVers

Question asked of those who have express bus service available but do not use it for primary commute mode.

Hybrid Drivers Are More Likely to Currently Ride an Express Bus than SOVers Who Drive a Gasoline-Powered Vehicle – Even If Only Occasionally

	SOV: Hybrid		SOV: Gasoline	
5 days a week	0		0	
4 days a week	0		1%	22%
3 days a week	6%	42%	1%	
1-2 days a week	12%		5%	
Occasionally – less than once a week	24%		15%	
Never, I do not ride the express bus	59%		77%	

Q67. How often do you use that express bus service for your commute to work or school?

Likelihood of using express bus Hybrid SOVers

Question asked of those who do not currently have express bus service available or do not use as primary commute mode.

Hybrid SOVers Are about as Likely as Gasoline-Powered SOVers to Take an Express Bus in the Future Under Various Conditions; Stated Interest Among Hybrid SOVers Ranges from 23% (with Park-and-Ride Lots) to 43% if Buses Came More Often

	SOV: Hybrid	SOV: Gasoline
Likelihood of taking an express bus if service available	35% (14%)	38% (15%)
Likelihood of riding express bus at least 1-2 days a week if bus came more often	43% (16%)	41% (16%)
Likelihood of riding express bus at least 1-2 days a week if neighborhood shuttle	32% (12%)	32% (12%)
Likelihood of taking express bus at least 1-2 days a week if shuttle to destination	36% (12%)	36% (13%)
Likelihood of taking express bus at least 1-2 days a week if park-and-ride lot	23% (8%)	30% (11%)

One-fourth of hybrid SOVers and one-fifth of gasoline SOVers currently have park-and-ride lots available along their commutes.

Q72. If new express bus service were available from where you live to where you work, how likely would you be to use it at least 1-2 days a week?
Q73. If the schedule were revised so that express buses came more often, how likely would you be to ride an express bus at least 1-2 days a week?
Q74. Suppose that a shuttle bus could operate frequently in your neighborhood that would circulate and connect to an express bus stop. How likely would you be to ride an express bus at least 1-2 days a week if such a shuttle bus service operated?
Q75. Suppose that a shuttle bus service could operate frequently in the morning and afternoon peak hours between the express bus drop-off point and your commute destination. How likely would you be to ride an express bus at least 1-2 days a week if such a shuttle bus service operated?
Q77. If there were a park-and-ride lot located along your commute, how likely would you be to use it at least 1-2 days a week in order to take an express bus?

Likelihood of carpooling Hybrid SOVers

At Most, 20% of Hybrid SOVers Say They Are Likely to Carpool in the Future – the Same as among SOVers Commuting in Gasoline-Powered Vehicles

	SOV: Hybrid	SOV: Gasoline
Likelihood of carpooling in future	14% (6%)	14% (5%)
Likelihood of carpooling if congestion increased commute by 15 minutes	20% (7%)	20% (6%)

Q80. Regardless of the mode of transportation you use today for your commute, how likely are you to carpool in the future?
Q81. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes? How likely would you be to carpool if congestion lengthened your commute by 15 minutes?

Likelihood of vanpooling Hybrid SOVers

Hybrid Drivers Are Less Interested in Vanpooling than Carpooling – and, Less Interested in Vanpooling than SOVers Who Commute in Gasoline-Powered Vehicles

	SOV: Hybrid	SOV: Gasoline
Likelihood of vanpooling in future	4% (2%)	8% (3%)
Likelihood of vanpooling if congestion increased commute by 15 minutes	6% (2%)	13% (4%)

Q83. Regardless of the mode of transportation you use today for your commute, how likely are you to vanpool in the future?
Q84. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes? How likely would you be to carpool if congestion lengthened your commute by 15 minutes?

Likelihood of riding Metrorail Hybrid SOVers

Hybrid SOVers Are Slightly Less Likely than SOVers Who Currently Drive Gasoline-Powered Vehicles to Say They Would Ride Metrorail in the Future; If Congestion Increased Their Commute by 15 Minutes, about One-fourth of Hybrid Drivers Say They Would Try Metrorail, Compared to One-third of Gasoline SOVers

	SOV: Hybrid	SOV: Gasoline
Likelihood of taking Metrorail in future	20% (7%)	28% (12%)
Likelihood of taking Metrorail if congestion increased commute by 15 minutes	25% (9%)	33% (13%)

Q98. Regardless of the mode of transportation you use today for your commute, how likely are you to use Metrorail in the future?
Q99. Now, think about how you might commute in the future if congestion lengthened your commute by 15 minutes? How likely would you be to use Metrorail if congestion lengthened your commute by 15 minutes?

Likelihood of riding Metrorail Hybrid SOVers

Questions asked of those who have Metrorail available but do not currently use it.

Hybrid Drivers Express Less Interest in Programs and Services for Metrorail, Including Work and Neighborhood Shuttles; Their Interest Is Only about Half that of SOV Drivers of Gasoline-Powered Vehicles

	SOV: Hybrid	SOV: Gasoline
Likelihood of taking Metrorail at least 1-2 days a week if came more often	25% (9%)	34% (13%)
Likelihood of taking Metrorail at least 1-2 days a week if trains less crowded	28% (11%)	36% (14%)
Likelihood of taking Metrorail at least 1-2 days a week if shuttle to destination (every 15 minutes)	24% (8%)	38% (14%)
Likelihood of taking Metrorail at least 1-2 days a week if neighborhood shuttle (every 6 minutes)	26% (8%)	46% (18%)
Likelihood of taking Metrorail at least 1-2 days a week if neighborhood shuttle (every 15 minutes)	24% (10%)	41% (16%)
Likelihood of taking Metrorail at least 1-2 days a week if neighborhood shuttle (every 15 minutes)	19% (8%)	35% (14%)
Likelihood of taking Metrorail at least 1-2 days a week if more parking at stations	19% (8%)	35% (14%)

Q100. If the schedule were revised so that trains came more often, how likely would you be to use Metrorail for your commute at least 1-2 days a week?
Q101. If trains were less crowded, how likely would you be to use Metrorail for your commute at least 1-2 days a week?
Q102. Suppose that a shuttle bus service between the Metrorail train station and your commute destination (e.g., work) could operate every 15 (or 6) minutes in morning and afternoon peak hours. How likely would you be to ride Metrorail if this shuttle bus service were offered?
Q103. Suppose that a shuttle bus could operate every 15 (or 6) minutes in your neighborhood that would circulate and connect to the Metrorail station. How likely would you be to ride Metrorail at least 1-2 days a week if a feeder bus operated in your neighborhood?
Q104. If more parking were available at Metrorail stations, how likely would you be to take Metrorail at least 1-2 days a week?

Awareness of Bus Rapid Transit Hybrid SOVers

Hybrid Drivers Are Slightly More Likely than Drivers of Gasoline Vehicles to Have Ever Heard or Seen Anything about Bus Rapid Transit; One-fifth of Hybrid Drivers Have Heard of BRT

	SOV: Hybrid	SOV: Gasoline
Aware of BRT		
Yes	19%	11%
No	72%	78%
Don't know	9%	11%

Q107. Have you ever heard or seen anything about a form of transportation known as "Bus Rapid Transit" or BRT?

Likelihood of riding Bus Rapid Transit

Hybrid Drivers Are about as Likely as SOVers Who Drive Gasoline Vehicles to Say They Would Use BRT if It Were Available – Especially if It Saved Them Time

	SOV: Hybrid	SOV: Gasoline
Likelihood of using BRT if available	38% (14%)	43% (16%)
Likelihood of using BRT if reduced cost of commute by 15%	36% (13%)	42% (16%)
Likelihood of using BRT if reduced commute by 15 minutes	48% (18%)	48% (18%)

Q109. Suppose Bus Rapid Transit were conveniently accessible from the area where you live to your destination, that is the place where you work or attend school. How likely would you be to use BRT for your regular commute to work or school at least 2 days per week?
Q110. Bus Rapid Transit can help you save money on your commute. If you could reduce the cost of your commute by 15% by using Bus Rapid Transit, how likely would you be to use BRT for your regular commute to work or school at least 1-2 days per week?
Q111. Bus Rapid Transit can save you time on your commute. If you could reduce the time it takes to get to work or school by 15 minutes, how likely would you be to use BRT for your regular commute to work or school at least 1-2 days per week?

Likelihood of riding Bus Rapid Transit

Hybrid Commuters Are Most Attracted to the Limited Stops of BRT, Followed by Headways of 15 Minutes; The Pattern Is Similar for SOVers Driving Gasoline-Powered Vehicles

	SOV: Hybrid	SOV: Gasoline
Uses advanced technology	39% (13%)	47% (17%)
Runs every 15 minutes	50% (18%)	53% (20%)
Users larger vehicles than other bus systems	36% (13%)	39% (14%)
Cleaner propulsion systems for cleaner environment	43% (16%)	40% (15%)
Limited stops	60% (24%)	60% (23%)
Stations as transit hubs	46% (16%)	47% (17%)
Real-time information	46% (17%)	47% (18%)
Stations as activity centers	36% (12%)	34% (12%)
Front and rear loading	35% (12%)	41% (14%)
Off-vehicle ticketing	36% (12%)	40% (14%)
Stations not stops	35% (12%)	38% (13%)

Q112. There are other features of Bus Rapid Transit that might influence the likelihood that you would use BRT if it were available in your area. How likely would you be to use BRT based on the following information?

Likelihood of using online ride-matching Hybrid SOVers

In Total, Slightly More than One Out of Ten Hybrid SOVers Would Use an Online Ride-matching Service – the Same Level of Interest as Gasoline SOVers

	SOV: Hybrid	SOV: Gasoline
Likelihood of using self-assisted online ride-matching	28% (10%)	26% (10%)
Likelihood of using online ride-matching limited to employees of your company and location	9% (3%)	8% (3%)

Q116. Suppose that you could use a self-assisted, online ride-matching service to find a partner to carpool or vanpool. This service provides you with a list of commuters who live in your area, commute to the same area as you do, and are also looking for a vanpool or carpool partner. You register for this service online and receive the information online. How likely would you be to use the type of ride-matching service if you wanted to carpool or vanpool?
Q116a. How likely would you be to use an online ride-matching service to find a partner to carpool or vanpool if matching were limited to those who worked for the same employer as you do and at the same location?

Awareness of Guaranteed Ride Home Hybrid SOVers

Awareness of and Likelihood of Using Guaranteed Ride Home Are about the Same for Hybrid and Gasoline SOVers; Two-thirds of Each Group Have Never Heard of Guaranteed Ride Home; Around 15% Say They Would Use an Alternate Mode if Guaranteed Ride Home Available (About 5% with Demand Discount Applied)

	SOV: Hybrid	SOV: Gasoline
Aware of Guaranteed Ride Home	68%	68%
Likelihood of using alternate mode if Guaranteed Ride Home available	15% (5%)	18% (6%)

Q121. Have you ever heard of a program called "Guaranteed Ride Home"?
Q122. Commuters who travel in carpools, vanpools, buses or trains can enroll in a Guaranteed Ride Home program. This program takes them home or to their car in case of an emergency or unscheduled overtime. This service can be used up to four times per year. How much does this program increase the likelihood that you would carpool, vanpool, or ride a bus or train?

Likelihood of ridesharing if rewards program Hybrid SOVers

17% of Hybrid SOVers and 23% of SOVers Commuting in Gasoline Powered Vehicles Say They Would Likely Rideshare to Take Advantage of a Rewards Incentive Program; the Demand Discount Factor Reduces this to 6 7%

	SOV: Hybrid	SOV: Gasoline
Likelihood of ridesharing if rewards incentive program	17% (6%)	23% (7%)

Q123. Assume that you could earn points that can be redeemed toward rewards at various retailers every time you share a ride to work. How likely would you be to share a ride if you could earn points that can be redeemed for rewards?

Appendix F

Travel Demand Forecasts – Supplemental Information

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Figure F-1. Traffic Analysis Zones

Figure F-2. Corridor Home-Based Work Productions by Mode

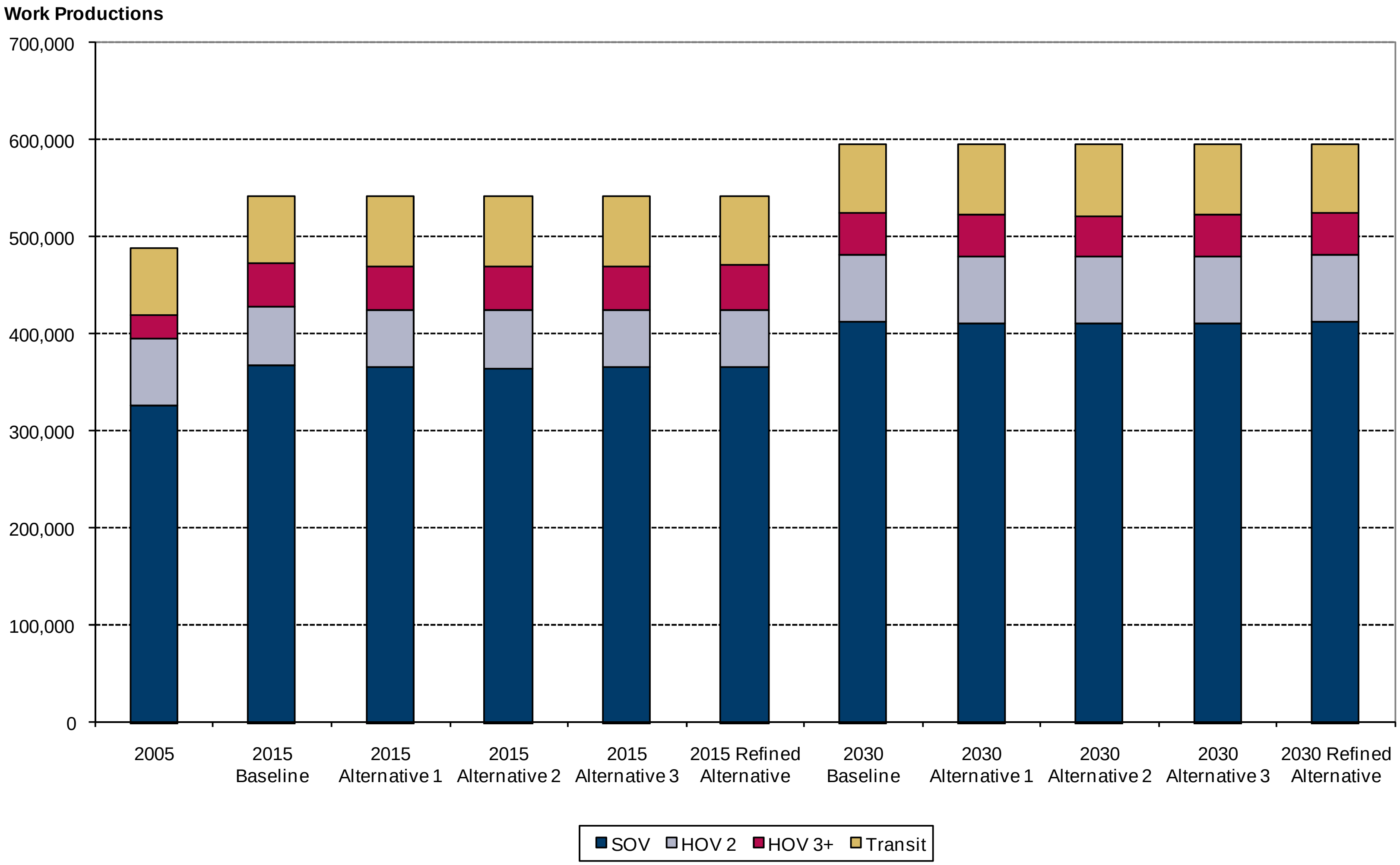

Figure F-3. Corridor Home-Based Work Attractions by Mode

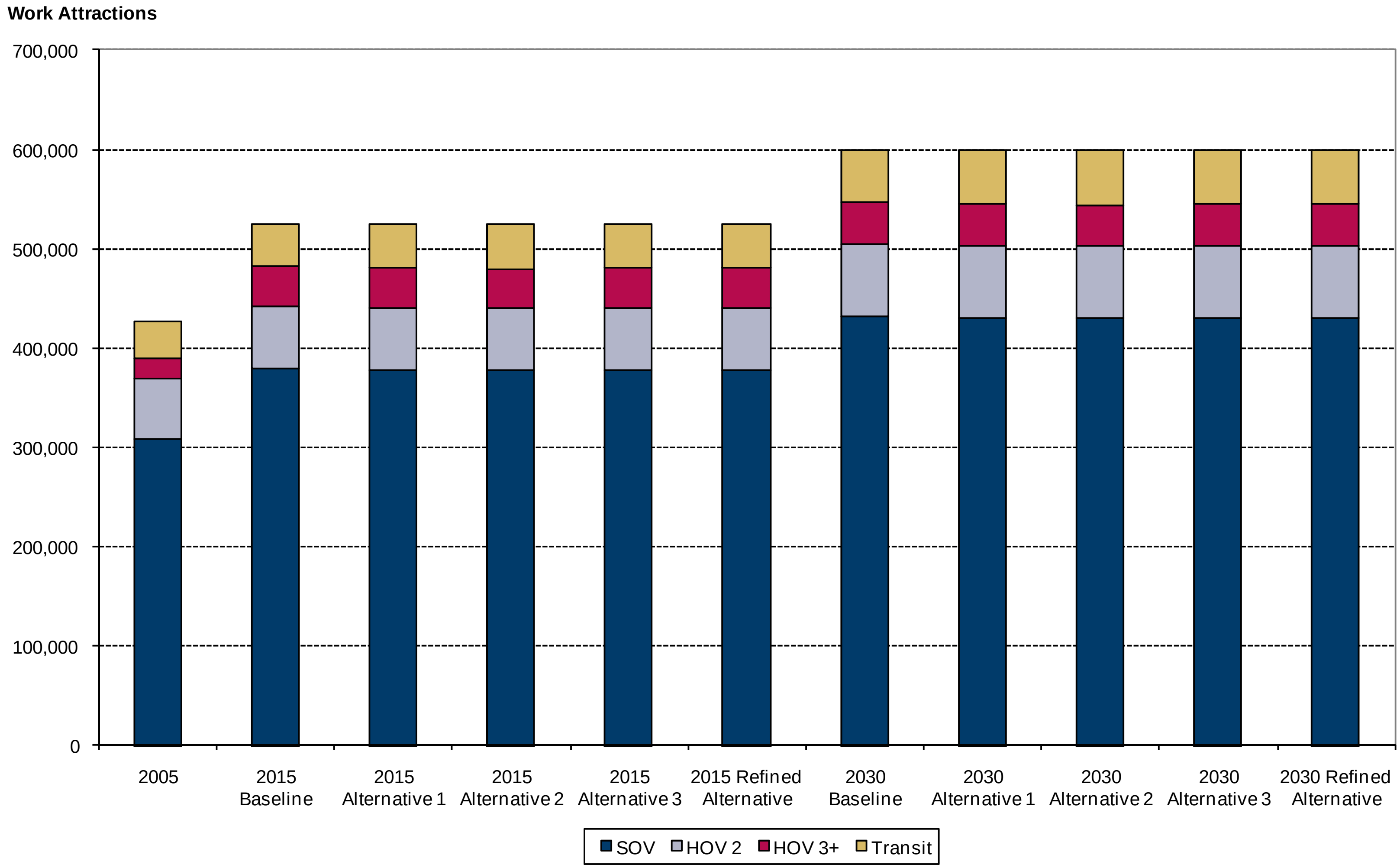

Figure F-4. Corridor Home-Based Work Production Mode Share

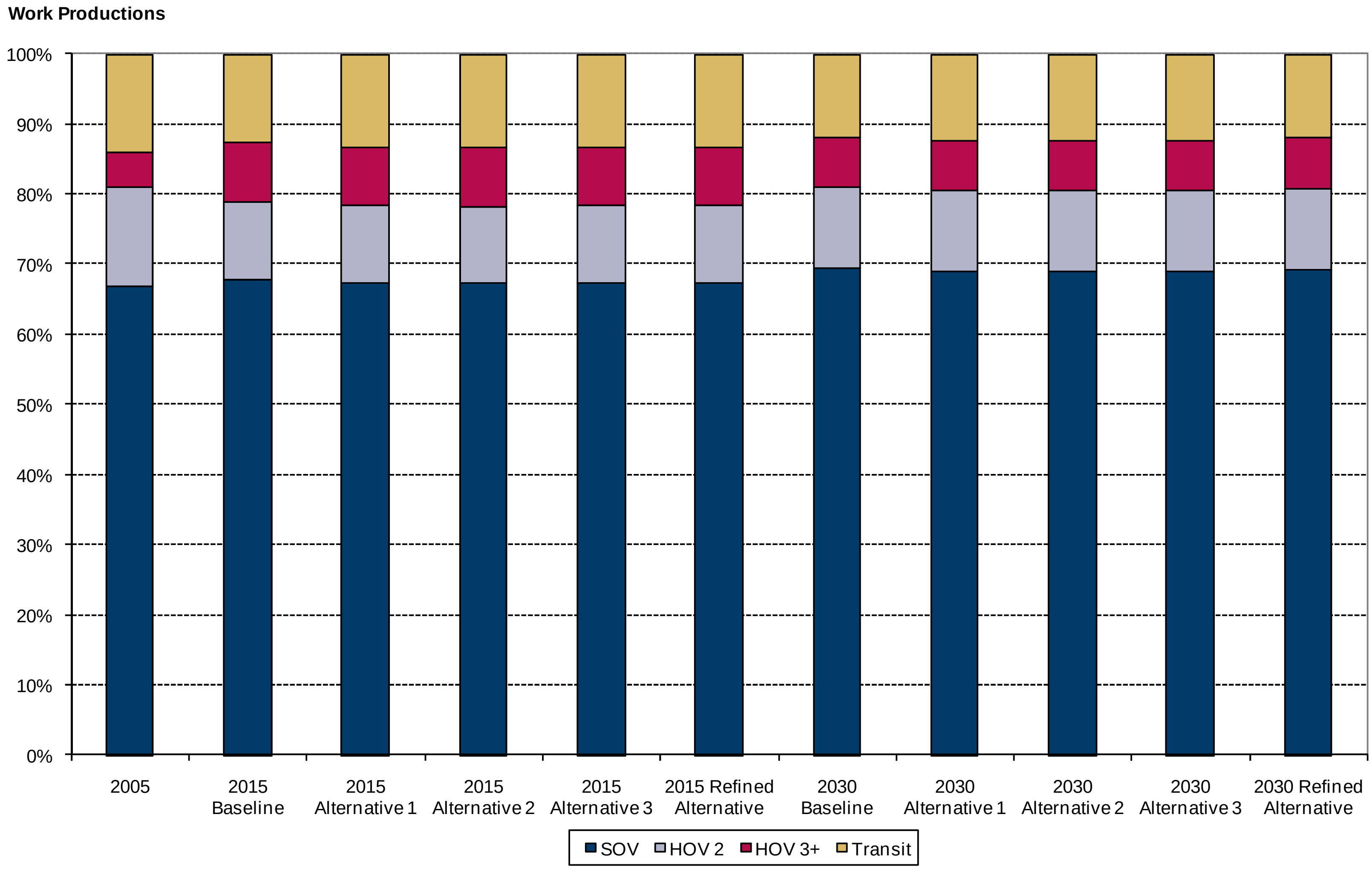

Figure F-5. Corridor Home-Based Work Attraction Mode Share

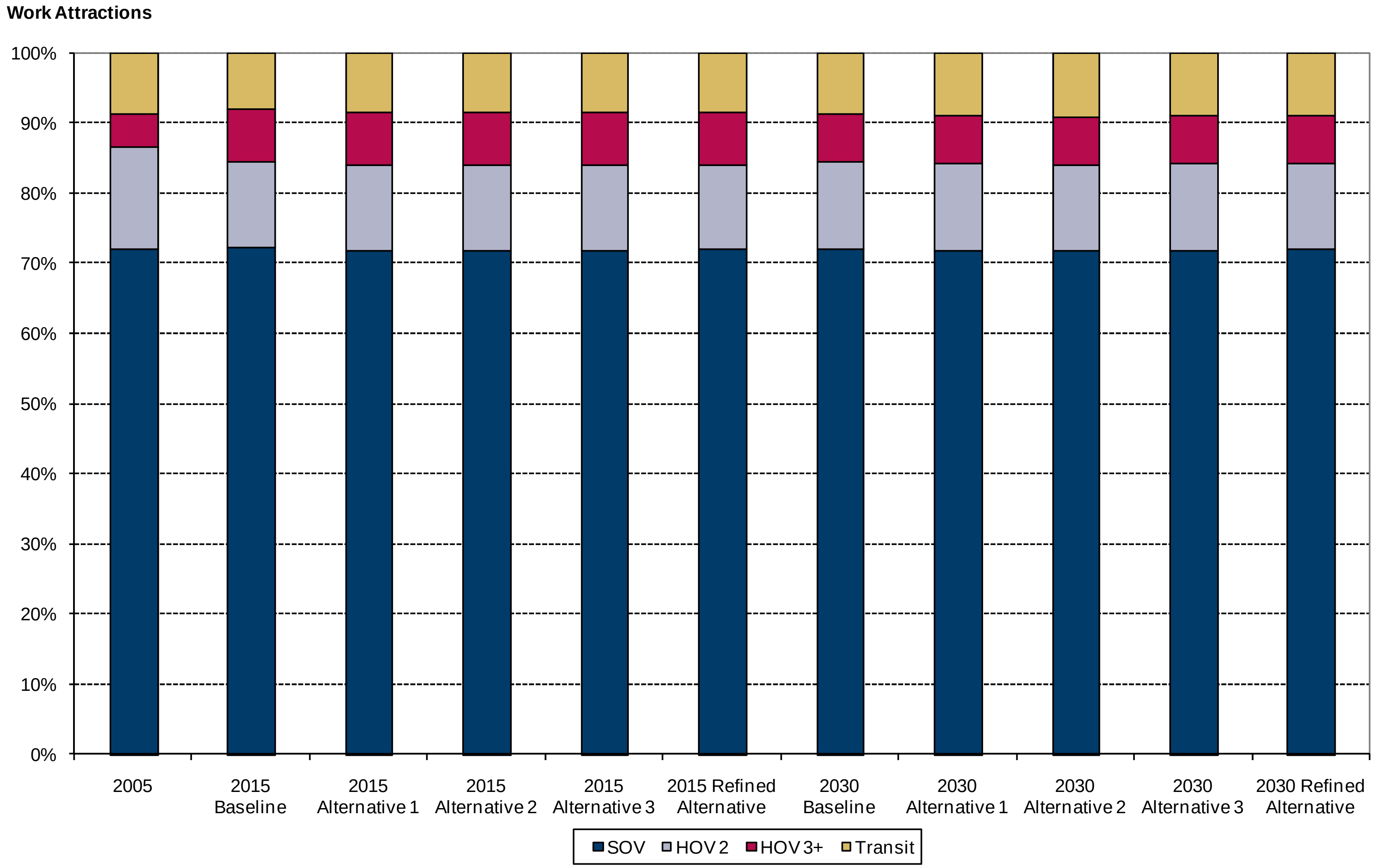

Figure F-6. Mode Choice Summary Validation Districts

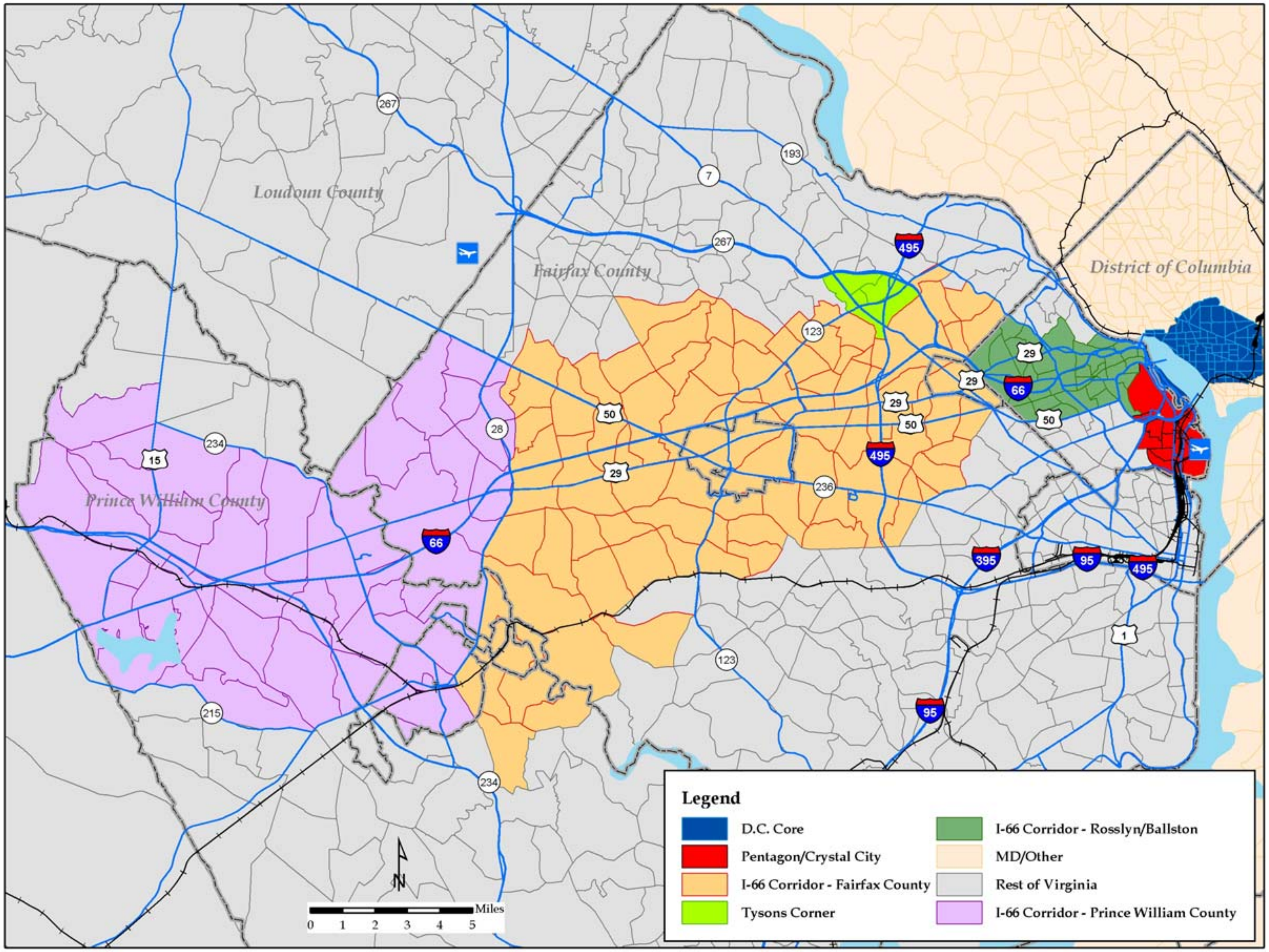

Table F-1. Transit Route Codes

Route	Model Code	Alignment	
		From	To
PRTC			
Metro Direct Linton Hall	ORLHI	Linton Hall	West Falls Church Metro
Metro Direct Manassas	ORWFML	Manassas	West Falls Church Metro
	ORMVI	Manassas	Vienna
OmniRide Manassas	ORM4RI	Manassas	D.C. then Pentagon
	ORMI	Manassas	Pentagon then D.C.
I-66 Corridor Priority Bus	PB66H	Haymarket	D.C. Core
Loudoun Transit			
Ashburn-D.C.	LCSD7I	Purcellville, Leesburg	Rosslyn and D.C.
	LCSD91	Purcellville, Leesburg	Rosslyn and D.C.
	LCSD15I	Purcellville, Leesburg	Rosslyn and D.C.
	LCSDC6W	Purcellville, Leesburg	D.C.
	LCSDS3E	Dulles South	Pentagon and D.C.
	LCSD12E	Purcellville, Leesburg	Pentagon and D.C.
	LCSDC5E	Purcellville, Leesburg	Pentagon and D.C.
	LCSDS4W	Dulles South	D.C.
	LCSDS8E	Dulles South	Pentagon and D.C.
Fairfax Connector			
Fairfax County Government Center Line (622 and 623)	F622LI	Fairfax Town Center	Vienna/Fairfax-GMU Metro
	F622LO	Vienna/Fairfax-GMU Metro	Fairfax Town Center
	F623LI	Fairfax County Government Center	Vienna/Fairfax-GMU Metro
	F623LO	Vienna/Fairfax-GMU Metro	Fairfax County Government Center
Pentagon Express	F595E	Reston	Pentagon
Crystal City Express	F597E	Reston	Pentagon, Crystal City
New Routes to Replace WMATA 12s and 20s	F631I	Centreville	Vienna/Fairfax-GMU Metro
	F641LI	Centreville	Vienna/Fairfax-GMU Metro
	F641LO	Vienna/Fairfax-GMU Metro	Centreville
	F644I	Centreville	Vienna/Fairfax-GMU Metro
	F651LI	Dulles South	Vienna/Fairfax-GMU Metro
	F651LO	Vienna/Fairfax-GMU Metro	Dulles South
	F652LI	Dulles East	Vienna/Fairfax-GMU Metro
	F652LO	Vienna/Fairfax-GMU Metro	Dulles East
	F642I	Chantilly	Vienna/Fairfax-GMU Metro
	F653L	Chantilly	Vienna/Fairfax-GMU Metro
	FNEW2	Centreville	Herndon/Reston
WMATA			
D.C.-Dulles Line	WM05AO	Dulles	D.C.
	WM05A#1I	D.C.	Dulles
Centreville South Line	WM12EI	Centreville	Vienna/Fairfax-GMU Metro
	WM12FI	Centreville	Vienna/Fairfax-GMU Metro
	WM12GO	Vienna/Fairfax-GMU Metro	Centreville

