

Interstate-95 - Express Lanes Project

**FINAL DESIGN NOISE ANALYSIS
DRAFT REPORT (SEGMENT IV)**

From: Interstate-95 Exit 143 (Garrisonville Road Interchange)
To: I-385 Exit 3A (Duke Street)
City of Alexandria, Fairfax, Prince William, and Stafford Counties, VA

Submitted to:



Virginia Department of Transportation
Environmental Division
1401 East Broad Street
Richmond, VA 23219

JANUARY
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Virginia Department of Transportation Interstate 95 – Express Lanes Project

State Project No.: 0095-96A-107, PE-101; UPC 70849
From: I-95 Exit 143 (Garrisonville Road Interchange)
To: I-395 Exit 3A (Duke Street)
City of Alexandria, Fairfax, Prince William, and Stafford Counties, VA

FINAL DESIGN NOISE ANALYSIS DRAFT REPORT (SEGMENT IV) I-95/395/495 Interchange to Duke Street (Exit 3A)

Submitted to:



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Environmental Division
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Richmond, VA 23219

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I. Executive Summary

Under provisions of Virginia’s Public-Private Transportation Act of 1995 (PPTA), VDOT and private partners Fluor Virginia, Inc. and Transurban USA, Inc (Fluor-Transurban) propose to construct high-occupancy toll (HOT) lanes within the median of I-95 south of Dumfries and convert the existing high-occupancy vehicle (HOV) lanes to HOT lanes from I-95 Exit 143 (Garrisonville Road) north to I-395, Exit 3A (Duke Street Interchange). The project area extends approximately 29 miles in total. At the northern terminus, the transition to the existing I-395 HOV lanes and general-purpose lanes will occur just north of the I-395/Edsall Road interchange (Exit 2B). The majority of the construction for the project will occur within the I-95 and I-395 median, and parcels adjacent to the I-95 corridor could potentially incur direct or indirect impacts as a result of the proposed project improvements. The noise analysis for the project specifically focuses on the noise-sensitive land use areas adjacent to the project corridor. The regional location of the project can be seen in **Figure 1**, whereas the detailed study area for Segment IV can be seen in **Figures 2** and **3**.

This report documents the Existing and Design Year Build noise levels associated with the I-95 Express Lanes Project. For the purposes of project construction schedule and feasibility, the entire project area is being divided into four construction segments, or study areas. This report details the final design noise analysis results for Segment IV, which limits are defined by I-395/Duke Street Interchange to the north, extending to just north of the I-495 Interchange with I-95/I-395 (See **Figures 2** and **3**). The noise analysis results for the remaining Segments (Segments I-III) will be detailed in a separate technical report.

Noise monitoring for Segment IV was performed at nine (9) locations during free-flow conditions. Noise modeling was conducted for numerous additional sites to gain a thorough understanding of the existing noise environment and to determine how the proposed improvements would affect the noise levels throughout the project area. Project field views were performed to examine the project area, as well as to document major sources of acoustic shielding (e.g., terrain lines, and building rows, etc.) adjacent to the project corridor. For reporting purposes, the project was divided into areas of common noise environment, referred to as CNEs. Noise modeling was completed for Existing (2011) and Design Year Build (2035) conditions. Due to high existing traffic volumes along I-395 and I-95, existing (2011) worst-case noise levels exceed FHWA/VDOT Noise Abatement Criteria (NAC) at the majority of the front-row receptors in the project area.

Design Year Build (2035) noise levels were predicted at each monitored and modeled receptor site under the proposed improvements. As identified in **Tables 3-6**, by the sound level ranges listed in Column 5, Design Year Build (2035) noise levels are projected to approach or exceed the FHWA/VDOT NAC within all of the four CNEs. In total, nearly 327 residential land use areas, two tennis courts, a trail and a playground would be impacted and warrant noise abatement consideration. Noise abatement evaluations conclude that noise abatement is warranted, feasible and reasonable for CNEs A, B, C and D as shown on **Figures 2** and **3**. A detailed discussion of the noise abatement evaluation follows in the body of this report.

II. Introduction

Impacts associated with noise are often a prime concern when evaluating roadway improvement projects. Roadway construction at a new location or improvements to the existing transportation network may cause impacts to the noise-sensitive environment located adjacent to the project corridor. For this reason, FHWA and VDOT have established a noise analysis methodology and associated noise level criteria to assess the potential noise impacts associated with the construction and use of transportation projects.

The I-95 Express Lanes, Segment IV, project study area begins at the I-395/Duke Street Interchange to the north and extends to just north of the I-495 Interchange with I-95/I-395 (*Figures 1, 2, and 3*).

This draft report details the steps involved in the final design noise analysis for the I-95 Express Lanes Project, including noise monitoring/modeling methodologies, results, impact evaluation, and noise abatement optimization.

Any noise abatement found to satisfy VDOT's three-phased approach to noise abatement during the final design noise analysis is not considered final until approval by the FHWA and VDOT.

III. Noise Analysis Methodology, Terminology and Criteria

To determine the degree of highway noise impact, NAC have been established for a number of different land use categories, as shown in **Table 1**. The majority of the land use areas within the project corridor are considered Category B; however, several Category C land use areas are also present. Category B receptors are comprised of and limited to residential areas, while Category C land use areas represent the following: active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, public meeting rooms, public or non-profit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings. Also, Category F land use areas are not present within the predicted 66-dBA contour line. Coordination was performed with the local planning departments to determine areas of planned, future development. There are none of those such areas in the Segment IV project area.

The NAC are given in terms of an hourly, A-weighted, equivalent sound level. The A-weighted sound level frequency is used for human use areas because it is comprised of the sound level frequencies that are most easily distinguished by the human ear, out of the entire sound level spectrum. Highway traffic noise is categorized as a linear noise source, where varying noise levels occur at a fixed point during a single vehicle pass by. It is acceptable to characterize these fluctuating noise levels with a single number known as the equivalent noise level (L_{eq}). The L_{eq} is the value of a steady sound level that would represent the same sound energy as the actual time-varying sound evaluated over the same time period. For highway noise assessments, L_{eq} is typically evaluated over a one-hour period.

Noise abatement determination is based on VDOT's three-phased approach. The first phase (**Phase 1**) distinguishes if a sensitive receptor, within a project corridor, warrants highway traffic noise abatement. The following describes the **Phase 1** warranted criterion, as discussed in VDOT policy. Receptors that satisfy either condition warrant consideration of highway traffic noise abatement.

- Predicted highway traffic noise levels (for the design year) approach or exceed the highway traffic noise abatement criteria in **Table 1**. "Approach" has been defined by VDOT as 1 dBA below the noise abatement criteria.

~or~

- A substantial noise increase has been defined by VDOT as a 10 dBA increase above existing noise levels for all noise-sensitive exterior activity categories. A 10 dBA increase in noise reflects the generally accepted range of a perceived doubling of the loudness.

Phase 2 and **Phase 3** of the three-phased approach will be discussed in the noise abatement evaluation, located in **Section VI** of this report.

The identification of noise-sensitive land use areas and the location of existing I-95, I-395 and I-495 guided the selection of noise monitoring locations along the project corridor. In order to determine the existing noise conditions within the project area, noise monitoring was conducted

at nine representative noise sensitive receptor sites (A1 through D2). *Figures 2 and 3* identify the limits of Segment IV and the locations of the noise monitoring sites.

Monitoring was performed at each of the selected noise sensitive receptors using Metrosonics dB-3080 dosimeters. Readings were taken on the A-weighted scale and reported in decibels (dBA). Prior to noise monitoring, noise meters were calibrated using a Metrosonics cl-304 acoustical calibrator. The noise monitoring equipment meets all requirements of the American National Standard Specifications for Type 2 Sound Level Meters, ANSI S1.4-1983 (R1991), as defined by FHWA. Noise monitoring was conducted in accordance with the methodologies contained in FHWA-PD-96-046, *Measurement of Highway-Related Noise* (FHWA, May 1996).

Noise monitoring was conducted on May 10, 2012. The data collected was used to evaluate the fluctuation of traffic noise during the loudest hours of a typical weekday. The receptor sites were selected based on their proximity to existing I-95, I-395 and I-495, the dominant noise source(s) in the project area.

The 24-hour monitoring data in the preliminary noise analysis data was referenced to conclude that congestion typically occurs in the peak travel periods of 6:00 AM to 9:00 AM and again between the hours of 4:00 PM and 6:00 PM. Traffic congestion typically leads to slower travel speeds, which then yields lower overall noise levels. Although traffic volumes may be slightly less during the off-peak travel periods, the traffic is able to travel at (or above) the posted speeds of 55 mph. To avoid congestion and to perform the monitoring during absolute, worst-case traffic noise hours, noise monitoring was performed between the hours of 8:00 AM and 4:00 PM, when traffic congestion was not an issue. Therefore, in most cases, the off-peak travel period will represent the worst-case noise hours of the day.

Short-term noise monitoring was conducted at each receptor site for at least ten-minutes and longer when practical. Short-term noise monitoring is not a process to determine design year noise impacts or barrier locations. Short-term noise monitoring provides a level of consistency between what is present in real-world situations and how that is represented in the computer noise model. Short-term monitoring does not need to occur within every CNE to validate the computer noise model.

During the short-term monitoring phase, noise levels were recorded at 10-second intervals for the duration of each test. Data collected by the sound analyzers included time, average noise level (L_{av}), maximum noise level (L_{max}), and instantaneous peak noise level (L_{pk}) for each recorded interval. Additional data collected at each monitoring location included atmospheric conditions, wind speed, background noise sources, and unusual/atypical noise events. Traffic data (vehicle volume and speed) were also recorded on all roadways visible from the monitoring sites and substantially contributed to the overall noise levels. For the purposes of this analysis Duke Street and Edsall Road were the only secondary roads that contributed to the overall noise levels at receptor sites in the Segment IV project area. Traffic was grouped into one of three categories: cars, medium trucks, and heavy trucks, per VDOT procedures. Combined, all of these data were used during the noise model validation process.

The methodologies applied to the noise analysis for the I-95 Express Lanes Project are in accordance with VDOT's "*Highway Traffic Noise Impact Analysis Guidance Manual*", effective July 13, 2011, updated September 2011. VDOT guidelines are based on Title 23 of the Code of Federal Regulations, Part 772 and the Federal Highway Administration's Procedures for Abatement of Highway Traffic Noise and Construction Noise, (23 CFR 772).

IV. Validation and Existing Conditions

Computer modeling is the accepted technique for predicting Existing and Design Year noise levels associated with traffic-induced noise. Currently, the FHWA Traffic Noise Model (TNM) 2.5 computer-modeling program is the approved highway noise prediction model. The TNM has been established as a reliable tool for representing noise generated by highway traffic. The information applied to the modeling effort includes the following: highway design files (existing and proposed design), traffic data, roadway cross-sections, and surveying of terrain. Base mapping, aerial photography, and field views were used to identify noise-sensitive land use areas within the corridor and any terrain features that may shield roadway noise. The majority of the land use areas in the project area are residential and are categorized as Category B.

The modeling process begins with model validation, per VDOT requirements. This is accomplished by comparing the monitored noise levels with noise levels generated by the computer model, using the traffic volume, speeds and composition that were witnessed during the monitoring effort. This comparison ensures that reported changes in noise levels between Existing and Design Year conditions are due to changes in traffic conditions and not to discrepancies between monitoring and modeling techniques. A difference of three decibels (3 dBA) or less between the monitored and modeled level is considered acceptable, since this is the limit of change detectable by the typical human ear. **Table 2** provides a summary of the model validation for the Existing (2011) monitored conditions. **Column 6** represents the difference between the monitored level (**Column 4**) and the level produced by the noise model (**Column 5**). Since all of the analyzed receptors show less, or equal to, a 3 dBA difference between the monitored and modeled noise levels, the model is considered an accurate representation of existing conditions throughout the Segment IV project area.

The validated noise model was the base noise model used for the remainder of the final design noise analysis. An additional 119 modeling sites were added to the validated model to predict existing noise levels throughout the project corridor. Additional noise modeling was performed for existing conditions using traffic data derived by traffic engineers in the preliminary analysis (**Appendix D**). This modeling step was performed to evaluate existing “worst-case” conditions associated with existing worst-case traffic volumes and composition. **Column 4** of **Tables 3-6** provides a summary of worst-case existing noise levels, based on supplied worst-case existing traffic volumes. Using these existing noise levels, the noise impact criterion was determined at each receptor site, based on either the “absolute” criteria shown in **Table 1** or VDOT’s “substantial increase” above existing conditions criterion.

Traffic noise levels were predicted at all noise-sensitive land use areas along existing I-95 and I-395, using the latest version of the FHWA TNM 2.5. Existing worst-case (2011) noise levels were determined by incorporating field reconnaissance of the existing transportation network into the noise model. Major and secondary roadways in close proximity to receptor sites that carry substantial traffic volumes were added to the noise model. For the purposes of this noise analysis, it was determined through field verification that I-95 and I-395 are the dominant noise sources for the majority of the project area.

The traffic data supplied by traffic engineers, including volumes, speeds and composition, were added to the noise model to predict existing, worst-case noise levels throughout the project corridor. The traffic data used in the preliminary noise analysis has been determined to be valid for the final design noise analysis. Posted and free-flow roadway speeds were identified during the field view and were also incorporated into the noise model.

Analysis locations were grouped into CNEs, which are groupings of receptor sites that, by location, form distinct communities within the project area and have a common noise environment. These areas were used to evaluate traffic noise impacts and potential noise abatement options to residential developments or communities as a whole, and to assess the feasibility and reasonableness of potential noise abatement measures for specific communities. Where residential communities or groupings of noise-sensitive land use areas exist, both noise monitoring and noise modeling-only sites were grouped into a CNE. A detailed discussion of each CNE and its respective, predicted sound levels is contained in **Section V** of this report.

V. Evaluation of Design Year Noise Levels & Noise Impact Assessment

Following the development of the existing conditions model and the prediction of Existing (worst-case) noise levels, the assessment continued with the projection of Design Year Build (2035) noise levels. This task was accomplished by accounting for the proposed project improvements and applying Design Year (2035) traffic volumes and composition to the validated computer model. Design Year Build (2035) noise levels were predicted with the improvements in place and in use.

The next step in the noise analysis was to project Design Year Build (2035) noise levels and to determine if receptors approach or exceed the NAC. If the criteria are approached or exceeded at any receptor, noise abatement will be considered and evaluated in an attempt to reduce Design Year noise levels. The noise levels associated with the Design Year Build (2035) modeling analysis are summarized in **Column 5 of Tables 3-6**. As shown, Design Year Build (2035) noise levels are projected to approach or exceed the NAC within all four CNEs, representing 319 residential land use areas, two tennis courts, and a playground.

The information applied to the Design Year modeling effort included the following: proposed roadway improvements and traffic data derived from modeling efforts for Design Year Build (2035) conditions. Base mapping and field views were used to further identify noise-sensitive land use areas and terrain that shields noise levels considerably within the project corridor. The Design Year Build (2035) conditions model was created by adding the proposed roadway improvements to the existing computer model and accounting for proposed roadway changes in vertical and horizontal alignment.

Design Year (2035) traffic volumes, vehicle composition, and speeds were assigned to all existing and proposed roadways. All traffic data used in the noise analyses were derived from traffic engineering studies for the project (**Appendix D**).

Due to the nature of the proposed improvements, Design Year Build (2035) noise levels are not anticipated to increase substantially from the Existing Year (2011) noise levels. Traffic volumes between the Existing and Build scenarios are relatively consistent as Vehicle Miles Traveled (VMT) is forecasted to decrease, or remain steady, for the next 25 years. However, since this is a congested corridor, existing noise levels are quite high, with the majority of the evaluated land use areas currently exceeding the NAC. Therefore, Design Year Build noise levels associated with this analysis exceed the NAC at many of the same noise-sensitive land use areas that are above criteria today. The following paragraphs discuss the predicted sound levels for each of the four (4) CNE's within the Segment IV study area.

CNE A

Common Noise Environment A (CNE A) is located in the northern portion of the project area, immediately south of Route 236 (Duke Street) and west of I-395. CNE A contains three monitoring sites (A1-A3) and 37 “modeling-only” receptor sites, as shown in **Figure 2**, which represent the noise-sensitive land use areas along Battlement Way, Beauregard Street, Lachine Lane, Observation Way, Zircon Drive, South Bragg Street and Strawbridge Square Drive.

Existing worst-case noise levels range from 57-76 dBA, as shown in **Column 4 of Table 3**. The dominant noise source within CNE A is I-395 and several receptors have existing worst-case noise levels that exceed the NAC. Design Year Build (2035) sound levels were predicted to remain relatively consistent and range from 57-76 dBA, with noise impacts predicted at 54 residences within CNE A. Since sound levels exceed the NAC, noise abatement is warranted and will be discussed in the following sections of this report.

CNE B

Common Noise Environment B (CNE B) is located in the northern portion of the project area, immediately south of Route 236 (Duke Street) and east of I-395. CNE B contains three monitoring sites (B1-B3) and 40 “modeling-only” receptor sites, as shown in **Figure 2**, which represent the noise-sensitive land use areas along Manchester Way, Cottingham Place, Stultz Road, Tower Court, Masefield Court, Winterview Drive, Stevenson Avenue and the trail in Linconia Park. CNE B is comprised of mostly single-family and high-density residential (Category B) land use areas. There are two multi-story, multi-family housing units represented by receptor sites BM3-BM10. For each of multi-story buildings within the 66 dB(A) contour zone, the ground floor, first-story, second-story and third-story balconies were evaluated for potential noise impacts. The most recent VDOT policy offers guidance for evaluating multi-story dwellings. The policy indicates, only the multi-level balconies that fall below the point of intersection, with a 30-foot noise barrier, will be included in the feasibility and reasonableness calculations. A point of intersection is determined by drawing a hypothetical, horizontal line from the top of a 30 foot noise barrier directly to the high density structure. Only those balconies and/or residences below that line are accounted for in the reasonableness calculations, since VDOT’s maximizes sound barrier height at 30 feet. Existing, worst-case noise levels within CNE B range from 62-77 dBA, as shown in **Column 4 of Table 4**. The dominant noise source within CNE B is I-395 and most receptors have existing noise levels that exceed the NAC. There is an existing (private) noise wall that provides partial benefit to receptor sites B3, BM34 and BM35. The existing benefit from this wall is in the range of 1-2 dBA, is considered negligible and does not comply with current VDOT policy. Design Year Build (2035) sound levels were predicted to range from 63-77 dBA, with noise impacts predicted at 147 residences, two locations on the trail and two tennis courts within CNE B. Since sound levels exceed the NAC, noise abatement is warranted and will be discussed in the following sections of this report.

CNE C

Common Noise Environment C (CNE C) is located in the northern portion of the project area, immediately north of Edsall Road and west of I-395. CNE C contains one monitoring site (C1) and 23 “modeling-only” receptor sites, as shown in **Figure 3**, that represent noise-sensitive land use areas along Yuma Court, Navaho Drive, Chieftan Circle and Cherokee Avenue. Existing worst-case noise levels range from 60-76 dBA, as shown in **Column 4 of Table 5**. The dominant noise source within CNE C is I-395 and most receptors have existing noise levels that exceed the NAC. Design Year Build (2035) sound levels were predicted to remain relatively consistent and range from 60-76 dBA, with noise impacts predicted at 66 residences within CNE C. Since sound levels exceed the NAC, noise abatement is warranted and will be discussed in the following sections of this report.

CNE D

Common Noise Environment D (CNE D) is located in the northern portion of the project area, immediately north of the Edsall Road interchange and east of I-395. CNE D contains two monitoring sites (D1-D2) and 19 “modeling-only” receptor sites, as shown in ***Figure 3***, that represent noise-sensitive land use areas along Edsall Road, Broadwing Place, Hawk View Lane, Levto Landing and Eagle Ridge Lane, including the Edsall Garden Apartment Complex. Existing worst-case noise levels range from 63-75 dBA, as shown in ***Column 4 of Table 6***. The dominant noise source within CNE D is I-395, with influence from Edsall Road, and several receptors have existing noise levels that exceed the NAC. Design Year Build (2035) sound levels were predicted to remain relatively consistent and range from 63-75 dBA, with noise impacts predicted at 54 residences and a playground within CNE D. Since sound levels exceed the NAC, noise abatement is warranted and will be discussed in the following sections of this report.

VI. Noise Abatement Evaluation

Design Year Build (2035) noise levels are projected to approach or exceed the NAC within all four CNEs, representing 319 residential land use areas, two tennis courts, and a playground. Therefore, per FHWA/VDOT procedures, noise abatement considerations are warranted, as discussed above for *Phase 1* of VDOT's three-phased approach, for the impacted properties within CNEs A, B, C and D.

Phase 2 and *Phase 3* of VDOT's three-phased approach to considering noise abatement and determining the feasibility and reasonableness of noise barriers are discussed below in detail.

Phase 2: Feasibility Criteria for Noise Barriers

- *At least a 5 dBA highway traffic noise reduction at impacted receptors. Per 23 CFR 772, FHWA requires the highway agency to determine the number of impacted receptors required to achieve at least 5 dBA of reduction. VDOT requires that fifty percent (50%) or more of the impacted receptors experience 5 dBA or more of insertion loss to be feasible; and*
- *The determination that it is possible to design and construct the noise abatement measure. The factors related to the design and construction include: safety, barrier height, topography, drainage, utilities, and maintenance of the abatement measure, maintenance access to adjacent properties, and general access to adjacent properties (i.e., arterial widening projects).*

FHWA and VDOT guidelines recommend a variety of abatement measures that should be considered in response to transportation-related noise impacts. While noise barriers and/or earth berms are generally the most effective form of noise abatement, additional abatement measures exist that have the potential to provide considerable noise reductions, under certain circumstances. A brief depiction of VDOT-approved noise abatement is below:

- Construction of noise barriers, including acquisition of property rights, either within or outside the highway right-of-way. In this location, landscaping is not a viable noise abatement measure.
- Traffic management measures including, but not limited to, traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive lane designations.
- Alteration of horizontal and vertical alignments.
- Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development that would be adversely impacted by traffic noise. This measure may be included in Type I projects only.

- Noise insulation of Activity Category D land use facilities listed in *Table 1*. Post-installation maintenance and operational costs for noise insulation are not eligible for Federal-aid funding.

Additionally, the Noise Policy Code of Virginia (HB 2577, as amended by HB 2025) requires that whenever the Commonwealth Transportation Board or VDOT plan for or undertake any highway construction or improvement project and such project includes or may include the requirement for the mitigation of traffic noise impacts, first consideration should be given to the use of noise reducing design and low noise pavement materials and techniques in lieu of construction of noise walls or sound barriers. However, low noise pavement materials and techniques will only be considered if VDOT participates in a federally approved Quiet Pavement Pilot Program. Vegetative screening, such as the planting of appropriate conifers, in such a design would be utilized to act as a visual screen if visual screening is required. Correspondence related to HB 2577 is contained in *Appendix E*.

Due to the project need and the nature of the proposed improvements, traffic control measures were not considered an appropriate solution. Property acquisition to provide noise abatement was not necessary or supported by the analysis. Therefore, noise barriers and/or earth berms were considered the only form of abatement having the potential to reduce Design Year Build (2035) noise levels for this project.

Noise walls and earth berms are often included in the highway design in response to identified noise impacts. The effectiveness of a free-standing (post and panel) noise barrier and an earth berm of equivalent height are relatively consistent; however, an earth berm is often perceived as a more aesthetically pleasing option. Therefore, where possible, earth berms are typically the preferred form of noise abatement. The use of earth berms is not always an option, however, due to the excessive space they require adjacent to the roadway corridor. At a standard slope of 2:1, every one foot of berm height would require approximately four feet of horizontal width. This requirement becomes more complex on roadway improvement projects where residential properties often abut the proposed roadway corridor. In these situations, implementation of earth berms can require considerable property acquisition to accommodate noise abatement. Due to limited right-of-way throughout the proposed roadway corridor and the potential impact to (and acquisition of) adjacent residential properties and local roadways that would be required to provide berms, earth berms were not considered a viable abatement option for this project. Therefore, noise barriers were evaluated in an attempt to reduce Design Year Build (2035) noise levels below criteria.

During the noise barrier optimization process, it is important to achieve the most effective noise barrier in terms of both noise reduction and cost. VDOT limits the heights of barrier to 30 feet, however, in most cases; very good insertion losses can be predicted at heights much lower. Where barriers have been evaluated, the first test criteria are feasibility and achieving reasonableness with an effective abatement solution. After these criteria are met, attempts are made to satisfy the VDOT acoustic design goals. As the potential noise barriers are evaluated for height, the most dramatic insertion losses occur when the line-of-sight is broken from the receiver to the roadway. Any increase in height after this has been achieved is unlikely to contribute greatly to the overall insertion loss. For the purposes of this report, this is specified as

“diminishing returns”, meaning that any 2-foot increase in noise barrier height will not increase insertion losses by more than 1 dBA.

Phase 3: Reasonableness Criteria for Noise Barriers

A determination of noise barrier reasonableness includes the consideration of the parameters listed below. The parameters used during the NEPA process are also used during the Final Design phase when making a determination of noise barrier reasonableness. All of the reasonableness factors must collectively be achieved in order for a noise abatement measure to be deemed reasonable.

- **Viewpoints of the benefited receptors**

VDOT shall solicit the viewpoints of all benefited receptors through certified mailings and obtain enough responses to document a decision as to whether or not there is a desire for the proposed noise abatement measure. Fifty percent (50%) or more of the respondents shall be required to favor the noise abatement measure in determining reasonableness.

- **Cost-effectiveness**

VDOT’s noise barrier cost effectiveness value is based upon a Maximum Square Footage of Abatement per Benefited Receptor (MaxSF/BR) value of 1,600 sq. ft. This MaxSF/BR criterion shall be applied as part of the noise barrier reasonableness determination. It replaces the previously used “Cost per Benefited Receptor” criteria. It should be noted that the MaxSF/BR is not an allocation or a design goal.

- **Noise Reduction Design Goals**

The design goal is a reasonableness factor indicating a specific reduction in noise levels that VDOT uses to identify that a noise abatement measure effectively reduces noise. The design goal establishes a criterion selected by VDOT that noise abatement must achieve. The design goal is not the same as acoustic feasibility, which is the minimum level of effectiveness of a noise abatement measure. Acoustic feasibility indicates that the noise abatement measure can, at a minimum, achieve a discernible reduction in noise levels.