Route	Model Code	Alignment	
		From	To
Centreville North Line	WM12CI	Centreville	Vienna/Fairfax-GMU Metro
	WM12DO	Vienna/Fairfax-GMU Metro	Centreville
Chantilly Greenbrier Line	WM20FI	Centreville	Vienna/Fairfax-GMU Metro
	WM20WO	Vienna/Fairfax-GMU Metro	Chantilly
	WM20XI	Centreville	Vienna/Fairfax-GMU Metro
	WM20YO	Vienna/Fairfax-GMU Metro	Sully Field Circle
Lee Highway – Farragut Square Line	WM03Y	Lee Heights	D.C.
Chantilly – Tysons Line	B7I	Dulles – Chantilly	Tysons Corner (via I-66)
I-66 Corridor Priority Bus	PB66C	Centreville	D.C. Core
U.S. 29 Corridor Priority Bus	PB29	Fair Lakes	D.C. Core
U.S. 50 Corridor Priority Bus	PB50	Fair Lakes	D.C. Core

Mode Choice Summaries I-66 Transit/TDM Study - Attractions
All Purposes, Modes: SOV, HOV2, HOV3+,Transit

ALL- SOV	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	565,409	530,427	527,257	527,241	527,268	527,517	537,471	536,610	536,103	536,613	537,354
Pentagon/Crystal City	158,198	152,115	151,615	151,613	151,616	151,628	162,302	162,276	162,257	162,275	162,284
I-66 Corridor - Fairfax County	788,084	834,769	833,791	833,775	833,801	833,820	914,388	913,652	913,688	913,698	913,872
Tysons Corner	196,224	214,279	214,015	214,018	214,002	214,021	246,302	246,260	246,242	246,177	246,272
I-66 Corridor - Rosslyn/Ballston	319,792	398,871	396,557	396,353	396,558	396,599	425,784	424,817	424,281	424,809	424,981
MD	6,469,221	6,657,205	6,656,878	6,656,871	6,656,882	6,656,926	7,492,623	7,492,421	7,492,379	7,492,425	7,492,537
VA	3,067,014	3,581,986	3,581,292	3,581,187	3,581,291	3,581,298	4,374,173	4,373,999	4,373,740	4,373,996	4,374,035
I-66 Corridor - Prince William County	299,762	396,775	396,775	396,775	396,775	396,776	476,701	476,701	476,701	476,701	476,701

ALL- HOV 2	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	193,579	182,690	181,800	181,793	181,802	181,833	191,309	191,157	190,983	191,151	191,297
Pentagon/Crystal City	59,445	47,026	46,899	46,899	46,899	46,901	55,627	55,623	55,622	55,622	55,624
I-66 Corridor - Fairfax County	479,223	502,818	502,629	502,625	502,631	502,634	550,405	550,257	550,263	550,265	550,299
Tysons Corner	99,231	94,371	94,314	94,314	94,312	94,315	114,612	114,602	114,599	114,588	114,605
I-66 Corridor - Rosslyn/Ballston	151,703	187,765	186,899	186,854	186,899	186,905	202,229	201,935	201,745	201,934	201,968
MD	4,033,120	4,126,604	4,126,541	4,126,538	4,126,542	4,126,545	4,628,294	4,628,267	4,628,250	4,628,266	4,628,279
VA	1,830,014	2,129,908	2,129,731	2,129,710	2,129,731	2,129,732	2,591,076	2,591,038	2,590,976	2,591,038	2,591,046
I-66 Corridor - Prince William County	180,481	230,268	230,268	230,268	230,268	230,268	271,937	271,937	271,937	271,937	271,937

ALL- HOV 3	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	136,241	153,402	152,023	151,973	152,033	152,411	149,787	148,886	148,782	148,872	149,578
Pentagon/Crystal City	37,594	39,097	39,020	39,018	39,020	39,028	43,160	43,157	43,132	43,156	43,150
I-66 Corridor - Fairfax County	298,281	379,517	379,366	379,362	379,368	379,371	406,852	406,724	406,730	406,732	406,762
Tysons Corner	60,197	99,804	99,704	99,704	99,702	99,705	107,048	107,035	107,030	107,020	107,040
I-66 Corridor - Rosslyn/Ballston	98,134	151,912	151,127	150,988	151,129	151,138	163,603	163,183	162,851	163,175	163,236
MD	2,685,923	2,883,076	2,882,996	2,882,991	2,882,997	2,883,017	3,213,333	3,213,270	3,213,264	3,213,269	3,213,306
VA	1,207,806	1,560,281	1,560,140	1,560,107	1,560,140	1,560,140	1,832,278	1,832,237	1,832,174	1,832,236	1,832,243
I-66 Corridor - Prince William County	113,292	154,303	154,303	154,303	154,303	154,303	181,819	181,819	181,819	181,819	181,819

ALL- Transit	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	543,531	530,357	535,794	535,869	535,771	535,113	541,436	543,353	544,138	543,374	541,777
Pentagon/Crystal City	51,557	36,186	36,890	36,894	36,889	36,867	42,800	42,833	42,877	42,835	42,830
I-66 Corridor - Fairfax County	6,185	5,906	7,224	7,249	7,212	7,186	6,772	7,787	7,740	7,725	7,486
Tysons Corner	7,477	16,445	16,865	16,862	16,883	16,858	20,265	20,329	20,354	20,442	20,310
I-66 Corridor - Rosslyn/Ballston	49,696	66,368	70,337	70,731	70,335	70,279	78,281	79,966	81,039	79,981	79,711
MD	253,405	124,645	125,105	125,119	125,099	125,032	148,269	148,560	148,621	148,557	148,397
VA	35,343	28,384	29,387	29,545	29,387	29,381	32,966	33,220	33,602	33,225	33,169
I-66 Corridor - Prince William County	175	5	5	5	5	5	2	2	2	2	2

ALL- Sum Modes	2005	2015 CLRP	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 CLRP	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	1,438,760	1,396,876	1,396,874	1,396,876	1,396,874	1,396,874	1,420,003	1,420,006	1,420,006	1,420,010	1,420,006
Pentagon/Crystal City	306,794	274,424	274,424	274,424	274,424	274,424	303,889	303,889	303,888	303,888	303,888
I-66 Corridor - Fairfax County	1,571,773	1,723,010	1,723,010	1,723,011	1,723,012	1,723,011	1,878,417	1,878,420	1,878,421	1,878,420	1,878,419
Tysons Corner	363,129	424,899	424,898	424,898	424,899	424,899	488,227	488,226	488,225	488,227	488,227
I-66 Corridor - Rosslyn/Ballston	619,325	804,916	804,920	804,926	804,921	804,921	869,897	869,901	869,916	869,899	869,896
MD	13,441,669	13,791,530	13,791,520	13,791,519	13,791,520	13,791,520	15,482,519	15,482,518	15,482,514	15,482,517	15,482,519
VA	6,140,177	7,300,559	7,300,550	7,300,549	7,300,549	7,300,551	8,830,493	8,830,494	8,830,492	8,830,495	8,830,493
I-66 Corridor - Prince William County	593,710	781,351	781,351	781,351	781,351	781,352	930,459	930,459	930,459	930,459	930,459

Mode Choice Summaries I-66 Transit/TDM Study - Attractions
HBW Only, Modes: SOV, HOV2, HOV3+,Transit

HBW- SOV	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	129,817	128,887	127,783	127,779	127,793	128,022	130,301	129,579	129,298	129,602	130,209
Pentagon/Crystal City	41,672	33,955	33,906	33,904	33,906	33,917	39,201	39,179	39,157	39,178	39,187
I-66 Corridor - Fairfax County	172,759	195,620	194,851	194,839	194,860	194,878	211,864	211,232	211,268	211,273	211,405
Tysons Corner	75,203	85,127	85,072	85,076	85,058	85,077	97,721	97,687	97,679	97,628	97,695
I-66 Corridor - Rosslyn/Ballston	70,597	72,440	71,520	71,356	71,520	71,558	84,498	83,877	83,559	83,868	84,001
MD	1,403,178	1,642,350	1,642,137	1,642,134	1,642,140	1,642,182	1,880,864	1,880,686	1,880,666	1,880,694	1,880,790
VA	703,499	885,371	885,178	885,092	885,177	885,183	1,092,814	1,092,684	1,092,501	1,092,681	1,092,706
I-66 Corridor - Prince William County	64,436	110,820	110,820	110,820	110,820	110,820	134,671	134,671	134,671	134,671	134,671

HBW- HOV 2	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	48,613	43,408	43,258	43,256	43,259	43,283	43,617	43,515	43,464	43,519	43,607
Pentagon/Crystal City	8,482	5,556	5,550	5,550	5,550	5,551	6,465	6,462	6,460	6,462	6,463
I-66 Corridor - Fairfax County	35,368	32,895	32,768	32,766	32,770	32,773	36,065	35,944	35,952	35,951	35,975
Tysons Corner	16,996	13,002	12,993	12,993	12,991	12,994	15,860	15,852	15,850	15,842	15,854
I-66 Corridor - Rosslyn/Ballston	13,813	10,554	10,423	10,410	10,423	10,427	12,792	12,701	12,670	12,700	12,715
MD	250,837	283,450	283,428	283,428	283,429	283,431	326,154	326,138	326,133	326,138	326,145
VA	130,647	153,244	153,214	153,199	153,213	153,215	192,907	192,884	192,853	192,884	192,888
I-66 Corridor - Prince William County	12,721	20,402	20,402	20,402	20,402	20,402	24,778	24,778	24,778	24,778	24,778

HBW- HOV 3	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	58,319	71,313	70,346	70,304	70,354	70,713	62,850	62,061	62,031	62,057	62,679
Pentagon/Crystal City	8,403	10,191	10,172	10,170	10,172	10,179	9,889	9,891	9,868	9,890	9,884
I-66 Corridor - Fairfax County	8,517	19,048	18,939	18,935	18,940	18,943	19,125	19,015	19,021	19,021	19,045
Tysons Corner	4,296	15,137	15,126	15,126	15,123	15,127	13,900	13,890	13,888	13,879	13,893
I-66 Corridor - Rosslyn/Ballston	8,994	15,199	14,977	14,878	14,978	14,984	15,769	15,569	15,435	15,561	15,602
MD	62,296	89,352	89,297	89,294	89,298	89,317	98,572	98,521	98,523	98,521	98,552
VA	38,758	66,150	66,116	66,089	66,116	66,116	68,406	68,378	68,338	68,377	68,381
I-66 Corridor - Prince William County	2,445	5,321	5,321	5,321	5,321	5,321	6,576	6,576	6,576	6,576	6,576

HBW- Transit	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	383,366	400,187	402,412	402,461	402,394	401,782	400,889	402,503	402,866	402,480	401,164
Pentagon/Crystal City	32,942	25,058	25,133	25,136	25,132	25,113	29,145	29,169	29,216	29,171	29,166
I-66 Corridor - Fairfax County	5,599	4,996	6,002	6,020	5,991	5,967	5,860	6,723	6,675	6,669	6,489
Tysons Corner	6,923	14,946	15,023	15,019	15,041	15,016	18,370	18,420	18,432	18,500	18,407
I-66 Corridor - Rosslyn/Ballston	31,849	38,044	39,317	39,596	39,316	39,269	46,825	47,739	48,225	47,756	47,566
MD	159,444	82,071	82,359	82,365	82,354	82,290	96,459	96,704	96,728	96,696	96,561
VA	27,917	21,813	22,070	22,197	22,070	22,064	25,307	25,488	25,743	25,493	25,458
I-66 Corridor - Prince William County	175	2	2	2	2	2	2	2	2	2	2

HBW- Sum Modes	2005	2015 CLRP+	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 CLRP+	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	620,115	643,795	643,799	643,800	643,800	643,800	637,657	637,658	637,659	637,658	637,659
Pentagon/Crystal City	91,499	74,760	74,761	74,760	74,760	74,760	84,700	84,701	84,701	84,701	84,700
I-66 Corridor - Fairfax County	222,243	252,559	252,560	252,560	252,561	252,561	272,914	272,914	272,916	272,914	272,914
Tysons Corner	103,418	128,212	128,214	128,214	128,213	128,214	145,851	145,849	145,849	145,849	145,849
I-66 Corridor - Rosslyn/Ballston	125,253	136,237	136,237	136,240	136,237	136,238	159,884	159,886	159,889	159,885	159,884
MD	1,875,755	2,097,223	2,097,221	2,097,221	2,097,221	2,097,220	2,402,049	2,402,049	2,402,050	2,402,049	2,402,048
VA	900,821	1,126,578	1,126,578	1,126,577	1,126,576	1,126,578	1,379,434	1,379,434	1,379,435	1,379,435	1,379,433
I-66 Corridor - Prince William County	79,777	136,545	136,545	136,545	136,545	136,545	166,027	166,027	166,027	166,027	166,027

Mode Choice Summaries I-66 Transit/TDM Study - Productions

All Purposes, Modes: SOV, HOV2, HOV3+,Transit

ALL- SOV	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	96,764	97,610	97,253	97,229	97,254	97,257	105,674	105,475	105,369	105,475	105,533
Pentagon/Crystal City	58,437	62,473	62,453	62,453	62,453	62,453	66,915	66,910	66,900	66,910	66,910
I-66 Corridor - Fairfax County	863,329	902,896	900,957	900,844	900,969	901,243	992,121	990,677	990,506	990,723	991,495
Tysons Corner	100,704	105,576	105,548	105,548	105,547	105,548	124,746	124,750	124,716	124,710	124,738
I-66 Corridor - Rosslyn/Ballston	286,833	316,789	315,602	315,576	315,603	315,617	337,050	336,653	336,503	336,652	336,732
MD	6,811,507	7,039,034	7,038,118	7,038,007	7,038,120	7,038,126	7,867,867	7,867,285	7,866,944	7,867,258	7,867,468
VA	3,323,310	3,842,792	3,842,065	3,842,035	3,842,065	3,842,073	4,656,067	4,655,828	4,655,350	4,655,821	4,655,886
I-66 Corridor - Prince William County	322,821	396,291	396,184	396,142	396,183	396,267	479,299	479,159	479,102	479,145	479,275

ALL- HOV 2	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	42,656	45,899	45,725	45,714	45,725	45,726	51,471	51,389	51,334	51,389	51,406
Pentagon/Crystal City	24,825	27,127	27,119	27,119	27,119	27,119	30,006	30,005	30,003	30,005	30,005
I-66 Corridor - Fairfax County	516,105	531,780	531,429	531,426	531,431	531,461	586,837	586,601	586,592	586,611	586,736
Tysons Corner	43,614	46,323	46,315	46,315	46,315	46,315	60,981	60,982	60,969	60,967	60,979
I-66 Corridor - Rosslyn/Ballston	132,323	147,541	147,136	147,123	147,136	147,139	158,161	158,050	157,982	158,049	158,067
MD	4,152,289	4,273,735	4,273,415	4,273,371	4,273,416	4,273,417	4,778,489	4,778,313	4,778,157	4,778,308	4,778,357
VA	1,913,787	2,196,286	2,196,122	2,196,114	2,196,121	2,196,123	2,660,436	2,660,383	2,660,251	2,660,382	2,660,396
I-66 Corridor - Prince William County	201,196	231,833	231,821	231,819	231,821	231,832	279,110	279,091	279,088	279,090	279,109

ALL- HOV 3	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	23,648	26,494	26,363	26,355	26,364	26,365	30,208	30,137	30,093	30,137	30,152
Pentagon/Crystal City	13,098	15,517	15,512	15,512	15,512	15,512	16,940	16,939	16,937	16,939	16,939
I-66 Corridor - Fairfax County	321,415	414,972	413,860	413,766	413,871	414,193	432,004	431,039	430,979	431,051	431,645
Tysons Corner	20,531	30,667	30,656	30,656	30,656	30,656	40,643	40,644	40,628	40,628	40,639
I-66 Corridor - Rosslyn/Ballston	80,095	92,641	92,355	92,348	92,355	92,359	99,720	99,626	99,584	99,625	99,646
MD	2,745,059	2,984,138	2,983,855	2,983,806	2,983,856	2,983,857	3,335,945	3,335,764	3,335,579	3,335,760	3,335,807
VA	1,306,435	1,672,458	1,672,228	1,672,217	1,672,228	1,672,232	1,928,486	1,928,423	1,928,290	1,928,419	1,928,445
I-66 Corridor - Prince William County	127,187	183,982	183,851	183,787	183,849	183,941	213,905	213,738	213,691	213,719	213,860

ALL- Transit	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	76,749	66,085	66,747	66,792	66,746	66,741	76,036	76,386	76,591	76,386	76,297
Pentagon/Crystal City	12,319	12,292	12,325	12,325	12,325	12,324	12,815	12,822	12,835	12,822	12,823
I-66 Corridor - Fairfax County	33,628	35,105	38,516	38,725	38,490	37,865	37,186	39,835	40,077	39,771	38,276
Tysons Corner	2,712	7,900	7,945	7,946	7,946	7,945	9,219	9,213	9,275	9,284	9,234
I-66 Corridor - Rosslyn/Ballston	63,453	57,138	59,023	59,071	59,023	59,001	60,393	60,996	61,257	61,000	60,880
MD	621,785	507,166	508,693	508,901	508,690	508,681	530,088	531,032	531,723	531,068	530,757
VA	135,324	126,278	127,397	127,446	127,397	127,384	144,335	144,692	145,435	144,704	144,596
I-66 Corridor - Prince William County	1,400	713	961	1,069	965	779	750	1,073	1,180	1,108	820

ALL- Sum Modes	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	239,817	236,088	236,088	236,090	236,089	236,089	263,389	263,387	263,387	263,387	263,388
Pentagon/Crystal City	108,679	117,409	117,409	117,409	117,409	117,408	126,676	126,676	126,675	126,676	126,677
I-66 Corridor - Fairfax County	1,734,477	1,884,753	1,884,762	1,884,761	1,884,761	1,884,762	2,048,148	2,048,152	2,048,154	2,048,156	2,048,152
Tysons Corner	167,561	190,466	190,464	190,465	190,464	190,464	235,589	235,589	235,588	235,589	235,590
I-66 Corridor - Rosslyn/Ballston	562,704	614,109	614,116	614,118	614,117	614,116	655,324	655,325	655,326	655,326	655,325
MD	14,330,640	14,804,073	14,804,081	14,804,085	14,804,082	14,804,081	16,512,389	16,512,394	16,512,403	16,512,394	16,512,389
VA	6,678,856	7,837,814	7,837,812	7,837,812	7,837,811	7,837,812	9,389,324	9,389,326	9,389,326	9,389,326	9,389,323
I-66 Corridor - Prince William County	652,604	812,819	812,817	812,817	812,818	812,819	973,064	973,061	973,061	973,062	973,064
	24,475,338	26,497,531	26,497,549	26,497,557	26,497,551	26,497,551	30,203,903	30,203,910	30,203,920	30,203,916	30,203,908

Mode Choice Summaries I-66 Transit/TDM Study - Productions
HBW Only, Modes: SOV, HOV2, HOV3+,Transit

HBW- SOV	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	7,895	10,146	10,017	10,002	10,018	10,021	12,532	12,404	12,364	12,406	12,444
Pentagon/Crystal City	4,599	7,426	7,414	7,414	7,414	7,415	8,491	8,487	8,478	8,487	8,487
I-66 Corridor - Fairfax County	204,686	217,604	216,128	216,017	216,136	216,396	237,851	236,629	236,464	236,664	237,351
Tysons Corner	6,748	9,321	9,312	9,312	9,310	9,312	12,573	12,576	12,564	12,564	12,570
I-66 Corridor - Rosslyn/Ballston	42,551	46,603	45,987	45,977	45,988	45,997	51,123	50,826	50,765	50,826	50,883
MD	1,484,815	1,730,317	1,729,876	1,729,811	1,729,878	1,729,882	1,966,883	1,966,512	1,966,369	1,966,507	1,966,617
VA	831,042	1,029,921	1,029,402	1,029,381	1,029,402	1,029,409	1,258,336	1,258,146	1,257,836	1,258,140	1,258,191
I-66 Corridor - Prince William County	78,825	103,230	103,129	103,087	103,127	103,206	124,145	124,013	123,957	124,001	124,121

HBW- HOV 2	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	3,206	3,706	3,676	3,672	3,677	3,677	4,503	4,473	4,464	4,474	4,481
Pentagon/Crystal City	863	1,376	1,374	1,374	1,374	1,374	1,577	1,576	1,575	1,576	1,576
I-66 Corridor - Fairfax County	42,115	34,892	34,723	34,720	34,724	34,749	39,297	39,145	39,142	39,151	39,238
Tysons Corner	1,354	1,584	1,583	1,583	1,582	1,583	2,213	2,214	2,212	2,211	2,213
I-66 Corridor - Rosslyn/Ballston	7,825	7,625	7,529	7,526	7,529	7,530	8,427	8,375	8,365	8,374	8,384
MD	286,818	323,487	323,394	323,377	323,394	323,395	365,000	364,915	364,882	364,914	364,935
VA	155,992	172,478	172,404	172,400	172,404	172,405	216,466	216,436	216,383	216,435	216,443
I-66 Corridor - Prince William County	19,303	17,365	17,354	17,353	17,354	17,364	21,155	21,140	21,137	21,139	21,155

HBW- HOV 3	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	2,452	2,974	2,942	2,938	2,942	2,943	3,568	3,536	3,528	3,536	3,544
Pentagon/Crystal City	443	723	721	721	721	721	788	787	786	787	787
I-66 Corridor - Fairfax County	14,614	28,103	27,190	27,102	27,199	27,503	24,316	23,506	23,456	23,512	24,047
Tysons Corner	436	773	769	770	769	769	810	813	806	809	809
I-66 Corridor - Rosslyn/Ballston	4,575	5,203	5,122	5,121	5,122	5,124	5,328	5,283	5,275	5,282	5,298
MD	82,484	116,372	116,269	116,252	116,269	116,271	128,950	128,848	128,822	128,847	128,873
VA	82,212	124,709	124,551	124,545	124,551	124,554	117,685	117,640	117,562	117,639	117,655
I-66 Corridor - Prince William County	4,814	12,855	12,730	12,669	12,729	12,815	13,643	13,488	13,443	13,470	13,599

HBW- Transit	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	32,020	30,420	30,610	30,634	30,609	30,605	36,645	36,835	36,891	36,832	36,779
Pentagon/Crystal City	6,227	8,263	8,278	8,278	8,278	8,278	8,505	8,511	8,521	8,511	8,511
I-66 Corridor - Fairfax County	28,811	30,529	33,094	33,295	33,076	32,488	31,651	33,836	34,058	33,792	32,481
Tysons Corner	1,594	3,832	3,846	3,845	3,848	3,846	4,621	4,614	4,635	4,633	4,625
I-66 Corridor - Rosslyn/Ballston	38,702	37,652	38,449	38,462	38,448	38,434	37,826	38,221	38,300	38,222	38,138
MD	428,516	372,301	372,937	373,038	372,936	372,929	386,627	387,185	387,387	387,191	387,031
VA	110,979	103,437	104,186	104,220	104,187	104,177	116,263	116,527	116,971	116,536	116,460
I-66 Corridor - Prince William County	1,366	682	917	1,022	920	746	719	1,019	1,123	1,051	787

HBW- Sum Modes	2005	2015 Baseline	2015 ALT 1	2015 ALT 2	2015 ALT 3	2015 Refined	2030 Baseline	2030 ALT 1	2030 ALT 2	2030 ALT 3	2030 Refined
DC Core	45,573	47,246	47,245	47,246	47,246	47,246	57,248	57,248	57,247	57,248	57,248
Pentagon/Crystal City	12,132	17,788	17,787	17,787	17,787	17,788	19,361	19,361	19,360	19,361	19,361
I-66 Corridor - Fairfax County	290,226	311,128	311,135	311,134	311,135	311,136	333,115	333,116	333,120	333,119	333,117
Tysons Corner	10,132	15,510	15,510	15,510	15,509	15,510	20,217	20,217	20,217	20,217	20,217
I-66 Corridor - Rosslyn/Ballston	93,653	97,083	97,087	97,086	97,087	97,085	102,704	102,705	102,705	102,704	102,703
MD	2,282,633	2,542,477	2,542,476	2,542,478	2,542,477	2,542,477	2,847,460	2,847,460	2,847,460	2,847,459	2,847,456
VA	1,180,225	1,430,545	1,430,543	1,430,546	1,430,544	1,430,545	1,708,750	1,708,749	1,708,752	1,708,750	1,708,749
I-66 Corridor - Prince William County	104,308	134,132	134,130	134,131	134,130	134,131	159,662	159,660	159,660	159,661	159,662

Appendix G

Park-and-Ride Analysis

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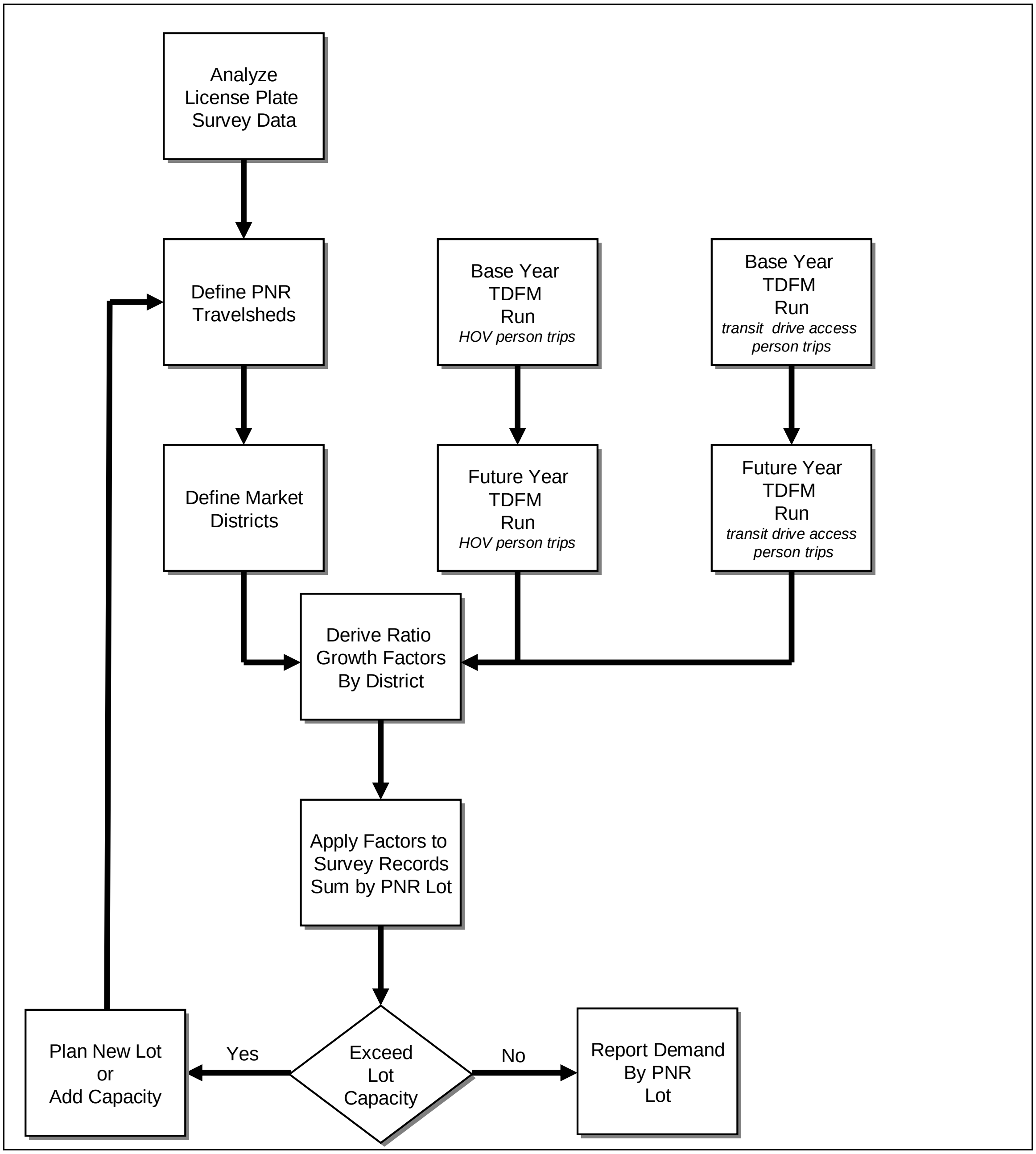
Appendix G. Park-and-Ride Analysis

This Appendix provides supplemental information regarding the park-and-ride survey and analysis that was performed as part of the I-66 Transit/TDM Study. Figure G-1 provides a flowchart of the park-and-ride demand forecasting process used in this study and referenced in Section 10.2.1 of the report.

Figure G-1. Park-and-Ride Analysis Flowchart



TDFM = Travel Demand Forecasting Model.
PNR = Park-and-Ride Lot.

The remainder of this Appendix reports data compiled from the park-and-ride lot survey conducted at 17 parking facilities as part of this study and discussed in Section 10. A map showing the location of the parking facilities included in the survey is provided as Figure 10-1. Within this Appendix, a location map, results of the utilization survey, and photographs of the facility are provided for each of the surveyed facilities. In addition, for each of the parking facilities with more than one vehicle parked at them at the time of the survey, a second map is included showing the apparent commuter catchment area (based on Virginia Department of Motor Vehicle registration records); each green dot represents the home location of a vehicle parked in the indicated lot. The data sections are numbered according to the park-and-ride lot numbers shown in Figure 10-1.

The main results of this survey include:

- The Ballston Public Parking Garage (Lot #2) is a special case as there is no area of the garage specifically designated for park-and-ride users. The top two floors of the garage were surveyed because they were predominantly used by park-and-ride commuters. It is possible that the surveyed vehicles include shoppers at the mall or employees in the nearby office buildings as well. This issue could explain the widespread origins of vehicles parked at this facility.

- The park-and-ride lot at the Centreville United Methodist Church (Lot #3) primarily draws commuters from communities along VA 28.

- While many of the origins for vehicles at the Fairfax County Government Center park-and-ride lot (Lot #5) are located in the surrounding neighborhoods, others are located much further away including some in Prince William County which may indicate the Fairfax County employees are parking in the park-and-ride facility.

- Vehicles parked at the Four Mile Run park-and-ride lot in southwestern Arlington County (Lot #6) typically originate in eastern Fairfax County.

- The Limestone Drive park-and-ride lot (Lot #8) draws users primarily from northern Prince William County, with some users originating in Warrenton as well.

- Vehicles at the Manassas Mall park-and-ride lot (Lot #9) originate from Manassas or areas further west in Prince William County.

- The origins of most of the vehicles parked at the Quincy Street park-and-ride lot (Lot #10) are within Arlington County, although this lot might also contain overflow parkers from the Arlington County office building adjacent to the site.

- The majority of vehicles at the Portsmouth Road Commuter Lot (Lot #12) originate in Manassas and points north.

- Although sparsely utilized, the majority of users of the St. Paul's Church park-and-ride lot (Lot #13) originate in Fairfax County west of the facility.

- Origins for the users of the Stone Road – U.S. 29 park-and-ride lot (Lot #14) are clustered around the facility west of VA 28 primarily in Fairfax County.

- Users of the Stringfellow Road park-and-ride lot (Lot #15) are clustered near the facility primarily to the east of VA 28.

- The four park-and-ride lots that are located at Metro stations all show somewhat similar patterns, with users originating on either side of I-66, with the westernmost stations showing users from the westernmost jurisdictions.

  - Vehicles parked at the East Falls Church Metrorail station originate in the City of Falls Church and the easternmost portions of Fairfax County.

  - Users of the facility at the West Falls Church Metrorail station tend to originate from eastern Fairfax County; however, there are many vehicles which originate along the VA 7 and VA 267 corridors in northern Fairfax County and eastern Loudoun County.

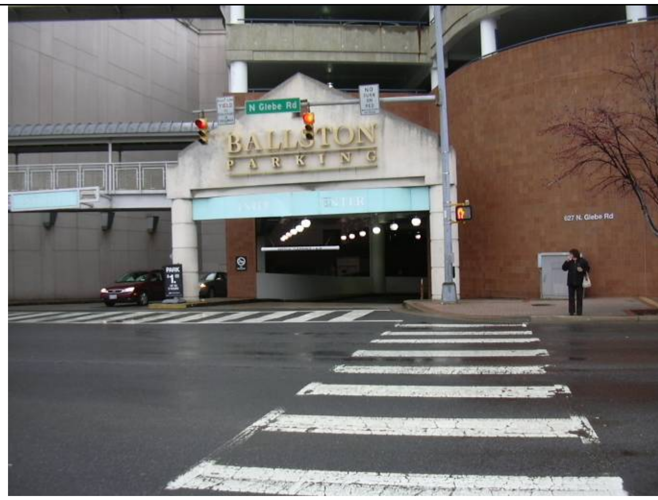
  - Users of the park-and-ride facilities at the Dunn Loring-Merrifield Metrorail station originate primarily in Fairfax County within a short distance to either side of the Capital Beltway (I-495).

  - The park-and-ride facilities at the Vienna/Fairfax-GMU Metrorail station have the largest catchment area of any of the facilities surveyed for this study. There are high densities of users originating from areas throughout northern Fairfax County, in addition to users in Manassas and Haymarket in Prince William County and the South Riding area in Loudoun County.

G.2 Ballston Public Parking Garage

Characteristics	
Address:	665 North Glebe Road Arlington, VA 22203
Nearest Cross Street:	North Glebe Road at Randolph Road
Owner:	Arlington County
Surface Type:	Concrete Surface
Amenities:	Lighting Striping
Date Surveyed:	3/19/2009
Weather:	Cloudy/Rain

Site Photographs



Ballston Public Parking Garage Entrance at Glebe Road

Handicapped Spaces at Ballston Public Parking Garage

Lighting Condition at Ballston Public Parking Garage

Pavement/Striping Condition at Ballston Public Parking Garage

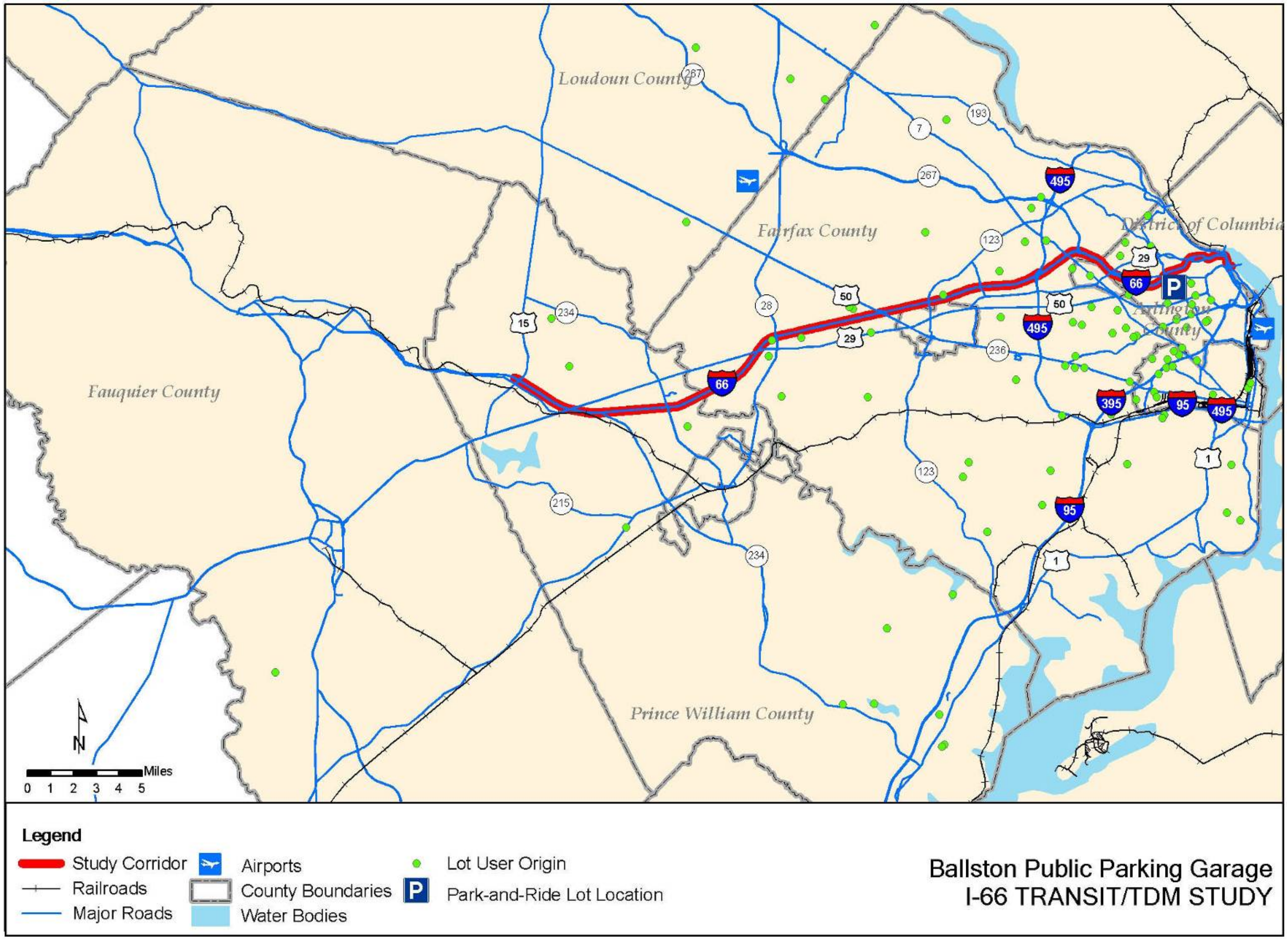
Skywalk Connecting Garage to Ballston Metro Station

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	5	$1.00 < 3hrs	1		
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	799	$1.00 < 3hrs	196		
Any other:					
	804		197		

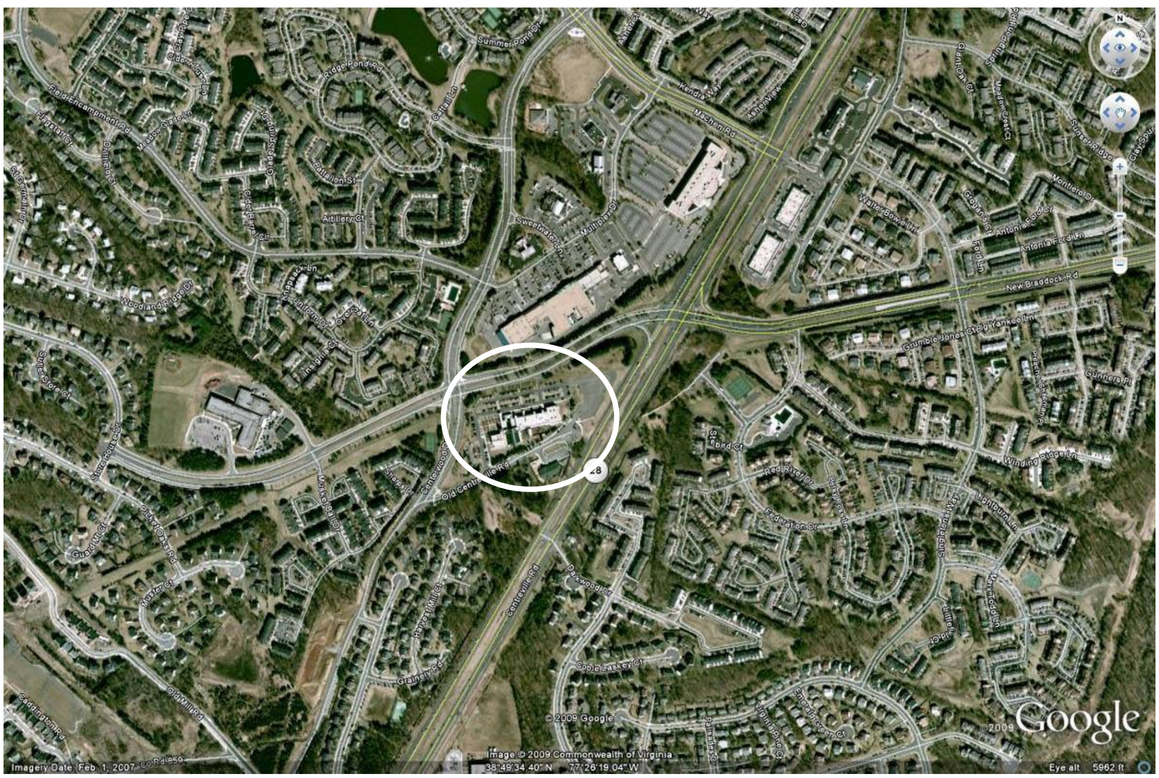
Remarks: There are no defined spaces for park-and-ride at this facility. The top two floors were surveyed because they were predominantly used by park-and-ride users. (Parking rates vary: $7.00 for under seven hours, $8.00 for over eight hours.)

Ballston Public Parking Garage User Origins

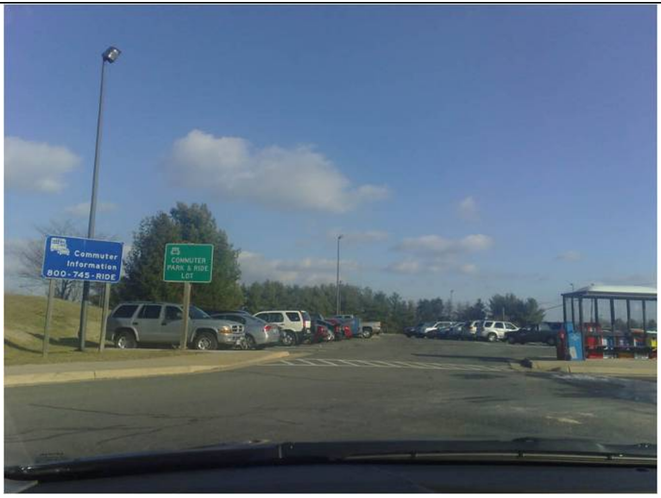


G.3 Centreville United Methodist Church Park-and-Ride Lot

Characteristics	
Address:	6400 Old Centreville Road Centreville, VA 20121
Nearest Cross Street:	New Braddock Road at VA 28
Owner:	Private
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelters (2)
Date Surveyed:	1/9/2009
Weather:	Sunny



Site Photographs



Centerville Commuter Lot Sign

Centerville Commuter Park-and-Ride Lot

Striping/Lighting Condition at Centerville Commuter Park-and-Ride Lot

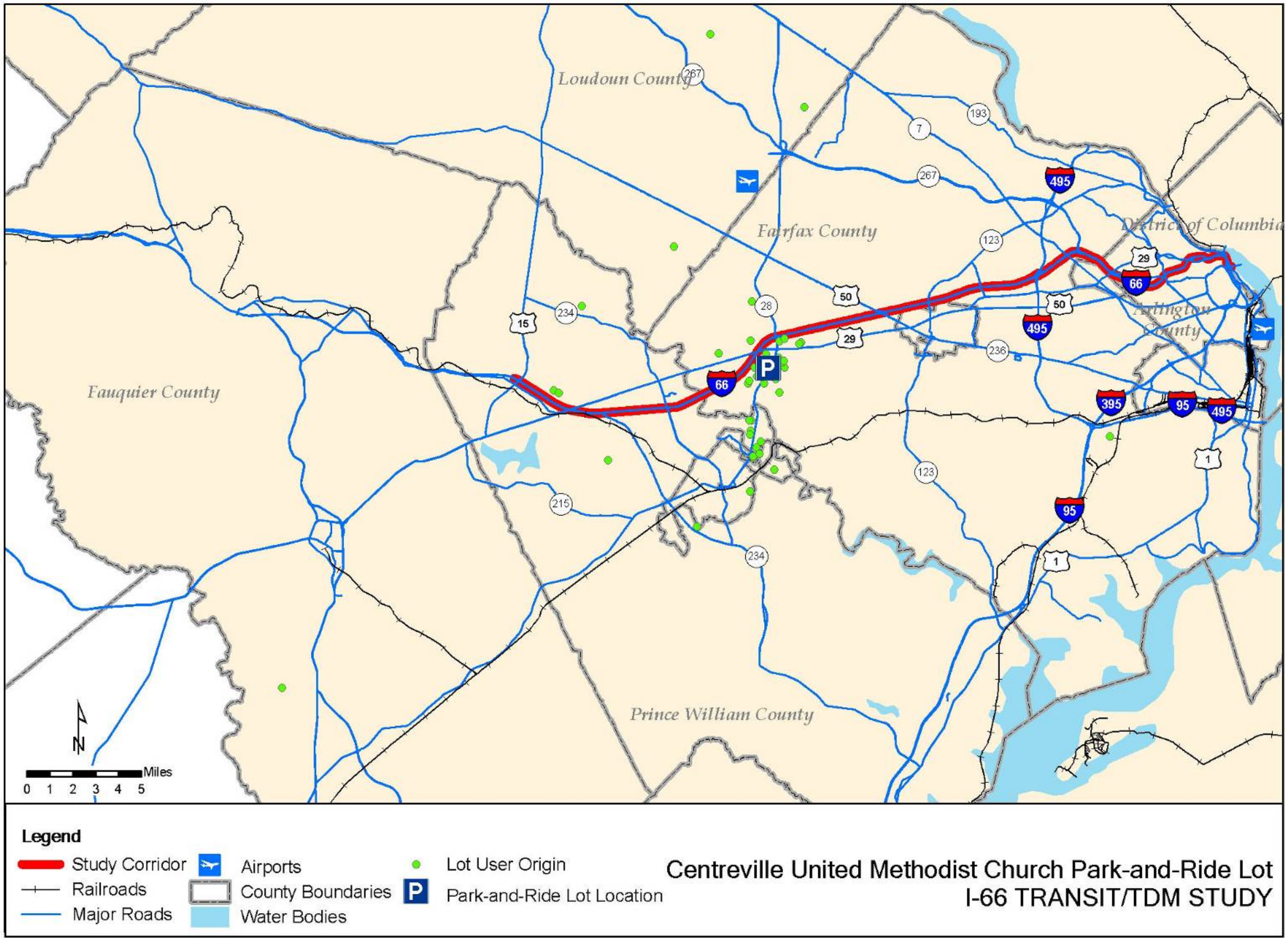
Pavement Condition/Shelter at Centerville Commuter Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	6		0		
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	141		53		
Any other:					
	147		53		

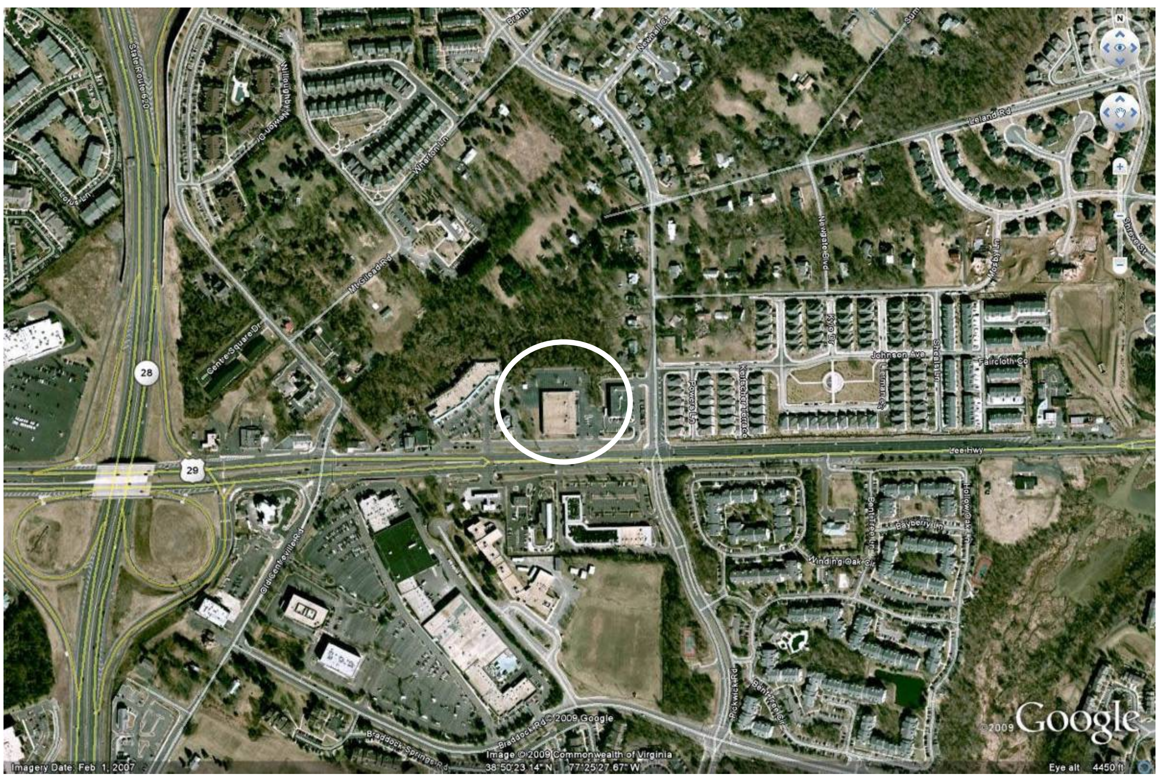
Remarks: Free parking.

Centreville United Methodist Church Park-and-Ride Lot User Origins



G.4 Fair Lanes Bowling Center Park-and-Ride Lot

Characteristics	
Address:	13814 Lee Highway Centreville, VA 20120
Nearest Cross Street:	Lee Highway at Pickwick Road
Owner:	Fairfax County
Surface Type:	Asphalt
Amenities:	Lighting Striping
Date Surveyed:	1/7/2009
Weather:	Sunny



Site Photographs

Parking Lot at Fair Lanes Bowling Center

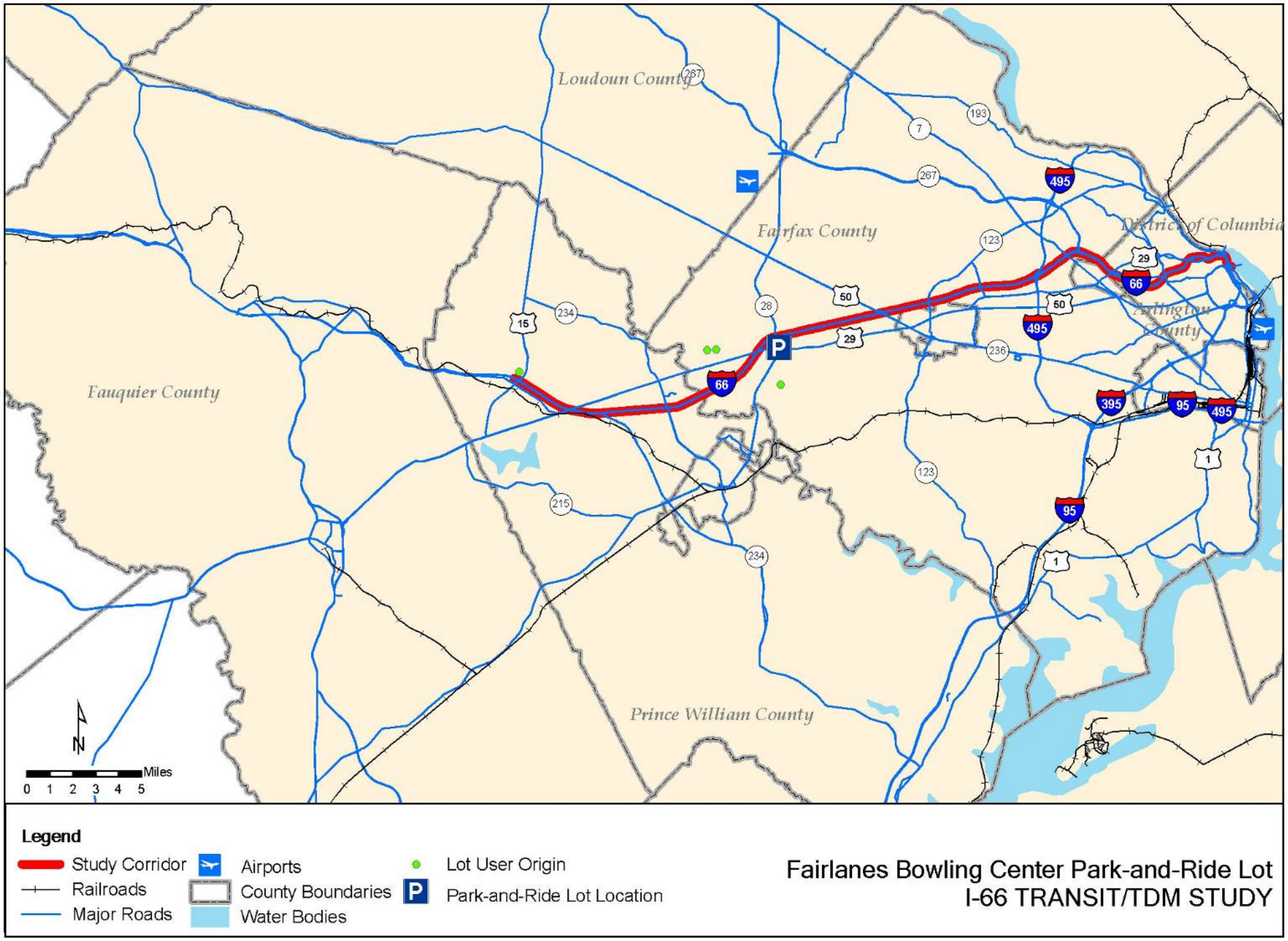
Striping/Pavement/Lighting Conditions at Fair Lanes Bowling Center Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:					
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	32		4		
Any other:					
	32		4		

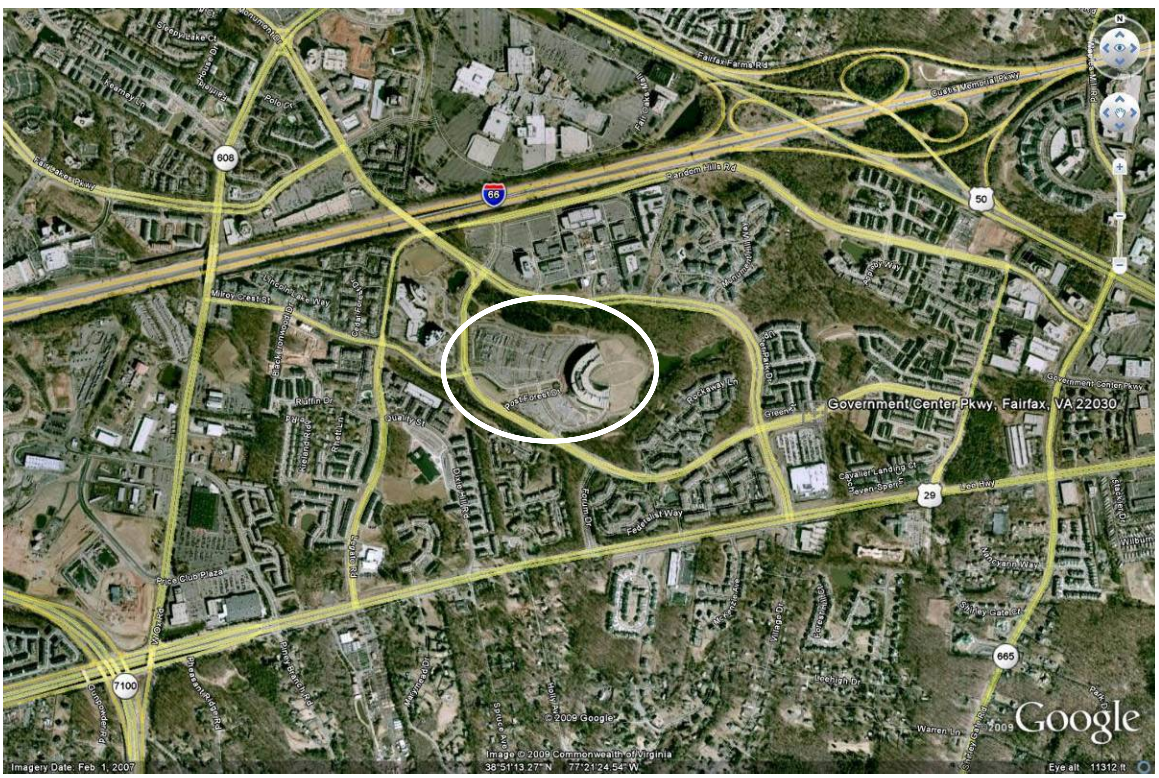
Remarks: Free parking.