The effectiveness of a noise barrier is measured by examining the barrier’s capability to reduce Design Year noise levels. Noise reduction is measured by comparing Design Year pre-and post-barrier noise levels. This difference between unabated and abated noise levels is known as “insertion loss” (IL). It is important to optimize the noise barrier design to achieve the most effective noise barrier in terms of both noise reduction (insertion losses) and cost. Although at least a 5 dBA reduction, at a minimum of 50% of the impacted residences, is required to meet the feasibility criteria, the following tiered noise barrier abatement goals should be used to govern barrier design and optimization.

- Reduction of future highway traffic noise by 7 dBA at one (1) or more of the impacted receptor sites (required criterion).
- Reduction of future highway traffic noise levels to the low-60-decibel range when practical (desirable).

- Reduction of future highway traffic noise levels to existing noise levels when practical (desirable).

The following discussion presents potential abatement evaluation for CNEs A, B, C and D within the Segment IV project study area. Where a noise barrier was evaluated, the effectiveness was measured in terms of achievable IL. All barriers in the project area were evaluated at heights ranging from 6-30 feet, at two-foot increments. The barriers were designed and placed based on constructability, line-of-sight and geographic constraints. VDOT acoustic design goals were exceeded when these considerations were implemented. **Tables 7-10** show the 2035 Design Year Build (2035) sound levels (**Column 4**), the abated sound levels (**Column 5**), and the resulting insertion losses (**Column 6**) for the proposed barrier system for each CNE. Additionally, barrier specific information, such as average height, length, barrier square footage and the number of benefitted residences are shown on **Table 11**.

The purpose of this final design noise analysis is to further refine abatement considerations and to optimize the abatement for maximum effectiveness. In most areas, primarily along mainline sections, barriers were located along the I-95 and I-395 edge-of-shoulder and/or right-of-way boundary. Locations (as near as possible to the roadway) were optimized with sensitivity given to large, expansive utilities in the Segment IV project area.

CNE A

A post-and-panel sound barrier system was evaluated to mitigate predicted impacts with CNE A. As shown in **Figure 2**, a section of reduced height, in the barrier, is necessary to accommodate the existing overhead utility lines. Implementing this 50-foot section does not prohibit the barrier's ability to achieve feasible insertion losses in this area, as shown in **Table 7**. The evaluated barrier for CNE A totals 4,219 feet and ranges in height from 12-30 feet, which yields approximately 86,900 square feet, as shown in **Table 11**. This barrier effectively benefits 96 receptors, thus its Max/SF of 905 is within VDOT's allowable criteria. Numerous insertion losses exceed 7 dBA at the impacted receptors within CNE A, so another VDOT design goal is exceeded. Considering all factors, the barrier system for CNE A is recommended for consideration.

CNE B

A post-and-panel, two-sound barrier system was evaluated to mitigate predicted impacts with CNE B. As shown in **Figure 2**, a section of reduced height, in the northern barrier, is necessary to accommodate the existing overhead utility lines. Implementing this 50-foot section does not prohibit the barrier's ability to achieve feasible insertion losses in this area, as shown in **Table 8**. A second barrier was added to the south in an attempt to address flanking noise issues at receptors BM30-BM35. Numerous iterations were evaluated to protect receptor sites BM34 and BM35; however the terrain in the area prohibits achieving feasible reductions without significant right-of-way acquisition. The evaluated barriers for CNE B total 4,561 feet and range in height from 9-32 feet, which yields approximately 85,064 square feet, as shown in **Table 11**. This barrier effectively benefits 168 receptors, thus its Max/SF of 506 is within VDOT's allowable

criteria. Numerous insertion losses exceed 7 dBA at the impacted receptors within CNE B; therefore this particular VDOT design goal is exceeded. Considering all factors, the barrier system for CNE B is recommended for consideration.

CNE C

A continuous, post-and-panel, sound barrier was evaluated to mitigate predicted impacts with CNE C, as shown in **Figure 3**. This barrier, as designed, provides excellent insertion losses to the majority of the receptors, as shown in **Table 9**. The evaluated barrier for CNE C total 4,277 feet and ranges in height from 14-22 feet, which yields approximately 74,200 square feet, as shown in **Table 11**. This barrier effectively benefits 66 receptors, thus its Max/SF of 1,124 is within VDOT's allowable criteria. Numerous insertion losses exceed 7 dBA at the impacted receptors within CNE C; therefore this particular VDOT design goal is exceeded. Considering all factors, the barrier for CNE C is recommended for consideration.

CNE D

A post-and-panel, two-sound barrier system was evaluated to mitigate predicted impacts with CNE D, as shown in **Figure 3**. A gap and overlapping barrier was designed to accommodate utilities and drainage concerns. This barrier system, as designed, provides excellent insertion losses to the majority of the receptors, as shown in **Table 10**. A few receptors are situated in closer proximity to Edsall Road, therefore do not experience as high insertion losses as those not receiving noise from Edsall road. The evaluated barriers for CNE D total 3,489 feet and range in height from 14-20 feet, which yields approximately 60,447 square feet, as shown in **Table 11**. This barrier effectively benefits 62 receptors, thus its Max/SF of 975 is within VDOT's allowable criteria. Numerous insertion losses exceed 7 dBA at the impacted receptors within CNE D; therefore this particular VDOT design goal is exceeded. Considering all factors, the barrier for CNE D is recommended for consideration.

All of the evaluated noise barriers for this project are shown on **Figures 2 and 3**. These noise barriers or barrier systems have satisfied all preliminary measures in VDOT's three-phased approach on noise abatement and are considered feasible and reasonable at this time. Warranted, Feasible and Reasonable Worksheets are included in **Appendix F** of this report. For the purposes of this discussion, all the evaluated barriers proposed in Segment IV of the I-95 Express Lanes Project are considered warranted, feasible and reasonable.

A summary of the evaluated barriers for the I-95 Express Lanes Project can be seen in **Table 11**. The number of benefited units, evaluated noise barrier length, average height, area and estimated costs are summarized in the table. As shown, CNEs A, B, C, and D contain evaluated barriers that meet all three of VDOT's phased noise abatement approach criteria and are recommended for consideration.

VII. Construction Noise

VDOT is also concerned with noise generated during the construction phase of the proposed project. The degree of noise impact will vary, as it is directly related to the number and types of equipment used and the proximity to the noise-sensitive land use areas within the project corridor.

Based on a review of the project area, no considerable, long-term construction-related noise impacts are anticipated. Any noise impacts that do occur as a result of roadway construction measures are anticipated to be temporary in nature and will cease upon completion of the project construction phase.

The following will be utilized to help minimize potential construction-related noise impacts. A detailed discussion of VDOT's construction noise policy can be viewed in Section 107.16(b) 3 Noise, VDOT's Road and Bridge Specifications (VDOT, 2007).

- The Contractor's operations shall be performed so that exterior noise levels measured during a noise-sensitive activity shall not exceed 80 decibels. Such noise level measurements shall be taken at a point on the perimeter of the construction limit that is closest to the adjoining property on which a noise-sensitive activity is occurring. A *noise-sensitive activity* is any activity for which lowered noise levels are essential if the activity is to serve its intended purpose and not present an unreasonable public nuisance. Such activities include, but are not limited to, those associated with residences, hospitals, nursing homes, churches, schools, libraries, parks, and recreational areas.
- VDOT may monitor construction-related noise. If construction noise levels exceed 80 decibels during noise sensitive activities, the Contractor shall take corrective action before proceeding with operations. The Contractor shall be responsible for costs associated with the abatement of construction noise and the delay of operations attributable to noncompliance with these requirements.
- VDOT may prohibit or restrict to certain portions of the project any work that produces objectionable noise between 10 P.M. and 6 A.M. If other hours are established by local ordinance, the local ordinance shall govern.
- Equipment shall in no way be altered so as to result in noise levels that are greater than those produced by the original equipment.
- When feasible, the Contractor shall establish haul routes that direct his vehicles away from developed areas and ensure that noise from hauling operations is kept to a minimum.
- These requirements shall not be applicable if the noise produced by sources other than the Contractor's operation at the point of reception is greater than the noise from the Contractor's operation at the same point.

VIII. Public Involvement/Local Officials Coordination

FHWA and VDOT policies require that VDOT provide certain information to local officials within whose jurisdiction the highway project is located in order to minimize future traffic noise impacts of Type I projects on currently undeveloped lands. (Type I projects involve highway improvements with noise analysis.) This must include information on noise-compatible land-use planning, noise impact zones in undeveloped land in the highway project corridor and federal participation in Type II projects (noise abatement only). This section of the report provides that information, as well as information about VDOT's noise abatement program.

VDOT's current noise policy outlines VDOT's approach to communication with local officials and provides information and resources on highway noise and noise-compatible land-use planning. VDOT's intention is to assist local officials in planning the uses of undeveloped land adjacent to highways to minimize the potential impacts of highway traffic noise.

Entering the Quiet Zone is a brochure that provides general information and examples to elected officials, planners, developers, and the general public about the problem of traffic noise and effective responses to it. A link to this brochure on FHWA's website is provided: http://www.fhwa.dot.gov/environment/noise/noise_compatible_planning/federal_approach/land_use/qz00.cfm

A wide variety of administrative strategies may be used to minimize or eliminate potential highway noise impacts, thereby preventing the need or desire for costly noise abatement structures such as noise barriers in future years. There are five broad categories of such strategies:

- Zoning,
- Other legal restrictions (subdivision control, building codes, health codes),
- Municipal ownership or control of the land,
- Financial incentives for compatible development, and
- Educational and advisory services.

The Audible Landscape: A Manual for Highway and Land Use is a well-written and comprehensive guide addressing these noise-compatible land-use planning strategies, with significant detailed information. This document is available through FHWA's Website, at http://www.fhwa.dot.gov/environment/noise/noise_compatible_planning/federal_approach/audible_landscape/al00.cfm

Where noise abatement may be identified as warranted, feasible, and reasonable in this report, a final determination on proposed abatement will not be made until reviewed by FHWA and VDOT and if authorized, community solicitation. If approved, benefitted receptors will be mailed correspondence that explains the specifics of the proposed abatement. Each benefitted property owner will have a vote. VDOT requires at least 50% of the impacted receptors to be in favor of the proposed abatement for it to satisfy the final reasonableness criteria. This report will then be updated with the findings of the community outreach phase.

IX. Noise Contours

Noise level contours are lines of equal noise exposure that typically parallel roadway alignments and are often times useful to local officials in undeveloped corridors. Highway traffic noise is considered a linear noise source and sound levels can drop considerably over distance. The degree that sound levels decrease can vary based on a number of different factors including objects that shield the roadway noise, terrain features and ground cover type (e.g., pavement, grass or snow). The use of noise level contours have become increasingly popular over the last several years, as they have been implemented in planning programs for undeveloped areas with roadway noise influence. Through conscious planning efforts and noise contour generation, municipal officials can restrict future development inside the noise impact zone (i.e., the area within the 66-dBA noise contour). **Figures 2 and 3** show the approximate 66-dBA noise level contours for the Design Year (2035) build scenario, per CNE, when considering the improvements made to I-395 and the Design Year (2035) traffic volumes, speeds and composition.

Also required under the revised 2011 FHWA and VDOT noise policies is information on the noise impact zones adjacent to project roadways in undeveloped lands. To determine these zones, noise levels are computed at various distances from the edge of the project roadways in each of the undeveloped areas of the project study area. Then, the distances from the edge of the roadway to the Noise Abatement Criteria sound levels are determined through interpolation. Distances vary in the project corridor due to changes in traffic volumes or terrain features. Any noise sensitive sites within the zones shown in **Figures 2 and 3** should be considered noise impacted if no barrier is present to reduce sound levels.

X. Conclusion

In summary, the results of the noise analysis for the I-95 Express Lanes Project indicate that Design Year Build (2035) noise levels exceed the NAC within all of the evaluated CNEs for Segment IV. As identified in **Tables 3-6**, by the sound level ranges listed in Column 5, Design Year Build (2035) noise levels are projected to approach or exceed the FHWA/VDOT NAC at approximately 321 residential land use areas, two tennis courts, and a playground and thus warrant noise abatement consideration. Noise abatement evaluations conclude that noise abatement is warranted, feasible and reasonable for CNEs A, B, C and D as shown on **Figures 2 and 3**. In total, nearly 16,546 linear feet and 306,611 square feet, have been identified and been found to satisfy all of VDOT's preliminary criteria for identifying noise abatement locations. This report will be updated following the meetings and conclusion of any Public Outreach exercise.

Tables

TABLE 1
I-95 Express Lanes Project
FHWA/VDOT Noise Abatement Criteria
Hourly-A-Weighted Sound Level in Decibels (dB(A))¹

Activity Category	Activity L_{eq} (h)*	Criteria² L10 (h)	Evaluation Location	Description of Activity Category
A	57	60	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B³	67	70	Exterior	Residential.
C³	67	70	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, public meeting rooms, public or non-profit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	55	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or non-profit institutional structures, radio studios, recording studios, schools, and television studios.
E³	72	75	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties of activities not included in A-D or F.
F	--	--	Exterior	Agriculture, airports, bus yards, emergency services, industrial logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	--	--	Undeveloped lands that are not permitted.

¹ Either Leq (h) or L10 (h) (but not both) may be used on a project.

² The Leq (h) and L10 (h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measure.

³ Includes undeveloped lands permitted for this Activity Criteria.

* VDOT utilizes the Leq (h) designation.

Table 2
I-95 Express Lanes Project - (2012) Noise Monitoring and Validation Results

1	2	3	4	5	6	7
CNE Designation	Receptor Site Number	Site Representation	Existing, Monitored Noise Level	TNM Modeled Noise Level	Difference (Mod.-Mon.)	Validates?
CNE A	A1	2 Residences	64.1	66.6	2.5	Yes
	A2	5 Residences	63.0	63.6	0.6	Yes
	A3	2 Residences	60.5	61.2	0.7	Yes
CNE B	B1	1 Residence	69.5	67.5	-2	Yes
	B2	2 Residences	60.0	62.3	2.3	Yes
	B3	1 Residence	62.6	61.3	-1.3	Yes
CNE C	C1	4 Residences	64.6	67.2	2.6	Yes
CNE D	D1	4 Residences	60.6	61.2	0.6	Yes
	D2	Playground	66.0	68.9	2.9	Yes

Table 3
I-95 Express Lanes Project
Sound Level Summary - CNE A

1	2	3	4	5
CNE Descriptor	Site Descriptor	Site Representation	Existing (2012) Noise Level	Build (2035) Noise Level
CNE A	A1	2 Residences	71	71
	A2	5 Residences	67	67
	A3	2 Residences	65	64
	AM1	Hotel Pool (NAC = 71dBA)	66	66
	AM2	4 Residences	65	65
	AM3	3 Residences	67	68
	AM4	3 Residences	69	69
	AM5	Hotel Pool (NAC = 71dBA)	62	62
	AM6	4 Residences	61	61
	AM7	3 Residences	64	64
	AM8	3 Residences	69	69
	AM9	4 Residences	58	58
	AM10	4 Residences	60	60
	AM11	4 Residences	60	61
	AM12	3 Residences	70	70
	AM13	2 Residences	65	65
	AM14	1 Residence	62	62
	AM15	4 Residences	71	71
	AM16	4 Residences	64	64
	AM17	3 Residences	65	65
	AM18	4 Residences	57	57
	AM19	4 Residences	60	60
	AM20	4 Residences	63	63
	AM21	8 Residences	58	58
	AM22	4 Residences	65	65
	AM23	5 Residences	57	57
	AM24	8 Residences	61	61
	AM25	5 Residences	71	71
	AM26	4 Residences	71	71
	AM27	3 Residences	70	70
	AM28	3 Residences	76	76
	AM29	3 Residences	66	66
	AM30	3 Residences	70	70
	AM31	5 Residences	60	60
	AM32	5 Residences	65	64
	AM33	4 Residences	66	66
	AM34	4 Residences	64	63
AM35	2 Residences - 2nd Story	72	72	
AM36	2 Residences - 2nd Story	72	72	
AM37	2 Residences - 2nd Story	72	72	

 Noise Levels approach or exceed FHWA/VDOT Noise Abatement Criteria

Table 4
I-95 Express Lanes Project
Sound Level Summary - CNE B

1	2	3	4	5
CNE Descriptor	Site Descriptor	Site Representation	Existing (2012) Noise Level	Build (2035) Noise Level
CNE B	B1	1 Residence	72	72
	B2	2 Residences	68	68
	B3	1 Residence	66	69
	BM1	8 Residences	71	72
	BM2	8 Residences	71	72
	BM3	Ground Floor-5 Units	70	70
	BM4	2nd Floor-5 Units	72	73
	BM5	3rd Floor-5 Units	74	74
	BM6	4th Floor-5 Units	75	75
	BM7	Ground Floor-8 Units	70	70
	BM8	2nd Floor-8 Units	73	73
	BM9	3rd Floor-8 Units	76	76
	BM10	4th Floor-8 Units	74	75
	BM11	4 Residences	68	68
	BM12	4 Residences	70	70
	BM13	2 Tennis Courts	69	69
	BM14	3 Residences	71	71
	BM15	4 Residences	75	75
	BM16	3 Residences	65	65
	BM17	3 Residences	65	65
	BM18	4 Residences	66	66
	BM19	3 Residences	63	63
	BM20	4 Residences	66	66
	BM21	5 Residences	74	74
	BM22	4 Residences	65	65
	BM23	6 Residences	74	75
	BM24	4 Residences	63	64
	BM25	4 Residences	70	70
	BM26	5 Residences	77	77
	BM27	5 Residences	66	67
	BM28	5 Residences	76	76
	BM29	5 Residences	65	66
	BM30	4 Residences	65	66
	BM31	3 Residences	72	73
	BM32	3 Residences	68	70
	BM33	2 Residences	62	64
	BM34	2 Residences	69	69
	BM35	1 Residence	71	70
	BM36	First Floor - 6 Units	64	65
	BM37	Trail	63	63
BM38	Trail	67	67	
BM39	Trail	66	66	
BM40	Trail	65	65	

Noise Levels approach or exceed FHWA/VDOT Noise Abatement Criteria

Table 5
I-95 Express Lanes Project
Sound Level Summary - CNE C

1	2	3	4	5
CNE Descriptor	Site Descriptor	Number of Dwelling Units	Existing (2012) Noise Level	Build (2035) Noise Level
<i>CNE C</i>	C1	4 Residences	73	73
	CM1	3 Residences	66	66
	CM2	1 Residence	75	75
	CM3	2 Residences	75	75
	CM4	3 Residences	70	71
	CM5	2 Residences	69	69
	CM6	3 Residences	70	70
	CM7	4 Residences	75	75
	CM8	3 Residences	76	76
	CM9	3 Residences	70	70
	CM10	4 Residences	69	69
	CM11	3 Residences	67	67
	CM12	3 Residences	69	69
	CM13	4 Residences	71	71
	CM14	4 Residences	72	73
	CM15	3 Residences	66	66
	CM16	3 Residences	71	71
	CM17	3 Residences	63	63
	CM18	3 Residences	69	69
	CM19	4 Residences	66	67
	CM20	2 Residences	67	68
	CM21	2 Residences	60	60
	CM22	5 Residences	66	66
CM23	5 Residences	62	62	

 Noise Levels approach or exceed FHWA/VDOT Noise Abatement Criteria

**Table 6
I-95 Express Lanes Project
Sound Level Summary - CNE D**

1	2	3	4	6
CNE Descriptor	Site Descriptor	Number of Dwelling Units	Existing (2012) Noise Level	Build (2035) Noise Level
<i>CNE D</i>	D1	4 Residences	66	66
	D2	Playground	75	75
	DM1	4 Residences	74	74
	DM2	4 Residences	66	66
	DM3	3 Residences	74	75
	DM4	4 Residences	68	68
	DM5	4 Residences	63	63
	DM6	6 Residences	74	75
	DM7	6 Residences	67	67
	DM8	5 Residences	63	63
	DM9	8 Residences	71	70
	DM10	8 Residences	63	63
	DM11	8 Residences	66	65
	DM12	8 Residences	65	65
	DM13	3 Residences	70	70
	DM14	3 Residences	68	68
	DM15	3 Residences	65	65
	DM16	9 Residences	64	65
	DM17	4 Residences	73	73
DM18	9 Residences	64	65	
DM19	4 Residences	73	73	

 Noise Levels approach or exceed FHWA/VDOT Noise Abatement Criteria

Table 7
I-95 Express Lanes Project
Optimized Barrier Analysis - CNE A

1	2	3	4	5	6
CNE Descriptor	Site Descriptor	Site Representation	Build (2035) Noise Level	Abated (2035) Noise Level	Net Insertion Loss
CNE A	A1	2 Residences	71	61	9
	A2	5 Residences	67	61	6
	A3	2 Residences	64	60	4
	AM1	Hotel Pool	66	64	2
	AM2	4 Residences	65	58	7
	AM3	3 Residences	68	59	9
	AM4	3 Residences	69	60	9
	AM5	Hotel Pool	62	56	7
	AM6	4 Residences	61	55	6
	AM7	3 Residences	64	58	6
	AM8	3 Residences	69	60	9
	AM9	4 Residences	58	53	5
	AM10	4 Residences	60	56	4
	AM11	4 Residences	61	56	5
	AM12	3 Residences	70	61	9
	AM13	2 Residences	65	58	7
	AM14	1 Residence	62	56	6
	AM15	4 Residences	71	62	9
	AM16	4 Residences	64	59	5
	AM17	3 Residences	65	58	7
	AM18	4 Residences	57	53	4
	AM19	4 Residences	60	54	6
	AM20	4 Residences	63	58	5
	AM21	8 Residences	58	54	4
	AM22	4 Residences	65	59	6
	AM23	5 Residences	57	53	4
	AM24	8 Residences	61	58	4
	AM25	5 Residences	71	63	8
	AM26	4 Residences	71	65	6
	AM27	3 Residences	70	61	9
	AM28	3 Residences	76	66	10
	AM29	3 Residences	66	60	6
	AM30	3 Residences	70	63	6
	AM31	5 Residences	60	56	4
	AM32	5 Residences	64	62	3
	AM33	4 Residences	66	62	4
	AM34	4 Residences	63	58	5
AM35	2 Residences - 2nd Story	72	63	9	
AM36	2 Residences - 2nd Story	72	64	9	
AM37	2 Residences - 2nd Story	72	63	8	

 Noise Levels approach or exceed FHWA/VDOT Noise Abatement Criteria
 Insertion Losses are considered "feasible".

Note: The calculated Insertion Losses might appear to be off due to rounding errors

Table 8
I-95 Express Lanes Project
Optimized Barrier Analysis - CNE B

1	2	3	5	5	5
CNE Descriptor	Site Descriptor	Site Representation	Build (2035) Noise Level	Abated (2035) Noise Level	Net Insertion Loss
CNE B	B1	1 Residence	72	63	9
	B2	2 Residences	68	58	10
	B3	1 Residence	69	63	6
	BM1	8 Residences	72	59	13
	BM2	8 Residences	72	62	10
	BM3	Ground Floor-5 Units	68	57	11
	BM4	2nd Floor-5 Units	73	58	14
	BM5	3rd Floor-5 Units	74	59	15
	BM6	4th Floor-5 Units	75	61	14
	BM7	Ground Floor-8 Units	70	58	11
	BM8	2nd Floor-8 Units	73	58	15
	BM9	3rd Floor-8 Units	76	58	18
	BM10	4th Floor-8 Units	75	59	16
	BM11	4 Residences	68	57	11
	BM12	4 Residences	70	58	12
	BM13	2 Tennis Courts	69	59	10
	BM14	3 Residences	71	61	10
	BM15	4 Residences	75	63	12
	BM16	3 Residences	65	56	9
	BM17	3 Residences	65	57	8
	BM18	4 Residences	66	59	7
	BM19	3 Residences	63	56	6
	BM20	4 Residences	66	57	9
	BM21	5 Residences	74	64	10
	BM22	4 Residences	65	57	9
	BM23	6 Residences	75	63	11
	BM24	4 Residences	64	56	8
	BM25	4 Residences	70	58	12
	BM26	5 Residences	77	63	14
	BM27	5 Residences	67	58	9
	BM28	5 Residences	76	64	12
	BM29	5 Residences	66	60	6
	BM30	4 Residences	66	61	6
	BM31	3 Residences	73	65	8
	BM32	3 Residences	70	62	8
	BM33	2 Residences	64	57	7
	BM34	2 Residences	69	66	2
	BM35	1 Residence	70	67	3
	BM36	First Floor - 6 Units	65	55	9
	BM37	Trail	63	61	2
BM38	Trail	67	63	4	
BM39	Trail	66	62	4	
BM40	Trail	65	62	3	

 Noise Levels approach or exceed FHWA/VDOT Noise Abatement Criteria
 Insertion Losses are considered "feasible".

Note: The calculated Insertion Losses might appear to be off due to rounding errors

Table 9
I-95 Express Lanes Project
Optimized Barrier Analysis - CNE C

1	2	3	5	5	5
CNE Descriptor	Site Descriptor	Site Representation	Build (2035) Noise Level	Abated (2035) Noise Level	Net Insertion Loss
CNE C	C1	4 Residences	73	63	10
	CM1	3 Residences	66	61	5
	CM2	1 Residence	75	62	13
	CM3	2 Residences	75	68	7
	CM4	3 Residences	71	67	4
	CM5	2 Residences	69	64	6
	CM6	3 Residences	70	64	6
	CM7	4 Residences	75	66	9
	CM8	3 Residences	76	67	10
	CM9	3 Residences	70	63	7
	CM10	4 Residences	69	59	10
	CM11	3 Residences	67	57	10
	CM12	3 Residences	70	58	12
	CM13	4 Residences	71	60	12
	CM14	4 Residences	73	61	12
	CM15	3 Residences	66	57	9
	CM16	3 Residences	71	59	12
	CM17	3 Residences	63	56	7
	CM18	3 Residences	69	60	9
	CM19	4 Residences	67	60	7
	CM20	2 Residences	68	60	8
	CM21	2 Residences	60	56	4
	CM22	5 Residences	66	59	7
CM23	5 Residences	62	59	3	

Noise Levels approach or exceed FHWA/VDOT Noise Abatement Criteria

Insertion Losses are considered "feasible".

Note: The calculated Insertion Losses might appear to be off due to rounding errors

Table 10
I-95 Express Lanes Project
Optimized Barrier Analysis - CNE D

1	2	3	5	5	5
CNE Descriptor	Site Descriptor	Site Representation	Build (2035) Noise Level	Abated (2035) Noise Level	Net Insertion Loss
CNE D	D1	4 Residences	66	65	1
	D2	Playground	75	62	13
	DM1	4 Residences	74	68	6
	DM2	4 Residences	66	66	1
	DM3	3 Residences	75	65	10
	DM4	4 Residences	68	59	9
	DM5	4 Residences	63	59	4
	DM6	6 Residences	75	63	11
	DM7	6 Residences	67	55	12
	DM8	5 Residences	63	55	8
	DM9	8 Residences	70	63	8
	DM10	8 Residences	63	58	5
	DM11	8 Residences	65	62	2
	DM12	8 Residences	65	62	3
	DM13	3 Residences	70	62	9
	DM14	3 Residences	68	60	8
	DM15	3 Residences	65	59	6
	DM16	9 Residences	65	64	1
	DM17	4 Residences	73	62	11
DM18	9 Residences	65	61	4	
DM19	4 Residences	73	62	11	

Noise Levels approach or exceed FHWA/VDOT Noise Abatement Criteria

Insertion Losses are considered "feasible".

Note: The calculated Insertion Losses might appear to be off due to rounding errors

**Table 11
I-95 Express Lanes Project - CNE Noise Barrier Summary**

1	2	3	4	5	6	7	8	9
CNE Descriptor	Number of Benefited Residences	Noise Barrier Length (ft.)	Noise Barrier Height Range (ft.)	Max. Square Footage (MaxSF)	MaxSF per Benefited Residence	Barrier Cost (\$36/sq. ft.)	Feasible?	Reasonable?
CNE A	96	4219	12-30	86900	905	\$ 3,128,400	YES	YES
CNE B	168	4561	9-32	85064	506	\$ 3,062,304	YES	YES
CNE C	63	4277	14-22	74200	1178	\$ 2,671,200	YES	YES
CNE D	62	3489	14-20	60447	975	\$ 2,176,092	YES	YES
TOTALS:	389	16546	9-32	306,111	N/A	\$ 11,037,996	N/A	N/A

Appendix A

NOISE METER CALIBRATION CERTIFICATES

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

ACOUSTICAL CALIBRATOR

Manufactured by: **METROSONICS**
Model No: **CL304**
Serial No: **4583**
Calibration Recall No: **20965**

Submitted By:

Customer: CHUCK WEAVER
Company: MCCORMICK TAYLOR
Address: 509 S EXETER STREET/ 4TH FLOOR
BALTIMORE MD 21202

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. **CL304** **METR**

Upon receipt for Calibration, the instrument was found to be:

Within (**X**) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements, ISO 10012-1 MIL STD 45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: **27-Jun-11**

Certificate No: **20965 - 7**

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

ACOUSTICAL CALIBRATOR

Manufactured by: METROSONICS
Model No: CL304
Serial No: 7135
Calibration Recall No: 20965

Submitted By:

Customer: CHUCK WEAVER
Company: MCCORMICK TAYLOR
Address: 509 S EXETER STREET/ 4TH FLOOR
BALTIMORE MD 21202

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. CL304 METR

Upon receipt for Calibration, the instrument was found to be:

Within (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements, ISO 10012-1 MIL STD 45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 27-Jun-11

Certificate No: 20965 - 6

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

ISO 9001:2008
Registered Company
Calibration Traceable
to N.I.S.T.

Phone: (585) 586-3900 Fax: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

ACOUSTICAL CALIBRATOR

Manufactured by: **METROSONICS**
Model No: **CL304**
Serial No: **7271**
Calibration Recall No: **20813**

Submitted By:

Customer: JACK CRAMER
Company: McCORMICK TAYLOR, INC.
Address: 5 CAPITAL DRIVE
HARRISBURG PA 17110

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. **CL304** **METR**

Upon receipt for Calibration, the instrument was found to be:

Within **(X)** see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 20-May-11

Certificate No: 20813 - 6

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1



Felix Christopher
Quality Manager

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

METROLOGGER

Manufactured by: METROSONICS
Model No: db-3080
Serial No: 2555
Calibration Recall No: 20965

Submitted By:

Customer: CHUCK WEAVER
Company: MCCORMICK TAYLOR
Address: 509 S EXETER STREET/ 4TH FLOOR
BALTIMORE MD 21202

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. db-3080 METR

Upon receipt for Calibration, the instrument was found to be:

Within (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements, ISO 10012-1 MIL STD 45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 27-Jun-11



Certificate No: 20965 - 1

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

METROLOGGER

Manufactured by: METROSONICS
Model No: db-3080
Serial No: 2556
Calibration Recall No: 20965

Submitted By:

Customer: CHUCK WEAVER
Company: MCCORMICK TAYLOR
Address: 509 S EXETER STREET/ 4TH FLOOR
BALTIMORE MD 21202

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. db-3080 METR

Upon receipt for Calibration, the instrument was found to be:

Within (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements, ISO 10012-1 MIL STD 45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 27-Jun-11

Certificate No: 20965 - 2


Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

METROLOGGER

Manufactured by: **METROSONICS**
Model No: **db-3080**
Serial No: **2557**
Calibration Recall No: **20965**

Submitted By:

Customer: CHUCK WEAVER
Company: MCCORMICK TAYLOR
Address: 509 S EXETER STREET/ 4TH FLOOR
BALTIMORE MD 21202

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. **db-3080** METR

Upon receipt for Calibration, the instrument was found to be:

Within (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements, ISO 10012-1 MIL STD 45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 27-Jun-11



Certificate No: 20965 - 3

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

METROLOGGER

Manufactured by: METROSONICS
Model No: db-3080
Serial No: 2558
Calibration Recall No: 20965

Submitted By:

Customer: CHUCK WEAVER
Company: MCCORMICK TAYLOR
Address: 509 S EXETER STREET/ 4TH FLOOR
BALTIMORE MD 21202

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. db-3080 METR

Upon receipt for Calibration, the instrument was found to be:

Within (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements, ISO 10012-1 MIL STD 45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 27-Jun-11



Certificate No: 20965 - 4

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

**West Caldwell
Calibration
Laboratories, Inc.**
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

METROLOGGER

Manufactured by: METROSONICS
Model No: db-3080
Serial No: 2559
Calibration Recall No: 20965

Submitted By:

Customer: CHUCK WEAVER
Company: MCCORMICK TAYLOR
Address: 509 S EXETER STREET/ 4TH FLOOR
BALTIMORE MD 21202

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. db-3080 METR

Upon receipt for Calibration, the instrument was found to be:

Within (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements, ISO 10012-1 MIL STD 45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 27-Jun-11



Certificate No: 20965 - 5

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PERMISSIBLE SOUND LEVEL METER

Manufactured by: METROSONICS
Model No: db-3080
Serial No: 3903
Calibration Recall No: 20813

Submitted By:

Customer: JACK CRAMER
Company: McCORMICK TAYLOR, INC.
Address: 5 CAPITAL DRIVE
HARRISBURG PA 17110

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. db-3080 METR

Upon receipt for Calibration, the instrument was found to be:

Outside (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 20-May-11

Certificate No: 20813 - 1

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1


Felix Christopher
Quality Manager

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PERMISSIBLE SOUND LEVEL METER

Manufactured by: **METROSONICS**
Model No: **db-3080**
Serial No: **3904**
Calibration Recall No: **20813**

Submitted By:

Customer: **JACK CRAMER**
Company: **McCORMICK TAYLOR, INC.**
Address: **5 CAPITAL DRIVE**
HARRISBURG PA 17110

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. **db-3080 METR**

Upon receipt for Calibration, the instrument was found to be:

Within **(X)** see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 20-May-11



Certificate No: 20813 - 2

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

**West Caldwell Calibration Laboratories, Inc.**
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PERMISSIBLE SOUND LEVEL METER

Manufactured by: **METROSONICS**
Model No: **db-3080**
Serial No: **3905**
Calibration Recall No: **20813**

Submitted By:

Customer: **JACK CRAMER**
Company: **McCORMICK TAYLOR, INC.**
Address: **5 CAPITAL DRIVE**
HARRISBURG PA 17110

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. **db-3080 METR**

Upon receipt for Calibration, the instrument was found to be:

Within (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: **20-May-11**



Certificate No: **20813 - 3**

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PERMISSIBLE SOUND LEVEL METER

Manufactured by: **METROSONICS**
Model No: **db-3080**
Serial No: **3907**
Calibration Recall No: **20813**

Submitted By:

Customer: **JACK CRAMER**
Company: **McCORMICK TAYLOR, INC.**
Address: **5 CAPITAL DRIVE**
HARRISBURG PA 17110

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. db-3080 METR

Upon receipt for Calibration, the instrument was found to be:

Outside (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: 01-Jun-11

Certificate No: 20813 - 4

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1


Felix Christopher
Quality Manager

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PERMISSIBLE SOUND LEVEL METER

Manufactured by: **METROSONICS**
Model No: **db-3080**
Serial No: **3908**
Calibration Recall No: **20813**

Submitted By:

Customer: **JACK CRAMER**
Company: **McCORMICK TAYLOR, INC.**
Address: **5 CAPITAL DRIVE**
HARRISBURG PA 17110

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. **db-3080** METR

Upon receipt for Calibration, the instrument was found to be:

Within (X) see attached Report of Calibration.

the tolerance of the indicated specification.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

Calibration Date: **20-May-11**

_____ *Kc*

Certificate No: **20813 - 5**

Felix Christopher
Quality Manager

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

Calibration Traceable
To N. I. S. T.

Phone: (585) 586-3900 Fax.: (585) 586-4327



Appendix B

NOISE MONITORING DATA FORMS

US I-95 Express Lanes Final Design Noise Analysis

Site # A1 **Description:** 4935 Zircon Drive

Meter # 2556

Done by JCL

Monitoring Data:

Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	2-4 mph
Temp	67
Humidity	48%

Leq. 64.1

Traffic Data:

Roadway	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions:

Site Data: Site Surface (Alpha): Shielding Factor: Pavement Type:

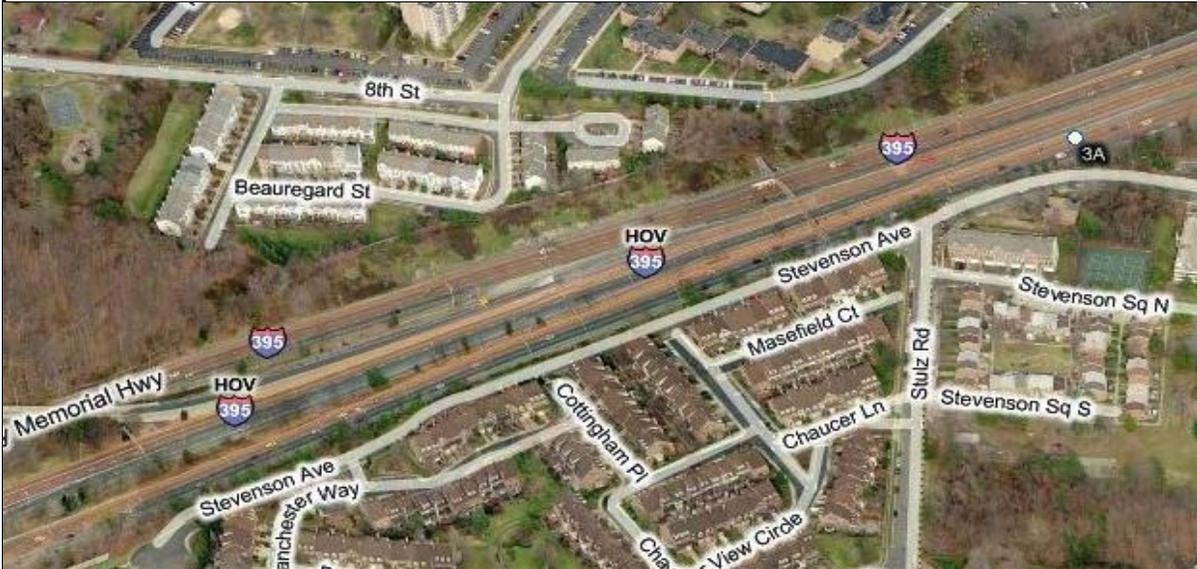


Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____



Profile View:

US I-95 Express Lanes Final Design Noise Analysis

Site # A2 **Description:** 5125 Beauregard Street

Meter # 3905

Done by JCL

Monitoring Data:
Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	2-4 mph
Temp	67
Humidity	48%

Leq. **63.0**

Traffic Data:

Roadway	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions: _____

Site Data: Site Surface (Alpha): _____ Shielding Factor: _____ Pavement Type: _____



Profile View:



Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____

US I-95 Express Lanes Final Design Noise Analysis

Site # A3 **Description:** 5953 Strawberry Bridge Square

Meter # 3903

Done by JCL

Monitoring Data:
Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	2-4 mph
Temp	67
Humidity	48%

Site Photo Not Available

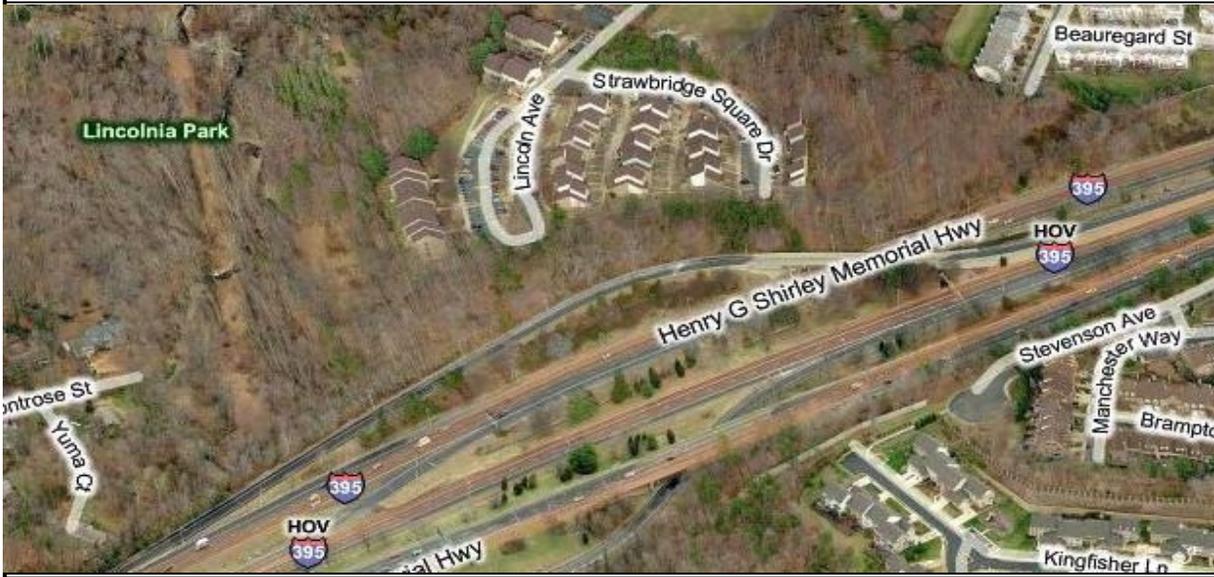
Leq. **60.5**

Traffic Data:

	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions: _____

Site Data: Site Surface (Alpha): _____ Shielding Factor: _____ Pavement Type: _____



Profile View:

Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____

US I-95 Express Lanes Final Design Noise Analysis

Site # B1 **Description:** Landmark

Meter # 3908

Done by JC

Monitoring Data:
Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	3-4 mph
Temp	67
Humidity	48%

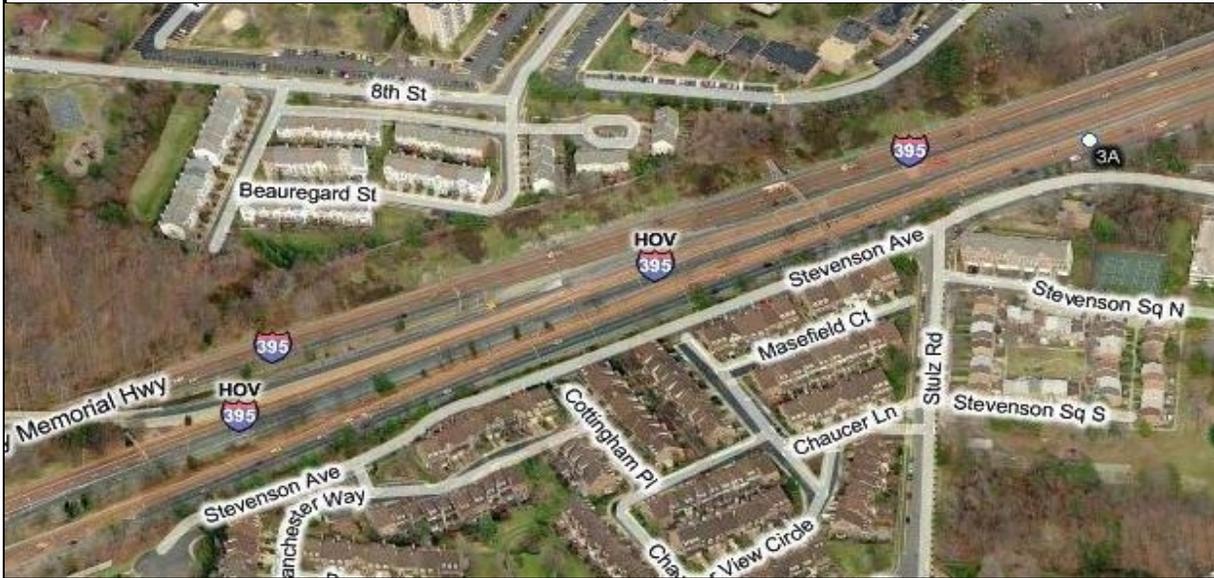
Leq. 69.5

Traffic Data:

Roadway	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions: _____

Site Data: Site Surface (Alpha): Shielding Factor: Pavement Type:



Profile View:



Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____

US I-95 Express Lanes Final Design Noise Analysis

Site # B2 **Description:** 5200 Cottingham Place

Meter # 3907

Done by JC

Monitoring Data:
Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	3-4 mph
Temp	67
Humidity	48%

Leq. **60.0**

Traffic Data:

Roadway	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions: _____

Site Data: Site Surface (Alpha): _____ Shielding Factor: _____ Pavement Type: _____

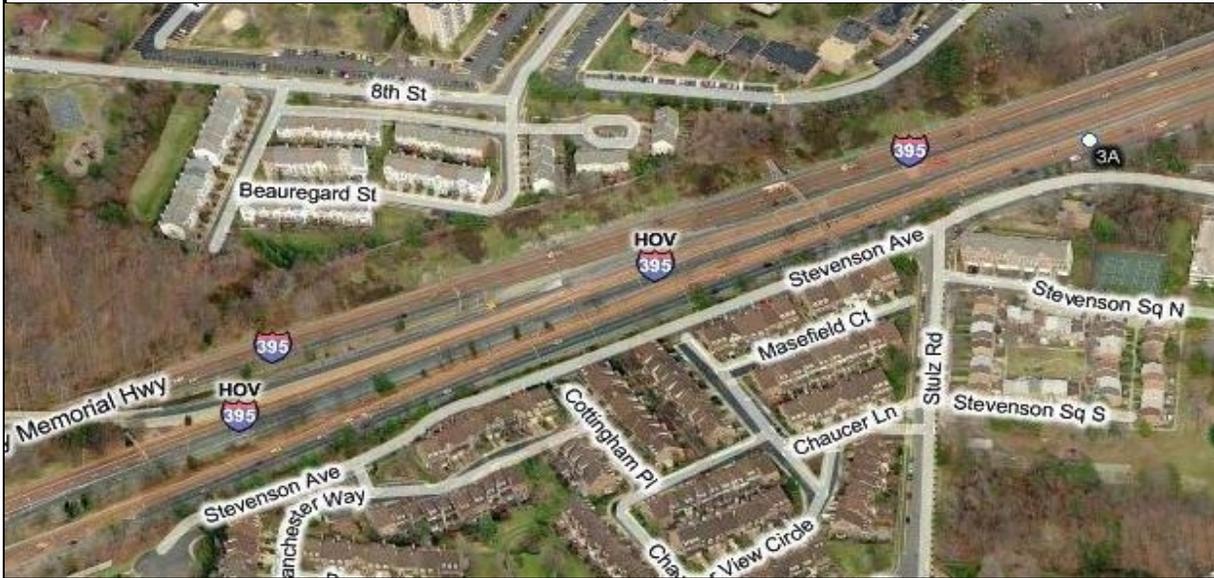


Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____



Profile View:

US I-95 Express Lanes Final Design Noise Analysis

Site # B3 **Description:** 5227 Winterview Drive

Meter # 2559

Done by JC

Monitoring Data:
Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	3-4 mph
Temp	67
Humidity	48%

Leq. **62.6**

Traffic Data:

	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions: _____

Site Data: Site Surface (Alpha): _____ Shielding Factor: _____ Pavement Type: _____



Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____



Profile View:

US I-95 Express Lanes Final Design Noise Analysis

Site # C1 **Description:** 5271 Navaho Drive

Meter # 2558

Done by JCL

Monitoring Data:
Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	3-4 mph
Temp	67
Humidity	48%

Leq. **64.6**

Traffic Data:

	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions: _____

Site Data: Site Surface (Alpha): _____ Shielding Factor: _____ Pavement Type: _____



Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____



Profile View:

US I-95 Express Lanes Final Design Noise Analysis

Site # D1 **Description:** 6394 Levto Landing

Meter # 3904

Done by JC

Monitoring Data:
Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	3-4 mph
Temp	67
Humidity	48%

Leq. **60.6**

Traffic Data:

	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions: _____

Site Data: Site Surface (Alpha): _____ Shielding Factor: _____ Pavement Type: _____



Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____



Profile View:

US I-95 Express Lanes Final Design Noise Analysis

Site # D2 **Description:** Playground Area

Meter # 2557

Done by JC

Monitoring Data:
Date 05/10/12
Start Time 8:55 AM
End time 9:05 AM
Duration 10 minutes

Atmospheric Data	
Wind Speed	3-4 mph
Temp	67
Humidity	48%

Leq. **65.8**

Traffic Data:

	I-395 NB	I-395 SB		
Counted Traffic:				
Cars	1004	528		
MT	52	24		
HT	12	15		

Weather Conditions: _____

Site Data: Site Surface (Alpha): _____ Shielding Factor: _____ Pavement Type: _____



Profile View:

Monitoring Notes:

AM Peak: _____

Off-Peak: _____

PM Peak: _____

Appendix C

METROSONICS PRINTOUTS

A1

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	65.6	68.3	UNDER	68.8	63.8	3630780.55
8:55:10	62.9	63.2	UNDER	63.8	62.8	1949844.6
8:55:20	62.6	63.5	UNDER	63.8	61.8	1819700.86
8:55:30	63.6	64.7	UNDER	64.8	62.8	2290867.65
8:55:40	63.7	64.8	UNDER	64.8	62.8	2344228.82
8:55:50	63.7	64.4	UNDER	64.8	62.8	2344228.82
8:56:00	63.6	64.2	UNDER	64.8	63.8	2290867.65
8:56:10	63.2	64.2	UNDER	64.8	61.8	2089296.13
8:56:20	61.6	63.6	UNDER	63.8	60.8	1445439.77
8:56:30	63.8	64.4	UNDER	64.8	62.8	2398832.92
8:56:40	64.9	66	UNDER	65.8	63.8	3090295.43
8:56:50	64.2	66.4	UNDER	65.8	63.8	2630267.99
8:57:00	68.4	70.5	UNDER	70.8	65.8	6918309.71
8:57:10	66.3	67.4	UNDER	67.8	64.8	4265795.19
8:57:20	63.5	64.6	UNDER	64.8	62.8	2238721.14
8:57:30	62	64.2	UNDER	64.8	59.8	1584893.19
8:57:40	62.7	64.3	UNDER	63.8	59.8	1862087.14
8:57:50	64.8	65.6	UNDER	65.8	64.8	3019951.72
8:58:00	63.6	64.1	UNDER	63.8	63.8	2290867.65
8:58:10	63.8	64	UNDER	63.8	63.8	2398832.92
8:58:20	62.5	63.9	UNDER	63.8	60.8	1778279.41
8:58:30	62	64.3	UNDER	63.8	60.8	1584893.19
8:58:40	64.2	65	UNDER	64.8	63.8	2630267.99
8:58:50	64	64.9	UNDER	64.8	63.8	2511886.43
8:59:00	64.2	65.1	UNDER	64.8	63.8	2630267.99
8:59:10	62.7	63.4	UNDER	63.8	62.8	1862087.14
8:59:20	63.9	65.8	UNDER	65.8	61.8	2454708.92
8:59:30	63.3	63.9	UNDER	63.8	61.8	2137962.09
8:59:40	63.9	64.5	UNDER	64.8	62.8	2454708.92
8:59:50	62.1	62.9	UNDER	62.8	61.8	1621810.1
9:00:00	63.3	64.6	UNDER	64.8	61.8	2137962.09
9:00:10	63.3	64.3	UNDER	64.8	62.8	2137962.09
9:00:20	65.2	67.2	UNDER	66.8	62.8	3311311.21
9:00:30	64.4	65	UNDER	65.8	63.8	2754228.7
9:00:40	64.1	64.7	UNDER	64.8	62.8	2570395.78
9:00:50	64.2	66.1	UNDER	65.8	62.8	2630267.99
9:01:00	65.6	66.4	UNDER	66.8	64.8	3630780.55
9:01:10	63.6	64.4	UNDER	64.8	62.8	2290867.65
9:01:20	63.5	64.6	UNDER	64.8	62.8	2238721.14
9:01:30	63.5	64	UNDER	63.8	63.8	2238721.14
9:01:40	64.5	65.1	UNDER	65.8	63.8	2818382.93
9:01:50	65.3	65.6	UNDER	65.8	64.8	3388441.56
9:02:00	64.4	65.6	UNDER	65.8	63.8	2754228.7
9:02:10	64.1	65.8	UNDER	65.8	63.8	2570395.78
9:02:20	65.7	66.6	UNDER	66.8	63.8	3715352.29
9:02:30	66.3	67.2	UNDER	67.8	65.8	4265795.19
9:02:40	65.1	66.6	UNDER	66.8	64.8	3235936.57
9:02:50	64	65	UNDER	64.8	63.8	2511886.43
9:03:00	62.5	63.2	UNDER	63.8	61.8	1778279.41