Fair Lanes Bowling Center Park-and-Ride Lot User Origins



G.5 Fairfax County Government Center Park-and-Ride Lot

Characteristics	
Address:	12000 Government Center Parkway Fairfax, VA 20120
Nearest Cross Street:	Government Center Parkway at Post Forest Drive
Owner:	Fairfax County
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelter (1)
Date Surveyed:	1/8/2009
Weather:	Sunny



Site Photographs

Parking Lot at Fairfax County Government Center

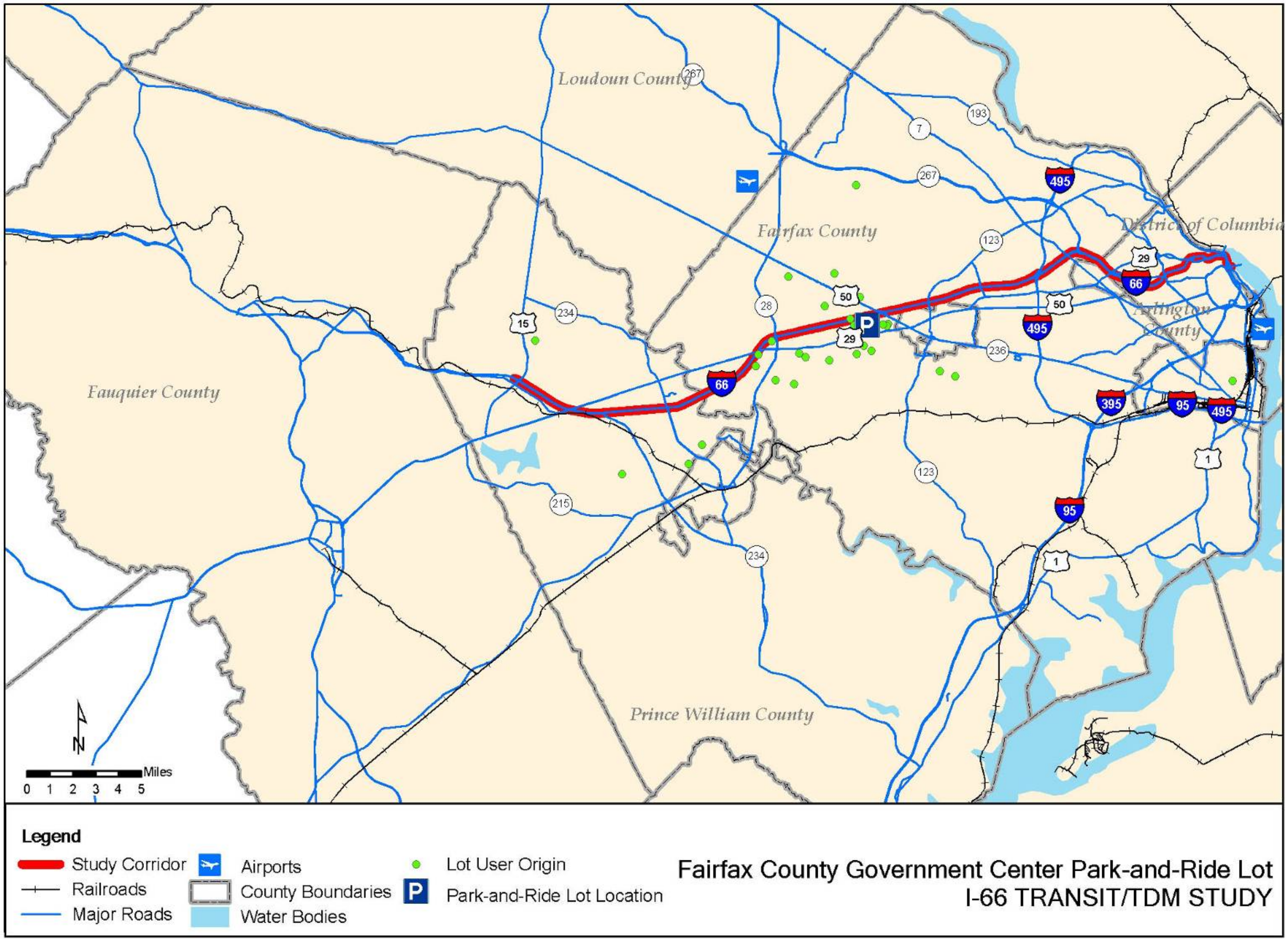
Striping/Pavement/Lighting Conditions at Fairfax County Government Center Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	10		1		
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	110		48		
Any other:					
	120		49		

Remarks: Free parking.

Fairfax County Government Center Park-and-Ride Lot User Origins

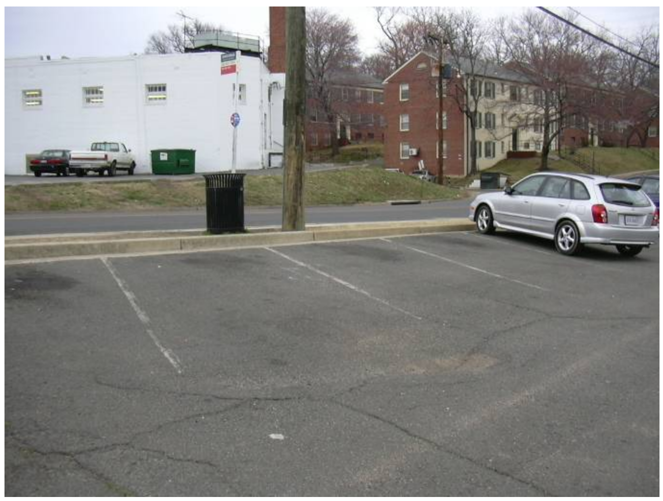


G.6 Four Mile Run Park-and-Ride Lot

Characteristics	
Address:	Commuter Parking Lot Arlington, VA 22206
Nearest Cross Street:	Columbia Pike at Four Mile Run
Owner:	Arlington County
Surface Type:	Asphalt
Amenities:	Lighting Partly Striped
Date Surveyed:	1/27/2009
Weather:	Cloudy

Site Photographs

Parking Lot at Four Mile Run



Metrobus Stop at Four Mile Run

Striping Condition at Four Mile Run Park-and-Ride Lot

Pavement Condition at Four Mile Run Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:					
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	23		23		
Any other:					
	23		23		

Remarks: No signs. Free parking.

Four Mile Run User Origins Park-and-Ride Lot

G.8 Limestone Drive Park-and-Ride Lot

Characteristics	
Address:	Commuter Parking Lot Gainesville, VA 20155
Nearest Cross Street:	Linton Hall Road at Milestone Court
Owner:	Prince William County
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelter (1)
Date Surveyed:	1/9/2009
Weather:	Sunny

Site Photographs

Parking Lot at Limestone Drive

Striping/Lighting Conditions at Limestone Drive

Pavement Condition at Limestone Drive Park-and-Ride Lot

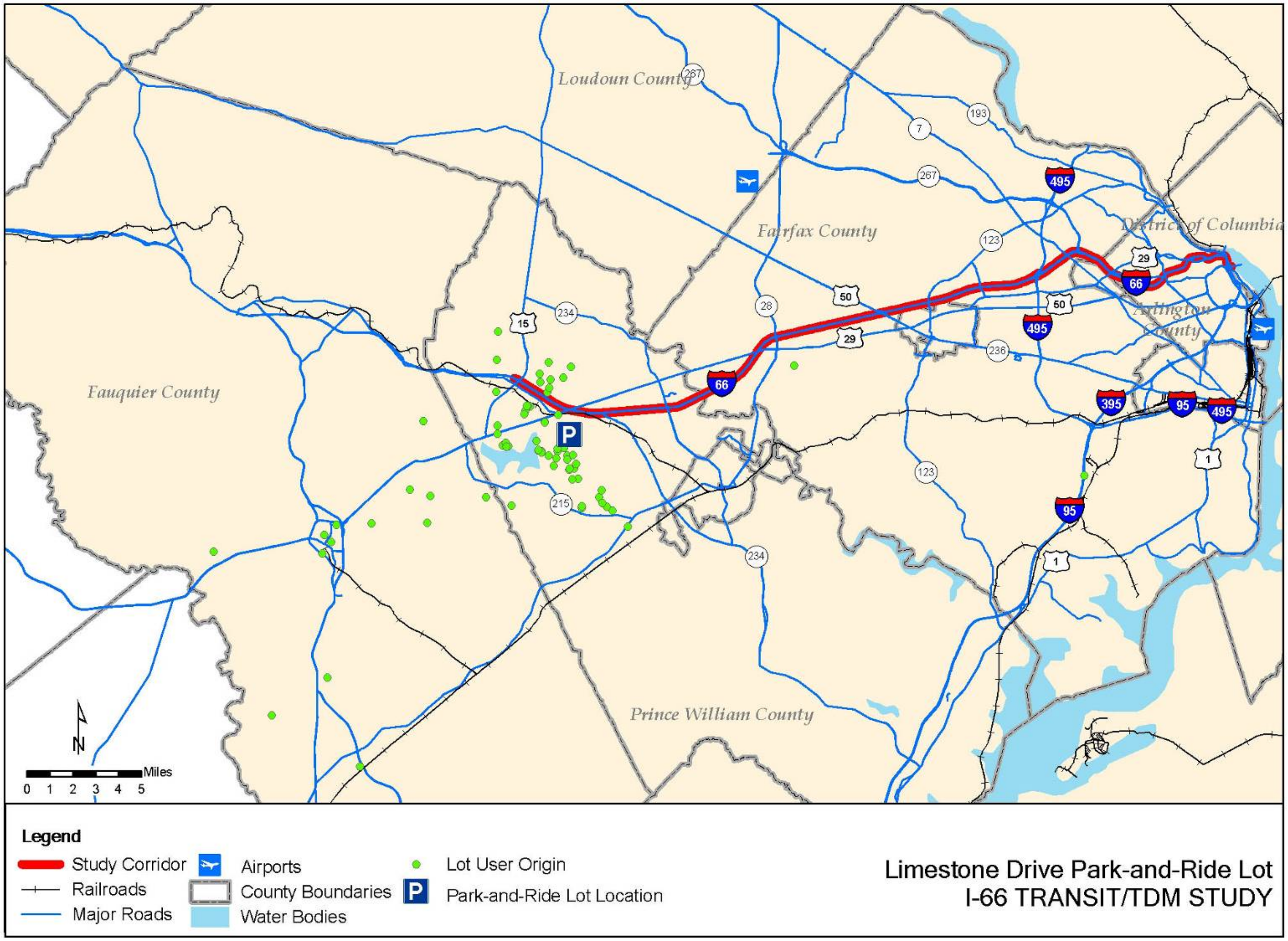
Overflow Parking Spaces at Limestone Drive Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	5				
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	131		86		
Overflow Parking:	75		1		
	211		87		

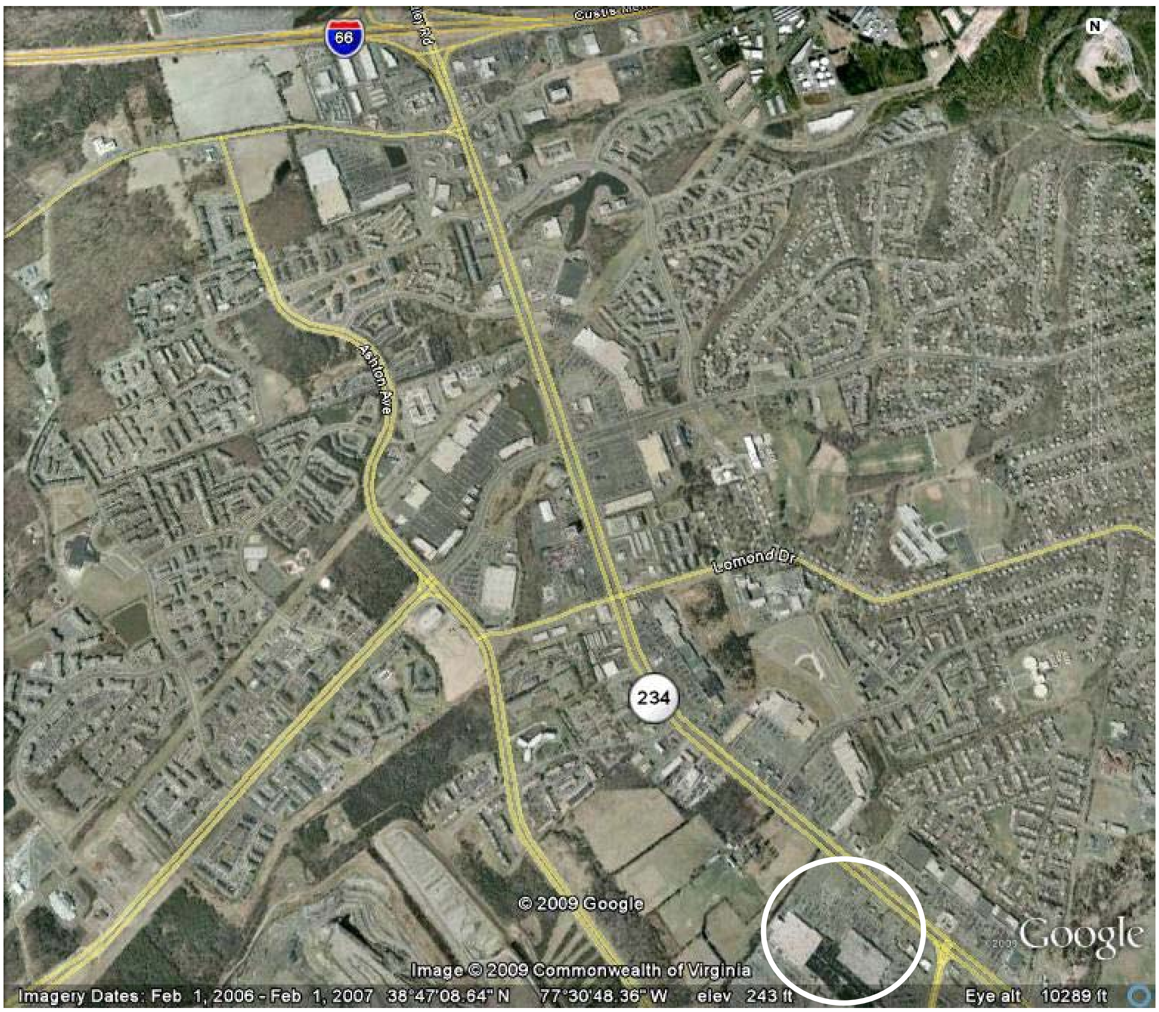
Remarks: Commuter overflow parking: 4:30 a.m. to 8:00 p.m. Monday through Friday.

Limestone Drive Park-and-Ride Lot User Origins



G.9 Manassas Mall Park-and-Ride Lot

Characteristics	
Address:	8300 Sudley Road, Manassas, VA 20109
Owner:	Private
Surface Type:	Asphalt
Amenities:	Lighting Striping
Date Surveyed:	3/10/2009
Weather:	Cloudy



Site Photographs

Park-and-Ride Lot at Manassas Mall (Sears)

Handicapped Spaces at Manassas Mall Park-and-Ride Lot (Sears)

Lighting at Manassas Mall Park-and-Ride Lot (Sears)

Pavement/Striping Condition at Manassas Mall Park-and-Ride Lot (Sears)

Park-and-Ride Lot at Manassas Mall (JCPenney)

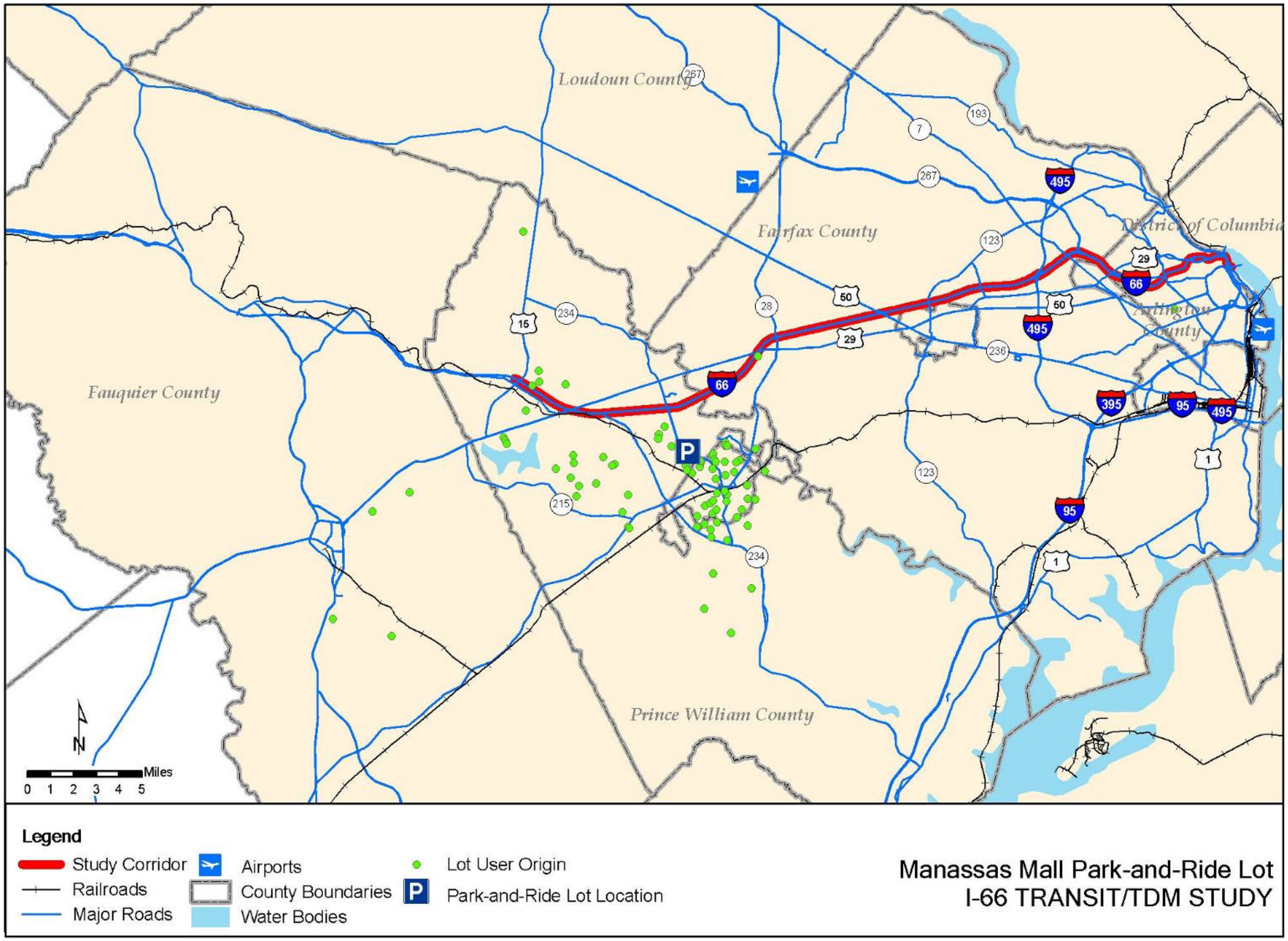
Pavement/Striping Condition at Manassas Mall Park-and-Ride Lot (JCPenney)

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	13		1		
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	630		120		
Any other:					
	643		121		

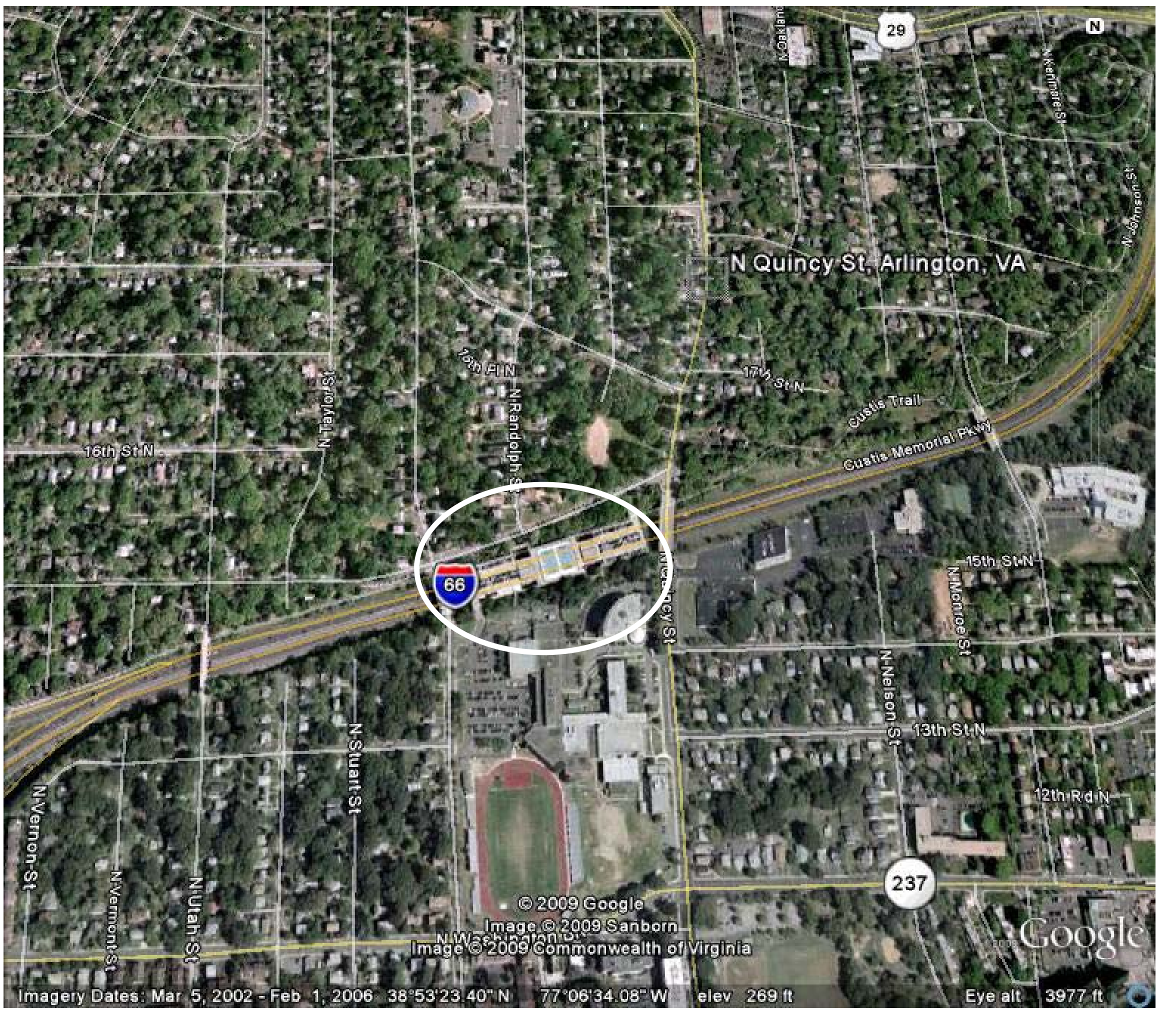
Remarks: Free parking.

Manassas Mall Park-and-Ride Lot User Origins



G.10 North Quincy Street Park-and-Ride Lot

Characteristics	
Address:	Commuter Parking Lot, 15th Street N. Arlington, VA 22207
Nearest Cross Street:	Quincy Street at 15th Street
Owner:	Arlington County
Surface Type:	Concrete Pavement Surface
Amenities:	Lighting Striping
Date Surveyed:	1/12/2009
Weather:	Sunny



Site Photographs

Park-and-Ride Lot at North Quincy Street

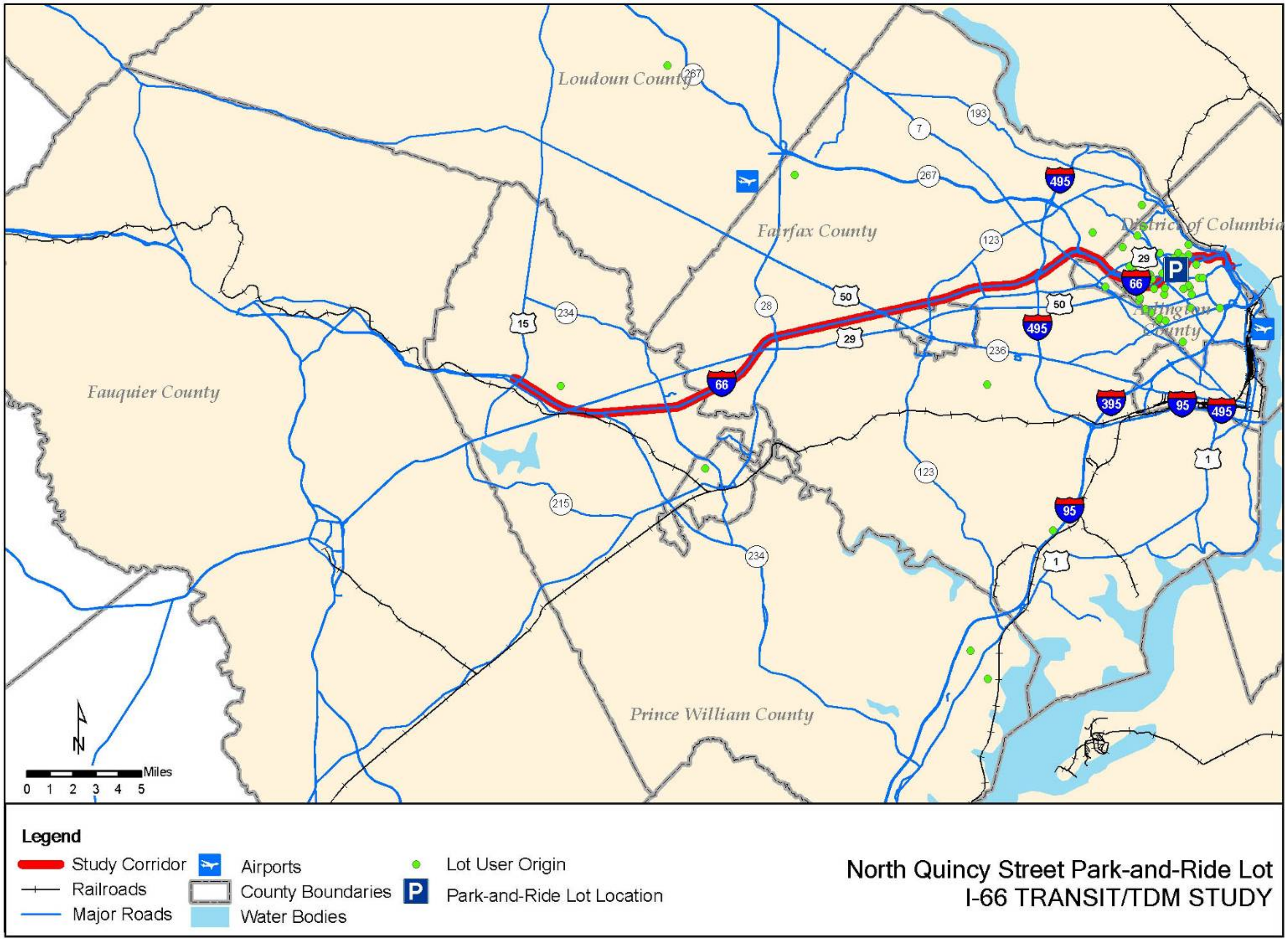
Striping/Lighting Conditions at North Quincy Street Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	1		1		
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	77		74		
Any other:					
	78		75		

Remarks: Top level of garage space counted.