9:03:10	63.4	64.7 UNDER	64.8	62.8	2187761.62
9:03:20	64.1	65.1 UNDER	64.8	63.8	2570395.78
9:03:30	63.7	63.9 UNDER	63.8	63.8	2344228.82
9:03:40	63	63.4 UNDER	63.8	62.8	1995262.31
9:03:50	64	65.5 UNDER	65.8	62.8	2511886.43
9:04:00	64.3	65.2 UNDER	65.8	63.8	2691534.8
9:04:10	63.9	65.5 UNDER	65.8	62.8	2454708.92
9:04:20	63.7	65.2 UNDER	64.8	62.8	2344228.82
9:04:30	63.9	65.1 UNDER	65.8	62.8	2454708.92
9:04:40	64.5	65 UNDER	64.8	64.8	2818382.93
9:04:50	64	64.6 UNDER	64.8	63.8	2511886.43
9:05:00	62.9	64.7 UNDER	64.8	61.8	1949844.6

64.1

A2

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	60.5	60.9	UNDER	60.9	60.9	1122018.45
8:55:10	61.4	62.2	UNDER	61.9	60.9	1380384.26
8:55:20	62.4	63.4	UNDER	63.9	60.9	1737800.83
8:55:30	60.9	61.8	UNDER	61.9	60.9	1230268.77
8:55:40	61.9	62.6	UNDER	62.9	61.9	1548816.62
8:55:50	62.2	63.8	UNDER	63.9	60.9	1659586.91
8:56:00	59.7	61	UNDER	60.9	59.9	933254.301
8:56:10	61.6	62.6	UNDER	62.9	59.9	1445439.77
8:56:20	62.6	63.4	UNDER	63.9	61.9	1819700.86
8:56:30	65.3	68.2	UNDER	67.9	61.9	3388441.56
8:56:40	62.8	63.4	UNDER	63.9	62.9	1905460.72
8:56:50	61.4	62.9	UNDER	62.9	60.9	1380384.26
8:57:00	61.9	62.5	UNDER	62.9	61.9	1548816.62
8:57:10	61.7	62.6	UNDER	62.9	60.9	1479108.39
8:57:20	60.8	61.4	UNDER	61.9	60.9	1202264.43
8:57:30	61.4	62.2	UNDER	62.9	60.9	1380384.26
8:57:40	62.2	62.6	UNDER	62.9	61.9	1659586.91
8:57:50	61.8	62.7	UNDER	62.9	61.9	1513561.25
8:58:00	60.1	61.4	UNDER	61.9	59.9	1023292.99
8:58:10	59.9	61.8	UNDER	61.9	58.9	977237.221
8:58:20	62.5	63.3	UNDER	63.9	61.9	1778279.41
8:58:30	60.9	62.5	UNDER	62.9	59.9	1230268.77
8:58:40	61.4	62.3	UNDER	62.9	59.9	1380384.26
8:58:50	60.9	62.2	UNDER	61.9	60.9	1230268.77
8:59:00	61.5	63	UNDER	62.9	60.9	1412537.54
8:59:10	60.6	61.6	UNDER	61.9	60.9	1148153.62
8:59:20	62.2	62.6	UNDER	62.9	61.9	1659586.91
8:59:30	59.8	61.7	UNDER	61.9	58.9	954992.586
8:59:40	59.7	60.6	UNDER	60.9	58.9	933254.301
8:59:50	61.3	61.7	UNDER	61.9	60.9	1348962.88
9:00:00	62.7	63.3	UNDER	63.9	61.9	1862087.14
9:00:10	63	63.4	UNDER	63.9	62.9	1995262.31
9:00:20	62.1	62.6	UNDER	62.9	61.9	1621810.1
9:00:30	61.1	62.1	UNDER	61.9	60.9	1288249.55
9:00:40	61.1	61.4	UNDER	61.9	60.9	1288249.55
9:00:50	62.9	69.5	UNDER	63.9	60.9	1949844.6
9:01:00	64.6	68.6	UNDER	65.9	63.9	2884031.5
9:01:10	62.9	64.9	UNDER	64.9	61.9	1949844.6
9:01:20	62.1	63	UNDER	62.9	61.9	1621810.1
9:01:30	62.7	63	UNDER	63.9	62.9	1862087.14
9:01:40	62.9	63.8	UNDER	63.9	62.9	1949844.6
9:01:50	63	63.6	UNDER	63.9	61.9	1995262.31
9:02:00	63.3	66.2	UNDER	65.9	61.9	2137962.09
9:02:10	65.5	68.2	UNDER	67.9	63.9	3548133.89
9:02:20	66.2	71.5	UNDER	66.9	65.9	4168693.83
9:02:30	72.7	75.9	UNDER	75.9	67.9	18620871.4
9:02:40	66.6	69.4	UNDER	69.9	62.9	4570881.9
9:02:50	63.6	68.5	UNDER	65.9	61.9	2290867.65
9:03:00	65.3	69.1	UNDER	69.9	61.9	3388441.56

9:03:10	64.2	67.3 UNDER	67.9	61.9	2630267.99
9:03:20	61.5	62.2 UNDER	61.9	60.9	1412537.54
9:03:30	60.4	62.6 UNDER	61.9	59.9	1096478.2
9:03:40	62.1	63.2 UNDER	63.9	60.9	1621810.1
9:03:50	61.4	62.9 UNDER	62.9	60.9	1380384.26
9:04:00	61.9	63 UNDER	63.9	59.9	1548816.62
9:04:10	61	61.8 UNDER	61.9	59.9	1258925.41
9:04:20	62.2	63.1 UNDER	63.9	61.9	1659586.91
9:04:30	62.2	63.4 UNDER	63.9	61.9	1659586.91
9:04:40	59.8	61.8 UNDER	61.9	57.9	954992.586
9:04:50	59.7	60.6 UNDER	60.9	58.9	933254.301
9:05:00	61.1	61.9 UNDER	61.9	60.9	1288249.55

63.0

A3

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	59.5	59.7	UNDER	59.7	59.7	891250.938
8:55:10	59.8	60.5	UNDER	60.7	59.7	954992.586
8:55:20	60.8	61.4	UNDER	61.7	59.7	1202264.43
8:55:30	59.4	59.8	UNDER	59.7	58.7	870963.59
8:55:40	60.2	61.6	UNDER	61.7	59.7	1047128.55
8:55:50	60	61.6	UNDER	61.7	58.7	1000000
8:56:00	61.7	63.6	UNDER	63.7	58.7	1479108.39
8:56:10	59.6	60.9	UNDER	60.7	58.7	912010.839
8:56:20	59.1	59.5	UNDER	59.7	58.7	812830.516
8:56:30	59.2	60	UNDER	60.7	58.7	831763.771
8:56:40	60.3	61	UNDER	60.7	60.7	1071519.31
8:56:50	60.8	61.1	UNDER	60.7	60.7	1202264.43
8:57:00	60	60.8	UNDER	60.7	59.7	1000000
8:57:10	58.8	60	UNDER	59.7	57.7	758577.575
8:57:20	58.1	58.5	UNDER	58.7	57.7	645654.229
8:57:30	58.9	59.6	UNDER	59.7	58.7	776247.117
8:57:40	59.5	60.1	UNDER	59.7	58.7	891250.938
8:57:50	60.2	60.8	UNDER	60.7	58.7	1047128.55
8:58:00	59.4	60.7	UNDER	60.7	58.7	870963.59
8:58:10	58.2	58.9	UNDER	58.7	57.7	660693.448
8:58:20	59.9	60.8	UNDER	60.7	59.7	977237.221
8:58:30	59.1	59.6	UNDER	59.7	58.7	812830.516
8:58:40	59.9	60.7	UNDER	60.7	58.7	977237.221
8:58:50	58.4	59.3	UNDER	58.7	57.7	691830.971
8:59:00	59.9	60.8	UNDER	60.7	58.7	977237.221
8:59:10	58.9	59.6	UNDER	59.7	58.7	776247.117
8:59:20	59.6	60	UNDER	59.7	59.7	912010.839
8:59:30	58.2	59.2	UNDER	58.7	57.7	660693.448
8:59:40	59.1	60.1	UNDER	60.7	57.7	812830.516
8:59:50	59.4	60	UNDER	59.7	58.7	870963.59
9:00:00	60.9	61.6	UNDER	61.7	59.7	1230268.77
9:00:10	60.5	61.1	UNDER	60.7	59.7	1122018.45
9:00:20	60.5	60.8	UNDER	60.7	60.7	1122018.45
9:00:30	59.7	60.8	UNDER	60.7	59.7	933254.301
9:00:40	62	64.1	UNDER	63.7	60.7	1584893.19
9:00:50	65.8	70.3	UNDER	68.7	62.7	3801893.96
9:01:00	63.2	66.4	UNDER	65.7	61.7	2089296.13
9:01:10	62.4	63.6	UNDER	63.7	61.7	1737800.83
9:01:20	63.1	64.2	UNDER	64.7	61.7	2041737.94
9:01:30	61.1	61.8	UNDER	61.7	60.7	1288249.55
9:01:40	60.6	60.9	UNDER	60.7	60.7	1148153.62
9:01:50	60.1	60.8	UNDER	60.7	59.7	1023292.99
9:02:00	60.7	61.6	UNDER	61.7	60.7	1174897.55
9:02:10	61.3	62	UNDER	61.7	60.7	1348962.88
9:02:20	60.4	61.6	UNDER	61.7	59.7	1096478.2
9:02:30	59.2	59.6	UNDER	59.7	58.7	831763.771
9:02:40	58.2	58.8	UNDER	58.7	57.7	660693.448
9:02:50	59.2	60	UNDER	59.7	58.7	831763.771
9:03:00	61.2	62.3	UNDER	62.7	59.7	1318256.74

9:03:10	61.2	61.9 UNDER	61.7	60.7	1318256.74
9:03:20	61.4	62.4 UNDER	62.7	60.7	1380384.26
9:03:30	60	60.8 UNDER	60.7	58.7	1000000
9:03:40	59.9	60.8 UNDER	60.7	58.7	977237.221
9:03:50	59.7	60.5 UNDER	60.7	58.7	933254.301
9:04:00	59.3	60 UNDER	60.7	58.7	851138.038
9:04:10	58.9	60 UNDER	59.7	58.7	776247.117
9:04:20	60.4	60.9 UNDER	60.7	59.7	1096478.2
9:04:30	60.3	61.2 UNDER	60.7	59.7	1071519.31
9:04:40	59.2	59.6 UNDER	59.7	58.7	831763.771
9:04:50	60.1	64.8 UNDER	61.7	58.7	1023292.99
9:05:00	65.3	73.4 UNDER	69.7	60.7	3388441.56

60.5

B1

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	68.1	69.9	UNDER	69.2	66.2	6456542.29
8:55:10	67.5	69.2	UNDER	68.2	66.2	5623413.25
8:55:20	69.9	71.1	UNDER	70.2	69.2	9772372.21
8:55:30	69.3	70.3	UNDER	70.2	67.2	8511380.38
8:55:40	67	68.5	UNDER	68.2	65.2	5011872.34
8:55:50	68	69.6	UNDER	69.2	65.2	6309573.44
8:56:00	72.4	73.9	UNDER	73.2	69.2	17378008.3
8:56:10	68.9	70	UNDER	69.2	67.2	7762471.17
8:56:20	73.6	77.5	UNDER	76.2	67.2	22908676.5
8:56:30	72	73.5	UNDER	73.2	70.2	15848931.9
8:56:40	68.2	71.5	UNDER	70.2	66.2	6606934.48
8:56:50	66.9	68	UNDER	67.2	65.2	4897788.19
8:57:00	67.6	69.4	UNDER	69.2	64.2	5754399.37
8:57:10	70.7	72	UNDER	71.2	69.2	11748975.5
8:57:20	70	72	UNDER	71.2	68.2	10000000
8:57:30	69.6	70.9	UNDER	70.2	68.2	9120108.39
8:57:40	68.9	69.9	UNDER	69.2	67.2	7762471.17
8:57:50	68.3	69.2	UNDER	69.2	67.2	6760829.75
8:58:00	69.1	70.7	UNDER	70.2	68.2	8128305.16
8:58:10	69	69.8	UNDER	69.2	68.2	7943282.35
8:58:20	70.3	71.6	UNDER	71.2	68.2	10715193.1
8:58:30	68	70.4	UNDER	69.2	67.2	6309573.44
8:58:40	69.4	70.7	UNDER	70.2	67.2	8709635.9
8:58:50	68.8	69.9	UNDER	69.2	67.2	7585775.75
8:59:00	70	70.9	UNDER	70.2	69.2	10000000
8:59:10	67.6	69.9	UNDER	69.2	65.2	5754399.37
8:59:20	69.6	72.7	UNDER	71.2	67.2	9120108.39
8:59:30	69.9	72.5	UNDER	71.2	68.2	9772372.21
8:59:40	69.1	69.9	UNDER	69.2	67.2	8128305.16
8:59:50	69.7	71.5	UNDER	70.2	68.2	9332543.01
9:00:00	69.4	70.3	UNDER	69.2	68.2	8709635.9
9:00:10	69.3	70.3	UNDER	69.2	68.2	8511380.38
9:00:20	71.5	72.7	UNDER	72.2	70.2	14125375.4
9:00:30	70.7	72.7	UNDER	72.2	69.2	11748975.5
9:00:40	69.6	70.6	UNDER	70.2	68.2	9120108.39
9:00:50	68	69.1	UNDER	68.2	67.2	6309573.44
9:01:00	69.6	71.3	UNDER	71.2	67.2	9120108.39
9:01:10	70	70.8	UNDER	70.2	69.2	10000000
9:01:20	70	70.5	UNDER	70.2	69.2	10000000
9:01:30	69.4	70.1	UNDER	69.2	68.2	8709635.9
9:01:40	70.1	72.1	UNDER	71.2	68.2	10232929.9
9:01:50	71.1	72.3	UNDER	71.2	70.2	12882495.5
9:02:00	71.7	72.3	UNDER	72.2	69.2	14791083.9
9:02:10	69.9	72.2	UNDER	71.2	67.2	9772372.21
9:02:20	68.1	69.2	UNDER	69.2	66.2	6456542.29
9:02:30	69	69.7	UNDER	69.2	68.2	7943282.35
9:02:40	69.3	70.2	UNDER	70.2	68.2	8511380.38
9:02:50	69.9	71.1	UNDER	71.2	68.2	9772372.21
9:03:00	67.8	68.7	UNDER	68.2	67.2	6025595.86

9:03:10	69.9	70.7 UNDER	70.2	68.2	9772372.21
9:03:20	68.7	69.6 UNDER	69.2	67.2	7413102.41
9:03:30	69.5	71.3 UNDER	71.2	67.2	8912509.38
9:03:40	70.2	71.7 UNDER	71.2	69.2	10471285.5
9:03:50	69.6	70.7 UNDER	70.2	68.2	9120108.39
9:04:00	70.4	71.1 UNDER	70.2	69.2	10964782
9:04:10	70.1	71.2 UNDER	71.2	68.2	10232929.9
9:04:20	68.8	69.9 UNDER	69.2	67.2	7585775.75
9:04:30	69.7	70.8 UNDER	70.2	68.2	9332543.01
9:04:40	70.3	71.5 UNDER	70.2	69.2	10715193.1
9:04:50	71.4	73.5 UNDER	73.2	69.2	13803842.6
9:05:00	71.1	72.1 UNDER	71.2	69.2	12882495.5

69.5

B2

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	60.9	62.2	UNDER	61.5	59.5	1230268.77
8:55:10	61.6	62.4	UNDER	62.5	60.5	1445439.77
8:55:20	64.4	68	UNDER	67.5	60.5	2754228.7
8:55:30	59.7	60.7	UNDER	60.5	59.5	933254.301
8:55:40	59.6	60.4	UNDER	60.5	58.5	912010.839
8:55:50	59.7	61.6	UNDER	61.5	57.5	933254.301
8:56:00	58.4	59.2	UNDER	59.5	57.5	691830.971
8:56:10	61	64.1	UNDER	63.5	58.5	1258925.41
8:56:20	65.3	68.9	UNDER	66.5	63.5	3388441.56
8:56:30	66.2	68.4	UNDER	68.5	62.5	4168693.83
8:56:40	62.2	63.7	UNDER	63.5	60.5	1659586.91
8:56:50	59.8	60.8	UNDER	60.5	58.5	954992.586
8:57:00	60.2	60.8	UNDER	60.5	59.5	1047128.55
8:57:10	60	60.8	UNDER	60.5	58.5	1000000
8:57:20	58.8	59.2	UNDER	59.5	58.5	758577.575
8:57:30	61.2	65.6	UNDER	64.5	58.5	1318256.74
8:57:40	61.7	64.1	UNDER	63.5	59.5	1479108.39
8:57:50	60.4	61.3	UNDER	61.5	59.5	1096478.2
8:58:00	57.7	59.8	UNDER	59.5	56.5	588843.655
8:58:10	57.5	58.8	UNDER	58.5	56.5	562341.325
8:58:20	60.5	61.5	UNDER	61.5	58.5	1122018.45
8:58:30	59.5	60.9	UNDER	60.5	58.5	891250.938
8:58:40	58.3	59.6	UNDER	58.5	57.5	676082.975
8:58:50	59.7	60.4	UNDER	60.5	59.5	933254.301
8:59:00	59	59.5	UNDER	59.5	58.5	794328.235
8:59:10	58.1	58.8	UNDER	58.5	57.5	645654.229
8:59:20	60.3	62.3	UNDER	61.5	57.5	1071519.31
8:59:30	58.6	61.2	UNDER	60.5	56.5	724435.96
8:59:40	55.1	56	UNDER	55.5	54.5	323593.657
8:59:50	56.6	57.5	UNDER	57.5	55.5	457088.19
9:00:00	57.9	58.6	UNDER	58.5	57.5	616595.002
9:00:10	57.9	58.5	UNDER	58.5	57.5	616595.002
9:00:20	59.2	60	UNDER	59.5	58.5	831763.771
9:00:30	57.9	58.4	UNDER	58.5	57.5	616595.002
9:00:40	59.3	60	UNDER	59.5	58.5	851138.038
9:00:50	59.5	60.8	UNDER	60.5	58.5	891250.938
9:01:00	60.7	61.5	UNDER	61.5	60.5	1174897.55
9:01:10	62.1	62.8	UNDER	62.5	60.5	1621810.1
9:01:20	60.5	61.2	UNDER	61.5	59.5	1122018.45
9:01:30	60.3	61.2	UNDER	61.5	59.5	1071519.31
9:01:40	61.8	62.4	UNDER	62.5	60.5	1513561.25
9:01:50	62.5	64	UNDER	63.5	61.5	1778279.41
9:02:00	62.3	62.8	UNDER	62.5	61.5	1698243.65
9:02:10	60.9	62.4	UNDER	62.5	59.5	1230268.77
9:02:20	60.4	60.7	UNDER	60.5	60.5	1096478.2
9:02:30	60.9	61.9	UNDER	61.5	60.5	1230268.77
9:02:40	59.8	61.6	UNDER	61.5	58.5	954992.586
9:02:50	59.4	60.5	UNDER	60.5	58.5	870963.59
9:03:00	59.4	61.2	UNDER	60.5	58.5	870963.59

9:03:10	59.2	60.4 UNDER	60.5	58.5	831763.771
9:03:20	59.8	60.8 UNDER	60.5	58.5	954992.586
9:03:30	59.7	61.6 UNDER	60.5	58.5	933254.301
9:03:40	59.9	60.8 UNDER	60.5	59.5	977237.221
9:03:50	59.6	61.1 UNDER	60.5	58.5	912010.839
9:04:00	60.8	61.7 UNDER	61.5	59.5	1202264.43
9:04:10	60.4	62 UNDER	61.5	58.5	1096478.2
9:04:20	61.3	62.8 UNDER	62.5	59.5	1348962.88
9:04:30	61.2	63.2 UNDER	62.5	59.5	1318256.74
9:04:40	58.9	60 UNDER	60.5	56.5	776247.117
9:04:50	58.4	59.6 UNDER	59.5	56.5	691830.971
9:05:00	61.3	62.8 UNDER	62.5	59.5	1348962.88

60.0

B3

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	63.6	65.4	UNDER	64.3	62.3	2290867.65
8:55:10	63.7	66.2	UNDER	65.3	62.3	2344228.82
8:55:20	61.6	62.2	UNDER	62.3	61.3	1445439.77
8:55:30	62.3	63	UNDER	63.3	61.3	1698243.65
8:55:40	61.6	62.3	UNDER	62.3	61.3	1445439.77
8:55:50	62	63.4	UNDER	63.3	61.3	1584893.19
8:56:00	62.6	63.7	UNDER	63.3	61.3	1819700.86
8:56:10	61.5	62.2	UNDER	61.3	61.3	1412537.54
8:56:20	62.4	63.4	UNDER	63.3	61.3	1737800.83
8:56:30	61.7	62.7	UNDER	62.3	60.3	1479108.39
8:56:40	63.1	65.2	UNDER	64.3	60.3	2041737.94
8:56:50	62.1	62.9	UNDER	62.3	61.3	1621810.1
8:57:00	61.2	62.6	UNDER	62.3	60.3	1318256.74
8:57:10	61.9	63.8	UNDER	63.3	59.3	1548816.62
8:57:20	62.2	63.4	UNDER	63.3	60.3	1659586.91
8:57:30	63	63.5	UNDER	63.3	62.3	1995262.31
8:57:40	61.9	62.9	UNDER	62.3	61.3	1548816.62
8:57:50	60.5	61.4	UNDER	61.3	60.3	1122018.45
8:58:00	60.1	61.5	UNDER	60.3	59.3	1023292.99
8:58:10	60.2	61	UNDER	60.3	59.3	1047128.55
8:58:20	60.3	60.6	UNDER	60.3	59.3	1071519.31
8:58:30	61.7	62.4	UNDER	62.3	60.3	1479108.39
8:58:40	61.8	62.2	UNDER	62.3	61.3	1513561.25
8:58:50	62	64.1	UNDER	63.3	60.3	1584893.19
8:59:00	62.8	64.2	UNDER	63.3	61.3	1905460.72
8:59:10	61.8	62.3	UNDER	62.3	61.3	1513561.25
8:59:20	61.6	62.2	UNDER	62.3	61.3	1445439.77
8:59:30	60.9	61.4	UNDER	61.3	60.3	1230268.77
8:59:40	61.5	62.2	UNDER	61.3	61.3	1412537.54
8:59:50	61.1	62.2	UNDER	61.3	60.3	1288249.55
9:00:00	60	61	UNDER	60.3	59.3	1000000
9:00:10	59.3	60	UNDER	59.3	58.3	851138.038
9:00:20	61.3	62.6	UNDER	62.3	59.3	1348962.88
9:00:30	61.6	62.3	UNDER	62.3	61.3	1445439.77
9:00:40	62.6	63	UNDER	63.3	62.3	1819700.86
9:00:50	62	62.9	UNDER	62.3	61.3	1584893.19
9:01:00	62.1	62.8	UNDER	62.3	61.3	1621810.1
9:01:10	62.5	63	UNDER	63.3	62.3	1778279.41
9:01:20	62.7	63.4	UNDER	63.3	62.3	1862087.14
9:01:30	63.6	64.3	UNDER	64.3	62.3	2290867.65
9:01:40	62.9	63.4	UNDER	63.3	62.3	1949844.6
9:01:50	63.9	66.6	UNDER	65.3	62.3	2454708.92
9:02:00	65.6	67.4	UNDER	67.3	64.3	3630780.55
9:02:10	65.1	65.5	UNDER	65.3	64.3	3235936.57
9:02:20	64.1	65.4	UNDER	65.3	62.3	2570395.78
9:02:30	62.5	63	UNDER	62.3	62.3	1778279.41
9:02:40	63.3	63.7	UNDER	63.3	63.3	2137962.09
9:02:50	62.9	63.2	UNDER	63.3	62.3	1949844.6
9:03:00	63	63.8	UNDER	63.3	62.3	1995262.31

9:03:10	62.6	63.8 UNDER	63.3	62.3	1819700.86
9:03:20	63.1	64.5 UNDER	63.3	62.3	2041737.94
9:03:30	64	65.3 UNDER	65.3	62.3	2511886.43
9:03:40	62.6	63 UNDER	62.3	62.3	1819700.86
9:03:50	62.9	63.4 UNDER	63.3	62.3	1949844.6
9:04:00	64.1	65.1 UNDER	65.3	62.3	2570395.78
9:04:10	65.2	66 UNDER	65.3	63.3	3311311.21
9:04:20	63.9	65 UNDER	64.3	63.3	2454708.92
9:04:30	64.4	65 UNDER	64.3	63.3	2754228.7
9:04:40	63	64.6 UNDER	64.3	61.3	1995262.31
9:04:50	62.5	63 UNDER	63.3	62.3	1778279.41
9:05:00	63.8	64.6 UNDER	64.3	63.3	2398832.92