North Quincy Street Park-and-Ride Lot User Origins



G.11 Poplar Tree Park Park-and-Ride Lot

Characteristics	
Address:	4718 Stringfellow Road Chantilly, VA 20151
Nearest Cross Street:	Stringfellow Road at Fair Lakes Parkway
Owner:	Fairfax County
Surface Type:	Asphalt (poor pavement condition)
Amenities:	Partial Striping
Date Surveyed:	1/8/2009
Weather:	Partly Sunny

Site Photographs

Poplar Tree Park Entrance

Park-and-Ride Lot at Poplar Tree Park

Handicapped Space at Poplar Tree Park Park-and-Ride Lot

Pavement Condition at Poplar Tree Park Park-and-Ride Lot

Handicapped Space at Poplar Tree Park Park-and-Ride Lot

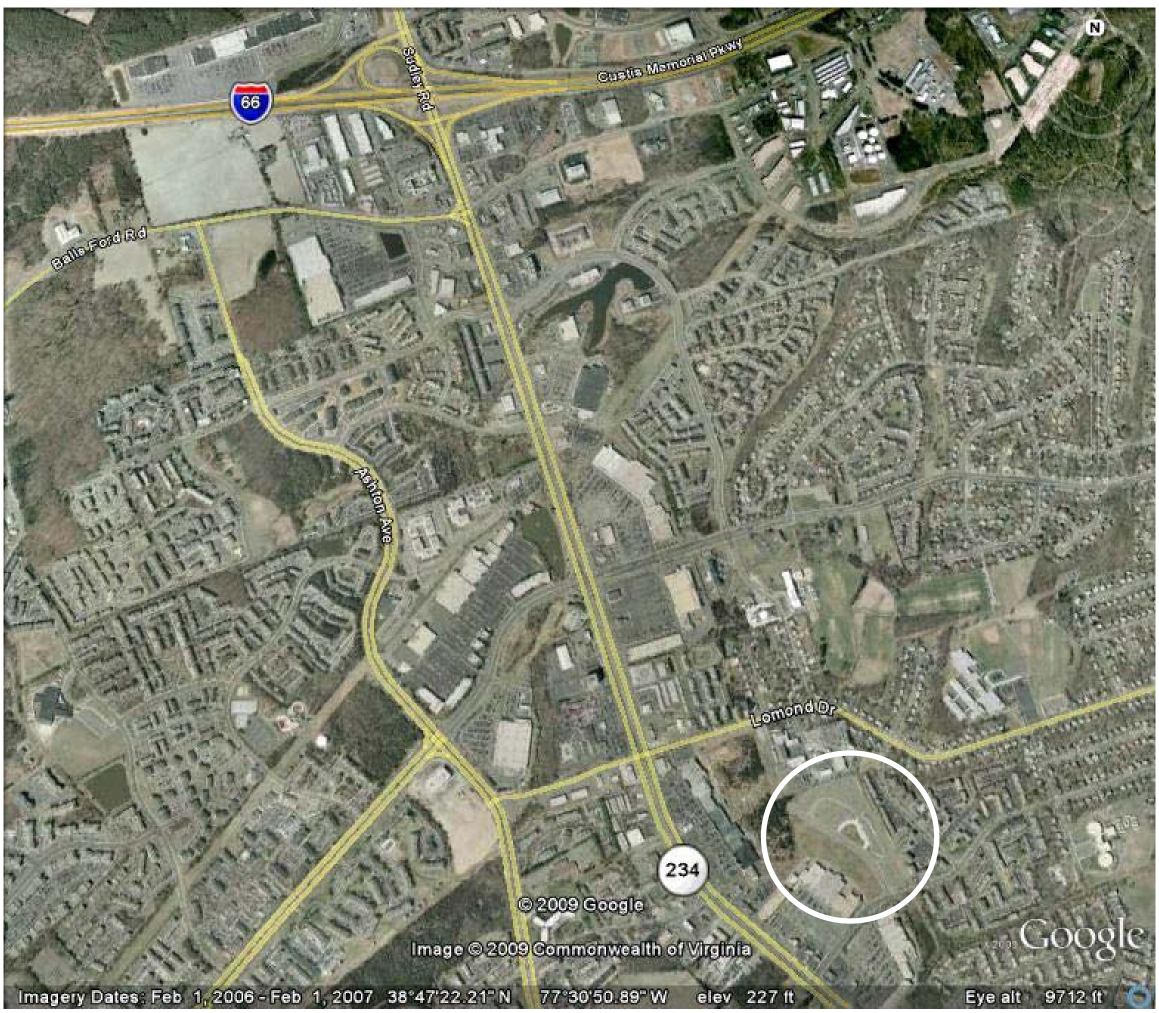
Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	7		0		
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	264		0		
Any other:					
	271		0		

Remarks: Handicapped spaces partly striped. Handicap signs present. Free parking. Spaces counted by counting curbs.

G.12 Portsmouth Road Commuter Lot

Characteristics	
Address:	Portsmouth Road Commuter Lot Manassas, VA 20109
Nearest Cross Street:	Portsmouth Road at Williamson Boulevard
Owner:	VDOT
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelters (4)
Date Surveyed:	1/8/2009
Weather:	Sunny



Site Photographs

Portsmouth Commuter Lot Sign

Portsmouth Commuter Park-and-Ride Lot Entrance

Striping/Lighting Condition at Portsmouth Commuter Park-and-Ride Lot

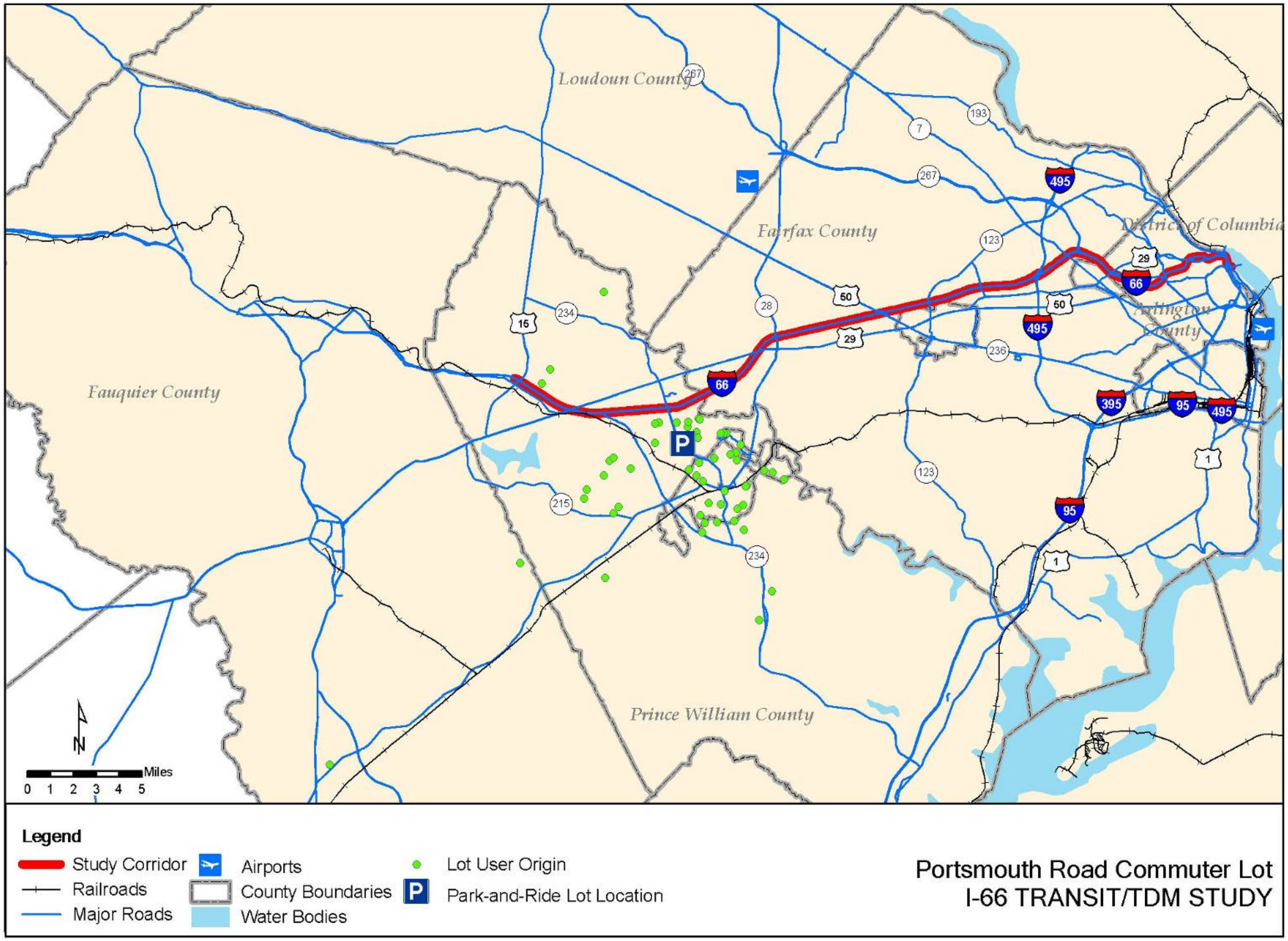
Pavement Condition/Shelter at Portsmouth Commuter Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	5				
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	625		63		
Any other:					
	630		63		

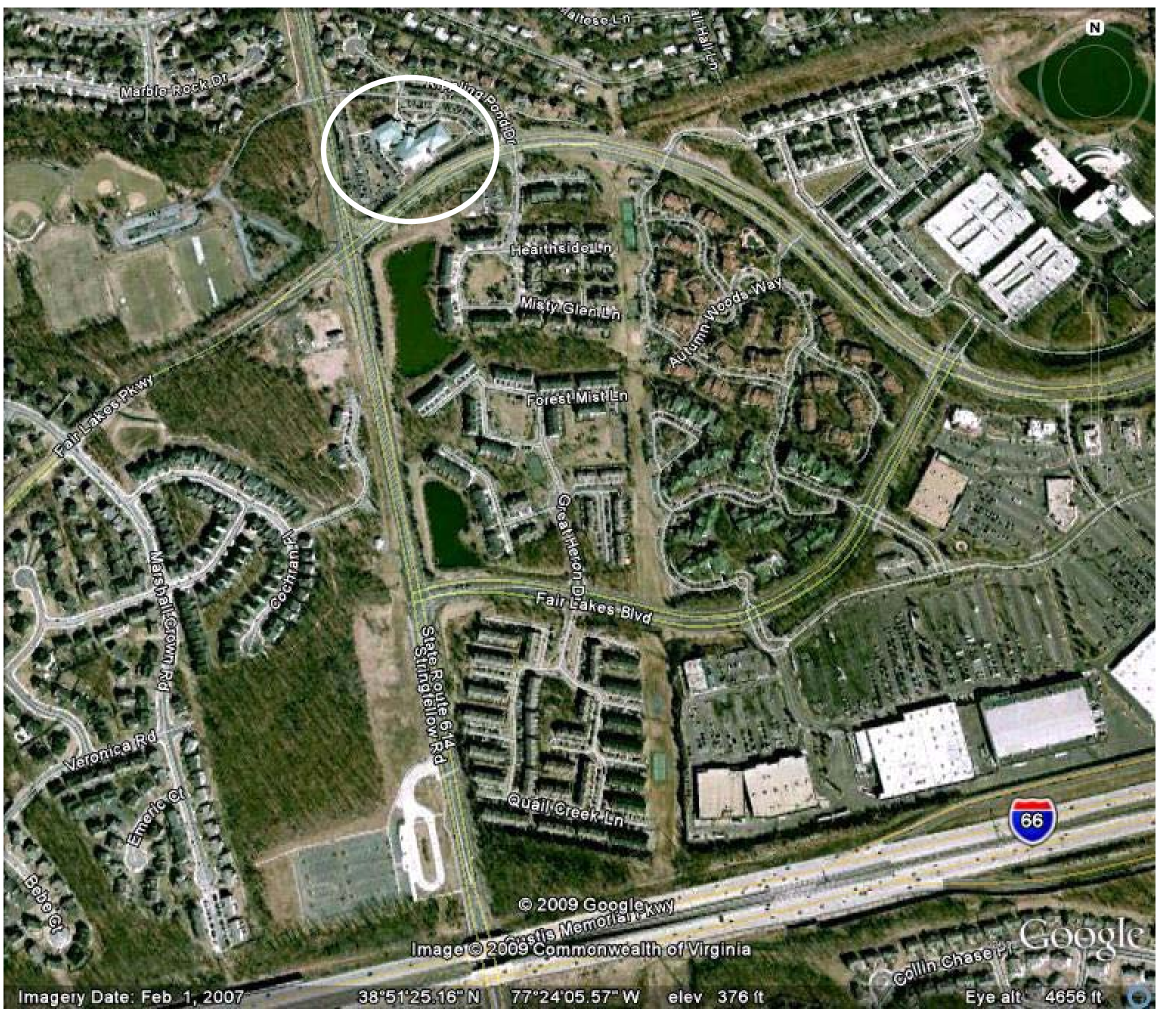
Remarks: Free parking.

Portsmouth Road Commuter Lot User Origins



G.13 St. Paul's Church Park-and-Ride Lot

Characteristics	
Address:	4712 Rippling Pond Dr**Error! Hyperlink reference not valid.** Fairfax, VA 22033
Nearest Cross Street:	Rippling Pond Drive at Fair Lakes Parkway
Owner:	Private
Surface Type:	Asphalt
Amenities:	Lighting Striping
Date Surveyed:	1/8/2009
Weather:	Cloudy



Site Photographs

St. Paul’s Church Commuter Park-and-Ride and Metrobus Stop Sign

St. Paul’s Church Commuter Park-and-Ride Entrance

Lighting Condition at St. Paul's Church Commuter Parking Lot

Striping Condition at St. Paul's Church Commuter Parking Lot

Handicapped Spaces at St. Paul's Church Commuter Parking Lot

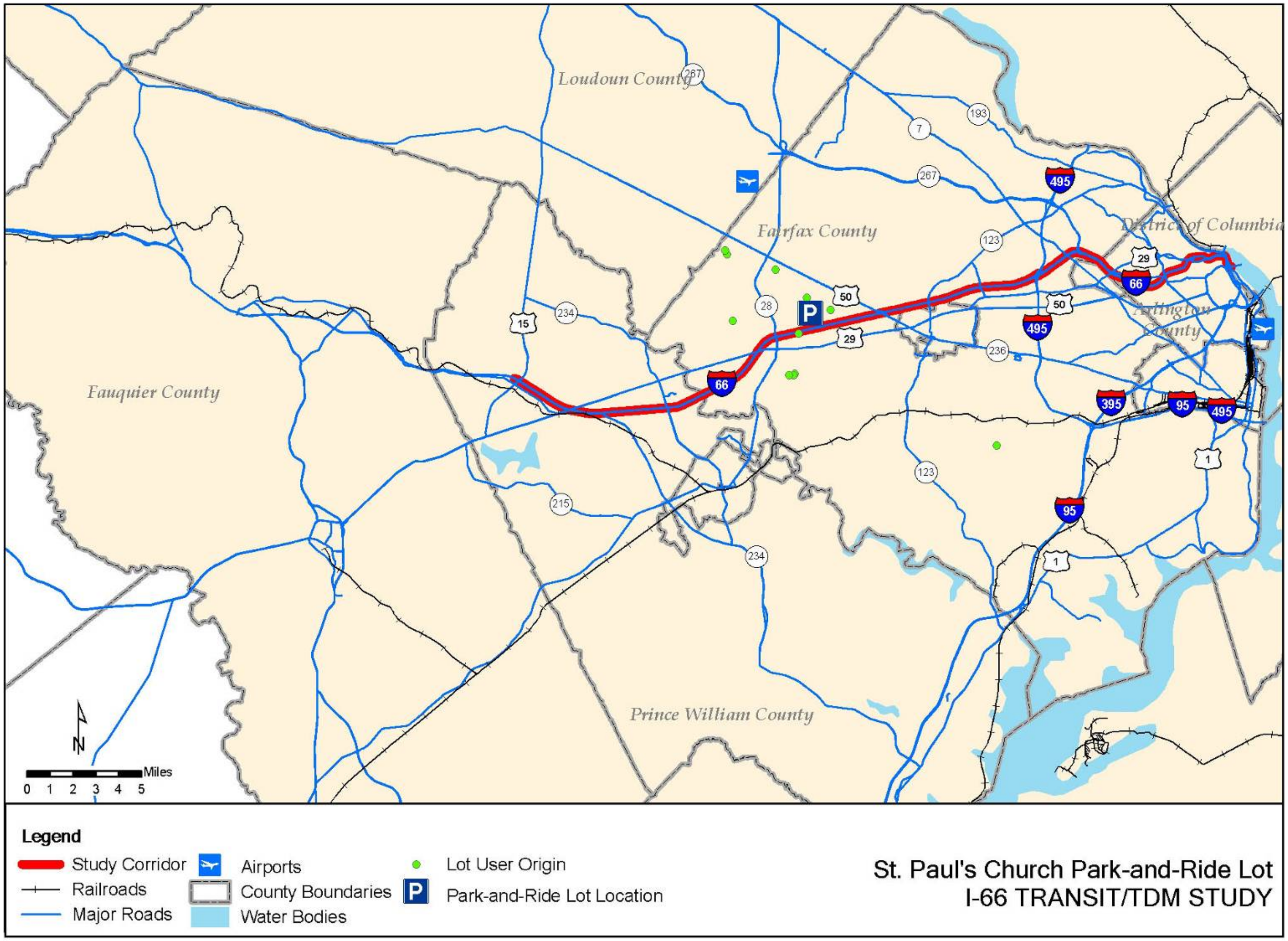
Pavement Condition at St. Paul's Church Commuter Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	5		0		
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	107		13		
Any other:					
	112		13		

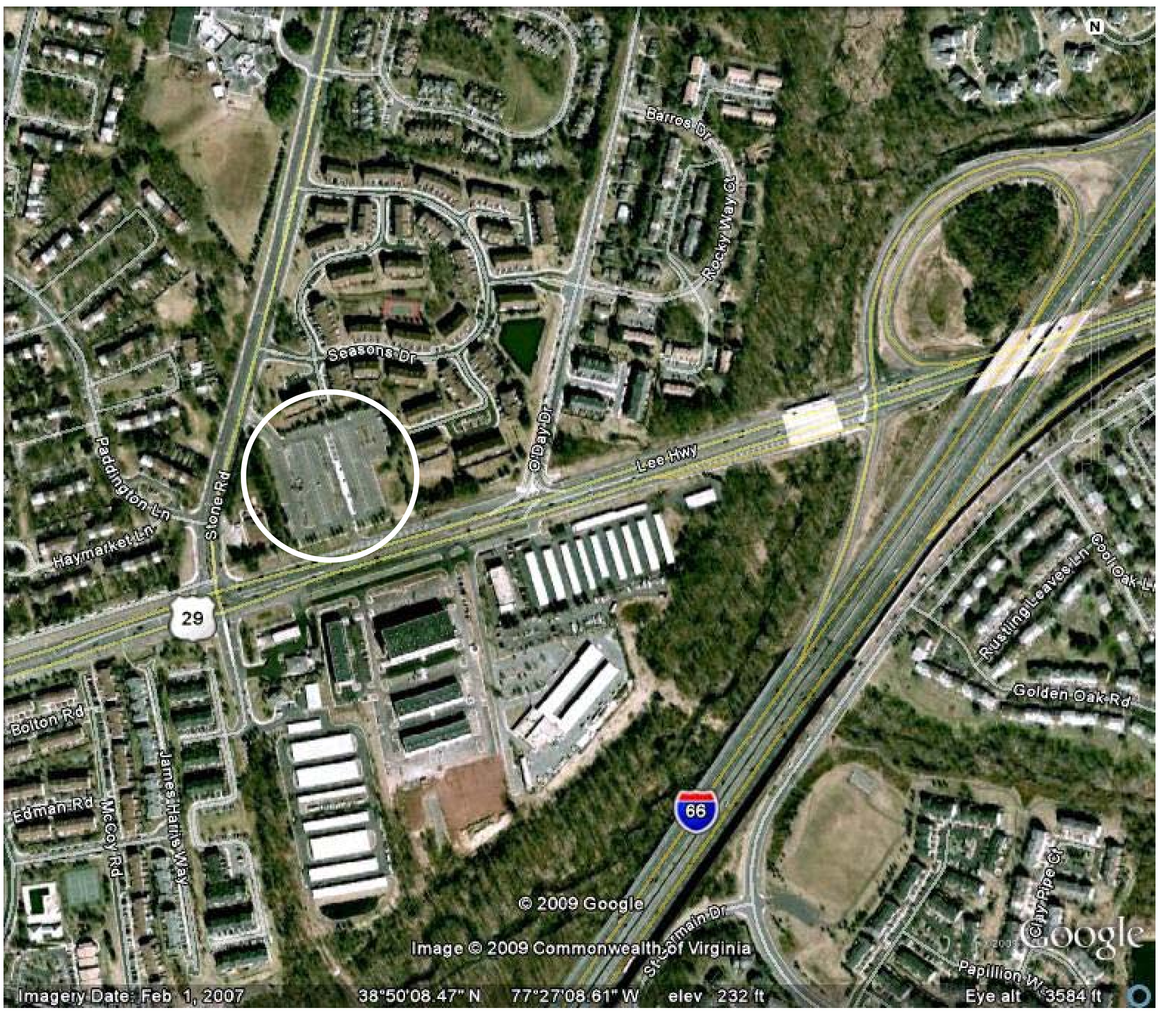
Remarks: Monday through Friday (6:00 a.m. to 7:00 p.m.). User cost – free.

St. Paul's Church Park-and-Ride Lot User Origins



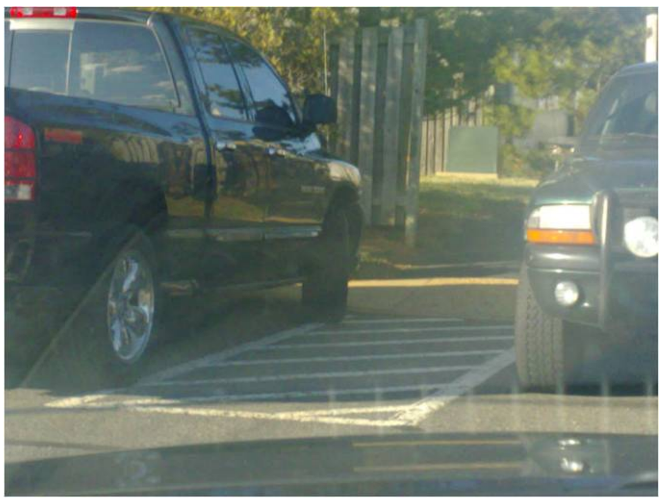
G.14 Stone Road – U.S. 29 Park-and-Ride Lot

Characteristics	
Address:	14700 Lee Highway Centerville, VA 20120
Nearest Cross Street:	Stone Road at Lee Highway (U.S. 29)
Owner:	Fairfax County
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelters (3)
Date Surveyed:	1/8/2009
Weather:	Sunny



Site Photographs

Entrance/Lighting Condition at Stone Road – U.S. 29 Park-and-Ride Lot



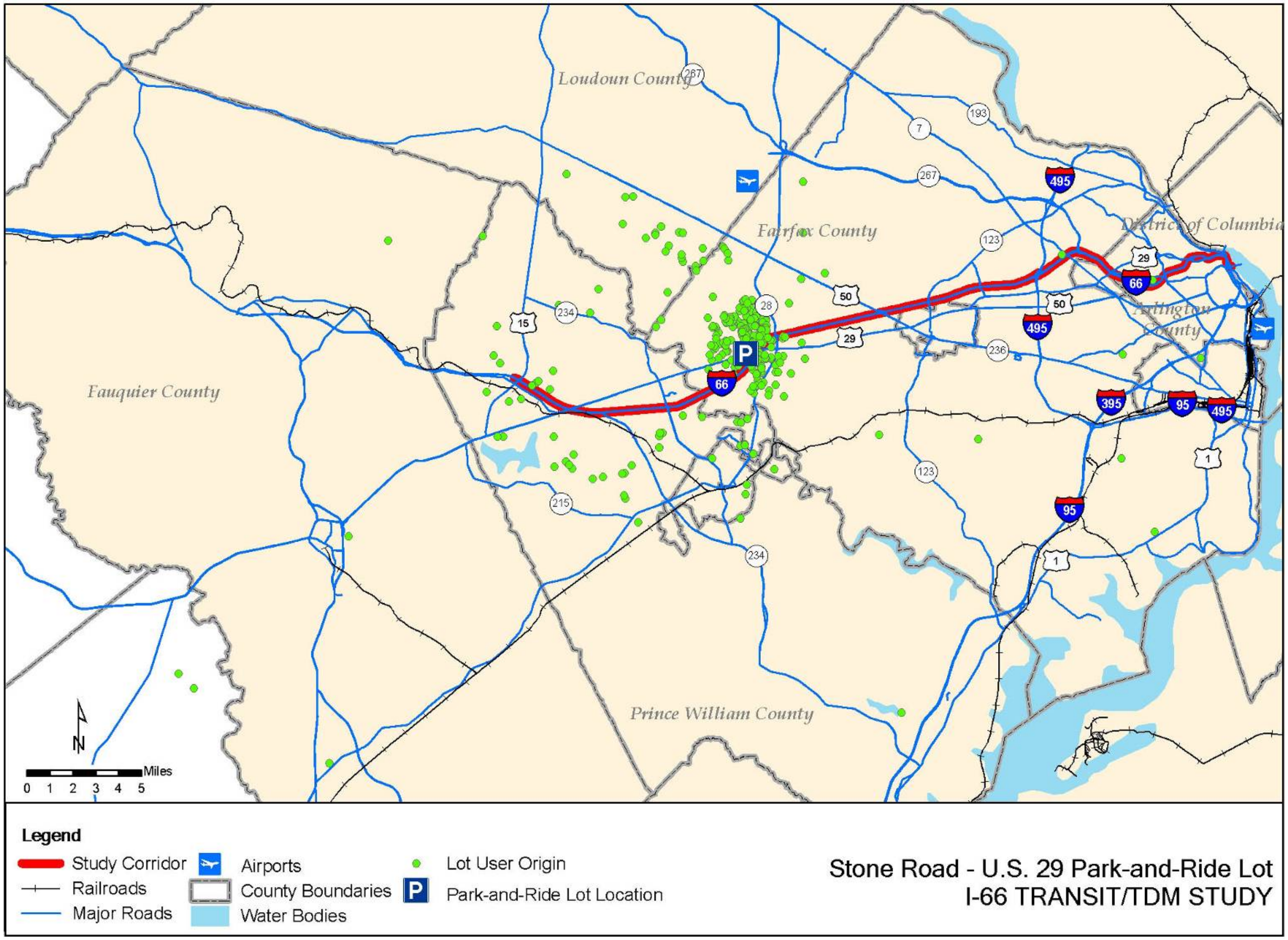
Striping Condition at Stone Road – U.S. 29 Park-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	8		5		
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	364		361		
Any other:					
	372		366		

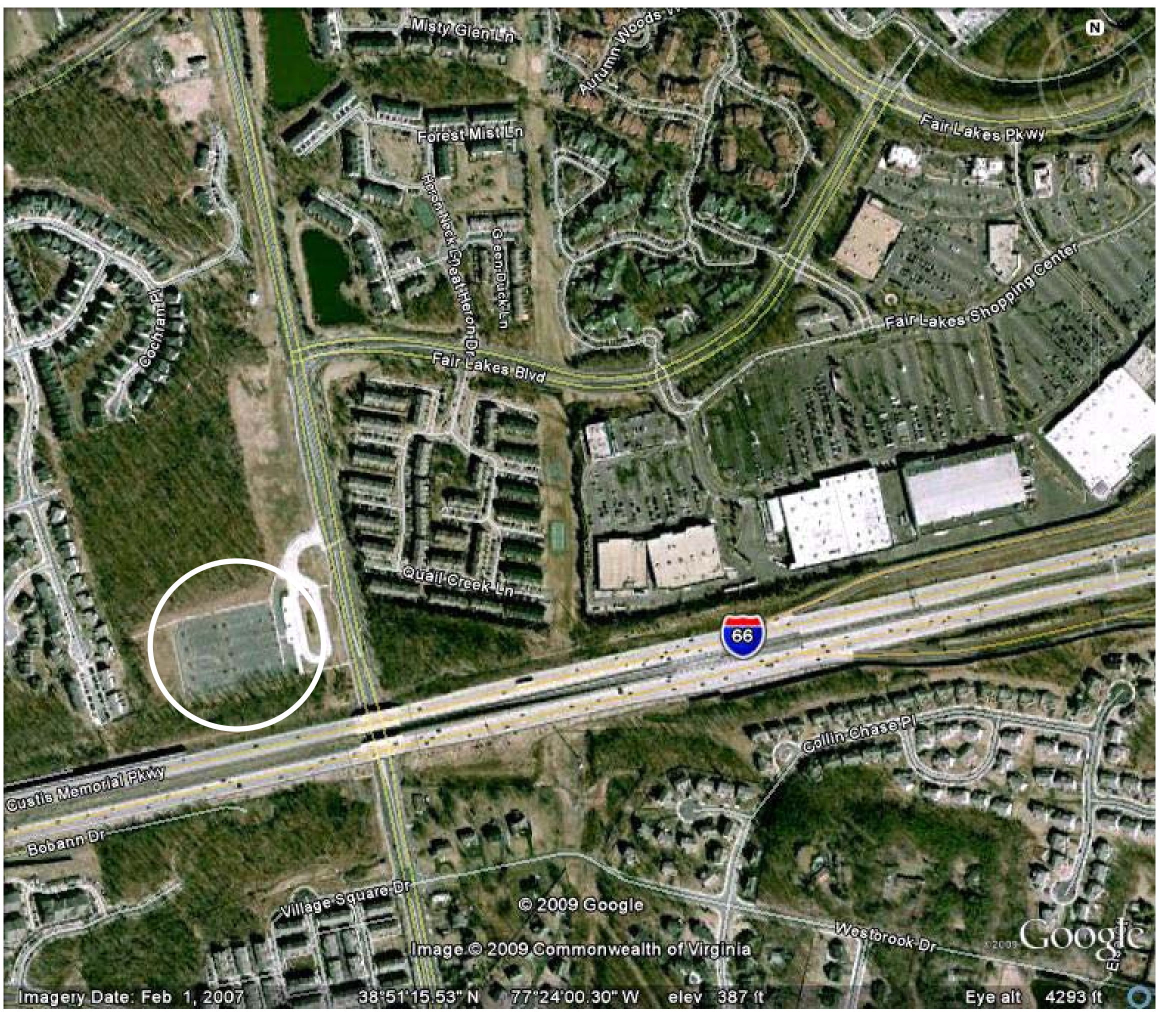
Remarks: Free parking.