62.6

C1

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	66.1	68.1	UNDER	67.1	64.1	4073802.78
8:55:10	66	67.6	UNDER	67.1	64.1	3981071.71
8:55:20	65.9	66.9	UNDER	66.1	65.1	3890451.45
8:55:30	65.7	67	UNDER	66.1	65.1	3715352.29
8:55:40	65	66.9	UNDER	66.1	61.1	3162277.66
8:55:50	64.2	68	UNDER	67.1	61.1	2630267.99
8:56:00	64.9	67.3	UNDER	66.1	63.1	3090295.43
8:56:10	65.5	67.7	UNDER	67.1	62.1	3548133.89
8:56:20	64.7	66.4	UNDER	66.1	63.1	2951209.23
8:56:30	64.6	65.6	UNDER	65.1	63.1	2884031.5
8:56:40	62.8	65.7	UNDER	65.1	59.1	1905460.72
8:56:50	62.8	63.9	UNDER	63.1	60.1	1905460.72
8:57:00	63.5	64.8	UNDER	64.1	62.1	2238721.14
8:57:10	65.5	67.3	UNDER	67.1	63.1	3548133.89
8:57:20	65.2	67	UNDER	66.1	63.1	3311311.21
8:57:30	65.4	66.1	UNDER	65.1	64.1	3467368.5
8:57:40	65.2	66.6	UNDER	66.1	64.1	3311311.21
8:57:50	67	71.6	UNDER	70.1	64.1	5011872.34
8:58:00	62.2	64.8	UNDER	64.1	59.1	1659586.91
8:58:10	62	63.3	UNDER	62.1	59.1	1584893.19
8:58:20	65.5	66.3	UNDER	66.1	63.1	3548133.89
8:58:30	64.1	66.3	UNDER	66.1	60.1	2570395.78
8:58:40	64.1	65.2	UNDER	65.1	62.1	2570395.78
8:58:50	60.4	62.6	UNDER	61.1	58.1	1096478.2
8:59:00	63.4	65.5	UNDER	64.1	60.1	2187761.62
8:59:10	68	72.3	UNDER	71.1	64.1	6309573.44
8:59:20	61.9	64.8	UNDER	64.1	59.1	1548816.62
8:59:30	65.4	68	UNDER	67.1	62.1	3467368.5
8:59:40	63.9	65.5	UNDER	65.1	62.1	2454708.92
8:59:50	65.9	69.2	UNDER	68.1	62.1	3890451.45
9:00:00	63.8	65.7	UNDER	65.1	62.1	2398832.92
9:00:10	64.7	66.5	UNDER	66.1	62.1	2951209.23
9:00:20	61.8	63.2	UNDER	62.1	60.1	1513561.25
9:00:30	63	63.8	UNDER	63.1	61.1	1995262.31
9:00:40	64.2	65.2	UNDER	64.1	62.1	2630267.99
9:00:50	66.2	66.8	UNDER	66.1	65.1	4168693.83
9:01:00	65.4	67.2	UNDER	67.1	62.1	3467368.5
9:01:10	64	64.9	UNDER	64.1	62.1	2511886.43
9:01:20	62.6	64.2	UNDER	63.1	61.1	1819700.86
9:01:30	64.5	65.2	UNDER	65.1	63.1	2818382.93
9:01:40	64.9	66.8	UNDER	66.1	63.1	3090295.43
9:01:50	63.2	64.7	UNDER	64.1	62.1	2089296.13
9:02:00	64.9	66.7	UNDER	66.1	63.1	3090295.43
9:02:10	63.8	65.3	UNDER	64.1	62.1	2398832.92
9:02:20	65.6	65.9	UNDER	65.1	65.1	3630780.55
9:02:30	63.6	65.4	UNDER	65.1	62.1	2290867.65
9:02:40	64.6	66.4	UNDER	66.1	63.1	2884031.5
9:02:50	65.9	67.6	UNDER	67.1	64.1	3890451.45
9:03:00	65.2	66.4	UNDER	66.1	63.1	3311311.21

9:03:10	63.5	64.1 UNDER	64.1	62.1	2238721.14
9:03:20	62.9	64.3 UNDER	64.1	60.1	1949844.6
9:03:30	61	63 UNDER	62.1	58.1	1258925.41
9:03:40	63.7	64.5 UNDER	64.1	61.1	2344228.82
9:03:50	62.6	64.8 UNDER	64.1	60.1	1819700.86
9:04:00	64.4	65.1 UNDER	64.1	63.1	2754228.7
9:04:10	62.1	64.2 UNDER	63.1	60.1	1621810.1
9:04:20	66.2	69.5 UNDER	69.1	60.1	4168693.83
9:04:30	64.3	67.9 UNDER	66.1	62.1	2691534.8
9:04:40	66.3	68.7 UNDER	68.1	63.1	4265795.19
9:04:50	63.8	66.4 UNDER	65.1	61.1	2398832.92
9:05:00	63.4	64.9 UNDER	64.1	60.1	2187761.62

64.6

D1

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	61.4	61.4	62 UNDER	61.4	60.4	1380384.26
8:55:10	61.7	61.7	62.1 UNDER	61.4	61.4	1479108.39
8:55:20	61.5	61.5	61.9 UNDER	61.4	60.4	1412537.54
8:55:30	62.1	62.1	64.5 UNDER	64.4	60.4	1621810.1
8:55:40	63.3	63.3	64.4 UNDER	64.4	62.4	2137962.09
8:55:50	62.1	62.1	62.7 UNDER	62.4	61.4	1621810.1
8:56:00	60.7	60.7	61.5 UNDER	61.4	59.4	1174897.55
8:56:10	61.2	61.2	61.5 UNDER	61.4	60.4	1318256.74
8:56:20	61.7	61.7	62.3 UNDER	62.4	60.4	1479108.39
8:56:30	59.9	59.9	61 UNDER	60.4	59.4	977237.221
8:56:40	59.9	59.9	60.3 UNDER	60.4	59.4	977237.221
8:56:50	59.4	59.4	59.9 UNDER	59.4	59.4	870963.59
8:57:00	59.5	59.5	60.3 UNDER	60.4	59.4	891250.938
8:57:10	59.8	59.8	60.4 UNDER	60.4	59.4	954992.586
8:57:20	59.7	59.7	60.1 UNDER	59.4	59.4	933254.301
8:57:30	59.9	59.9	60.3 UNDER	60.4	59.4	977237.221
8:57:40	59.5	59.5	60.2 UNDER	59.4	59.4	891250.938
8:57:50	59.8	59.8	60.3 UNDER	60.4	59.4	954992.586
8:58:00	59.9	59.9	60.4 UNDER	60.4	59.4	977237.221
8:58:10	59.7	59.7	60.7 UNDER	60.4	58.4	933254.301
8:58:20	58.1	58.1	58.7 UNDER	58.4	57.4	645654.229
8:58:30	58.7	58.7	59.5 UNDER	59.4	58.4	741310.241
8:58:40	58.7	58.7	59.5 UNDER	59.4	58.4	741310.241
8:58:50	59.6	59.6	60.3 UNDER	60.4	59.4	912010.839
8:59:00	59.3	59.3	60.1 UNDER	59.4	58.4	851138.038
8:59:10	59.6	59.6	61.1 UNDER	60.4	59.4	912010.839
8:59:20	59.9	59.9	60.3 UNDER	60.4	59.4	977237.221
8:59:30	58.7	58.7	59.6 UNDER	59.4	57.4	741310.241
8:59:40	59.3	59.3	59.8 UNDER	59.4	58.4	851138.038
8:59:50	59.8	59.8	60.3 UNDER	60.4	59.4	954992.586
9:00:00	61.3	61.3	62.3 UNDER	61.4	59.4	1348962.88
9:00:10	62	62	62.3 UNDER	62.4	61.4	1584893.19
9:00:20	60.8	60.8	61.5 UNDER	61.4	59.4	1202264.43
9:00:30	60.8	60.8	62.3 UNDER	61.4	59.4	1202264.43
9:00:40	60.3	60.3	62.1 UNDER	61.4	59.4	1071519.31
9:00:50	59.4	59.4	60.3 UNDER	60.4	58.4	870963.59
9:01:00	60.5	60.5	61.1 UNDER	61.4	59.4	1122018.45
9:01:10	61.4	61.4	62.2 UNDER	61.4	60.4	1380384.26
9:01:20	61.4	61.4	62.2 UNDER	61.4	60.4	1380384.26
9:01:30	60.4	60.4	60.7 UNDER	60.4	59.4	1096478.2
9:01:40	60.2	60.2	60.6 UNDER	60.4	59.4	1047128.55
9:01:50	60.2	60.2	60.7 UNDER	60.4	59.4	1047128.55
9:02:00	60.4	60.4	60.7 UNDER	60.4	59.4	1096478.2
9:02:10	59.9	59.9	60.3 UNDER	60.4	59.4	977237.221
9:02:20	60.1	60.1	60.7 UNDER	60.4	59.4	1023292.99
9:02:30	61	61	61.4 UNDER	61.4	60.4	1258925.41
9:02:40	60.8	60.8	61.5 UNDER	61.4	60.4	1202264.43
9:02:50	60.5	60.5	61.1 UNDER	60.4	60.4	1122018.45
9:03:00	61.1	61.1	61.5 UNDER	61.4	60.4	1288249.55

9:03:10	61.4	62 UNDER	61.4	61.4	1380384.26
9:03:20	61.5	62.3 UNDER	61.4	61.4	1412537.54
9:03:30	61.5	61.9 UNDER	61.4	60.4	1412537.54
9:03:40	60.3	60.8 UNDER	60.4	59.4	1071519.31
9:03:50	60	60.3 UNDER	60.4	59.4	1000000
9:04:00	60.4	61.1 UNDER	61.4	59.4	1096478.2
9:04:10	60.6	60.9 UNDER	60.4	60.4	1148153.62
9:04:20	60.2	60.7 UNDER	60.4	59.4	1047128.55
9:04:30	60	61.1 UNDER	60.4	59.4	1000000
9:04:40	61.5	61.9 UNDER	61.4	61.4	1412537.54
9:04:50	61.5	61.9 UNDER	61.4	61.4	1412537.54
9:05:00	62.1	62.7 UNDER	62.4	61.4	1621810.1

60.6

D2

TIME	Lav dBA	Lmax dBA	Lpk dBC	L(10.0) dBA	L(99.9) dBA	Inv. Log
8:55:00	65.4	65.9	UNDER	65.3	65.3	3467368.5
8:55:10	68.2	70.3	UNDER	70.3	65.3	6606934.48
8:55:20	68	69.7	UNDER	69.3	65.3	6309573.44
8:55:30	65.9	67	UNDER	66.3	64.3	3890451.45
8:55:40	67.6	68.6	UNDER	68.3	66.3	5754399.37
8:55:50	65.1	66.3	UNDER	65.3	64.3	3235936.57
8:56:00	65.6	66.4	UNDER	66.3	64.3	3630780.55
8:56:10	64.2	64.7	UNDER	64.3	63.3	2630267.99
8:56:20	64.4	65	UNDER	64.3	63.3	2754228.7
8:56:30	65.3	66.2	UNDER	66.3	64.3	3388441.56
8:56:40	64.4	66.1	UNDER	65.3	63.3	2754228.7
8:56:50	64.9	65.5	UNDER	65.3	63.3	3090295.43
8:57:00	65.6	66.1	UNDER	65.3	65.3	3630780.55
8:57:10	64	65.4	UNDER	64.3	63.3	2511886.43
8:57:20	63.2	63.5	UNDER	63.3	62.3	2089296.13
8:57:30	63.4	64.2	UNDER	64.3	62.3	2187761.62
8:57:40	63.7	64.1	UNDER	64.3	63.3	2344228.82
8:57:50	65.5	68.1	UNDER	67.3	63.3	3548133.89
8:58:00	66.8	68.1	UNDER	67.3	65.3	4786300.92
8:58:10	64.6	65.4	UNDER	65.3	63.3	2884031.5
8:58:20	63.8	65	UNDER	64.3	62.3	2398832.92
8:58:30	62.4	63.4	UNDER	63.3	61.3	1737800.83
8:58:40	64.7	65.5	UNDER	65.3	63.3	2951209.23
8:58:50	65.5	66.6	UNDER	66.3	63.3	3548133.89
8:59:00	64.8	66.5	UNDER	66.3	63.3	3019951.72
8:59:10	64.8	66.2	UNDER	66.3	62.3	3019951.72
8:59:20	63.5	65	UNDER	64.3	62.3	2238721.14
8:59:30	66.4	67.4	UNDER	67.3	65.3	4365158.32
8:59:40	66.4	67.6	UNDER	67.3	64.3	4365158.32
8:59:50	65.4	66.4	UNDER	66.3	65.3	3467368.5
9:00:00	65.2	66.5	UNDER	66.3	64.3	3311311.21
9:00:10	66.2	67.8	UNDER	67.3	65.3	4168693.83
9:00:20	65.5	66.5	UNDER	66.3	64.3	3548133.89
9:00:30	66.9	67.9	UNDER	67.3	65.3	4897788.19
9:00:40	65.1	66.9	UNDER	66.3	64.3	3235936.57
9:00:50	65.1	65.8	UNDER	65.3	64.3	3235936.57
9:01:00	65.1	66.2	UNDER	66.3	63.3	3235936.57
9:01:10	65.1	66	UNDER	65.3	64.3	3235936.57
9:01:20	66	66.5	UNDER	66.3	65.3	3981071.71
9:01:30	65.3	65.7	UNDER	65.3	64.3	3388441.56
9:01:40	65.4	66.1	UNDER	65.3	65.3	3467368.5
9:01:50	65.3	65.8	UNDER	65.3	64.3	3388441.56
9:02:00	66.1	67	UNDER	66.3	65.3	4073802.78
9:02:10	66.3	66.7	UNDER	66.3	65.3	4265795.19
9:02:20	66.2	66.7	UNDER	66.3	65.3	4168693.83
9:02:30	65.9	66.2	UNDER	66.3	65.3	3890451.45
9:02:40	65.9	66.2	UNDER	66.3	65.3	3890451.45
9:02:50	66.4	66.8	UNDER	66.3	65.3	4365158.32
9:03:00	66.1	66.5	UNDER	66.3	65.3	4073802.78

9:03:10	66.1	67 UNDER	66.3	65.3	4073802.78
9:03:20	67.2	67.8 UNDER	67.3	65.3	5248074.6
9:03:30	65.1	65.7 UNDER	65.3	64.3	3235936.57
9:03:40	65.7	66.3 UNDER	66.3	65.3	3715352.29
9:03:50	65.5	65.9 UNDER	65.3	65.3	3548133.89
9:04:00	65.5	65.9 UNDER	65.3	65.3	3548133.89
9:04:10	65.7	66 UNDER	65.3	65.3	3715352.29
9:04:20	66.4	66.9 UNDER	66.3	65.3	4365158.32
9:04:30	66.4	66.6 UNDER	66.3	66.3	4365158.32
9:04:40	67.9	69.5 UNDER	69.3	66.3	6165950.02
9:04:50	69.1	69.8 UNDER	69.3	68.3	8128305.16
9:05:00	69.1	69.8 UNDER	69.3	68.3	8128305.16

65.8

Appendix D

TRAFFIC DATA SUMMARY

2011 PM Existing Conditions

I-95 Southbound HOT Lanes

Segment	From	To	Between Ramps:	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
HS0101	North of Duke St	HOT Lanes SB to I-95 SB ramp	RH0202 & North End	SB	2,298	5:00 PM	2.6%	5.4%	2,114	60	124
HS0201	HOT Lanes SB to I-95 SB ramp	I-95 SB to HOT Lanes SB ramp	RH0203 & RH0202	SB	2,157	5:00 PM	1.8%	6.0%	1,989	39	129
HS0601	I-95 SB to HOT Lanes SB ramp	Franconia Rd Off-Ramp	RH0606 & RH0203	SB	2,680	5:00 PM	1.6%	4.9%	2,506	43	131
HS0602	Franconia Rd Off-Ramp	HOT Lanes SB to I-95 SB ramp	RH0706 & RH0606	SB	2,393	5:00 PM	1.2%	5.0%	2,245	29	120
HS0701	HOT Lanes SB to I-95 SB ramp	Fr-Spr Pkwy Off-Ramp	RH0707 & RH0706	SB	2,372	5:00 PM	0.9%	5.1%	2,230	21	121
HS0702	Fr-Spr Pkwy Off-Ramp	Fr-Spr Pkwy On-Ramp	RH0708 & RH0707	SB	2,069	5:00 PM	0.8%	6.0%	1,928	17	124
HS0801	Fr-Spr Pkwy On-Ramp	North of Exit 166/Fairfax County Pkwy	RH0802 & RH0708	SB	2,375	5:00 PM	0.9%	5.2%	2,230	21	124
HS0901	North of Exit 166/Fairfax County Pkwy	North of Exit 163/Lorton Rd	RH0901 & RH0803	SB	4,027	2:00 PM	3.5%	2.8%	3,773	141	113
HS1001	North of Exit 163/Lorton Rd	Exit 161/Richmond Hwy	RH1004 & RH0901	SB	3,864	2:00 PM	3.6%	2.9%	3,613	139	112
HS1101	Exit 161/Richmond Hwy	Exit 160/Gordon Blvd	RH1107 & RH1004	SB	3,634	2:00 PM	3.7%	2.6%	3,405	134	94
HS1201	Exit 160/Gordon Blvd	Exit 158/Prince William Pkwy	RH1216 & RH1107	SB	3,375	2:00 PM	3.8%	2.7%	3,156	128	91
HS1301	Exit 158/Prince William Pkwy	North of Exit 156/Opitz Blvd	RH1302 & RH1216	SB	2,857	2:00 PM	3.9%	2.7%	2,668	111	77
HS1401	North of Exit 156/Opitz Blvd	North of MP 153 Weigh Station	RH1502 & RH1302	SB	2,367	2:00 PM	3.7%	0.7%	2,263	88	17
HS1501	North of MP 153 Weigh Station	South of Exit 152/Dumfries	RH1509 & RH1502	SB	1,318	2:00 PM	0.5%	0.2%	1,309	7	3

		2011 AM Existing Interchange Cross Streets								2011 PM Existing Interchange Cross Streets							
Road	Location	Dir	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk	
Jeff Davis Hwy	Jeff Davis Highway North of I-95	NB	18.1%	4.0%	7:00 AM	598	466	108	24	8.7%	3.6%	5:00 PM	674	591	59	24	
		SB	18.1%	4.0%		937	730	170	37	8.7%	3.6%		919	806	80	33	
Jeff Davis Hwy	Jeff Davis Highway South of I-95	NB	18.1%	4.0%	7:00 AM	1,343	1,046	243	54	8.7%	3.6%	5:00 PM	777	681	68	28	
		SB	18.1%	4.0%		862	672	156	34	8.7%	3.6%		1,512	1,326	132	54	
Plank Road	Plank Rd East of I-95	EB	4.7%	4.5%	7:00 AM	606	551	28	27	3.3%	2.2%	5:00 PM	746	705	25	16	
		WB	4.7%	4.5%		515	468	24	23	3.3%	2.2%		707	668	23	16	
Plank Road	Plank Rd West of I-95	EB	4.7%	4.5%	7:00 AM	1,667	1,514	78	75	3.3%	2.2%	5:00 PM	1,591	1,503	53	35	
		WB	4.7%	4.5%		967	878	45	44	3.3%	2.2%		1,825	1,725	60	40	
Warrenton Road	Warrenton Road East of I-95	EB	13.4%	5.5%	7:00 AM	1,561	1,266	209	86	10.9%	3.5%	5:00 PM	1,430	1,224	156	50	
		WB	13.4%	5.5%		1,567	1,271	210	86	10.9%	3.5%		1,860	1,592	203	65	
Warrenton Road	Warrenton Road West of I-95	EB	13.4%	5.5%	7:00 AM	1,378	1,117	185	76	10.9%	3.5%	5:00 PM	1,667	1,427	182	58	
		WB	13.4%	5.5%		1,555	1,261	208	86	10.9%	3.5%		1,417	1,213	154	50	
Centreport Parkway	Centreport Parkway East of I-95	EB	5.7%	3.5%	7:00 AM	310	281	18	11	5.9%	4.0%	4:00 PM	587	529	35	23	
		WB	5.7%	3.5%		622	565	35	22	5.9%	4.0%		313	282	18	13	
Centreport Parkway	Centreport Parkway West of I-95	EB	5.7%	3.5%	7:00 AM	72	65	4	3	5.9%	4.0%	4:00 PM	93	84	5	4	
		WB	5.7%	3.5%		85	77	5	3	5.9%	4.0%		58	53	3	2	
Courthouse Road	Courthouse Road East of I-95	EB	7.7%	3.4%	7:00 AM	453	403	35	15	7.0%	2.7%	5:00 PM	384	347	27	10	
		WB	7.7%	3.4%		300	267	23	10	7.0%	2.7%		370	334	26	10	
Courthouse Road	Courthouse Road West of I-95	EB	7.7%	3.4%	7:00 AM	343	305	26	12	7.0%	2.7%	5:00 PM	278	251	19	8	
		WB	7.7%	3.4%		270	240	21	9	7.0%	2.7%		336	303	24	9	
Garrisonville Road	Garrisonville Road East of I-95	EB	4.6%	5.1%	7:00 AM	365	329	17	19	4.0%	3.0%	5:00 PM	480	447	19	14	
		WB	4.6%	5.1%		617	558	28	31	4.0%	3.0%		616	573	25	18	
Garrisonville Road	Garrisonville Road West of I-95	EB	4.6%	5.1%	7:00 AM	1,215	1,097	56	62	4.0%	3.0%	5:00 PM	1,054	980	42	32	
		WB	4.6%	5.1%		987	892	45	50	4.0%	3.0%		1,402	1,304	56	42	
Russell Road / USMC Hwy	Russell Road West of I-95	EB	12.4%	4.1%	6:00 AM	49	41	6	2	6.5%	3.3%	4:00 PM	390	352	25	13	
		WB	12.4%	4.1%		393	328	49	16	6.5%	3.3%		72	65	5	2	
Russell Road / USMC Hwy	USMC Truck Hwy East of I-95	EB	12.4%	4.1%	6:00 AM	844	704	105	35	6.5%	3.3%	4:00 PM	222	201	14	7	
		WB	12.4%	4.1%		179	150	22	7	6.5%	3.3%		845	762	55	28	
Joplin Road	Joplin Road East of I-95	EB	5.9%	4.1%	8:00 AM	366	329	22	15	6.4%	2.7%	4:00 PM	243	220	16	7	
		WB	5.9%	4.1%		323	291	19	13	6.4%	2.7%		541	491	35	15	
Joplin Road	Joplin Road West of I-95	EB	5.9%	4.1%	8:00 AM	7	7	0	0	6.4%	2.7%	4:00 PM	17	16	1	0	
		WB	5.9%	4.1%		14	12	1	1	6.4%	2.7%		7	7	0	0	
Dumfries Road	Dumfries Road East of I-95	EB	5.3%	4.5%	7:00 AM	997	899	53	45	4.5%	2.9%	5:00 PM	1,139	1,055	51	33	
		WB	5.3%	4.5%		1,007	909	53	45	4.5%	2.9%		805	746	36	23	
Dumfries Road	Dumfries Road West of I-95	EB	0.0%	0.0%	7:00 AM	0	0	0	0	0.0%	0.0%	5:00 PM	0	0	0	0	
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0	
Dale Blvd	Dale Blvd East of I-95	EB	3.9%	4.1%	7:00 AM	950	874	37	39	2.8%	3.4%	5:00 PM	1,389	1,303	39	47	
		WB	3.9%	4.1%		943	867	37	39	2.8%	3.4%		812	761	23	28	
Dale Blvd	Dale Blvd West of I-95	EB	3.9%	4.1%	7:00 AM	1,039	955	41	43	2.8%	3.4%	5:00 PM	660	620	18	22	
		WB	3.9%	4.1%		1,284	1,181	50	53	2.8%	3.4%		2,041	1,915	57	69	
Opitz Blvd	Opitz Blvd East of I-95	EB	3.0%	1.6%	7:00 AM	427	407	13	7	9.3%	1.8%	3:00 PM	778	692	72	14	
		WB	3.0%	1.6%		906	865	27	14	9.3%	1.8%		718	638	67	13	
Opitz Blvd	Opitz Blvd West of I-95	EB	3.0%	1.6%	7:00 AM	894	853	27	14	9.3%	1.8%	3:00 PM	853	759	79	15	
		WB	3.0%	1.6%		689	657	21	11	9.3%	1.8%		924	821	86	17	
Prince William Parkway	Prince William Parkway East of I-95	EB	4.7%	4.2%	8:00 AM	956	871	45	40	2.9%	3.2%	5:00 PM	936	879	27	30	
		WB	4.7%	4.2%		1,173	1,069	55	49	2.9%	3.2%		1,519	1,426	44	49	
Prince William Parkway	Prince William Parkway West of I-95	EB	4.7%	4.2%	8:00 AM	713	649	34	30	2.9%	3.2%	5:00 PM	625	587	18	20	
		WB	4.7%	4.2%		685	624	32	29	2.9%	3.2%		987	926	29	32	
Gordon Blvd	Gordon Blvd North of I-95	NB	5.5%	7.4%	8:00 AM	1,421	1,238	78	105	3.9%	6.5%	5:00 PM	2,239	2,006	87	146	
		SB	5.5%	7.4%		1,604	1,397	88	119	3.9%	6.5%		1,932	1,731	75	126	
Gordon Blvd	Gordon Blvd South of I-95	NB	5.5%	7.4%	8:00 AM	577	502	32	43	3.9%	6.5%	5:00 PM	587	526	23	38	
		SB	5.5%	7.4%		365	318	20	27	3.9%	6.5%		712	638	28	46	
Furnace Road	Furnace Road East of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0	
Furnace Road	Furnace Road West of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0	

		2011 AM Existing Interchange Cross Streets								2011 PM Existing Interchange Cross Streets							
Road	Location	Dir	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk	
Richmond Hwy (US 1)	Richmond Hwy North of 95 Ramps	NB	5.2%	3.5%	6:00 AM	2,877	2,626	150	101	3.9%	4.2%	5:00 PM	638	586	25	27	
		SB	5.2%	3.5%		481	439	25	17	3.9%	4.2%		1,622	1,491	63	68	
Richmond Hwy (US 1)	Richmond Hwy South of 95 Ramps	NB	5.2%	3.5%	6:00 AM	3,281	2,995	171	115	3.9%	4.2%	5:00 PM	557	512	22	23	
		SB	5.2%	3.5%		398	363	21	14	3.9%	4.2%		1,918	1,762	75	81	
Lorton Road	Lorton Road East of I-95	EB	5.1%	5.0%	7:00 AM	1,004	903	51	50	3.1%	1.7%	5:00 PM	646	615	20	11	
		WB	5.1%	5.0%		817	734	42	41	3.1%	1.7%		1,336	1,272	41	23	
Lorton Road	Lorton Road West of I-95	EB	5.1%	5.0%	7:00 AM	1,636	1,471	83	82	3.1%	1.7%	5:00 PM	657	626	20	11	
		WB	5.1%	5.0%		552	496	28	28	3.1%	1.7%		1,724	1,642	53	29	
Fairfax County Parkway	Fairfax County Parkway East of I-95	EB	4.2%	7.0%	7:00 AM	2,226	1,977	93	156	3.2%	2.9%	5:00 PM	1,080	1,014	35	31	
		WB	4.2%	7.0%		1,618	1,437	68	113	3.2%	2.9%		2,282	2,143	73	66	
Fairfax County Parkway	Fairfax County Parkway West of I-95	EB	4.2%	7.0%	7:00 AM	759	674	32	53	3.2%	2.9%	5:00 PM	976	917	31	28	
		WB	4.2%	7.0%		1,090	968	46	76	3.2%	2.9%		641	601	21	19	
Fraconia Springfield Pkwy	Fraconia Springfield Parkway East of I-95	EB	1.9%	0.6%	9:00 AM	2,461	2,399	47	15	1.5%	2.9%	6:00 PM	2,903	2,775	44	84	
		WB	1.9%	0.6%		2,272	2,215	43	14	1.5%	2.9%		4,810	4,599	72	139	
Fraconia Springfield Pkwy	Fraconia Springfield Parkway West of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0	
Old Keene Mill/Fraconia Rd	Fraconia Road East of I-95	EB	4.8%	2.1%	7:00 AM	1,127	1,049	54	24	3.0%	1.9%	5:00 PM	1,407	1,338	42	27	
		WB	4.8%	2.1%		2,659	2,475	128	56	3.0%	1.9%		1,503	1,429	45	29	
Old Keene Mill/Fraconia Rd	Old Keene Mill Road West of I-95	EB	4.8%	2.1%	7:00 AM	3,096	2,882	149	65	3.0%	1.9%	5:00 PM	1,129	1,074	34	21	
		WB	4.8%	2.1%		1,376	1,281	66	29	3.0%	1.9%		2,308	2,195	69	44	
Commerce Street	Commerce Street East of I-495 Ramp	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0	
Commerce Street	Commerce Street West of I-495 Ramp	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0	
I-495 HOT Lanes	West of ramp to I-95 HOT SB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
	Between ramp to I-95 HOT SB and ramp to 95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
	Between ramp to I-95 HOT NB and ramp from 95 HOT SB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
	Between ramp from I-95 HOT SB and ramp from 95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
	East of ramp from I-95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
	East of ramp to I-95 HOT NB/SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
	Between ramp to I-95 HOT NB/SB and ramp from I-95 HOT SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
	West of ramp from I-95 HOT SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0	
Edsall Road	Edsall Road East of I-95	EB	3.2%	4.3%	8:00 AM	897	829	29	39	2.2%	2.2%	5:00 PM	632	604	14	14	
		WB	3.2%	4.3%		557	515	18	24	2.2%	2.2%		926	886	20	20	
Edsall Road	Edsall Road West of I-95	EB	3.2%	4.3%	8:00 AM	1,459	1,349	47	63	2.2%	2.2%	5:00 PM	1,790	1,712	39	39	
		WB	3.2%	4.3%		1,579	1,460	51	68	2.2%	2.2%		1,467	1,403	32	32	
Duke Street	Duke Street East of I-95	EB	2.2%	2.5%	9:00 AM	1,354	1,290	30	34	1.9%	1.6%	6:00 PM	1,765	1,703	34	28	
		WB	2.2%	2.5%		1,387	1,321	31	35	1.9%	1.6%		2,055	1,983	39	33	
Duke Street	Duke Street West of I-95	EB	2.2%	2.5%	9:00 AM	1,360	1,296	30	34	1.9%	1.6%	6:00 PM	2,029	1,958	39	32	
		WB	2.2%	2.5%		1,253	1,194	28	31	1.9%	1.6%		1,612	1,555	31	26	

			2035 AM Build							2035 PM Build						
			<i>Interchange Cross Streets</i>							<i>Interchange Cross Streets</i>						
Road	Location	Dir	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk
Jeff Davis Hwy	Jeff Davis Highway North of I-95	NB	18.1%	4.0%	7:00 AM	853	665	154	34	8.7%	3.6%	5:00 PM	962	843	84	35
		SB	18.1%	4.0%		1,337	1,042	242	53	8.7%	3.6%		1,312	1,151	114	47
Jeff Davis Hwy	Jeff Davis Highway South of I-95	NB	18.1%	4.0%	7:00 AM	2,076	1,617	376	83	8.7%	3.6%	5:00 PM	1,201	1,054	104	43
		SB	18.1%	4.0%		1,333	1,039	241	53	8.7%	3.6%		2,337	2,050	203	84
Plank Road	Plank Rd East of I-95	EB	4.7%	4.5%	7:00 AM	1,178	1,070	55	53	3.3%	2.2%	5:00 PM	1,452	1,372	48	32
		WB	4.7%	4.5%		1,002	910	47	45	3.3%	2.2%		1,375	1,300	45	30
Plank Road	Plank Rd West of I-95	EB	4.7%	4.5%	7:00 AM	2,824	2,564	133	127	3.3%	2.2%	5:00 PM	2,696	2,548	89	59
		WB	4.7%	4.5%		1,639	1,488	77	74	3.3%	2.2%		3,091	2,921	102	68
Warrenton Road	Warrenton Road East of I-95	EB	13.4%	5.5%	7:00 AM	1,542	1,250	207	85	10.9%	3.5%	5:00 PM	1,412	1,209	154	49
		WB	13.4%	5.5%		1,548	1,256	207	85	10.9%	3.5%		1,837	1,573	200	64
Warrenton Road	Warrenton Road West of I-95	EB	13.4%	5.5%	7:00 AM	2,716	2,203	364	149	10.9%	3.5%	5:00 PM	3,286	2,813	358	115
		WB	13.4%	5.5%		3,065	2,485	411	169	10.9%	3.5%		2,794	2,391	305	98
Centreport Parkway	Centreport Parkway East of I-95	EB	5.7%	3.5%	7:00 AM	283	257	16	10	5.9%	4.0%	4:00 PM	535	482	32	21
		WB	5.7%	3.5%		567	515	32	20	5.9%	4.0%		285	257	17	11
Centreport Parkway	Centreport Parkway West of I-95	EB	5.7%	3.5%	7:00 AM	326	296	19	11	5.9%	4.0%	4:00 PM	423	381	25	17
		WB	5.7%	3.5%		384	349	22	13	5.9%	4.0%		262	237	15	10
Courthouse Road	Courthouse Road East of I-95	EB	7.7%	3.4%	7:00 AM	1,643	1,460	127	56	7.0%	2.7%	5:00 PM	1,393	1,257	98	38
		WB	7.7%	3.4%		1,088	967	84	37	7.0%	2.7%		1,343	1,213	94	36
Courthouse Road	Courthouse Road West of I-95	EB	7.7%	3.4%	7:00 AM	43	39	3	1	7.0%	2.7%	5:00 PM	35	32	2	1
		WB	7.7%	3.4%		34	30	3	1	7.0%	2.7%		43	39	3	1
Garrisonville Road	Garrisonville Road East of I-95	EB	4.6%	5.1%	7:00 AM	666	601	31	34	4.0%	3.0%	5:00 PM	875	814	35	26
		WB	4.6%	5.1%		1,126	1,017	52	57	4.0%	3.0%		1,123	1,044	45	34
Garrisonville Road	Garrisonville Road West of I-95	EB	4.6%	5.1%	7:00 AM	1,619	1,462	74	83	4.0%	3.0%	5:00 PM	1,405	1,307	56	42
		WB	4.6%	5.1%		1,316	1,188	61	67	4.0%	3.0%		1,868	1,737	75	56
Russell Road / USMC Hwy	Russell Road West of I-95	EB	12.4%	4.1%	6:00 AM	69	57	9	3	6.5%	3.3%	4:00 PM	546	493	35	18
		WB	12.4%	4.1%		550	459	68	23	6.5%	3.3%		100	90	7	3
Russell Road / USMC Hwy	USMC Truck Hwy East of I-95	EB	12.4%	4.1%	6:00 AM	1,802	1,505	223	74	6.5%	3.3%	4:00 PM	473	426	31	16
		WB	12.4%	4.1%		381	318	47	16	6.5%	3.3%		1,804	1,627	117	60
Joplin Road	Joplin Road East of I-95	EB	5.9%	4.1%	8:00 AM	613	552	36	25	6.4%	2.7%	4:00 PM	407	370	26	11
		WB	5.9%	4.1%		540	486	32	22	6.4%	2.7%		905	823	58	24
Joplin Road	Joplin Road West of I-95	EB	5.9%	4.1%	8:00 AM	51	46	3	2	6.4%	2.7%	4:00 PM	131	119	8	4
		WB	5.9%	4.1%		110	99	6	5	6.4%	2.7%		53	49	3	1
Dumfries Road	Dumfries Road East of I-95	EB	5.3%	4.5%	7:00 AM	1,879	1,694	100	85	4.5%	2.9%	5:00 PM	2,148	1,989	97	62
		WB	5.3%	4.5%		1,898	1,712	101	85	4.5%	2.9%		1,517	1,405	68	44
Dumfries Road	Dumfries Road West of I-95	EB	0.0%	0.0%	7:00 AM	0	0	0	0	0.0%	0.0%	5:00 PM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Dale Blvd	Dale Blvd East of I-95	EB	3.9%	4.1%	7:00 AM	1,339	1,232	52	55	2.8%	3.4%	5:00 PM	1,958	1,836	55	67
		WB	3.9%	4.1%		1,330	1,223	52	55	2.8%	3.4%		1,145	1,074	32	39
Dale Blvd	Dale Blvd West of I-95	EB	3.9%	4.1%	7:00 AM	1,277	1,175	50	52	2.8%	3.4%	5:00 PM	811	760	23	28
		WB	3.9%	4.1%		1,578	1,451	62	65	2.8%	3.4%		2,507	2,352	70	85
Opitz Blvd	Opitz Blvd East of I-95	EB	3.0%	1.6%	7:00 AM	697	665	21	11	9.3%	1.8%	3:00 PM	1,270	1,129	118	23
		WB	3.0%	1.6%		1,480	1,412	44	24	9.3%	1.8%		1,172	1,042	109	21
Opitz Blvd	Opitz Blvd West of I-95	EB	3.0%	1.6%	7:00 AM	1,367	1,304	41	22	9.3%	1.8%	3:00 PM	1,304	1,160	121	23
		WB	3.0%	1.6%		1,054	1,005	32	17	9.3%	1.8%		1,413	1,257	131	25
Prince William Parkway	Prince William Parkway East of I-95	EB	4.7%	4.2%	8:00 AM	1,217	1,109	57	51	2.9%	3.2%	5:00 PM	1,191	1,118	35	38
		WB	4.7%	4.2%		1,493	1,360	70	63	2.9%	3.2%		1,933	1,815	56	62
Prince William Parkway	Prince William Parkway West of I-95	EB	4.7%	4.2%	8:00 AM	1,326	1,208	62	56	2.9%	3.2%	5:00 PM	1,163	1,092	34	37
		WB	4.7%	4.2%		1,274	1,160	60	54	2.9%	3.2%		1,835	1,723	53	59
Gordon Blvd	Gordon Blvd North of I-95	NB	5.5%	7.4%	8:00 AM	2,083	1,814	115	154	3.9%	6.5%	5:00 PM	3,282	2,941	128	213
		SB	5.5%	7.4%		2,351	2,048	129	174	3.9%	6.5%		2,832	2,538	110	184
Gordon Blvd	Gordon Blvd South of I-95	NB	5.5%	7.4%	8:00 AM	1,350	1,176	74	100	3.9%	6.5%	5:00 PM	1,373	1,230	54	89
		SB	5.5%	7.4%		853	743	47	63	3.9%	6.5%		1,665	1,492	65	108

			2035 AM Build Interchange Cross Streets							2035 PM Build Interchange Cross Streets						
Road	Location	Dir	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk
Furnace Road	Furnace Road East of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Furnace Road	Furnace Road West of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Richmond Hwy (US 1)	Richmond Hwy North of 95 Ramps	NB	5.2%	3.5%	6:00 AM	4,903	4,476	255	172	3.9%	4.2%	5:00 PM	1,087	999	42	46
		SB	5.2%	3.5%		819	747	43	29	3.9%	4.2%		2,764	2,540	108	116
Richmond Hwy (US 1)	Richmond Hwy South of I-95 Ramps	NB	5.2%	3.5%	6:00AM	4,276	3,904	222	150	3.9%	4.2%	5:00 PM	726	668	28	30
		SB	5.2%	3.5%		519	474	27	18	3.9%	4.2%		2,500	2,297	98	105
Lorton Road	Lorton Road East of I-95	EB	5.1%	5.0%	7:00 AM	2,015	1,811	103	101	3.1%	1.7%	5:00 PM	1,297	1,235	40	22
		WB	5.1%	5.0%		1,641	1,475	84	82	3.1%	1.7%		2,682	2,553	83	46
Lorton Road	Lorton Road West of I-95	EB	5.1%	5.0%	7:00 AM	2,787	2,506	142	139	3.1%	1.7%	5:00 PM	1,120	1,066	35	19
		WB	5.1%	5.0%		941	846	48	47	3.1%	1.7%		2,937	2,796	91	50
Fairfax County Parkway	Fairfax County Parkway East of I-95	EB	4.2%	7.0%	7:00 AM	2,644	2,348	111	185	3.2%	2.9%	5:00 PM	1,282	1,204	41	37
		WB	4.2%	7.0%		1,922	1,706	81	135	3.2%	2.9%		2,710	2,544	87	79
Fairfax County Parkway	Fairfax County Parkway West of I-95	EB	4.2%	7.0%	7:00 AM	663	589	28	46	3.2%	2.9%	5:00 PM	852	800	27	25
		WB	4.2%	7.0%		951	844	40	67	3.2%	2.9%		559	525	18	16
Fraconia Springfield Pkwy	Fraconia Springfield Parkway East of I-95	EB	1.9%	0.6%	9:00 AM	2,295	2,237	44	14	1.5%	2.9%	6:00 PM	2,708	2,588	41	79
		WB	1.9%	0.6%		2,119	2,066	40	13	1.5%	2.9%		4,486	4,289	67	130
Fraconia Springfield Pkwy	Fraconia Springfield Parkway West of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Old Keene Mill/Fraconia Rd	Fraconia Road East of I-95	EB	4.8%	2.1%	7:00 AM	1,046	974	50	22	3.0%	1.9%	5:00 PM	1,307	1,243	39	25
		WB	4.8%	2.1%		2,468	2,298	118	52	3.0%	1.9%		1,395	1,326	42	27
Old Keene Mill/Fraconia Rd	Old Keene Mill Road West of I-95	EB	4.8%	2.1%	7:00 AM	3,635	3,385	174	76	3.0%	1.9%	5:00 PM	1,326	1,261	40	25
		WB	4.8%	2.1%		1,616	1,504	78	34	3.0%	1.9%		2,710	2,578	81	51
Commerce Street	Commerce Street East of I-495 Ramp	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Commerce Street	Commerce Street West of I-495 Ramp	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
I-495 HOT Lanes	West of ramp to I-95 HOT SB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	Between ramp to I-95 HOT SB and ramp to 95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	Between ramp to I-95 HOT NB and ramp from I-95 HOT SB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	Between ramp from I-95 HOT SB and ramp from I-95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	East of ramp from I-95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	East of ramp to I-95 HOT NB/SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	Between ramp to I-95 HOT NB/SB and ramp from I-95 HOT SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	West of ramp from I-95 HOT SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
Edsall Road	Edsall Road East of I-95	EB	3.2%	4.3%	8:00 AM	1,187	1,098	38	51	2.2%	2.2%	5:00 PM	836	800	18	18
		WB	3.2%	4.3%		737	681	24	32	2.2%	2.2%		1,226	1,172	27	27
Edsall Road	Edsall Road West of I-95	EB	3.2%	4.3%	8:00 AM	1,832	1,694	59	79	2.2%	2.2%	5:00 PM	2,247	2,149	49	49
		WB	3.2%	4.3%		1,982	1,834	63	85	2.2%	2.2%		1,842	1,760	41	41
Duke Street	Duke Street East of I-95	EB	2.2%	2.5%	9:00 AM	1,699	1,620	37	42	1.9%	1.6%	6:00 PM	2,214	2,137	42	35
		WB	2.2%	2.5%		1,740	1,658	38	44	1.9%	1.6%		2,579	2,489	49	41
Duke Street	Duke Street West of I-95	EB	2.2%	2.5%	9:00 AM	1,509	1,438	33	38	1.9%	1.6%	6:00 PM	2,251	2,172	43	36
		WB	2.2%	2.5%		1,389	1,323	31	35	1.9%	1.6%		1,789	1,726	34	29

			2035 AM No Build Interchange Cross Streets							2035 PM No Build Interchange Cross Streets						
Road	Location	Dir	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk
Jeff Davis Hwy	Jeff Davis Highway North of I-95	NB	18.1%	4.0%	7:00 AM	724	564	131	29	8.7%	3.6%	5:00 PM	816	716	71	29
		SB	18.1%	4.0%		1,134	884	205	45	8.7%	3.6%		1,113	976	97	40
Jeff Davis Hwy	Jeff Davis Highway South of I-95	NB	18.1%	4.0%	7:00 AM	1,916	1,492	347	77	8.7%	3.6%	5:00 PM	1,109	973	96	40
		SB	18.1%	4.0%		1,230	958	223	49	8.7%	3.6%		2,157	1,891	188	78
Plank Road	Plank Rd East of I-95	EB	4.7%	4.5%	7:00 AM	992	900	47	45	3.3%	2.2%	5:00 PM	1,222	1,155	40	27
		WB	4.7%	4.5%		843	765	40	38	3.3%	2.2%		1,158	1,095	38	25
Plank Road	Plank Rd West of I-95	EB	4.7%	4.5%	7:00 AM	2,402	2,181	113	108	3.3%	2.2%	5:00 PM	2,294	2,168	76	50
		WB	4.7%	4.5%		1,394	1,265	66	63	3.3%	2.2%		2,630	2,485	87	58
Warrenton Road	Warrenton Road East of I-95	EB	13.4%	5.5%	7:00 AM	1,740	1,411	233	96	10.9%	3.5%	5:00 PM	1,594	1,364	174	56
		WB	13.4%	5.5%		1,747	1,417	234	96	10.9%	3.5%		2,074	1,775	226	73
Warrenton Road	Warrenton Road West of I-95	EB	13.4%	5.5%	7:00 AM	2,505	2,031	336	138	10.9%	3.5%	5:00 PM	3,031	2,595	330	106
		WB	13.4%	5.5%		2,827	2,293	379	155	10.9%	3.5%		2,576	2,205	281	90
Centreport Parkway	Centreport Parkway East of I-95	EB	5.7%	3.5%	7:00 AM	385	350	22	13	5.9%	4.0%	4:00 PM	727	655	43	29
		WB	5.7%	3.5%		771	700	44	27	5.9%	4.0%		387	349	23	15
Centreport Parkway	Centreport Parkway West of I-95	EB	5.7%	3.5%	7:00 AM	296	269	17	10	5.9%	4.0%	4:00 PM	384	346	23	15
		WB	5.7%	3.5%		348	316	20	12	5.9%	4.0%		237	214	14	9
Courthouse Road	Courthouse Road East of I-95	EB	7.7%	3.4%	7:00 AM	1,727	1,535	133	59	7.0%	2.7%	5:00 PM	1,465	1,322	103	40
		WB	7.7%	3.4%		1,143	1,016	88	39	7.0%	2.7%		1,411	1,274	99	38
Courthouse Road	Courthouse Road West of I-95	EB	7.7%	3.4%	7:00 AM	365	325	28	12	7.0%	2.7%	5:00 PM	296	267	21	8
		WB	7.7%	3.4%		287	255	22	10	7.0%	2.7%		357	322	25	10
Garrisonville Road	Garrisonville Road East of I-95	EB	4.6%	5.1%	7:00 AM	608	549	28	31	4.0%	3.0%	5:00 PM	799	743	32	24
		WB	4.6%	5.1%		1,029	930	47	52	4.0%	3.0%		1,027	955	41	31
Garrisonville Road	Garrisonville Road West of I-95	EB	4.6%	5.1%	7:00 AM	1,573	1,421	72	80	4.0%	3.0%	5:00 PM	1,365	1,269	55	41
		WB	4.6%	5.1%		1,278	1,154	59	65	4.0%	3.0%		1,815	1,688	73	54
Russell Road / USMC Hwy	Russell Road West of I-95	EB	12.4%	4.1%	6:00 AM	136	113	17	6	6.5%	3.3%	4:00 PM	1,075	970	70	35
		WB	12.4%	4.1%		1,083	905	134	44	6.5%	3.3%		197	177	13	7
Russell Road / USMC Hwy	USMC Truck Hwy East of I-95	EB	12.4%	4.1%	6:00 AM	1,299	1,085	161	53	6.5%	3.3%	4:00 PM	341	308	22	11
		WB	12.4%	4.1%		275	230	34	11	6.5%	3.3%		1,300	1,172	85	43
Joplin Road	Joplin Road East of I-95	EB	5.9%	4.1%	8:00 AM	575	517	34	24	6.4%	2.7%	4:00 PM	382	348	24	10
		WB	5.9%	4.1%		507	456	30	21	6.4%	2.7%		850	773	54	23
Joplin Road	Joplin Road West of I-95	EB	5.9%	4.1%	8:00 AM	161	145	9	7	6.4%	2.7%	4:00 PM	411	374	26	11
		WB	5.9%	4.1%		345	311	20	14	6.4%	2.7%		165	150	11	4
Dumfries Road	Dumfries Road East of I-95	EB	5.3%	4.5%	7:00 AM	997	899	53	45	4.5%	2.9%	5:00 PM	1,139	1,055	51	33
		WB	5.3%	4.5%		1,007	909	53	45	4.5%	2.9%		805	746	36	23
Dumfries Road	Dumfries Road West of I-95	EB	0.0%	0.0%	7:00 AM	0	0	0	0	0.0%	0.0%	5:00 PM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Dale Blvd	Dale Blvd East of I-95	EB	3.9%	4.1%	7:00 AM	1,171	1,077	46	48	2.8%	3.4%	5:00 PM	1,713	1,607	48	58
		WB	3.9%	4.1%		1,164	1,071	45	48	2.8%	3.4%		1,002	940	28	34
Dale Blvd	Dale Blvd West of I-95	EB	3.9%	4.1%	7:00 AM	1,090	1,002	43	45	2.8%	3.4%	5:00 PM	692	649	19	24
		WB	3.9%	4.1%		1,347	1,239	53	55	2.8%	3.4%		2,140	2,007	60	73
Opitz Blvd	Opitz Blvd East of I-95	EB	3.0%	1.6%	7:00 AM	677	646	20	11	9.3%	1.8%	3:00 PM	1,233	1,096	115	22
		WB	3.0%	1.6%		1,436	1,370	43	23	9.3%	1.8%		1,138	1,012	106	20
Opitz Blvd	Opitz Blvd West of I-95	EB	3.0%	1.6%	7:00 AM	1,364	1,301	41	22	9.3%	1.8%	3:00 PM	1,301	1,157	121	23
		WB	3.0%	1.6%		1,052	1,003	32	17	9.3%	1.8%		1,409	1,253	131	25
Prince William Parkway	Prince William Parkway East of I-95	EB	4.7%	4.2%	8:00 AM	1,034	942	49	43	2.9%	3.2%	5:00 PM	1,013	952	29	32
		WB	4.7%	4.2%		1,269	1,156	60	53	2.9%	3.2%		1,643	1,542	48	53
Prince William Parkway	Prince William Parkway West of I-95	EB	4.7%	4.2%	8:00 AM	1,113	1,014	52	47	2.9%	3.2%	5:00 PM	976	917	28	31
		WB	4.7%	4.2%		1,069	974	50	45	2.9%	3.2%		1,540	1,446	45	49
Gordon Blvd	Gordon Blvd North of I-95	NB	5.5%	7.4%	8:00 AM	1,555	1,354	86	115	3.9%	6.5%	5:00 PM	2,450	2,195	96	159
		SB	5.5%	7.4%		1,755	1,528	97	130	3.9%	6.5%		2,114	1,895	82	137
Gordon Blvd	Gordon Blvd South of I-95	NB	5.5%	7.4%	8:00 AM	1,091	950	60	81	3.9%	6.5%	5:00 PM	1,110	995	43	72
		SB	5.5%	7.4%		690	601	38	51	3.9%	6.5%		1,345	1,206	52	87
Furnace Road	Furnace Road East of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Furnace Road	Furnace Road West of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Richmond Hwy (US 1)	Richmond Hwy North of I-95 Ramps	NB	5.2%	3.5%	6:00 AM	3,712	3,389	193	130	3.9%	4.2%	5:00 PM	823	756	32	35
		SB	5.2%	3.5%		620	566	32	22	3.9%	4.2%		2,092	1,922	82	88
Richmond Hwy (US 1)	Richmond Hwy South of I-95 Ramps	NB	5.2%	3.5%	6:00 AM	3,821	3,488	199	134	3.9%	4.2%	5:00 PM	649	597	25	27
		SB	5.2%	3.5%		464	424	24	16	3.9%	4.2%		2,234	2,053	87	94