Stone Road – U.S. 29 Park-and-Ride Lot User Origins



G.15 Stringfellow Road Park-and-Ride Lot

Characteristics	
Address:	4920 Stringfellow Road Centerville, VA 20120
Nearest Cross Street:	Stringfellow Road at I-66 HOV Ramp
Owner:	VDOT
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelters (3)
Date Surveyed:	1/7/2009
Weather:	Rain



Site Photographs

Entrance to the Commuter Park-and-Ride Lot at Stringfellow Road

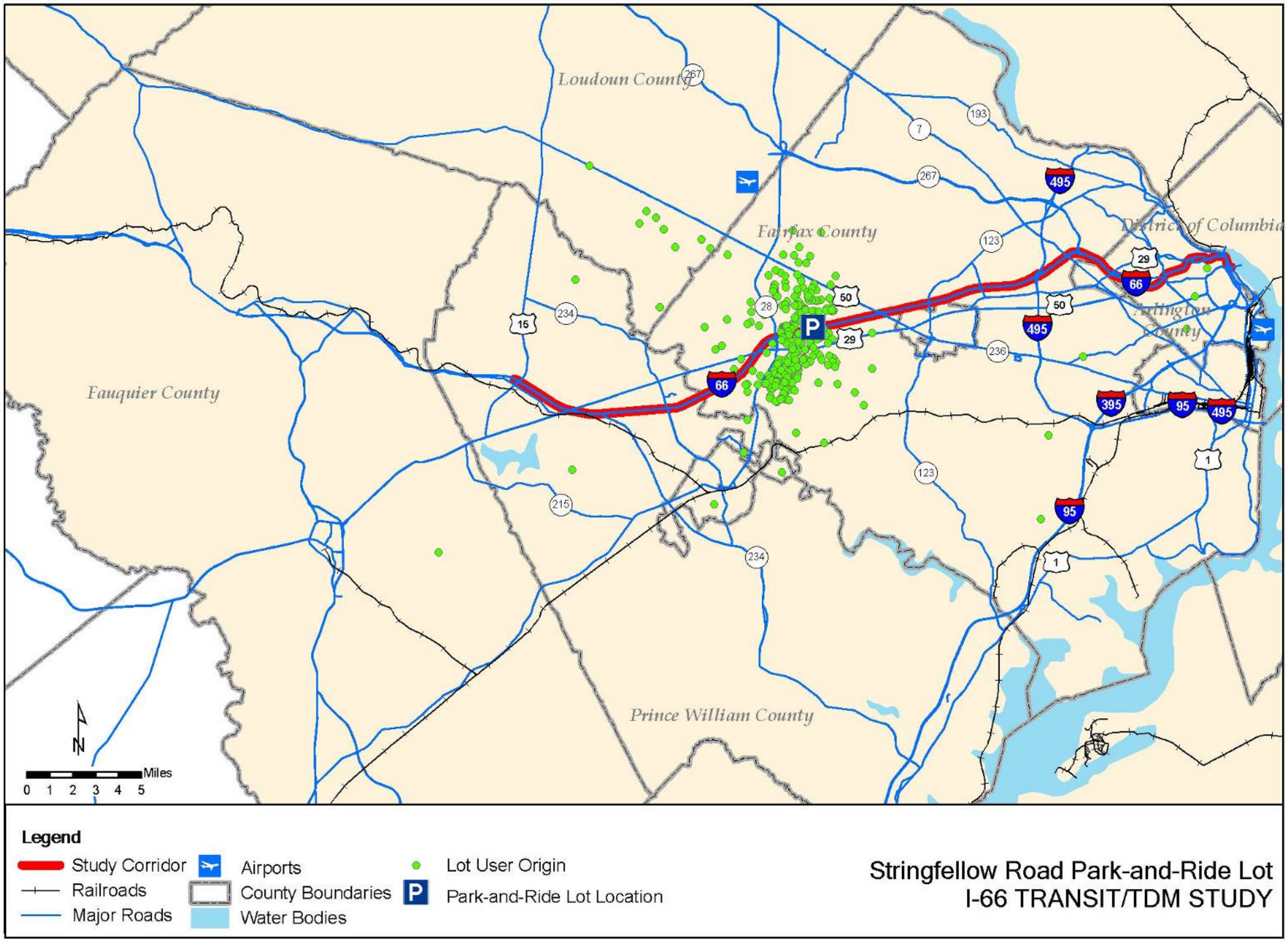
Lighting/Striping/Pavement Conditions of six spaces at Stringfellow Road Kiss-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	7		5		1
Kiss-and-ride:	6		6		
Short-term:					
Long-term:					
Park and Ride:	367		365		
Any other:					
	380		376		1

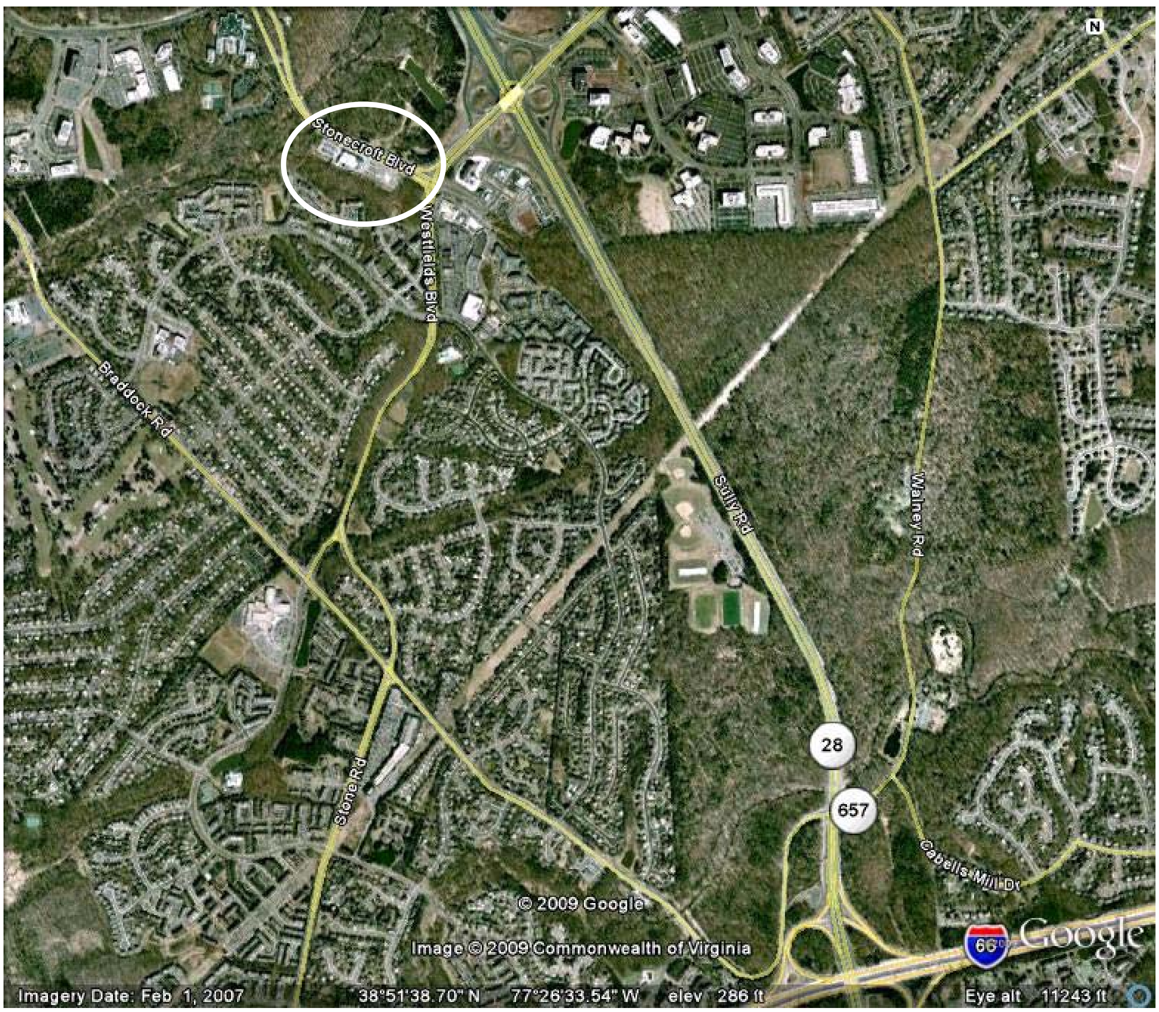
Remarks: Free parking.

Stringfellow Road Park-and-Ride Lot User Origins



G.16 Sully Station Park-and-Ride Lot

Characteristics	
Address:	4900 Stonecroft Boulevard Centerville, VA 20151
Nearest Cross Street:	Stonecroft Boulevard at Westfield Boulevard
Owner:	Private
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelters (3)
Date Surveyed:	1/8/2009
Weather:	Sunny



Site Photographs

Park-and-Ride Lot Entrance at Sully Station

Lighting Condition at Sully Station Lot

Shelters/Pavement Condition at Sully Station Park-and-Ride Lot

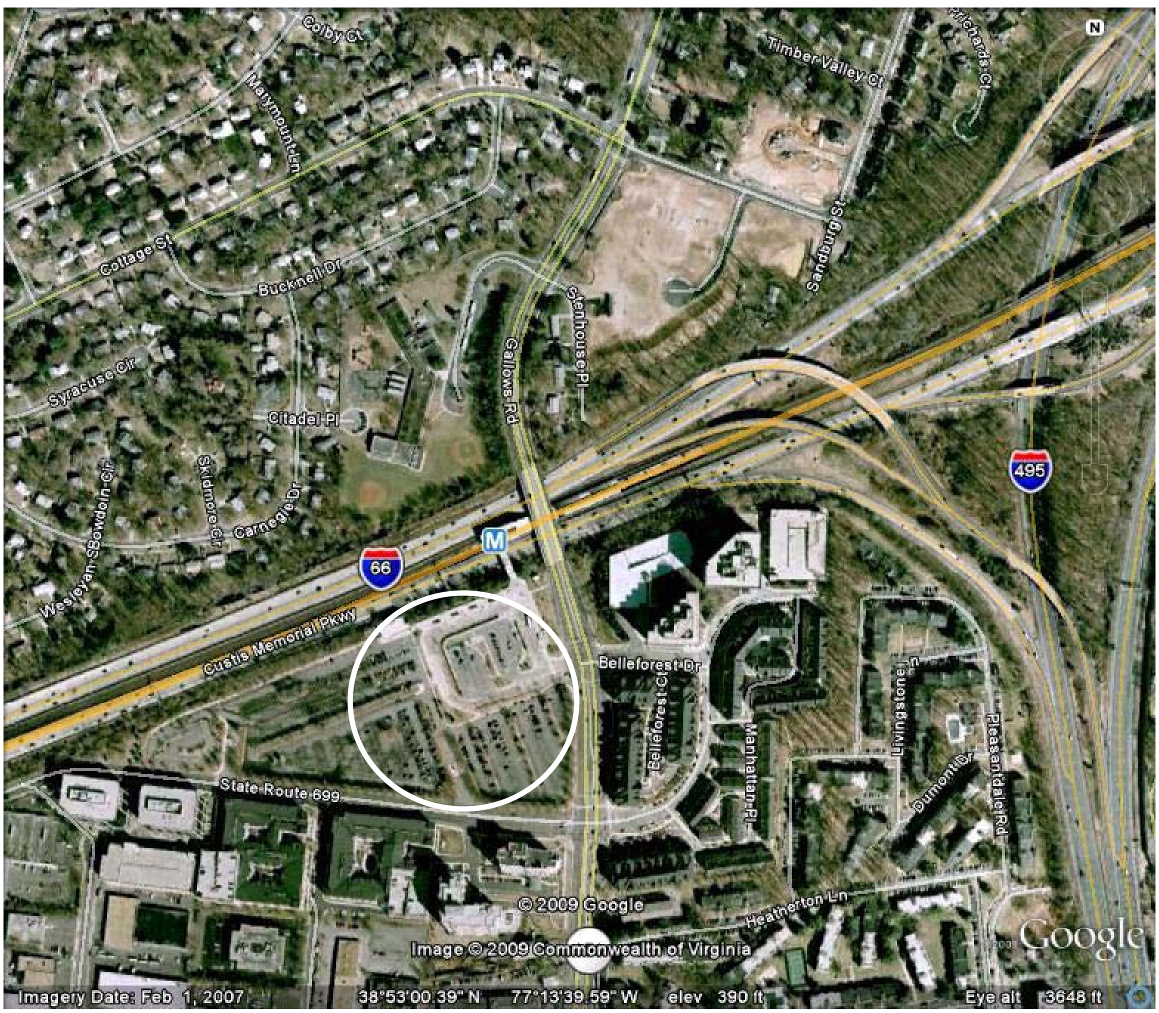
Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:					
Kiss-and-ride:					
Short-term:					
Long-term:					
Park and Ride:	41		1		
Any other:					
	41		1		

Remarks: Free parking.

G.17 Dunn Loring-Merrifield Metrorail Station

Characteristics	
Address:	2700 Gallows Road Vienna, VA 22180
Nearest Cross Street:	Gallows Road at Prosperity Avenue
Owner:	WMATA
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelters (8)
Date Surveyed:	2/19/2009 and 3/19/2009
Weather:	Cloudy/Rain



Park-and-Ride Site Photographs

Dunn Loring-Merrifield Park-and-Ride Parking Lot Sign

Dunn Loring-Merrifield Park-and-Ride Parking Lot

Handicapped Space at Dunn Loring-Merrifield Park-and-Ride Lot (View 1)

Handicapped Space at Dunn Loring-Merrifield Park-and-Ride Lot (View 2)

Striping/Lighting/Pavement Condition at Dunn Loring-Merrifield Park-and-Ride Lot

Shelter at Dunn Loring-Merrifield Park-and-Ride Lot

Kiss-and-Ride Site Photographs

Dunn Loring-Merrifield Kiss-and-Ride Parking Lot Sign

Dunn Loring-Merrifield Kiss-and-Ride Parking Lot at Dunn Loring Metro

Handicapped Space at Dunn Loring-Merrifield Kiss-and-Ride Lot

Striping/Pavement Conditions at Dunn Loring-Merrifield Kiss-and-Ride Lot

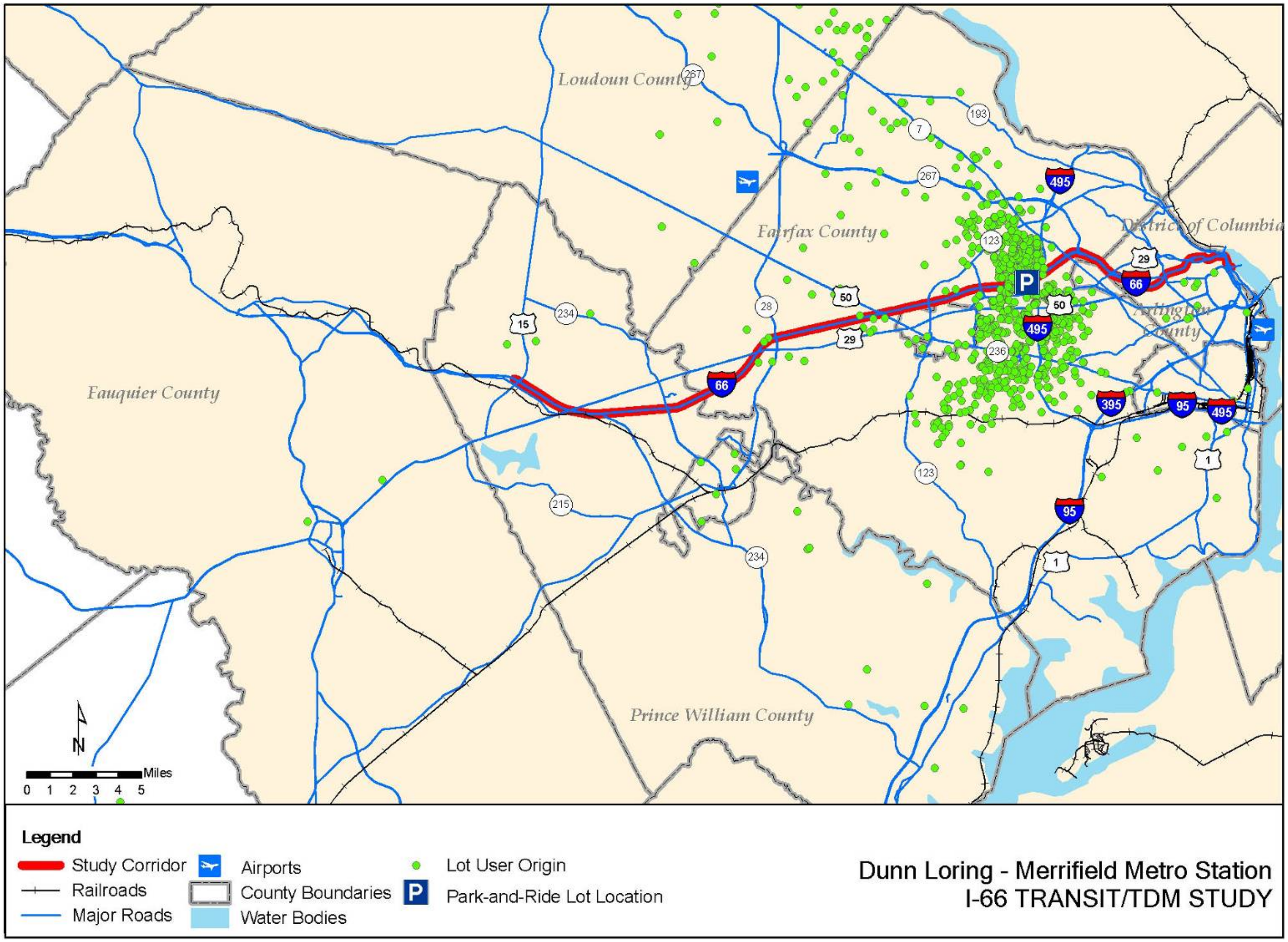
Shelter/Lighting at Dunn Loring-Merrifield Kiss-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	19	$4.50	0		
Kiss-and-ride:	35	$0.25/15min	6		
Park and Ride:	1304	$4.50	1172		
Long-term:					
Any other:					
	1358		1178		

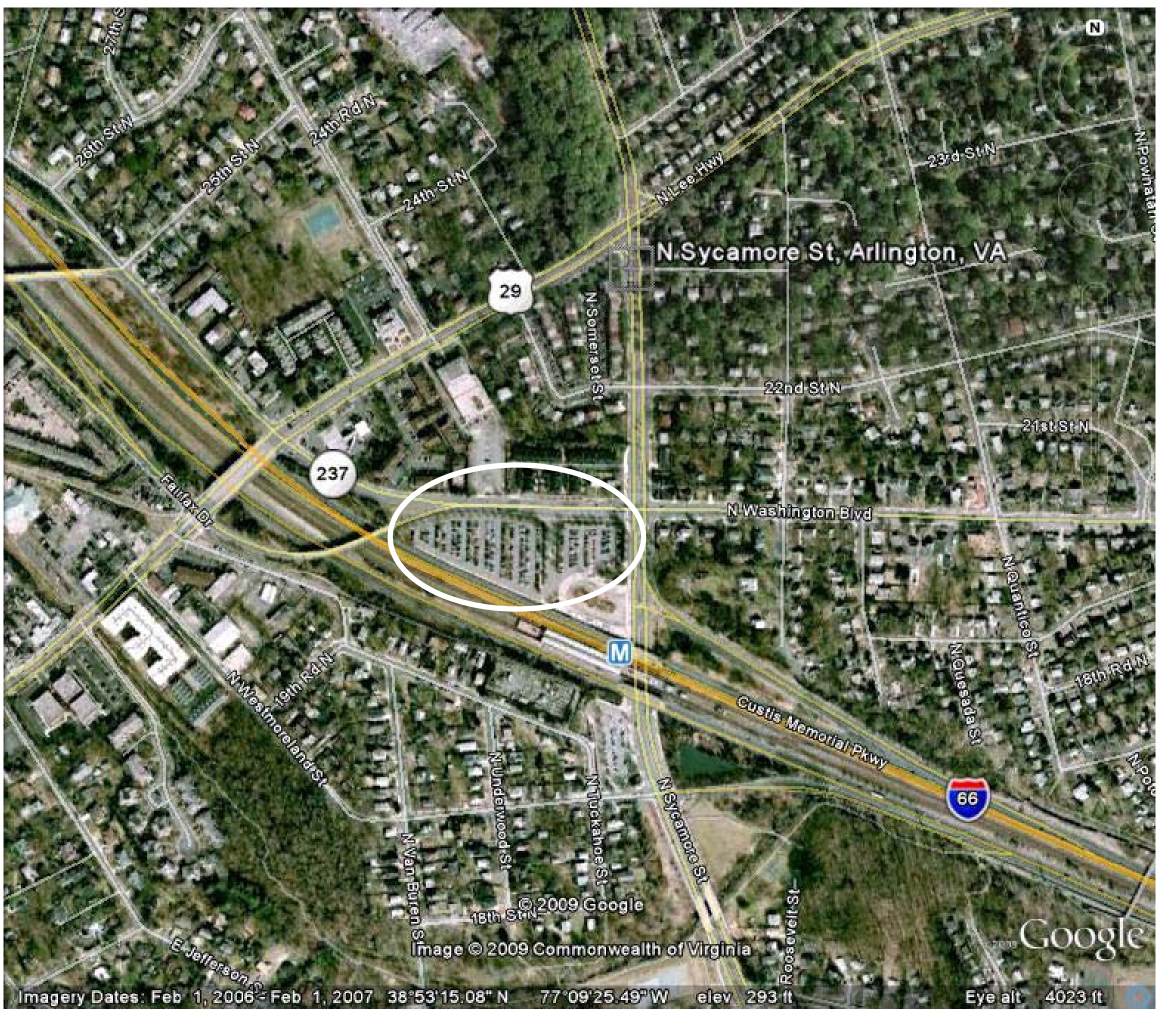
Remarks: No garage parking.

Dunn Loring-Merrifield Metro Station User Origins

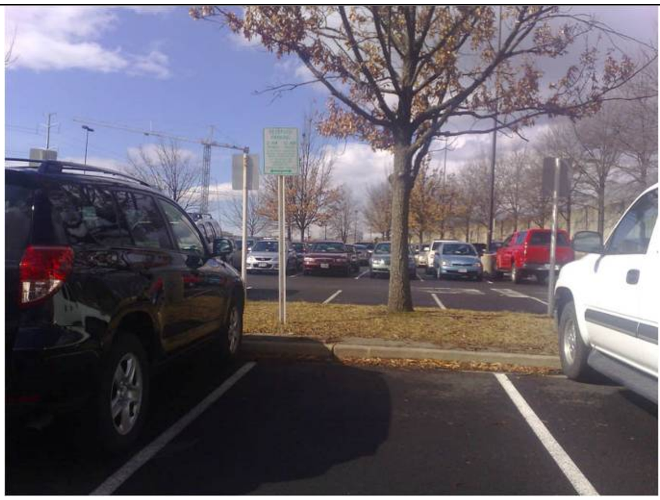


G.18 East Falls Church Metrorail Station

Characteristics	
Address:	2001 N. Sycamore Street Arlington, VA 22205
Nearest Cross Street:	N. Sycamore Street at N. Washington Boulevard
Owner:	WMATA
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelters (5)
Date Surveyed:	2/10/2009
Weather:	Sunny



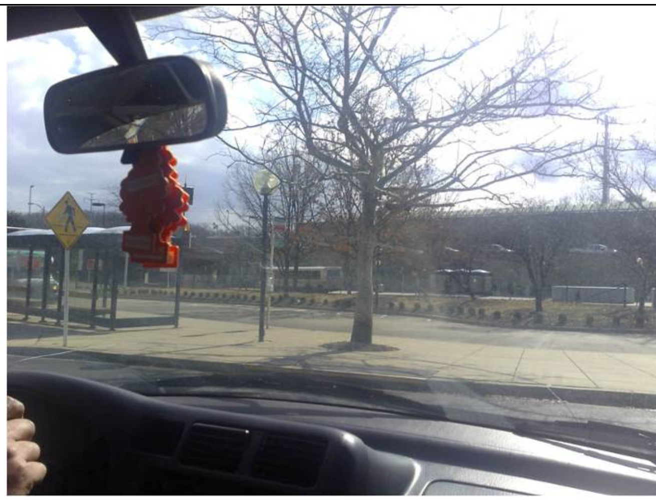
Park-and-Ride Lot Site Photographs



Park-and-Ride Lot at East Falls Church

Handicapped Spaces at East Falls Church Park-and-Ride Lot

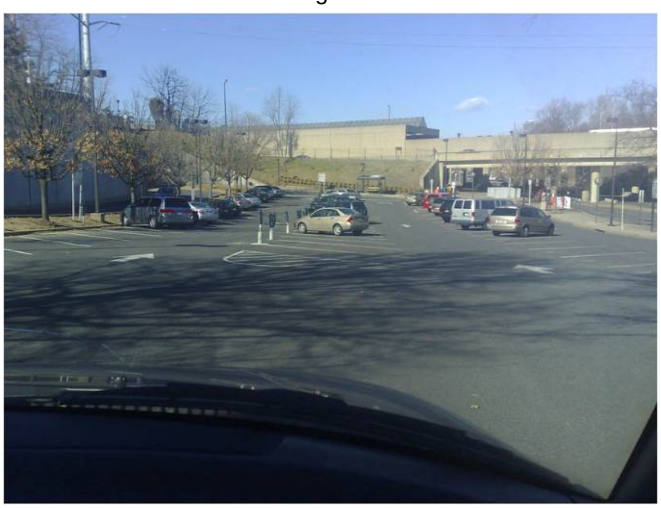
Striping/Lighting/Pavement Condition at East Falls Church



Bus Shelters at East Falls Church Park-and-Ride Lot

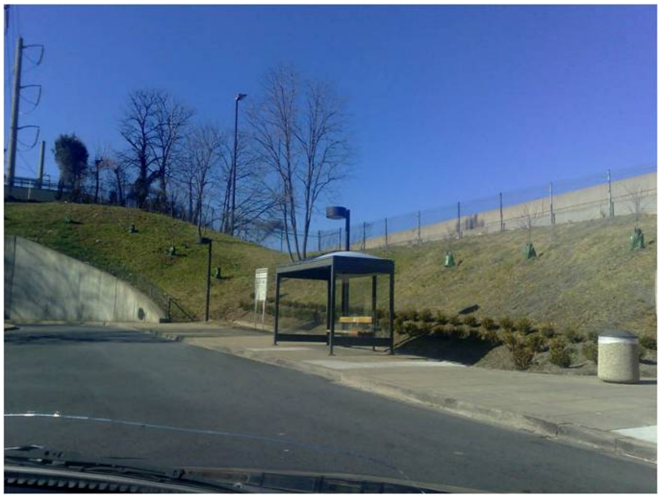
Kiss-and-Ride Lot Site Photographs

Kiss-and-Ride Lot Sign at East Falls Church



Kiss-and-Ride Lot at East Falls Church

Striping/Pavement/Lighting Conditions at East Falls Church Kiss-and-Ride Lot



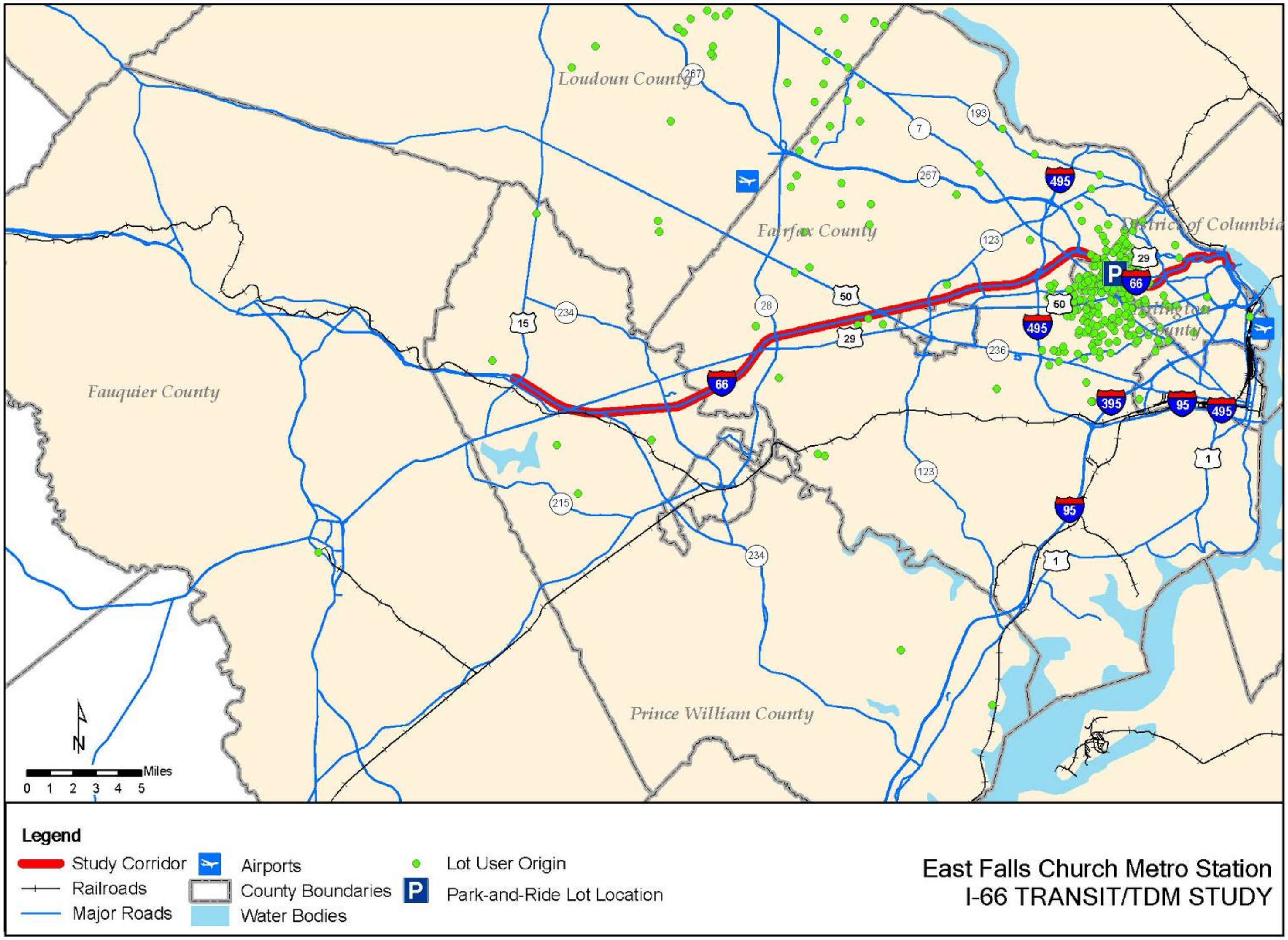
Shelter at East Falls Church Kiss-and-Ride Lot