			2035 AM No Build Interchange Cross Streets							2035 PM No Build Interchange Cross Streets						
Road	Location	Dir	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk	%MT	%HT	time begin	Total Vol	Cars	Med Trk	Heavy Trk
Lorton Road	Lorton Road East of I-95	EB	5.1%	5.0%	7:00 AM	1,185	1,066	60	59	3.1%	1.7%	5:00 PM	762	725	24	13
		WB	5.1%	5.0%		964	867	49	48	3.1%	1.7%		1,577	1,501	49	27
Lorton Road	Lorton Road West of I-95	EB	5.1%	5.0%	7:00 AM	2,214	1,990	113	111	3.1%	1.7%	5:00 PM	890	847	28	15
		WB	5.1%	5.0%		747	672	38	37	3.1%	1.7%		2,333	2,221	72	40
Fairfax County Parkway	Fairfax County Parkway East of I-95	EB	4.2%	7.0%	7:00 AM	2,583	2,294	108	181	3.2%	2.9%	5:00 PM	1,253	1,177	40	36
		WB	4.2%	7.0%		1,877	1,667	79	131	3.2%	2.9%		2,647	2,485	85	77
Fairfax County Parkway	Fairfax County Parkway West of I-95	EB	4.2%	7.0%	7:00 AM	563	500	24	39	3.2%	2.9%	5:00 PM	724	680	23	21
		WB	4.2%	7.0%		808	717	34	57	3.2%	2.9%		475	446	15	14
Fraconia Springfield Pkwy	Fraconia Springfield Parkway East of I-95	EB	1.9%	0.6%	9:00 AM	2,234	2,179	42	13	1.5%	2.9%	6:00 PM	2,636	2,520	40	76
		WB	1.9%	0.6%		2,062	2,011	39	12	1.5%	2.9%		4,367	4,174	66	127
Fraconia Springfield Pkwy	Fraconia Springfield Parkway West of I-95	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Old Keene Mill/Fraconia Rd	Fraconia Road East of I-95	EB	4.8%	2.1%	7:00 AM	951	885	46	20	3.0%	1.9%	5:00 PM	1,187	1,128	36	23
		WB	4.8%	2.1%		2,242	2,087	108	47	3.0%	1.9%		1,267	1,205	38	24
Old Keene Mill/Fraconia Rd	Old Keene Mill Road West of I-95	EB	4.8%	2.1%	7:00 AM	2,580	2,402	124	54	3.0%	1.9%	5:00 PM	941	895	28	18
		WB	4.8%	2.1%		1,146	1,067	55	24	3.0%	1.9%		1,924	1,829	58	37
Commerce Street	Commerce Street East of I-495 Ramp	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
Commerce Street	Commerce Street West of I-495 Ramp	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
		WB	0.0%	0.0%		0	0	0	0	0.0%	0.0%		0	0	0	0
I-495 HOT Lanes	West of ramp to I-95 HOT SB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	Between ramp to I-95 HOT SB and ramp to I-95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	Between ramp to I-95 HOT NB and ramp from I-95 HOT SB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	Between ramp from I-95 HOT SB and ramp from I-95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	East of ramp from I-95 HOT NB	EB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	East of ramp to I-95 HOT NB/SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	Between ramp to I-95 HOT NB/SB and ramp from I-95 HOT SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
	West of ramp from I-95 HOT SB	WB	0.0%	0.0%	12:00 AM	0	0	0	0	0.0%	0.0%	12:00 AM	0	0	0	0
Edsall Road	Edsall Road East of I-95	EB	3.2%	4.3%	8:00 AM	1,066	986	34	46	2.2%	2.2%	5:00 PM	751	717	17	17
		WB	3.2%	4.3%		662	613	21	28	2.2%	2.2%		1,101	1,053	24	24
Edsall Road	Edsall Road West of I-95	EB	3.2%	4.3%	8:00 AM	1,750	1,619	56	75	2.2%	2.2%	5:00 PM	2,147	2,053	47	47
		WB	3.2%	4.3%		1,894	1,752	61	81	2.2%	2.2%		1,760	1,682	39	39
Duke Street	Duke Street East of I-95	EB	2.2%	2.5%	9:00 AM	1,592	1,517	35	40	1.9%	1.6%	6:00 PM	2,075	2,003	39	33
		WB	2.2%	2.5%		1,631	1,554	36	41	1.9%	1.6%		2,417	2,332	46	39
Duke Street	Duke Street West of I-95	EB	2.2%	2.5%	9:00 AM	1,506	1,435	33	38	1.9%	1.6%	6:00 PM	2,247	2,168	43	36
		WB	2.2%	2.5%		1,387	1,321	31	35	1.9%	1.6%		1,785	1,722	34	29

Entrada	AM PEAK										PM PEAK							
	Road	Location	Dir	Time begin	Existing	Interim Bld	Interim Nbl	Design Bld	Design Nbl	%MT	%HT	Time begin	Existing	Interim Bld	Interim Nbl	Design Bld	Design Nbl	%MT
Jeff Davis Hwy	Jeff Davis Highway North of I-95	NB	7:00 AM	598	642	701	853	724	18.1%	4.0%	5:00 PM	674	724	790	962	816	8.7%	3.6%
		SB		937	1,006	1,098	1,337	1,134	18.1%	4.0%		919	987	1,077	1,312	1,113	8.7%	3.6%
Jeff Davis Hwy	Jeff Davis Highway South of I-95	NB	7:00 AM	1,343	1,668	1,865	2,076	1,916	18.1%	4.0%	5:00 PM	777	965	1,079	1,201	1,109	8.7%	3.6%
		SB		862	1,071	1,197	1,333	1,230	18.1%	4.0%		1,512	1,878	2,100	2,337	2,157	8.7%	3.6%
Plank Road	Plank Rd East of I-95	EB	7:00 AM	606	1,192	773	1,178	992	4.7%	4.5%	5:00 PM	746	1,468	952	1,452	1,222	3.3%	2.2%
		WB		515	1,013	657	1,002	843	4.7%	4.5%		707	1,391	902	1,375	1,158	3.3%	2.2%
Plank Road	Plank Rd West of I-95	EB	7:00 AM	1,667	2,265	2,199	2,824	2,402	4.7%	4.5%	5:00 PM	1,591	2,162	2,100	2,696	2,294	3.3%	2.2%
		WB		967	1,314	1,276	1,639	1,394	4.7%	4.5%		1,825	2,479	2,408	3,091	2,630	3.3%	2.2%
Warrenton Road	Warrenton Road East of I-95	EB	7:00 AM	1,561	1,617	1,535	1,542	1,740	13.4%	5.5%	5:00 PM	1,430	1,480	1,406	1,412	1,594	10.9%	3.5%
		WB		1,567	1,623	1,541	1,548	1,747	13.4%	5.5%		1,860	1,926	1,829	1,837	2,074	10.9%	3.5%
Warrenton Road	Warrenton Road West of I-95	EB	7:00 AM	1,378	2,005	1,886	2,716	2,505	13.4%	5.5%	5:00 PM	1,667	2,427	2,282	3,286	3,031	10.9%	3.5%
		WB		1,555	2,264	2,129	3,065	2,827	13.4%	5.5%		1,417	2,063	1,940	2,794	2,576	10.9%	3.5%
Centreport Parkway	Centreport Parkway East of I-95	EB	7:00 AM	310	308	319	283	385	5.7%	3.5%	4:00 PM	587	582	603	535	727	5.9%	4.0%
		WB		622	617	639	567	771	5.7%	3.5%		313	310	321	285	387	5.9%	4.0%
Centreport Parkway	Centreport Parkway West of I-95	EB	7:00 AM	72	76	144	326	296	5.7%	3.5%	4:00 PM	93	98	187	423	384	5.9%	4.0%
		WB		85	89	170	384	348	5.7%	3.5%		58	61	116	262	237	5.9%	4.0%
Courthouse Road	Courthouse Road East of I-95	EB	7:00 AM	453	649	696	1,643	1,727	7.7%	3.4%	5:00 PM	384	550	590	1,393	1,465	7.0%	2.7%
		WB		300	429	460	1,088	1,143	7.7%	3.4%		370	530	568	1,343	1,411	7.0%	2.7%
Courthouse Road	Courthouse Road West of I-95	EB	7:00 AM	343	365	413	43	365	7.7%	3.4%	5:00 PM	278	296	334	35	296	7.0%	2.7%
		WB		270	287	324	34	287	7.7%	3.4%		336	357	404	43	357	7.0%	2.7%
Garrisonville Road	Garrisonville Road East of I-95	EB	7:00 AM	365	437	487	666	608	4.6%	5.1%	5:00 PM	480	574	639	875	799	4.0%	3.0%
		WB		617	738	823	1,126	1,029	4.6%	5.1%		616	737	821	1,123	1,027	4.0%	3.0%
Garrisonville Road	Garrisonville Road West of I-95	EB	7:00 AM	1,215	1,286	1,445	1,619	1,573	4.6%	5.1%	5:00 PM	1,054	1,116	1,254	1,405	1,365	4.0%	3.0%
		WB		987	1,045	1,175	1,316	1,278	4.6%	5.1%		1,402	1,484	1,668	1,868	1,815	4.0%	3.0%
Russell Road / USMC Hwy	Russell Road West of I-95	EB	6:00 AM	49	56	63	69	136	12.4%	4.1%	4:00 PM	390	442	494	546	1,075	6.5%	3.3%
		WB		393	446	498	550	1,083	12.4%	4.1%		72	81	91	100	197	6.5%	3.3%
Russell Road / USMC Hwy	USMC Truck Hwy East of I-95	EB	6:00 AM	844	1,112	844	1,802	1,299	12.4%	4.1%	4:00 PM	222	292	222	473	341	6.5%	3.3%
		WB		179	235	179	381	275	12.4%	4.1%		845	1,113	845	1,804	1,300	6.5%	3.3%
Joplin Road	Joplin Road East of I-95	EB	8:00 AM	366	609	587	613	575	5.9%	4.1%	4:00 PM	243	404	389	407	382	6.4%	2.7%
		WB		323	537	517	540	507	5.9%	4.1%		541	900	866	905	850	6.4%	2.7%
Joplin Road	Joplin Road West of I-95	EB	8:00 AM	7	25	16	51	161	5.9%	4.1%	4:00 PM	17	63	40	131	411	6.4%	2.7%
		WB		14	53	34	110	345	5.9%	4.1%		7	25	16	53	165	6.4%	2.7%
Dumfries Road	Dumfries Road East of I-95	EB	7:00 AM	997	1,615	1,115	1,879	997	5.3%	4.5%	5:00 PM	1,139	1,846	1,274	2,148	1,139	4.5%	2.9%
		WB		1,007	1,631	1,126	1,898	1,007	5.3%	4.5%		805	1,304	900	1,517	805	4.5%	2.9%
Dumfries Road	Dumfries Road West of I-95	EB	7:00 AM								5:00 PM							
		WB																
Dale Blvd	Dale Blvd East of I-95	EB	7:00 AM	950	1,171	1,004	1,339	1,171	3.9%	4.1%	5:00 PM	1,389	1,713	1,468	1,958	1,713	2.8%	3.4%
		WB		943	1,164	997	1,330	1,164	3.9%	4.1%		812	1,002	858	1,145	1,002	2.8%	3.4%
Dale Blvd	Dale Blvd West of I-95	EB	7:00 AM	1,039	1,210	1,021	1,277	1,090	3.9%	4.1%	5:00 PM	660	769	648	811	692	2.8%	3.4%
		WB		1,284	1,495	1,261	1,578	1,347	3.9%	4.1%		2,041	2,376	2,004	2,507	2,140	2.8%	3.4%
Opitz Blvd	Opitz Blvd East of I-95	EB	7:00 AM	427	570	505	697	677	3.0%	1.6%	3:00 PM	778	1,039	920	1,270	1,233	9.3%	1.8%
		WB		906	1,211	1,072	1,480	1,436	3.0%	1.6%		718	959	849	1,172	1,138	9.3%	1.8%
Opitz Blvd	Opitz Blvd West of I-95	EB	7:00 AM	894	1,167	1,052	1,367	1,364	3.0%	1.6%	3:00 PM	853	1,113	1,003	1,304	1,301	9.3%	1.8%
		WB		689	900	811	1,054	1,052	3.0%	1.6%		924	1,205	1,087	1,413	1,409	9.3%	1.8%
Prince William Parkway	Prince William Parkway West of I-95	EB	8:00 AM	956	1,115	985	1,217	1,034	4.7%	4.2%	5:00 PM	936	1,092	964	1,191	1,013	2.9%	3.2%
		WB		1,173	1,369	1,209	1,493	1,269	4.7%	4.2%		1,519	1,771	1,564	1,933	1,643	2.9%	3.2%
Prince William Parkway	Prince William Parkway East of I-95	EB	8:00 AM	713	950	814	1,326	1,113	4.7%	4.2%	5:00 PM	625	833	714	1,163	976	2.9%	3.2%
		WB		685	913	782	1,274	1,069	4.7%	4.2%		987	1,314	1,126	1,835	1,540	2.9%	3.2%
Gordon Blvd	Gordon Blvd North of I-95	NB	8:00 AM	1,421	1,756	1,421	2,083	1,555	5.5%	7.4%	5:00 PM	2,239	2,767	2,239	3,282	2,450	3.9%	6.5%
		SB		1,604	1,982	1,604	2,351	1,755	5.5%	7.4%		1,932	2,388	1,932	2,832	2,114	3.9%	6.5%
Gordon Blvd	Gordon Blvd South of I-95	NB	8:00 AM	577	888	990	1,350	1,091	5.5%	7.4%	5:00 PM	587	903	1,007	1,373	1,110	3.9%	6.5%
		SB		365	561	626	853	690	5.5%	7.4%		712	1,095	1,220	1,665	1,345	3.9%	6.5%
Furnace Road	Furnace Road East of I-95	EB																
		WB																
Furnace Road	Furnace Road West of I-95	EB																
		WB																
Richmond Hwy (US 1)	Richmond Hwy North of I-95 Ramps	NB	6:00 AM	2,877	4,830	3,128	4,903	3,712	5.2%	3.5%	5:00 PM	638	1,070	693	1,087	823	3.9%	4.2%
		SB		481	807	523	819	620	5.2%	3.5%		1,622	2,722	1,763	2,764	2,092	3.9%	4.2%
Richmond Hwy (US 1)	Richmond Hwy South of I-95 Ramps	NB	6:00 AM	3,281	3,855	3,239	4,276	3,821	5.2%	3.5%	5:00 PM	557	655	550	726	649	3.9%	4.2%
		SB		398	468	393	519	464	5.2%	3.5%		1,918	2,254	1,894	2,500	2,234	3.9%	4.2%
Lorton Road	Lorton Road East of I-95	EB	7:00 AM	1,004	2,254	972	2,015	1,185	5.1%	5.0%	5:00 PM	646	1,450	625	1,297	762	3.1%	1.7%
		WB		817	1,835	791	1,641	964	5.1%	5.0%		1,336	2,999	1,293	2,682	1,577	3.1%	1.7%
Lorton Road	Lorton Road West of I-95	EB	7:00 AM	1,636	2,787	1,866	2,787	2,214	5.1%	5.0%	5:00 PM	657	1,120	750	1,120	890	3.1%	1.7%
		WB		552	941	630	941	747	5.1%	5.0%		1,724	2,937	1,967	2,937	2,333	3.1%	1.7%
Fairfax County Parkway	FCP East of I-95 (West of Loisdale Rd)	EB	7:00 AM	2,226	2,414	2,141	2,644	2,583	4.2%	7.0%	5:00 PM	1,080	1,171	1,039	1,282	1,253	3.2%	2.9%
		WB		1,618	1,755	1,557	1,922	1,877	4.2%	7.0%		2,282	2,474	2,195	2,710	2,647	3.2%	2.9%
Fairfax County Parkway	Fairfax County Parkway West of I-95	EB	7:00 AM	759	756	546	663	563	4.2%	7.0%	5:00 PM	976	972	702	852	724	3.2%	2.9%
		WB		1,090	1,085	784	951	808	4.2%	7.0%		641	638	461	559	475	3.2%	2.9%
Franconia Springfield Pkwy	Franconia Springfield Parkway East of I-95	EB	9:00 AM	2,461	1,811	2,073	2,295	2,234	1.9%	0.6%	6:00 PM	2,903	2,136	2,445	2,708	2,636	1.5%	2.9%
		WB		2,272	1,671	1,913	2,119	2,062	1.9%	0.6%								

2011 AM Existing Conditions

I-95 Northbound General Purpose Lanes

2011 PM Existing Conditions

I-95 Northbound General Purpose Lanes

Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MN2301	I-95 GP	Between South End & Jeff Davis Hwy Int	NB	2,398	8:00 AM	2.0%	13.8%	2,019	48	331	2,411	3:00 PM	1.9%	13.1%	2,049	46	316
MN2302	I-95 GP		NB	2,398	8:00 AM	2.0%	13.8%	2,019	48	331	2,411	3:00 PM	1.9%	13.1%	2,049	46	316
MN2303	I-95 GP	Within Jeff Davis Hwy Interchange (Exit 126)	NB					0	0	0					0	0	0
MN2304	I-95 GP		NB					0	0	0					0	0	0
MN2305	I-95 GP	Between Jeff Davis Hwy & Plank Rd	NB	3,265	7:00 AM	0.0%	9.6%	2,952	0	313	2,861	3:00 PM	0.4%	11.1%	2,532	11	318
MN2306	I-95 GP		NB	3,265	7:00 AM	0.0%	9.6%	2,952	0	313	2,861	3:00 PM	0.4%	11.1%	2,532	11	318
MN2201	I-95 GP	Within Plank Rd Interchange (Exit 130)	NB					0	0	0					0	0	0
MN2202	I-95 GP		NB					0	0	0					0	0	0
MN2203	I-95 GP		NB					0	0	0					0	0	0
MN2204	I-95 GP	Between Plank Road & Warrenton Rd	NB	5,240	7:00 AM	15.4%	7.1%	4,061	807	372	3,643	4:00 PM	6.3%	9.8%	3,056	230	357
MN2205	I-95 GP		NB	5,240	7:00 AM	15.4%	7.1%	4,061	807	372	3,643	4:00 PM	6.3%	9.8%	3,056	230	357
MN2206	I-95 GP		NB	5,240	7:00 AM	15.4%	7.1%	4,061	807	372	3,643	4:00 PM	6.3%	9.8%	3,056	230	357
MN2101	I-95 GP	Within Warrenton Road Interchange (Exit 133)	NB					0	0	0					0	0	0
MN2102	I-95 GP	Between Warrenton Rd Interchange & Centreport Pkwy Interchange	NB	5,325	6:00 AM	20.1%	6.6%	3,903	1,070	351	3,531	4:00 PM	10.1%	10.8%	2,793	357	381
MN2103	I-95 GP		NB	5,325	6:00 AM	20.1%	6.6%	3,903	1,070	351	3,531	4:00 PM	10.1%	10.8%	2,793	357	381
MN2104	I-95 GP		NB	5,325	6:00 AM	20.1%	6.6%	3,903	1,070	351	3,531	4:00 PM	10.1%	10.8%	2,793	357	381
MN2001	I-95 GP	Within Centreport Pkwy Interchange (Exit 136)	NB					0	0	0					0	0	0
MN2002	I-95 GP	Between Centreport Pkwy & Courthouse Rd	NB	5,846	6:00 AM	18.5%	6.2%	4,402	1,082	362	3,573	4:00 PM	9.7%	10.6%	2,848	347	379
MN2003	I-95 GP		NB	5,846	6:00 AM	18.5%	6.2%	4,402	1,082	362	3,573	4:00 PM	9.7%	10.6%	2,848	347	379
MN1901	I-95 GP	Within Courthouse Rd Int (Exit 140)	NB					0	0	0					0	0	0
MN1902	I-95 GP	Between Courthouse Rd Int & Garrisonville Rd Int	NB	5,919	6:00 AM	1.4%	4.6%	5,564	83	272	3,388	4:00 PM	2.1%	8.8%	3,019	71	298
MN1903	I-95 GP		NB	5,919	6:00 AM	1.4%	4.6%	5,564	83	272	3,388	4:00 PM	2.1%	8.8%	3,019	71	298
MN1904	I-95 GP		NB	5,919	6:00 AM	1.4%	4.6%	5,564	83	272	3,388	4:00 PM	2.1%	8.8%	3,019	71	298
MN1801	I-95 GP	Within Garrisonville Road Int (Exit 143)	NB					0	0	0					0	0	0
MN1802	I-95 GP		NB					0	0	0					0	0	0
MN1803	I-95 GP		NB					0	0	0					0	0	0
MN1804	I-95 GP	Between Garrisonville Rd & Russell Rd	NB	6,589	6:00 AM	1.1%	4.6%	6,213	72	303	3,543	4:00 PM	2.0%	8.3%	3,178	71	294
MN1805	I-95 GP		NB	6,589	6:00 AM	1.1%	4.6%	6,213	72	303	3,543	4:00 PM	2.0%	8.3%	3,178	71	294
MN1701	I-95 GP	Within Russell Rd Int (Exit 148)	NB					0	0	0					0	0	0
MN1702	I-95 GP	Between Russell Rd Int & Joplin Rd Int	NB	5,673	6:00 AM	0.0%	4.8%	5,401	0	272	4,123	4:00 PM	1.8%	7.5%	3,740	74	309
MN1601	I-95 GP	Within Joplin Road Interchange (Exit 150)	NB					0	0	0					0	0	0
MN1602	I-95 GP	Between Joplin Rd Int & Dumfries Rd Int	NB	6,201	5:00 AM	1.6%	6.5%	5,699	99	403	4,650	4:00 PM	1.8%	6.5%	4,264	84	302
MN1501	I-95 GP		NB	4,811	7:00 AM	0.4%	6.1%	4,498	19	293	4,668	4:00 PM	1.8%	6.5%	4,281	84	303
MN1502	I-95 GP	Within Dumfries Road Interchange (Exit 152)	NB					0	0	0					0	0	0
MN1503	I-95 GP		NB					0	0	0					0	0	0
MN1504	I-95 GP	Between Dumfries Rd & Truck Rest Area	NB	5,168	6:00 AM	0.8%	4.5%	4,894	41	233	4,184	5:00 PM	0.9%	6.8%	3,862	38	285
MN1505	I-95 GP	Within Truck Rest Area	NB					0	0	0					0	0	0
MN1506	I-95 GP	Between Truck Rest Area & Rest Area	NB	5,168	6:00 AM	0.4%	4.1%	4,935	21	212	4,184	5:00 PM	0.2%	6.0%	3,925	8	251
MN1507	I-95 GP		NB	4,987	6:00 AM	0.0%	4.2%	4,778	0	209	4,195	5:00 PM	0.2%	6.0%	3,935	8	252
MN1508	I-95 GP	Within Rest Area	NB					0	0	0					0	0	0

2011 AM Existing Conditions

I-95 Northbound General Purpose Lanes

2011 PM Existing Conditions

I-95 Northbound General Purpose Lanes

Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MN1509	I-95 GP	Between Rest Area & Opitz/Dale Blvd	NB	4,984	6:00 AM	0.0%	4.3%	4,770	0	214	4,214	5:00 PM	0.2%	6.0%	3,953	8	253
MN1301	I-95 GP	Within Dale Blvd/Opitz Blvd Int (Exit 156)	NB					0	0	0					0	0	0
MN1302	I-95 GP	Between Dale Blvd/Opitz Blvd Int & PWP Int	NB	5,477	5:00 AM	2.1%	6.5%	5,006	115	356	4,417	5:00 PM	1.4%	5.9%	4,095	62	261
MN1201	I-95 GP	Within PWP Interchange	NB					0	0	0					0	0	0
MN1202	I-95 GP	(Exit 158)	NB					0	0	0					0	0	0
MN1203	I-95 GP	Between PWP Int & Gordon Blvd Int	NB	6,102	5:00 AM	4.4%	8.0%	5,345	268	488	4,310	5:00 PM	4.1%	7.4%	3,814	177	319
MN1101	I-95 GP	Within Gordon Blvd	NB					0	0	0					0	0	0
MN1102	I-95 GP	Interchange (Exit 160)	NB					0	0	0					0	0	0
MN1103	I-95 GP		NB					0	0	0					0	0	0
MN1104	I-95 GP	Between Gordon Blvd Int & Richmond Hwy Int	NB	7,043	5:00 AM	4.6%	9.1%	6,078	324	641	4,653	5:00 PM	4.5%	8.4%	4,053	209	391
MN1001	I-95 GP	Within Richmond Hwy Int (Exit 161)	NB					0	0	0					0	0	0
MN1002	I-95 GP	Between Richmond Hwy Int & Lorton Rd Int	NB	6,841	5:00 AM	4.4%	9.7%	5,876	301	664	4,526	5:00 PM	4.4%	8.5%	3,942	199	385
MN0901	I-95 GP	Within Lorton Rd Interchange (Exit 163)	NB					0	0	0					0	0	0
MN0902	I-95 GP	Between Lorton Rd & Fairfax County Pkwy	NB	7,334	5:00 AM	4.3%	9.3%	6,337	315	682	4,750	5:00 PM	4.5%	8.3%	4,142	214	394
MS0801	I-95 GP	Fairfax County Pkwy	NB	7,202	5:00 AM	4.4%	9.4%	6,208	317	677	4,758	5:00 PM	4.5%	8.3%	4,149	214	395
MN0802	I-95 GP	Within Fairfax County Pkwy Int (Exit 166)	NB					0	0	0					0	0	0
MN0803	I-95 GP		NB					0	0	0					0	0	0
MN0805	I-95 GP	Between Fairfax County Pkwy Int & Franconia Rd/495 Interchange	NB	7,016	6:00 AM	3.6%	10.5%	6,027	253	737	6,050	5:00 PM	3.7%	7.1%	5,397	224	430
MN0806	I-95 GP		NB	8,185	5:00 AM	4.0%	9.1%	7,113	327	745	6,090	5:00 PM	3.7%	7.1%	5,432	225	432
MN0701	I-95 GP	Within Franconia Road & I-495 "Mixing Bowl" Interchange (Exits 169 & 170)	NB	7,907	5:00 AM	4.1%	9.4%	6,840	324	743	5,493	5:00 PM	3.9%	7.8%	4,850	214	428
MN0601	I-95 GP		NB	7,805	5:00 AM	4.2%	9.5%	6,736	328	741	5,499	5:00 PM	3.9%	7.8%	4,856	214	429
MN0602	I-95 GP		NB					0	0	0					0	0	0
MN0603	I-95 GP		NB					0	0	0					0	0	0
MN0501	I-95 GP		NB					0	0	0					0	0	0
MN0502	I-95 GP		NB	4,756	7:00 AM	8.9%	16.9%	3,529	423	804	3,541	5:00 PM	7.7%	14.3%	2,762	273	506
MN0201	I-95 GP	Between Franconia Rd/I-495 Int & Edsall Rd Int	NB	6,334	7:00 AM	8.2%	13.4%	4,966	519	849	5,322	5:00 PM	5.9%	9.7%	4,492	314	516
MN0202	I-95 GP	Within Edsall Road Interchange (Exit 2)	NB					0	0	0					0	0	0
MN0203	I-95 GP		NB					0	0	0					0	0	0
MN0204	I-95 GP	Between Edsall Rd Int & Duke St Int	NB	5,759	7:00 AM	8.6%	13.6%	4,481	495	783	5,177	5:00 PM	5.7%	9.4%	4,395	295	487
MN0205	I-95 GP		NB	5,601	7:00 AM	8.4%	14.0%	4,346	470	784	5,191	5:00 PM	5.7%	9.4%	4,407	296	488
MN0101	I-95 GP		NB	5,601	7:00 AM	8.4%	14.0%	4,346	470	784	5,191	5:00 PM	5.7%	9.4%	4,407	296	488
MN0102	I-95 GP	Within Duke Street Interchange (Exit 3)	NB					0	0	0					0	0	0
MN0103	I-95 GP		NB					0	0	0					0	0	0
MN0104	I-95 GP	North End of Project	NB	5,805	6:00 AM	7.6%	3.0%	5,190	441	174	5,343	5:00 PM	4.0%	1.5%	5,049	214	80