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	13	$4.50	12		
Kiss-and-ride:	48	$4.50	26		
Park and Ride:	412	$4.50	402		
Long-term:					
Any other:					
	473		440		

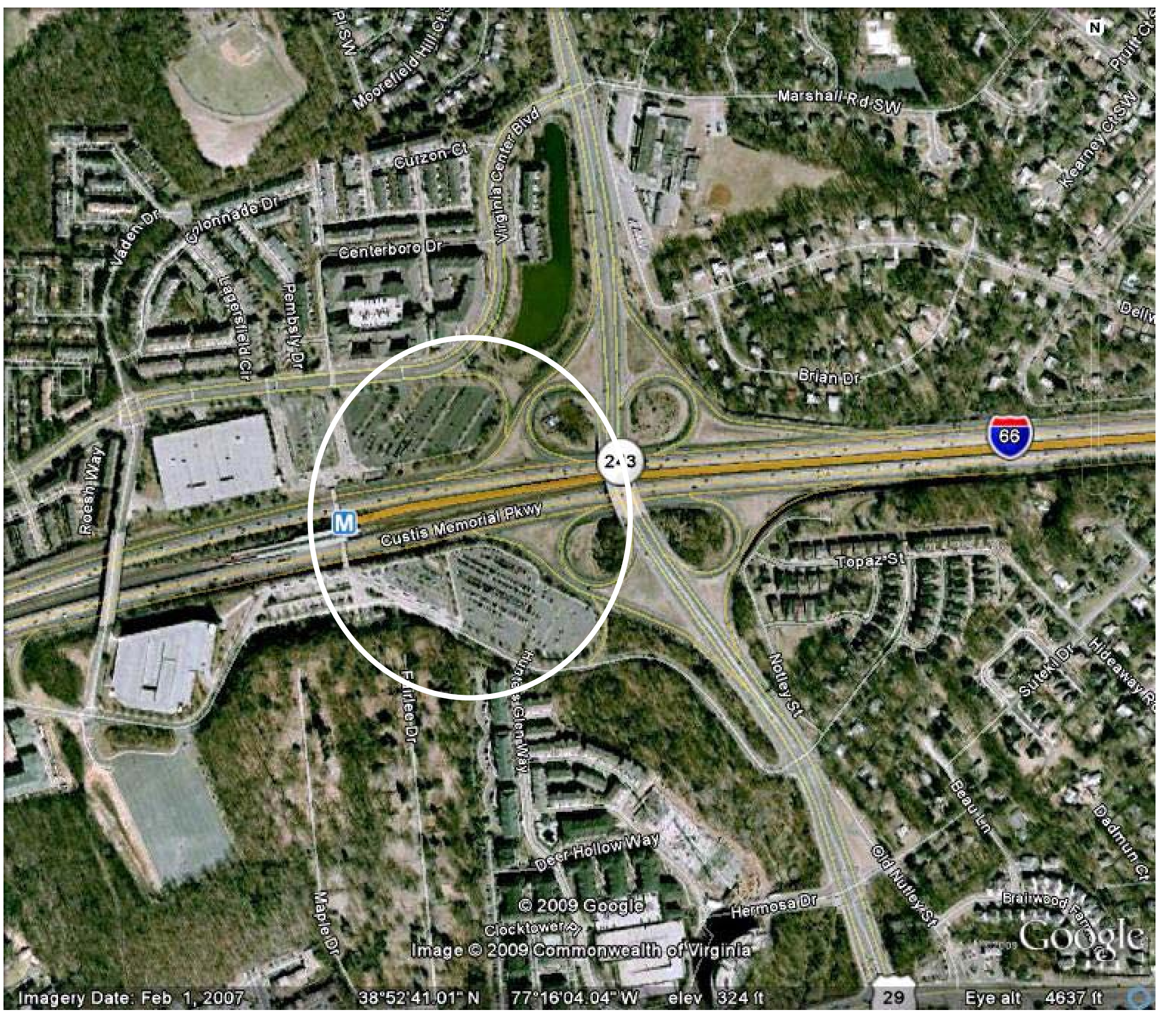
Remarks: No garage parking.

East Falls Church Metro Station User Origins



G.19 Vienna/Fairfax-GMU Metrorail Station

Characteristics		
	North Side	**South Side**
Address:	2900 Nutley Street Fairfax, VA 22031	
Nearest Cross Street:	Virginia Center Boulevard at Van Arsdale Drive	
Owner:	WMATA	
Surface Type:	Asphalt	Asphalt
Amenities:	Lighting Striping Shelters (7)	Lighting Striping Shelters (12)
Date Surveyed:	2/3/2009 and 2/4/2009	2/11/2009 and 2/12/2009
Weather:	Cloudy/Partly Sunny	Cloudy/Partly Sunny



North Side Park-and-Ride Site Photographs

Vienna/Fairfax-GMU Park-and-Ride Parking Lot Sign

Vienna/Fairfax-GMU Park-and-Ride Parking Lot

Handicapped Spaces at Vienna/Fairfax-GMU Park-and-Ride Lot

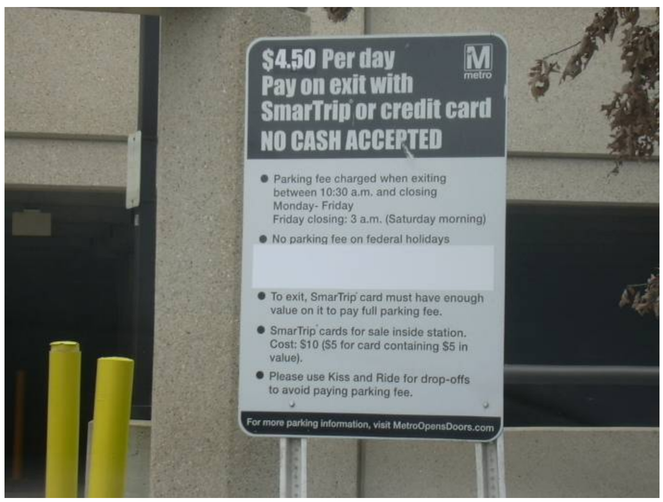
Striping/Pavement Condition at Vienna/Fairfax-GMU Park-and-Ride Lot

Shelter at Vienna/Fairfax-GMU Park-and-Ride Lot

Lighting at Vienna/Fairfax-GMU Park-and-Ride Lot

North Side Garage Park-and-Ride Site Photographs

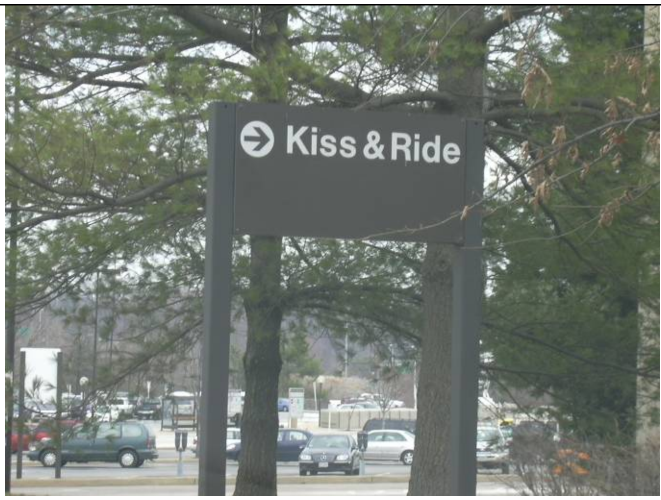
Vienna/Fairfax-GMU Garage Park-and-Ride Lot Entrance



Vienna/Fairfax-GMU Garage Park-and-Ride Lot User Cost Sign

Vienna/Fairfax-GMU Garage Park-and-Ride Lot

North Side Kiss-and-Ride Site Photographs



Vienna/Fairfax-GMU Kiss-and-Ride Lot Sign

Vienna/Fairfax-GMU Kiss-and-Ride Lot

Vienna/Fairfax-GMU Kiss-and-Ride Lot

Striping/Pavement Conditions at Vienna/Fairfax-GMU Kiss-and-Ride Lot

Handicapped Space/Shelter at Vienna/Fairfax-GMU Kiss-and-Ride Lot

Lighting at Vienna/Fairfax-GMU Kiss-and-Ride Lot

North Side Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	43	$4.50	32		
Kiss-and-ride:	55	$4.50	23		
Park & Ride:	474	$4.50	461		
Garage:	1818		1610		
Any Other:					
	2390		2126		

Remarks: No street parking.

South Side Kiss-and-Ride Site Photographs

Vienna/Fairfax-GMU Kiss-and-Ride Lot Sign

Vienna/Fairfax-GMU Kiss-and-Ride Lot Sign

Handicapped Space at Vienna/Fairfax-GMU Kiss-and-Ride Lot

Striping/Pavement Conditions at Vienna/Fairfax-GMU Kiss-and-Ride Lot

Shelters at Vienna/Fairfax-GMU Kiss-and-Ride Lot

Lighting at Vienna/Fairfax-GMU Park-and-Ride Lot

South Side Garage Park-and-Ride Site Photographs

Vienna/Fairfax-GMU Garage Park-and-Ride Lot Entrance

Vienna/Fairfax-GMU Garage Park-and-Ride User Cost Sign

Vienna/Fairfax-GMU Street Parking

Vienna/Fairfax-GMU Street Parking

Vienna/Fairfax-GMU Meter Parking

Yellow Meter Section Parking Site Photographs

Vienna/Fairfax-GMU Yellow Meter Section Sign

Activity Level/Pavement Condition at Vienna/Fairfax-GMU

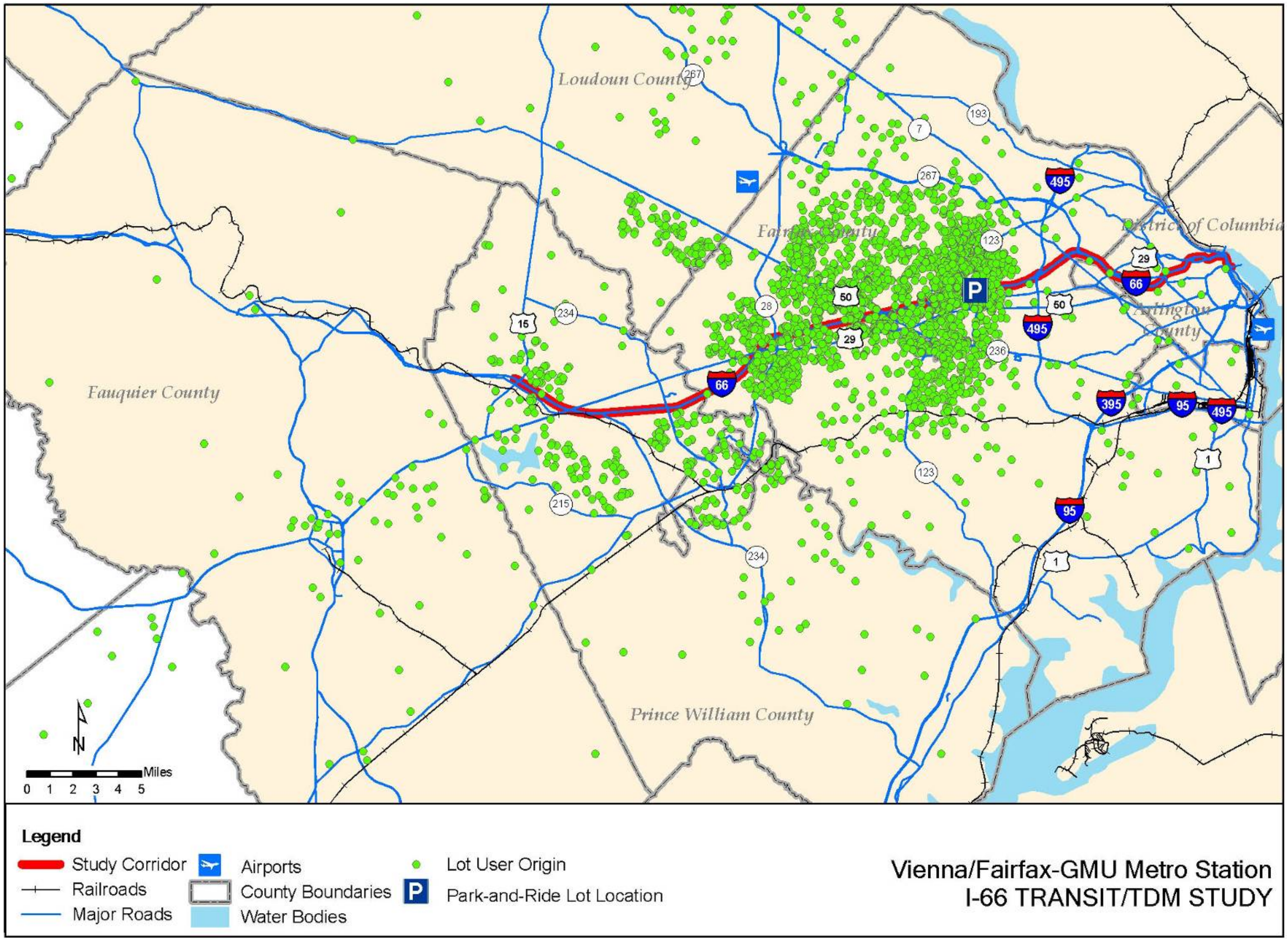
Striping Condition at Vienna/Fairfax-GMU

South Side Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	21	$4.50	1		
Kiss-and-ride:	17	$4.50	11		
Park & Ride:	629	$4.50	569		
Garage:	2061	$4.50	1818		
Metered Parking:	50	$0.25/15min	13		
Yellow Meter Section:	21	$0.25/15min	5		
On-Street Parking:	76	$0.25/15min	8		
	2875		2425		

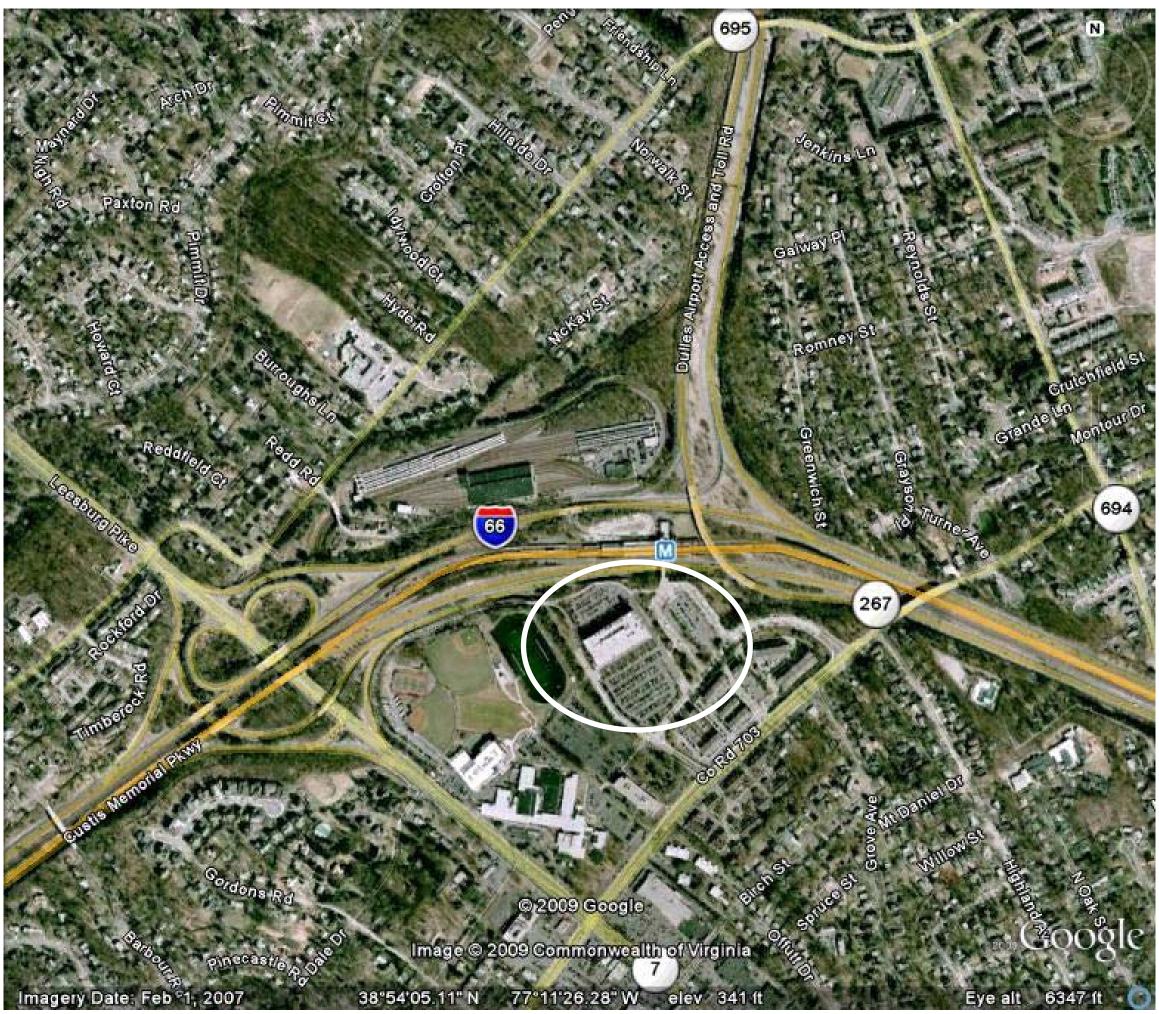
Remarks: No handicapped spaces in surface park-and-ride lot.

Vienna/Fairfax-GMU Metro Station User Origins



G.20 West Falls Church-VT/UVA Metrorail Station

Characteristics	
Address:	7040 Haycock Road Falls Church, VA 22043
Nearest Cross Street:	Haycock Road at Falls Reach Drive
Owner:	WMATA
Surface Type:	Asphalt
Amenities:	Lighting Striping Shelters (8)
Date Surveyed:	2/11/2009 and 2/12/2009
Weather:	Cloudy/Partly Sunny

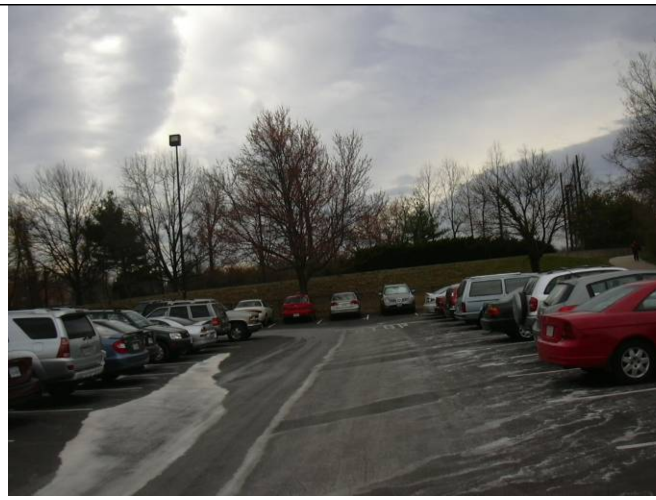


Park-and-Ride Lot Site Photographs

West Falls Church Park-and-Ride Entrance

West Falls Church Park-and-Ride Surface Lot

Handicapped Spaces at West Falls Church Park-and-Ride Lot



Pavement/ Striping Conditions at West Falls Church Park-and-Ride Lot

West Falls Church Park-and-Ride Garage Entrance

Lighting at West Falls Church Surface Park-and-Ride Lot

Kiss-and-Ride Lot Site Photographs

West Falls Church Kiss-and-Ride Lot Entrance

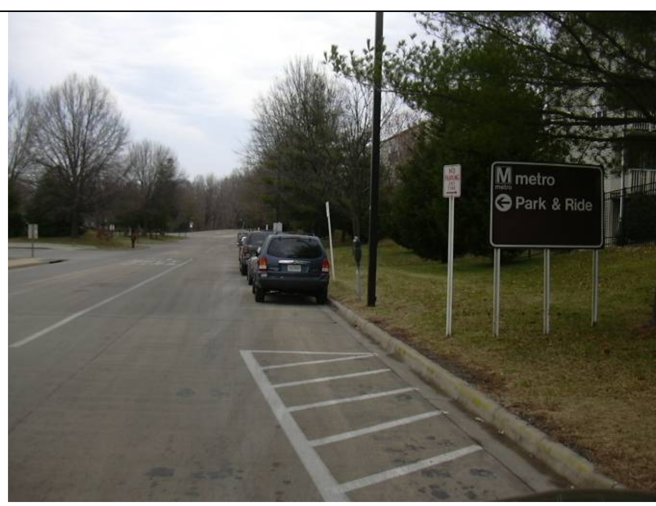
West Falls Church Kiss-and-Ride Lot

Handicapped Spaces at West Falls Church Kiss-and-Ride Lot

Pavement/ Striping Conditions at West Falls Church Kiss-and-Ride Lot

Parking Regulation Sign at West Falls Church Kiss-and-Ride Lot

Street Parking Site Photographs



Street Parking at West Falls Church (View 1)

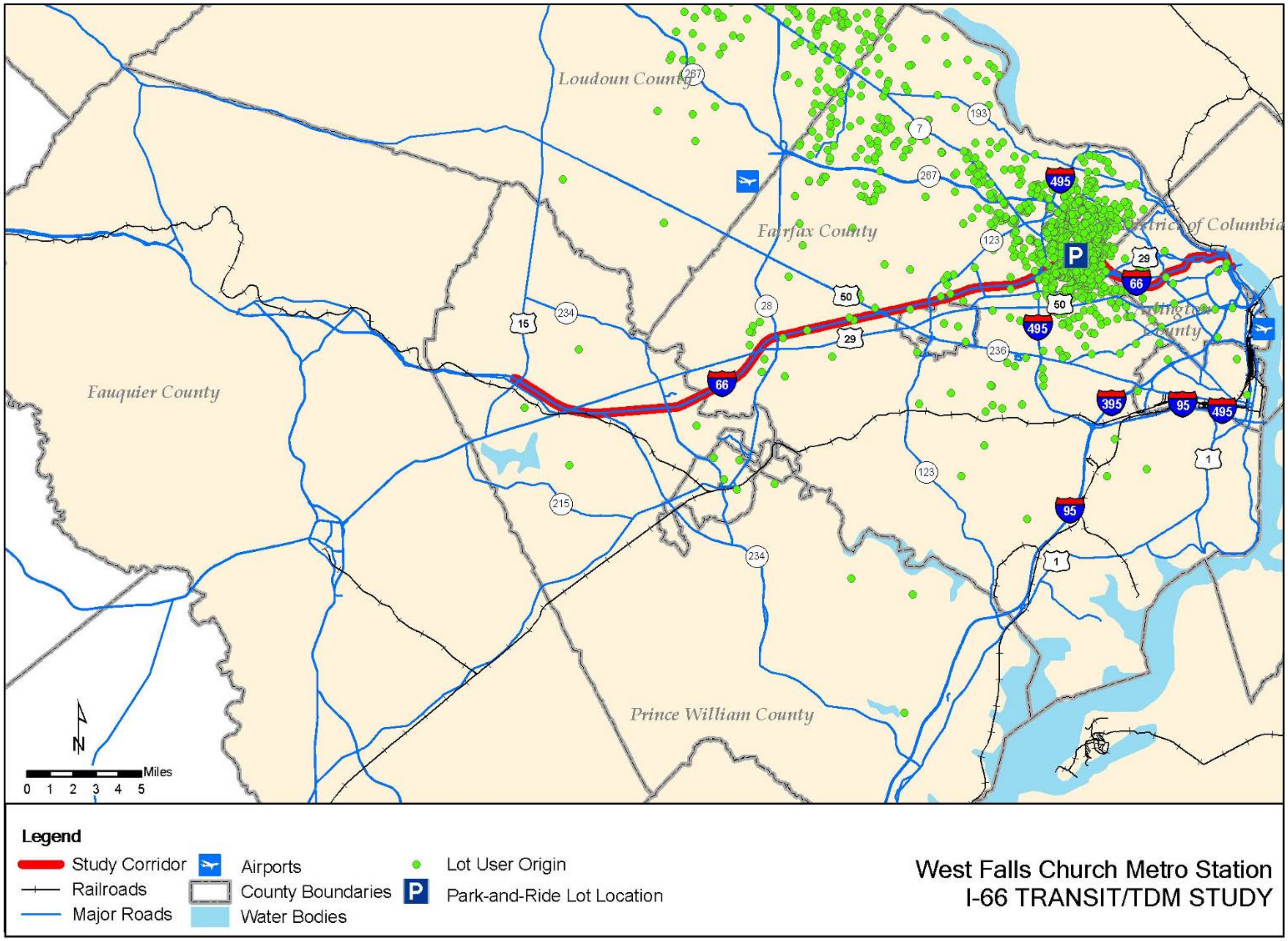
Street Parking at West Falls Church (View 2)

Surveyed Facility Capacity and Utilization:

	Capacity	User Cost	Usage at Survey	Over Capacity	Illegal Parking
Handicapped:	51	$4.50	20		
Kiss-and-ride:	56	$4.50	26		
Park & Ride:	724	$4.50	713		
Garage:	1060	$4.50	983		
Street Parking:	66	$0.25/15min	18		
	1957		1760		

Remarks: None.

West Falls Church Metro Station User Origins



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Appendix H

Station Cost Estimates

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Appendix H. Station Cost Estimates

The detailed cost estimates for each potential station studied in Section 11 of this report are included below. All estimates are in 2010 dollars.

Table H-1. Haymarket Station at U.S. 15 – 2015 - Option 1

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station - South of I-66 at John Marshall	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	18.95[1]	Acre	$250,000	$4,737,500	$0	$4,737,500
Transit Priority Treatments		4	Intersections	$250,000	$1,000,000	$250,000	$1,250,000
Total					**$7,150,000**	**$525,000**	**$7,675,000**

Table H-2. Haymarket Station at U.S. 15 – 2015 - Option 2

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station - North of I-66 at Heathcote Blvd.	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	46[1]	Acre	$250,000	$11,500,000	$0	$11,500,000
New Construction - Roadways	Land Acquisition	0.19	Mile	$2,845,600	$538,900	$0	$538,900
	Construction	0.19	Mile	$3,794,200	$718,600	$179,600	$898,200
Transit Priority Treatments		3	Intersections	$250,000	$750,000	$187,500	$937,500
Total					**$14,920,000**	**$642,100**	**$15,562,100**

[1] The table shows the total acreage of the parcels identified on the Section 11 graphic, of which about 9 acres are required to accommodate the 450 additional parking spaces recommended at the Haymarket station by 2015.

Table H-3. Gainesville Station at U.S. 29 – 2015 - Option 1

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station - Linton Hall Road	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	4.55	Acre	$250,000	$1,137,500	$0	$1,137,500
Transit Priority Treatments		5	Intersections	$250,000	$1,250,000	$312,500	$1,562,500
Total					**$3,800,000**	**$587,500**	**$4,387,500**

Table H-4. Gainesville 2015 Station at U.S. 29 – 2015 - Option 2

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station - North of I-66/Lee Highway	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	42.95	Acre	$250,000	$10,737,500	$0	$10,737,500
Transit Priority Treatments		2	Intersections	$250,000	$500,000	$125,000	$625,000
Total					**$12,650,000**	**$400,000**	**$13,050,000**

Table H-5. Gainesville Station at U.S. 29 – 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
New Construction - Roadways	Land Acquisition	0.47	Mile	$2,845,600	$1,347,400	$0	$1,347,400
	Construction	0.47	Mile	$3,794,200	$1,796,500	$449,100	$2,245,600
New Construction - Structures	Bridge @ 60' x 340'	20,400	Sq. Ft.	$184	$3,759,500	$939,900	$4,699,400
New Construction - MSE	Ramp @ 2,500' x 20'	50,000	Sq. Ft.	$88	$4,400,000	$1,100,000	$5,500,000
Total					**$11,303,400**	**$2,489,000**	**$13,792,400**

Table H-6. VA 234 Bypass (Cushing Road) Station – 2015

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station - Cushing Road	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	11.35[2]	Acre	$250,000	$2,837,500	$0	$2,837,500
Transit Priority Treatments		4	Intersections	$250,000	$1,000,000	$250,000	$1,250,000
Total					**$5,250,000**	**$525,000**	**$5,775,000**

[2] The table shows the total acreage of the parcels identified on the Section 11 graphic, of which about 11 acres are required to accommodate the 550 additional parking spaces recommended at the VA 234 Bypass station by 2015.

Table H-7. VA 234 Bypass (Cushing Road) Station – 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station - Cushing Road (new)	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Surface Parking	Land Acquisition	17.05[3]	Acre	$250,000	$4,262,500	$0	$4,262,500
New Construction - Roadways	Land Acquisition	0.47	Mile	$2,845,600	$1,337,400	$0	$1,337,400
	Construction	0.47	Mile	$3,794,200	$1,783,300	$445,800	$2,229,100
New Construction - Structures	Bridge @ 60' x 320' Bridge @ 30' x 600'	37,200	Sq. Ft.	$184	$6,855,500	$1,713,900	$8,569,400
New Construction - MSE	Ramp @ 2,500' x 20'	50,000	Sq. Ft.	$88	$4,400,000	$1,100,000	$5,500,000
Total					**$19,951,200**	**$3,509,700**	**$23,460,900**

Table H-8. Bull Run Station at VA 234/Sudley Road – 2015

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station – I-66 @ Sudley Road	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	29.25[4]	Acre	$250,000	$7,312,500	$0	$7,312,500
Transit Priority Treatments		4	Intersections	$250,000	$1,000,000	$250,000	$1,250,000
Total					**$9,725,000**	**$525,000**	**$10,250,000**

[3] The table shows the total acreage of the parcels identified on the Section 11 graphic, of which about 7 acres are required to accommodate the 350 additional parking spaces recommended at the VA 234 Bypass station to be constructed between 2015 and 2030.

[4] The table shows the total acreage of the parcels identified on the Section 11 graphic, of which about 6 acres are required to accommodate the 300 additional parking spaces recommended at the Bull Run station by 2015.

Table H-9. Bull Run Station at VA 234/Sudley Road – 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
New Construction - Roadways	Land Acquisition	0.47	Mile	$2,845,600	$1,347,400	$0	$1,347,400
	Construction	0.47	Mile	$3,794,200	$1,796,500	$449,100	$2,245,600
New Construction - Structures	Bridge @ 60' x 310'	18,600	Sq. Ft.	$184	$3,427,800	$856,900	$4,284,700
New Construction - MSE	Ramp @ 2,500' x 20'	50,000	Sq. Ft.	$88	$4,400,000	$1,100,000	$5,500,000
Total					**$10,971,700**	**$2,406,000**	**$13,377,700**

Table H-10. Centreville Station at U.S. 29/Lee Highway – 2015

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station - I-66 @ Sudley Road	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	29.75[5]	Acre	$250,000	$7,437,500	$0	$7,437,500
Transit Priority Treatments		3	Intersections	$250,000	$750,000	$187,500	$937,500
Total					**$9,600,000**	**$462,500**	**$10,062,500**

[5] The table shows the total acreage of the parcels identified on the Section 11 graphic, of which about 8 acres are required to accommodate the 400 additional parking spaces recommended at the Centreville station by 2015.

Table H-11. Centreville Station at U.S. 29/Lee Highway – 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
New Construction - Roadways	Land Acquisition	0.57	Mile	$2,845,600	$1,616,800	$0	$1,616,800
	Construction	0.57	Mile	$3,794,200	$2,155,800	$538,900	$2,694,700
New Construction - MSE	2 Ramps @ 1,500' x 20'	60,000	Sq. Ft.	$88	$5,280,000	$1,320,000	$6,600,000
Transit Priority Treatments		2	Intersections	$250,000	$500,000	$125,000	$625,000
Total					**$9,552,600**	**$1,983,900**	**$11,536,500**

Table H-12. Stringfellow Road Station – 2015

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station	Land Acquisition	1.25	Acre	$250,000	$312,500	$0	$312,500
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	24.85[6]	Acre	$250,000	$6,212,500	$0	$6,212,500
New Construction - Roadways	Land Acquisition	0.28	Mile	$2,845,600	$808,400	$0	$808,400
	Construction	0.28	Mile	$3,794,200	$1,077,900	$269,500	$1,347,400
New Construction - MSE	Ramp @ 1,500' x 20'	30,000	Sq. Ft.	$88	$2,640,000	$660,000	$3,300,000
Transit Priority Treatments		2	Intersections	$250,000	$500,000	$125,000	$625,000
Total					**$12,651,300**	**$1,329,500**	**$13,980,800**

[6] The table shows the total acreage of the parcels identified on the Section 11 graphic, of which about 6 acres are required to accommodate the 300 additional parking spaces recommended at the Stringfellow Road station by 2015.

Table H-13. Stringfellow Road Station – 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Kiss-and-Ride, Bus Hub - South of I-66	Land Acquisition	2.25	Acre	$250,000	$562,500	$0	$562,500
	Station Construction	2	Lump Sum	$1,000,000	$2,000,000	$500,000	$2,500,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Surface Parking	Land Acquisition	5.05[7]	Acre	$250,000	$1,262,500	$0	$1,262,500
New Construction - Structures	Ped Bridge @ 15' x 1050'	15,750	Sq. Ft.	$184	$2,902,500	$725,600	$3,628,100
Transit Priority Treatments		3	Intersections	$250,000	$750,000	$187,500	$937,500
Total					**$7,577,500**	**$1,438,100**	**$9,015,600**

Table H-14. Fairfax Corner Station – 2015 and 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Stations - Monument Drive @ I-66	Land Acquisition	2.5	Acre	$250,000	$625,000	$0	$0
	Station Construction	1	Lump Sum	$1,000,000	$1,000,000	$250,000	$1,250,000
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
New Construction - Roadways[8]	Land Acquisition	0.28	Mile	$2,845,600	$808,400	$0	$0
	Construction	0.28	Mile	$3,794,200	$1,077,900	$269,500	$1,347,400
New Construction - MSE	Ramp @ 1,500' x 20'	30,000	Sq. Ft.	$88	$2,640,000	$660,000	$3,300,000
Transit Priority Treatments		2	Intersections	$250,000	$500,000	$125,000	$625,000
Total					**$6,751,300**	**$1,329,500**	**$6,647,400**

[7] The table shows the total acreage of the parcels identified on the Section 11 graphic, of which about 2 acres are required to accommodate the 100 additional parking spaces recommended at the Stringfellow Road station to be constructed between 2015 and 2030.

[8] Land for surface parking already owned by Fairfax County, no acquisition required for surface parking.

Table H-15. Vienna/Fairfax-GMU Station – 2015 and 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
New Construction - Structures	By Others	135,657	Sq. Ft.	$184	$25,000,000	$6,250,000	$31,250,000
Transit Priority Treatments		2	Intersections	$250,000	$500,000	$125,000	$625,000
Total					**$25,600,000**	**$6,400,000**	**$32,000,000**

Table H-16. East Falls Church Station – 2015

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Transit Priority Treatments		7	Intersections	$250,000	$1,750,000	$437,500	$2,187,500
Total					**$1,850,000**	**$462,500**	**$2,312,500**

Table H-17. East Falls Church Station – 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Transit Station - Washington Blvd.	Station Construction	1	Lump Sum	$38,500,000	$38,500,000	$0	$38,500,000
New Construction - Roadways	Washington Blvd.	1	Lump Sum	$24,700,000	$24,700,000	$0	$24,700,000
New Construction - Structures	Pedestrian Bridge	1	Lump Sum	$5,000,000	$5,000,000	$0	$5,000,000
Total					**$68,200,000**	**$0**	**$68,200,000**

Table H-18. Ballston – 2015 and 2030

Requirements	Element	Units	Unit of Measure	Unit Cost	Element Cost	Contingency	Total Cost
Bicycle/ Pedestrian Facilities	Paths, Lockers, Signs, etc.	1	Lump Sum	$100,000	$100,000	$25,000	$125,000
Transit Priority Treatments		9	Intersections	$250,000	$2,250,000	$562,500	$2,812,500
Total					**$2,350,000**	**$587,500**	**$2,937,500**

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Appendix I

Funding Options

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Appendix I. Funding Options

This Appendix provides a preliminary picture of how the improvements recommended in the I-66 Transit/TDM Study may be funded in the short and medium term. Precise estimates of actual available funding by source are not available because of funding uncertainties at the Federal, state and local levels. The prospects for significant new Federal funding in particular is dependent upon the reauthorization of the six year transportation bill. The term of the current bill has expired and several continuing resolutions have been passed by Congress. Timing on a new transportation bill is unknown and may be many months away. Because of these uncertainties and delays, a series of assumptions has been included that address prospects for broad categories of funding where more precise estimates are not possible.

Table I-1 provides a summary of the possible elements of the preliminary funding options for the program of transit/TDM improvements proposed for the I-66 corridor.

Table I-1. Preliminary Summary of the I-66 Funding Options

Level	Source (Likelihood)	Amount	Basis/Comments
Federal	TIGER Stimulus Program (H)	\$18.5 million	As part of a \$280 million Federal TIGER grant request submitted in September 2009, \$18.5 is requested from the Federal program. The balance of the \$44.5 project cost is available from local and other Federal sources.
	Build America Bonds (H)	TBD	Use in the region uncertain.
	FTA Small Starts Program (M)	\$250 million project max	A highly competitive FTA program that has an intensive development process.
	Other FTA Programs:		
	• Current and 2010 Appropriations (L)	None	Current underfunded local/regional priorities will likely not be shifted to support I-66 improvements.
	• Section 5307 Urbanized Area Formula (M)	\$1.3-15 million[1]	Estimate of additional urbanized area formula funds from added service (bus and/or fixed guideway) under current formula factors, all other factors remaining equal.
	National Infrastructure Bank (M)	TBD	\$2 billion Federal funding proposal in 2010 Appropriations pending authorization of the bank by Congress.
	Reauthorization Programs *(House T&I Framework)* (H) • Small Starts • Urban Formula • Metro Mobility and Access • Intermodal/Energy • National Significance • STP • CMAQ	TBD	Proposal is to increase Federal transit funding by 90%, i.e., across all programs for which I-66 improvements might be eligible; ultimate scope and content of program structure is uncertain; resolution of funding issues and enactment likely to be delayed 12-24 months.
	Climate Change Legislation (M)	TBD	"Cap and Trade" provisions with emission allowances valued and a portion set aside for transit.

Table I-1. Preliminary Summary of the I-66 Funding Options (continued)

Level	Source (Likelihood)	Amount	Basis/Comments
State	Current Transit Programs (M)	None	New bus services may meet the eligibility requirements for capital and operating assistance programs.
Local	General Funds (M)	TBD	Budget constraints, competing programs and competing local transportation priorities may restrict GF availability for I-66 improvements.
	Local General Obligation Bonds	TBD	Bond proceeds already in use might provide a source for future I-66 capital improvements.
	HB 3202 Local Tax Authority (H)	TBD	A likely source despite current revenues being inadequate to meet current services, priorities.
	Fares (H)	$62.5 million	Total estimated fare revenues over 15 years. Annual estimates vary based on timing of new service introduction
	Shared Highway Funding (M)	TBD	Broad highway eligibility for I-66 improvements is possible, especially with proposed increases in Federal funding.
	Parking Fees (M)	TBD	Corridor-wide parking pricing strategy is needed.
	Lease/TOD/Developer Contributions (M)	TBD	Market analysis is needed to establish feasibility and revenue potential at station sites and applicability of developer proffers.
	Special Taxing District (L)	None	I-66 nonresidential market is too immature in the short to medium term.

Note: TBD = To Be Determined H=High M=Medium L=Low

[1] Estimated 3.12 million additional revenue vehicle-miles, 383 additional route-miles multiplied by Section 5307 2009 formula factors ($0.43666757 per bus revenue vehicle-mile for UZAs over $1.0 million; $0.64194775 per fixed guideway revenue vehicle-mile; $33,944 per fixed guideway route-mile).

I.1 Current Context

A great deal of uncertainty remains over how resources might be combined to fund the transit/TDM recommendations in the I-66 corridor. Two overarching assumptions continue to characterize the current climate and, to a considerable degree, limit the precision of the selection of funding sources at this point in time.

Assumption 1: The Federal role in funding will remain critical.

Under any scenario, implementation of bus and/or BRT-related improvements in the I-66 corridor will rely heavily on the availability of Federal funds, certainly for capital investment and possibly for some support of operations and maintenance, if eligible, in the medium term.

Assumption 2: Short-term complications and uncertainties will persist.

Identification of revenue sources for Priority Bus and other improvements in the I-66 corridor are complicated by timing issues, economic circumstances, current underfunded commitments and continued unmet transportation priorities in the region, including:

1. The short-term timetable for use of Federal "stimulus" funds;

2. The delay and uncertainties regarding the structure and funding levels for reauthorization of Federal transportation programs;

3. Budget shortfalls at the state level that have resulted in a series of reductions;

4. The continued limited authority to raise funds at the regional level; and

5. Limited options and revenue streams from current local sources coupled with competing local transportation priorities.

I.2 Capital versus Operating Funding

The funding options noted in Table I-1 and discussed in the sections that follow are largely sources for capital improvements. The current economic downturn, however, has highlighted a persistent problem in the transit industry. Operating budgets for current services, much less funding to operate new services and equipment, may be more strained than capital budgets. Since operating budgets in urban areas are largely a local responsibility, the ability to capture local revenues for operation of new services may be as critical an issue as support for new capital investment.

Funding shortfalls will likely persist in the region in the short term for both transit capital and operations, largely because of the economic downturn and delays in the efforts to increase Federal funding through reauthorization of the Federal highway and transit programs. Proposals for significant increases in Federal funding, if enacted, may greatly enhance capital funding prospects for I-66 improvements in the medium term and beyond, as well as provide some additional funding for transit operations.

I.3 Federal Investment Strategies and Funding Options

Existing Federal programs and short-term "stimulus" programs remain a potential source for a portion of the funding that will be needed for I-66 transit improvements. The backlog of transit investment needs continues to grow, however, severely increasing the competition for available resources. In the next one to two years, some increases in Federal funding are anticipated through the annual appropriations process but the amount is likely to be minimal, given concerns over the Federal deficit. Overall, the source(s) of proposed significant increases in Federal funding is undetermined, the timetable for availability is undecided, and the program structure, content, and mechanics for delivery are unknown.

I.3.1 Federal "Stimulus" Funds

Enactment of the *American Recovery and Reinvestment Act of 2009* (ARRA) in February 2009 made available a variety of new formula and discretionary funding and financing mechanisms for transit capital investment and, more recently, for transit operations on a limited scale. To maximize immediate job creation and its short-term stimulus effect, ARRA funding has focused on "shovel-ready" projects under very stringent application and implementation deadlines, as well as an emphasis on reducing the growing backlog of infrastructure maintenance and repair and accelerating already programmed projects.

While there has been mention of a possible second round of "stimulus" legislation it is unclear at the time of publication of this report as to whether or not legislation will be passed.

I.3.2 Transportation Investment Generating Economic Recovery (“TIGER”) Discretionary Grants

The ARRA authorizes $1.5 billion in Supplementary Discretionary Grants for a wide range of surface transportation infrastructure capital improvements, including public transportation projects. Grant minimums and maximums are $20 million and $300 million, respectively, and no state can receive more than 20 percent of the total available funding. Applications were due September 15, 2009 and selections are to be made by February 15, 2010. All project funds must be obligated by September 2011; all funds must be expended and “construction” completed February 2012.

MWCOG, through the Transportation Planning Board (TPB) and its Scenario Study Task Force, coordinated development of a regional application for Federal *Transportation Investment Generating Economic Recovery* (TIGER) grant funds. The August 5, 2009 final TPB TIGER Grant Project List and application includes $44.5 million in total project costs ($18.5 Federal TIGER funds) for multimodal improvements in the I-66 corridor, including access ramps and parking lots that will serve enhanced bus services along I-66 as well as PRTC bus purchases and ITS technology. The improvements are anticipated to be part of a “Pilot Rapid Transit Program” in the region.

I.3.3 Additional “Stimulus” Funding for Transportation through FTA

In addition to the $1.5 billion in TIGER discretionary grants, the ARRA provided an additional $27.5 billion for highway infrastructure to the states, and $8.4 billion in additional transit investment to flow through FTA formula and discretionary processes. For each of these ARRA programs either application deadlines have passed or funds already have been programmed within the region. None of the ARRA funding available to the region has been targeted to I-66 transit improvements.

The *Build America Bonds* provision in ARRA provides for Federal interest subsidies for issuance of taxable bonds by state and local governments for any governmental purpose for which tax-exempt bonds might be issued. Interest in the region in utilizing this provision has been limited, with only the WMATA issuance directed to public transportation (WMATA, $55.0 million in June; City of Alexandria, $44.5 million in June; Metropolitan Washington Airports Authority, $400 million in August; and, County of Arlington, $31.4 million in August).

Use of the *Buy America Bonds* program is still being explored and remains a potential source for I-66 transit improvements.

Assumption 3: Short-term “stimulus” opportunities for I-66 are limited to TIGER.

While significant amounts of ARRA funding already have been committed to transit in the region, only the $18.5 million being sought under the TIGER program noted above is likely to be available from the “stimulus” funds to support I-66 improvements now being planned. Future support may be available from the Build America Bond program.

I.3.4 Short and Medium term Use of SAFETEA-LU and Future Federal Funds

Federal transit and highway programs expired on September 30, 2009 and were extended, along with appropriations, to February 28, 2010.

- **House Committee on Transportation and Infrastructure (T&I) Proposal.** On June 18, the Committee, which historically plays a lead role in fashioning Federal highway and transit legislation, released a six-year proposal, the *Surface Transportation Authorization Act of 2009 (STAA)*, which proposes to increase Federal transit investment by 90 percent to nearly $100 billion over six years, along with substantial increases in highway funding. However, no provisions or proposals have been made to identify a revenue source for the significant increase in Federal investment. That responsibility lies with House leadership and the House Committee on Ways and Means which began hearings focused only on the projected 2009-2010 cash shortfall in the Highway Trust Fund.

In addition to substantial funding increases in the six year House T&I proposal, major program restructuring and consolidation is also being proposed with significant resources devoted to a *Metropolitan Mobility and Access Program* as well as an *Intermodal and Energy Efficient Transit Facilities Program*. In addition, the T&I bill proposes to retain both an *Urban Formula Program* and a *New Starts and Small Starts Program* for transit, and possibly to restore some Federal role in funding transit operations. Finally, it continues the current CMAQ and STP programs, which in the past have been "flexible" sources of substantial transit funding from within the Federal highway program.

- **Administration and Senate Proposals.** The Administration has proposed to simply extend current SAFETEA-LU programs for 18 months while issues of policy, program structure and revenue sources can be worked out more deliberately. The Chairman of the Senate Committee on Environment and Public Works, which has jurisdiction over the highway provisions of reauthorization has also expressed a preference for a simple extension of current SAFETEA-LU programs.

Assumption 4: Increased Federal investment in core transit programs likely will be delayed.

It is likely, based on current economic circumstances, deficit concerns, and unresolved questions about the long-term structure and funding for Federal transportation programs that current SAFETEA-LU programs may remain in place over the next 18-24 months, and that, coupled with any potential additional stimulus funding, they would represent the primary source of Federal revenues that may be available for the I-66 transit improvements in the short term until Federal reauthorization is completed.

Federal formula transit funding apportioned to WMATA and the NVTC as "designated recipient" transit agencies in the region are critical to continue services operated by WMATA as are the portions of Federal formula funds that are suballocated to VRE and PRTC. Based on the estimates of revenue vehicle-miles and route-miles to be added in the corridor under the current proposal, an additional $1.3 to $15 million might be generated and apportioned to the region based on current factors in the FTA Section 5307 formula (all other factors in the national apportionment remaining equal). The lower figure reflects new service counted as traditional bus service; the upper figure reflects new service counted as "fixed guideway" service.

Availability of currently authorized and appropriated funds specifically to support new transit enhancements in the I-66 corridor would require agreement among local jurisdictions that existing priorities be shifted accordingly, and/or that additional local resources be found to sustain current programs, a prospect that is uncertain, politically and financially. Availability of additional stimulus funds at 100 percent Federal share through current programs to support job creation represents an additional significant source in the short term.

Assumption 5: Currently programmed funds in the region are unlikely to be shifted to support I-66 improvements.

Under current program levels and the substantial backlog of regional transit needs, it is unlikely that neither 2009 nor 2010 apportionments of available FTA formula funds to the region (as well as available Federal highways funds) through 2010 will be diverted from currently planned and programmed projects to support I-66 transit improvements.

Assumption 6: The FTA Small Starts Program will continue as a funding source for I-66.

Through extension of existing programs and most likely through reauthorization, it appears that the FTA Small Starts Program will provide a potential source of funding for a well-scoped set of transit improvements on I-66 with possible increases in available funding over 2009 levels from still pending 2010 appropriations proposals.

I.4 State Investment Strategies and Funding Options

The Commonwealth of Virginia, like most states, is struggling with severe revenue declines, a substantial current budget deficit, and growing public investment needs of all types. A series of substantial budget reductions has already been made in the Commonwealth's road-building and transit assistance programs.

Assumption 7: No significant additional state funding is expected in the short term. Prospects for the medium term are unclear.

Due to the current economic climate, no significant additional state funding is expected. Economic recovery may increase revenues for existing sources and provide opportunities in the medium term.

I.5 Regional Investment Strategies and Funding Options

The metropolitan Washington region remains the largest metro area in the country without a dedicated source of funding to support regional public transportation. A breakthrough of sorts was achieved, however, with the 2008 enactment in Congress of *The Rail Safety Improvement Act of 2008* which provided $1.5 billion in Federal funds to WMATA over ten years for maintenance and upkeep of the Metro system, conditioned on assurances that an equivalent amount of funding is provided equally by the District, Maryland and Virginia**,** and that the Interstate Compact is amended accordingly.

In the same timeframe, the Northern Virginia Transportation Authority was granted authority to collect a series of new taxes and fees in Northern Virginia to support transportation improvements. Fee collection began in January 2008. In February, however, the Virginia Supreme Court ruled the delegation of taxing authority was unconstitutional, the tax collections were ended, and proceeds returned. Should legislative deliberations at the state level reopen these or other possibilities, funds could be sought for I-66 improvements.

Assumption 8: No additional regional revenues are expected or forecast to support I-66 improvements in the short term.

Due to the uncertainty of legislative proposals to raise regional revenues, no additional regional revenues are expected or forecasted.

I.6 Local Investment Strategies and Funding Options

Local jurisdictions throughout the region are experiencing severe budget shortfalls. As a result, while transit demand is on the increase, revenues available to support service improvements and expansion as well as routine maintenance and operations, are severely constrained. In many parts of the country, these conditions are leading to transit fare increases, service cutbacks, and postponements in service expansion.

In Northern Virginia, new local taxing mechanisms were recently authorized by the State for use in support of new local and regional transit services, e.g., a commercial real estate surcharge, a local vehicle registration fee, and a commercial/residential impact fee. Indications are, however, that traditional revenues to local jurisdictions are barely adequate today – and sometimes inadequate – to support even current levels of transit service and programmed investment.

Additional potential local sources of funding for I-66 transit improvements are described below.

I.6.1 Fare Revenues

As new transit services are brought on line, additional farebox revenues will be available over time to support a significant portion of the operating cost of the added service. Fares for existing commuter/express services range up to $7 per one-way trip. New services in the corridor, because of their express nature and presumed premium service characteristics can be expected to continue to command premium fares. Farebox recovery for commuter bus service in the corridor is estimated to be 50 percent; Metrobus Express services are estimated to recover 25 percent of farebox revenues. At these rates, additional fare revenues from the recommended new transit services are estimated to yield approximately $78.9 million over the next 15 years. Annual amounts will vary based on when new services are introduced over that period.

Assumption 9: Fare revenues for enhanced bus or BRT services have been estimated based on 25 percent to 50 percent recovery ratios among the various services planned.

I.6.2 Shared Highway Funding

As noted above, a significant amount of the cost for the types of transit improvements being proposed for the I-66 corridor are expected to be for project elements that can be viewed as traditional highway improvements, e.g., ramp access, bridges and overpasses, frontage roads, parking facilities and supporting information technology improvements systems eligible for both Federal and state highway funding. Mention was made earlier of the prospect of using funds from current highway Federal “flexible” funding programs, including the CMAQ and STP, to support the I-66 transit improvements, recognizing that to do so may involve revising investment priorities for these programs among VDOT, NVTC, and local governments.

Given the Commonwealth’s current budget deficit and recent substantial cuts to highway construction, it appears unlikely in the short or medium term that otherwise “flexible” funding would be directed to support I-66 transit enhancements.

Assumption 10: Significant funding from CMAQ and STP is unlikely in the short term.

STP and CMAQ funding for I-66 transit enhancements from these programs will be more realistic in the medium term, in proportion to increases in authorized levels, assuming these programs are extended and funding levels increased in reauthorization.

I.6.3 Parking Fees

Charges might be levied for use of parking facilities constructed as part of the new station-related facilities anticipated along the corridor. Fees would likely have to be variable by distance from downtown and balanced with the Metrorail and local parking fee scales to avoid detrimental incentives or disincentives to prospective users and to help balance mode choice in the most effective way.

Assumption 11: Parking fees may be used to support capital and operations.

Both debt service for parking facility construction as well as ongoing maintenance and operation of parking facilities and related stations could be supported, in part, from parking fees.

I.6.4 Lease Revenues

The more extensive the station facilities developed along I-66, the greater the likelihood that portions of the facilities, if designed accordingly, might be leased to various for-profit or nonprofit enterprises. Examples might include convenience goods retailers and personal service providers such as cleaners, banks, or daycare centers. Full Transit-Oriented Development (TOD) schemes and revenue potential might be possible at stations serving larger or more rapidly developing markets. It appears, however, that markets for such services and facilities are not likely to be adequate in the short and medium term to yield significant revenues. Market analyses will be required to determine when and if lease revenues may ultimately be an option.

A related revenue possibility, already in use in Northern Virginia, is the use of proffered developer contributions, i.e., funding offered in lieu of improvements to support whatever facility improvements are required. As an example, Fairfax County received land for the Monument Drive/Fairfax Corner parking lot through the proffer process.

Assumption 12: Where surrounding markets and the scope of facilities allow, multi-use and lease arrangements should be pursued, as well as developer contribution mechanisms.

I.6.5 Transportation Improvement District Fees

Establishment of a special corridor/facility improvement district under existing state laws might be possible as a means to assess and collect additional property tax revenues to support improvements in the corridor. Examples include the Dulles Rail Transportation Improvement District established in 2004 and the VA Route 28 Highway Transportation Improvement District in 1988. Absent a critical mass of nonresidential development adjacent to the corridor, however, it is less likely that this approach will be useful or acceptable in the short to medium term.

Assumption 13: Consideration of a special taxing "District" should be reserved for the long term.

The approach might be considered contemporaneously with examination of prospects for conversion of bus services in the corridor to rail in the long term.

In the face of the economic recession and local budget difficulties, and in view of the somewhat varied transit and transportation priorities of neighboring local governments in the corridor, it is unlikely that current local transit and transportation spending priorities will be displaced by emerging proposals for enhanced transit in the I-66 corridor absent increases in funding for both capital and operations.

Assumption 14: No additional resources are presumed to come from local governments in support of I-66 transit improvements in the short term.

I.7 Operational and Institutional Issues

A final issue in fashioning an effective funding mix for I-66 transit enhancements involves establishing early on a clear sense of: 1) which operators' services are being proposed, enhanced or expanded in the corridor; 2) under what operating scheme; and 3) what longer-term vision for services is anticipated.

The short- and medium-term funding options might be affected by whether the I-66 service improvements are viewed as and designed to function as a *"regional" service*, or as a combination of services operated separately by individual local providers sharing facilities in the corridor. Is the service being planned truly a brand and/or product that is formally of "regional" scope, character, and identity and part of a "system," or will it begin or continue as an amalgam of enhanced locally operated services?

A related question affecting funding strategies revolves around whether and under what conditions the enhanced services on I-66 become part of a "regional" system with respect to traditional cost-sharing and subsidy allocation methods under the current WMATA Compact, and what, if any, new or revised agreements may be needed.

Alternatively, as a practical matter, implementation of service enhancements by existing operators sharing facilities in the corridor may be a more prudent approach in the short to medium term depending on markets, travel demand, revenue availability, and the need for cost control in early stages of operation.

An additional concern is the ability to manage the facilities and services in a coordinated way throughout the corridor. In addition to cost-sharing arrangements, to what extent should policy and administrative procedures related to parking management and pricing, space leasing and joint development, and the allocation and use of related revenues, be coordinated along the corridor versus administered independently and piecemeal among local jurisdictions? Where does the expertise to direct a consistent, corridor-wide strategy exist and how should it be leveraged fully on a corridor-wide basis? What implications would an accelerated Metrorail Orange Line extension plan have on the medium term?

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