2011 AM Existing Conditions

I-95 Southbound General Purpose Lanes

2011 PM Existing Conditions

I-95 Southbound General Purpose Lanes

Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MS2305	I-95 GP	Between South End &	SB	1,847	7:00 AM	1.9%	16.1%	1,515	35	297	2,720	3:00 PM	2.0%	12.9%	2,315	54	351
MS2304	I-95 GP	Jefferson Davis Hwy Int	SB	1,847	7:00 AM	1.9%	16.1%	1,515	35	297	2,720	3:00 PM	2.0%	12.9%	2,315	54	351
MS2303	I-95 GP	Within Jeff Davis Hwy Interchange (Exit 126)	SB					0	0	0					0	0	0
MS2302	I-95 GP	Between Jeff Davis Hwy	SB	2,343	9:00 AM	2.1%	14.8%	1,947	49	347	4,979	4:00 PM	3.3%	7.0%	4,466	164	349
MS2301	I-95 GP	Int & Plank Rd Int	SB	2,343	9:00 AM	2.1%	14.8%	1,947	49	347	4,979	4:00 PM	3.3%	7.0%	4,466	164	349
MS2207	I-95 GP	Within Plank Road Interchange (Exit 130)	SB					0	0	0					0	0	0
MS2206	I-95 GP		SB					0	0	0					0	0	0
MS2205	I-95 GP		SB					0	0	0					0	0	0
MS2204	I-95 GP	Between Plank Rd Int & MP 131 Rest Area	SB	2,749	9:00 AM	2.0%	13.0%	2,337	55	357	5,372	4:00 PM	3.1%	6.7%	4,846	167	360
MS2203	I-95 GP		SB	2,749	9:00 AM	2.0%	13.0%	2,337	55	357	5,372	4:00 PM	3.1%	6.7%	4,846	167	360
MS2202	I-95 GP	Within MP 131 Rest Area	SB					0	0	0					0	0	0
MS2201	I-95 GP	Between Rest Area & Warrenton Rd Int	SB	2,850	9:00 AM	2.0%	13.0%	2,423	57	371	5,567	4:00 PM	3.1%	6.7%	5,021	173	373
MS2106	I-95 GP	Within Warrenton Road Interchange (Exit 133)	SB					0	0	0					0	0	0
MS2105	I-95 GP		SB					0	0	0					0	0	0
MS2104	I-95 GP		SB					0	0	0					0	0	0
MS2103	I-95 GP	Between Warrenton Road Int & Centreport Pkwy Interchange	SB	2,996	8:00 AM	3.9%	9.0%	2,610	117	270	5,503	4:00 PM	3.3%	6.0%	4,991	182	330
MS2102	I-95 GP		SB	2,996	8:00 AM	3.9%	9.0%	2,610	117	270	5,503	4:00 PM	3.3%	6.0%	4,991	182	330
MS2101	I-95 GP		SB	2,996	8:00 AM	3.9%	9.0%	2,610	117	270	5,503	4:00 PM	3.3%	6.0%	4,991	182	330
MS2003	I-95 GP	Within Centreport Pkwy Interchange (Exit 136)	SB					0	0	0					0	0	0
MS2002	I-95 GP	Between Centreport	SB	2,965	8:00 AM	3.5%	9.1%	2,591	104	270	5,679	4:00 PM	3.2%	5.6%	5,179	182	318
MS2001	I-95 GP	Pkwy & Courthouse Rd	SB	2,965	8:00 AM	3.5%	9.1%	2,591	104	270	5,679	4:00 PM	3.2%	5.6%	5,179	182	318
MS1904	I-95 GP	Within Courthouse Rd Int (Exit 140)	SB					0	0	0					0	0	0
MS1903	I-95 GP	Between Courthouse Road Int & Garrisonville Road Int	SB	2,790	8:00 AM	3.6%	9.7%	2,419	100	271	5,563	4:00 PM	3.2%	5.9%	5,057	178	328
MS1902	I-95 GP		SB	2,790	8:00 AM	3.6%	9.7%	2,419	100	271	5,563	4:00 PM	3.2%	5.9%	5,057	178	328
MS1901	I-95 GP		SB	2,790	8:00 AM	3.6%	9.7%	2,419	100	271	5,563	4:00 PM	3.2%	5.9%	5,057	178	328
MS1805	I-95 GP	Within Garrisonville Road Int (Exit 143)	SB					0	0	0					0	0	0
MS1804	I-95 GP		SB					0	0	0					0	0	0
MS1803	I-95 GP		SB					0	0	0					0	0	0
MS1802	I-95 GP	Between Garrisonville Rd Int & Russell Rd Int	SB	2,904	8:00 AM	1.8%	8.2%	2,614	52	238	6,240	3:00 PM	0.6%	5.3%	5,872	37	331
MS1801	I-95 GP		SB	2,904	8:00 AM	1.8%	8.2%	2,614	52	238	6,240	3:00 PM	0.6%	5.3%	5,872	37	331
MS1702	I-95 GP	Within Russell Rd Int (Exit 148)	SB					0	0	0					0	0	0
MS1701	I-95 GP	Between Russell Rd Int & Joplin Rd Int	SB	3,305	7:00 AM	3.0%	7.4%	2,961	99	245	5,602	3:00 PM	0.5%	5.0%	5,294	28	280
MS1603	I-95 GP	Within Joplin Road	SB					0	0	0					0	0	0
MS1602	I-95 GP	Interchange (Exit 150)	SB					0	0	0					0	0	0
MS1601	I-95 GP	Between Joplin Rd Int & Dumfries Rd Int	SB	3,708	7:00 AM	2.6%	6.9%	3,356	96	256	5,689	3:00 PM	0.0%	5.0%	5,405	0	284
MS1507	I-95 GP		SB	3,640	7:00 AM	2.6%	6.9%	3,294	95	251	4,412	3:00 PM	0.9%	6.7%	4,077	40	296
MS1506	I-95 GP	Within Dumfries Road	SB					0	0	0					0	0	0
MS1505	I-95 GP	Interchange (Exit 152)	SB					0	0	0					0	0	0
MS1504	I-95 GP	Between Dumfries Rd & Truck Rest Area	SB	3,489	7:00 AM	3.3%	6.0%	3,165	115	209	5,091	3:00 PM	2.1%	3.8%	4,791	107	193
MS1503	I-95 GP	Within Truck Rest Area	SB					0	0	0					0	0	0
MS1502	I-95 GP	Between Truck Rest Area & Rest Area/Dale Blvd/Opitz Blvd Int	SB	3,414	7:00 AM	1.4%	5.9%	3,165	48	201	5,115	3:00 PM	1.0%	5.9%	4,762	51	302
MS1501	I-95 GP		SB	3,051	7:00 AM	2.9%	6.4%	2,767	88	195	5,238	3:00 PM	5.0%	4.6%	4,735	262	241
MS1304	I-95 GP	Within Dale Blvd/Opitz	SB					0	0	0					0	0	0
MS1303	I-95 GP	Bldv Int (Exit 156)	SB					0	0	0					0	0	0

2011 AM Existing Conditions

I-95 Southbound General Purpose Lanes

2011 PM Existing Conditions

I-95 Southbound General Purpose Lanes

Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MS1302	I-95 GP	Between Dale Blvd/Opitz	SB	3,451	8:00 AM	3.4%	8.1%	3,054	117	280	6,416	3:00 PM	4.8%	5.7%	5,742	308	366
MS1301	I-95 GP	Bldv Int & PWP Int	SB	3,465	8:00 AM	3.4%	8.1%	3,067	118	281	5,882	3:00 PM	4.9%	5.9%	5,247	288	347
MS1203	I-95 GP	Within PWP Interchange	SB					0	0	0					0	0	0
MS1202	I-95 GP	(Exit 158)	SB					0	0	0					0	0	0
MS1201	I-95 GP	Between PWP Int & Gordon Blvd Int	SB	3,791	8:00 AM	3.9%	7.6%	3,355	148	288	6,654	3:00 PM	4.8%	5.6%	5,962	319	373
MS1103	I-95 GP	Within Gordon Blvd	SB					0	0	0					0	0	0
MS1102	I-95 GP	Interchange (Exit 160)	SB					0	0	0					0	0	0
MS1101	I-95 GP	Between Gordon Blvd Int & Richmond Hwy Int	SB	3,543	8:00 AM	4.1%	7.0%	3,150	145	248	6,776	3:00 PM	4.5%	5.3%	6,112	305	359
MS1003	I-95 GP	Within Richmond Hwy Int	SB					0	0	0					0	0	0
MS1002	I-95 GP	(Exit 161)	SB					0	0	0					0	0	0
MS1001	I-95 GP	Between Richmond Hwy Int & Lorton Rd Int	SB	3,462	8:00 AM	4.3%	8.3%	3,026	149	287	5,970	3:00 PM	4.3%	6.4%	5,331	257	382
MS0902	I-95 GP	Within Lorton Rd Interchange (Exit 163)	SB					0	0	0					0	0	0
MS0901A	I-95 GP	Between Lorton Rd Int & FCP Int	SB	3,706	8:00 AM	5.1%	7.9%	3,224	189	293	6,222	3:00 PM	5.3%	6.2%	5,506	330	386
MS0901B	I-95 GP		SB	3,699	8:00 AM	5.1%	7.9%	3,218	189	292	6,436	3:00 PM	5.2%	6.0%	5,715	335	386
MS0805	I-95 GP	Within Fairfax County	SB					0	0	0					0	0	0
MS0804	I-95 GP	Parkway Interchange	SB					0	0	0					0	0	0
MS0803	I-95 GP	(Exit 166)	SB					0	0	0					0	0	0
MS0802	I-95 GP		SB	4,150	8:00 AM	4.8%	7.7%	3,631	199	320	5,810	3:00 PM	5.9%	6.8%	5,072	343	395
MS0801	I-95 GP	Between FCP Int & Fraconia Rd/I-495 Int	SB	4,235	8:00 AM	4.8%	7.7%	3,706	203	326	6,963	3:00 PM	5.6%	6.1%	6,148	390	425
MS0701	I-95 GP		SB	4,941	8:00 AM	5.4%	6.7%	4,343	267	331	7,606	3:00 PM	5.3%	5.6%	6,777	403	426
MS0602	I-95 GP		SB	4,948	8:00 AM	5.4%	6.7%	4,349	267	332	7,463	3:00 PM	5.3%	5.7%	6,642	396	425
MS0601	I-95 GP	Within Franconia Road & I-495 "Mixing Bowl"	SB					0	0	0					0	0	0
MS0504	I-95 GP	Interchange (Exits 169 & 170)	SB					0	0	0					0	0	0
MS0503	I-95 GP		SB					0	0	0					0	0	0
MS0502	I-95 GP		SB					0	0	0					0	0	0
MS0501	I-95 GP	Between Franconia Rd/ I-495 Int & Edsall Rd Int	SB	3,930	8:00 AM	4.7%	3.6%	3,604	185	141	6,499	3:00 PM	4.6%	2.4%	6,044	299	156
MS0205	I-95 GP		SB					0	0	0					0	0	0
MS0204	I-95 GP	Within Edsall Road	SB					0	0	0					0	0	0
MS0203	I-95 GP	Interchange (Exit 2)	SB					0	0	0					0	0	0
MS0202	I-95 GP		SB	3,828	8:00 AM	4.5%	2.9%	3,545	172	111	6,052	3:00 PM	4.8%	2.2%	5,628	290	133
MS0201	I-95 GP	Between Edsall Road Int & Duke Street Int	SB	3,276	8:00 AM	4.5%	2.9%	3,034	147	95	5,637	3:00 PM	4.5%	2.0%	5,271	254	113
MS0105	I-95 GP		SB	3,898	8:00 AM	4.5%	2.9%	3,610	175	113	6,154	3:00 PM	4.7%	2.2%	5,729	289	135
MS0104	I-95 GP		SB					0	0	0					0	0	0
MS0103	I-95 GP	Within Duke Street	SB					0	0	0					0	0	0
MS0102	I-95 GP	Interchange (Exit 3)	SB					0	0	0					0	0	0
MS0101	I-95 GP	North End of Project	SB	4,217	8:00 AM	4.5%	3.0%	3,901	190	127	6,799	3:00 PM	4.5%	2.1%	6,350	306	143

				2035 AM Build Conditions							2035 PM Build Conditions						
				<i>I-95 Northbound General Purpose Lanes</i>							<i>I-95 Northbound General Purpose Lanes</i>						
Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MN1201	I-95 GP	Within PWP Interchange	NB					0	0	0					0	0	0
MN1202	I-95 GP	(Exit 158)	NB					0	0	0					0	0	0
MN1203	I-95 GP	Between PWP Int & Gordon Blvd Int	NB	6,142	5:00 AM	4.4%	8.0%	5,380	270	491	4,339	5:00 PM	4.1%	7.4%	3,840	178	321
MN1101	I-95 GP	Within Gordon Blvd	NB					0	0	0					0	0	0
MN1102	I-95 GP	Interchange (Exit 160)	NB					0	0	0					0	0	0
MN1103	I-95 GP		NB					0	0	0					0	0	0
MN1104	I-95 GP	Between Gordon Blvd Int & Richmond Hwy Int	NB	7,093	5:00 AM	4.6%	9.1%	6,121	326	645	4,686	5:00 PM	4.5%	8.4%	4,082	211	394
MN1001	I-95 GP	Within Richmond Hwy Int (Exit 161)	NB					0	0	0					0	0	0
MN1002	I-95 GP	Between Richmond Hwy Int & Lorton Rd Int	NB	6,866	5:00 AM	4.4%	9.7%	5,898	302	666	4,543	5:00 PM	4.4%	8.5%	3,957	200	386
MN0901	I-95 GP	Within Lorton Rd Interchange (Exit 163)	NB					0	0	0					0	0	0
MN0902	I-95 GP	Between Lorton Rd & Fairfax County Pkwy	NB	7,459	5:00 AM	4.3%	9.3%	6,445	321	694	4,831	5:00 PM	4.5%	8.3%	4,213	217	401
MS0801	I-95 GP		NB	7,334	5:00 AM	4.4%	9.4%	6,322	323	689	4,845	5:00 PM	4.5%	8.3%	4,225	218	402
MN0802	I-95 GP	Within Fairfax County Pkwy Int (Exit 166)	NB					0	0	0					0	0	0
MN0803	I-95 GP		NB					0	0	0					0	0	0
MN0805	I-95 GP	Between Fairfax County Pkwy Int & Franconia Rd/I-495 Interchange	NB	7,191	6:00 AM	3.6%	10.5%	6,177	259	755	6,201	5:00 PM	3.7%	7.1%	5,531	229	440
MN0806	I-95 GP		NB	8,177	5:00 AM	4.0%	9.1%	7,106	327	744	6,084	5:00 PM	3.7%	7.1%	5,427	225	432
MN0701	I-95 GP	Within Franconia Road & I-495 "Mixing Bowl"	NB	7,737	5:00 AM	4.1%	9.4%	6,693	317	727	5,375	5:00 PM	3.9%	7.8%	4,746	210	419
MN0601	I-95 GP		NB	7,637	5:00 AM	4.2%	9.5%	6,591	321	726	5,380	5:00 PM	3.9%	7.8%	4,751	210	420
MN0602	I-95 GP		NB					0	0	0					0	0	0
MN0603	I-95 GP	Interchange (Exits 169 & 170)	NB					0	0	0					0	0	0
MN0501	I-95 GP		NB					0	0	0					0	0	0
MN0502	I-95 GP		NB	4,953	7:00 AM	8.9%	16.9%	3,675	441	837	3,687	5:00 PM	7.7%	14.3%	2,876	284	527
MN0201	I-95 GP	Between Franconia Rd/I-495 Int & Edsall Rd Int	NB	6,488	7:00 AM	8.2%	13.4%	5,087	532	869	5,451	5:00 PM	5.9%	9.7%	4,601	322	529
MN0202	I-95 GP	Within Edsall Road	NB					0	0	0					0	0	0
MN0203	I-95 GP	Interchange (Exit 2)	NB					0	0	0					0	0	0
MN0204	I-95 GP	Between Edsall Rd Int & Duke St Int	NB	5,895	7:00 AM	8.6%	13.6%	4,586	507	802	5,299	5:00 PM	5.7%	9.4%	4,499	302	498
MN0205	I-95 GP		NB	5,758	7:00 AM	8.4%	14.0%	4,468	484	806	5,337	5:00 PM	5.7%	9.4%	4,531	304	502
MN0101	I-95 GP		NB	5,534	7:00 AM	8.4%	14.0%	4,294	465	775	5,129	5:00 PM	5.7%	9.4%	4,355	292	482
MN0102	I-95 GP	Within Duke Street Interchange (Exit 3)	NB					0	0	0					0	0	0
MN0103	I-95 GP		NB					0	0	0					0	0	0
MN0104	I-95 GP	North End of Project	NB	5,762	6:00 AM	7.6%	3.0%	5,151	438	173	5,303	5:00 PM	4.0%	1.5%	5,011	212	80

				2035 AM Build Conditions						2035 PM Build Conditions							
				<i>I-95 Southbound General Purpose Lanes</i>						<i>I-95 Southbound General Purpose Lanes</i>							
Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MS2305	I-95 GP	Between South End &	SB	2,547	7:00 AM	1.9%	16.1%	2,089	48	410	3,752	3:00 PM	2.0%	12.9%	3,193	75	484
MS2304	I-95 GP	Jefferson Davis Hwy Int	SB	2,277	7:00 AM	1.9%	16.1%	1,867	43	367	3,354	3:00 PM	2.0%	12.9%	2,854	67	433
MS2303	I-95 GP	Within Jeff Davis Hwy Interchange (Exit 126)	SB					0	0	0					0	0	0
MS2302	I-95 GP	Between Jeff Davis Hwy	SB	2,602	9:00 AM	2.1%	14.8%	2,162	55	385	5,531	4:00 PM	3.3%	7.0%	4,961	183	387
MS2301	I-95 GP	Int & Plank Rd Int	SB	2,546	9:00 AM	2.1%	14.8%	2,116	53	377	5,412	4:00 PM	3.3%	7.0%	4,855	179	379
MS2207	I-95 GP	Within Plank Road Interchange (Exit 130)	SB					0	0	0					0	0	0
MS2206	I-95 GP		SB					0	0	0					0	0	0
MS2205	I-95 GP		SB					0	0	0					0	0	0
MS2204	I-95 GP	Between Plank Rd Int &	SB	3,328	9:00 AM	2.0%	13.0%	2,829	67	433	6,501	4:00 PM	3.1%	6.7%	5,864	202	436
MS2203	I-95 GP	MP 131 Rest Area	SB	3,255	9:00 AM	2.0%	13.0%	2,767	65	423	6,359	4:00 PM	3.1%	6.7%	5,736	197	426
MS2202	I-95 GP	Within MP 131 Rest Area	SB					0	0	0					0	0	0
MS2201	I-95 GP	Between Rest Area & Warrenton Rd Int	SB	3,350	9:00 AM	2.0%	13.0%	2,848	67	436	6,546	4:00 PM	3.1%	6.7%	5,904	203	439
MS2106	I-95 GP	Within Warrenton Road Interchange (Exit 133)	SB					0	0	0					0	0	0
MS2105	I-95 GP		SB					0	0	0					0	0	0
MS2104	I-95 GP		SB					0	0	0					0	0	0
MS2103	I-95 GP	Between Warrenton Road	SB	2,973	8:00 AM	3.9%	9.0%	2,589	116	268	5,459	4:00 PM	3.3%	6.0%	4,951	180	328
MS2102	I-95 GP	Int & Centreport Pkwy	SB	2,892	8:00 AM	3.9%	9.0%	2,519	113	260	5,311	4:00 PM	3.3%	6.0%	4,817	175	319
MS2101	I-95 GP	Interchange	SB	2,949	8:00 AM	3.9%	9.0%	2,569	115	265	5,416	4:00 PM	3.3%	6.0%	4,912	179	325
MS2003	I-95 GP	Within Centreport Pkwy Interchange (Exit 136)	SB					0	0	0					0	0	0
MS2002	I-95 GP	Between Centreport	SB	2,919	8:00 AM	3.5%	9.1%	2,551	102	266	5,591	4:00 PM	3.2%	5.6%	5,099	179	313
MS2001	I-95 GP	Pkwy & Courthouse Rd	SB	2,910	8:00 AM	3.5%	9.1%	2,543	102	265	5,573	4:00 PM	3.2%	5.6%	5,083	178	312
MS1904	I-95 GP	Within Courthouse Rd Int (Exit 140)	SB					0	0	0					0	0	0
MS1903	I-95 GP	Between Courthouse	SB	3,411	8:00 AM	3.6%	9.7%	2,957	123	331	6,802	4:00 PM	3.2%	5.9%	6,183	218	401
MS1902	I-95 GP	Road Int & Garrisonville	SB	3,411	8:00 AM	3.6%	9.7%	2,957	123	331	6,802	4:00 PM	3.2%	5.9%	6,183	218	401
MS1901	I-95 GP	Road Int	SB	3,411	8:00 AM	3.6%	9.7%	2,957	123	331	6,802	4:00 PM	3.2%	5.9%	6,183	218	401
MS1805	I-95 GP	Within Garrisonville Road Int (Exit 143)	SB					0	0	0					0	0	0
MS1804	I-95 GP		SB					0	0	0					0	0	0
MS1803	I-95 GP		SB					0	0	0					0	0	0
MS1802	I-95 GP	Between Garrisonville	SB	3,215	8:00 AM	1.8%	8.2%	2,894	58	264	6,909	3:00 PM	0.6%	5.3%	6,501	41	366
MS1801	I-95 GP	Rd Int & Russell Rd Int	SB	3,215	8:00 AM	1.8%	8.2%	2,894	58	264	6,909	3:00 PM	0.6%	5.3%	6,501	41	366
MS1702	I-95 GP	Within Russell Rd Int (Exit 148)	SB					0	0	0					0	0	0
MS1701	I-95 GP	Between Russell Rd Int & Joplin Rd Int	SB	3,555	7:00 AM	3.0%	7.4%	3,185	107	263	6,026	3:00 PM	0.5%	5.0%	5,695	30	301
MS1603	I-95 GP	Within Joplin Road	SB					0	0	0					0	0	0
MS1602	I-95 GP	Interchange (Exit 150)	SB					0	0	0					0	0	0
MS1601	I-95 GP	Between Joplin Rd Int &	SB	3,728	7:00 AM	2.6%	6.9%	3,374	97	257	5,721	3:00 PM	0.0%	5.0%	5,435	0	286
MS1507	I-95 GP	Dumfries Rd Int	SB	3,646	7:00 AM	2.6%	6.9%	3,300	95	252	4,419	3:00 PM	0.9%	6.7%	4,083	40	296
MS1506	I-95 GP	Within Dumfries Road	SB					0	0	0					0	0	0
MS1505	I-95 GP	Interchange (Exit 152)	SB					0	0	0					0	0	0
MS1504	I-95 GP	Between Dumfries Rd & Truck Rest Area	SB	3,504	7:00 AM	3.3%	6.0%	3,178	116	210	5,114	3:00 PM	2.1%	3.8%	4,812	107	194
MS1503	I-95 GP	Within Truck Rest Area	SB					0	0	0					0	0	0
MS1502	I-95 GP	Between Truck Rest Area & Rest Area/Dale	SB	3,424	7:00 AM	1.4%	5.9%	3,174	48	202	5,131	3:00 PM	1.0%	5.9%	4,777	51	303
MS1501	I-95 GP	Blvd/Opitz Blvd Int	SB	3,175	7:00 AM	2.9%	6.4%	2,880	92	203	5,450	3:00 PM	5.0%	4.6%	4,927	273	251
MS1304	I-95 GP	Within Dale Blvd/Opitz	SB					0	0	0					0	0	0
MS1303	I-95 GP	Blvd Int (Exit 156)	SB					0	0	0					0	0	0

				2035 AM Build Conditions						2035 PM Build Conditions							
				<i>I-95 Southbound General Purpose Lanes</i>						<i>I-95 Southbound General Purpose Lanes</i>							
Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MS1302	I-95 GP	Between Dale Blvd/Opitz	SB	3,543	8:00 AM	3.4%	8.1%	3,136	120	287	6,587	3:00 PM	4.8%	5.7%	5,895	316	375
MS1301	I-95 GP	Bldv Int & PWP Int	SB	3,595	8:00 AM	3.4%	8.1%	3,182	122	291	6,101	3:00 PM	4.9%	5.9%	5,442	299	360
MS1203	I-95 GP	Within PWP Interchange	SB					0	0	0					0	0	0
MS1202	I-95 GP	(Exit 158)	SB					0	0	0					0	0	0
MS1201	I-95 GP	Between PWP Int & Gordon Blvd Int	SB	3,949	8:00 AM	3.9%	7.6%	3,495	154	300	6,932	3:00 PM	4.8%	5.6%	6,211	333	388
MS1103	I-95 GP	Within Gordon Blvd	SB					0	0	0					0	0	0
MS1102	I-95 GP	Interchange (Exit 160)	SB					0	0	0					0	0	0
MS1101	I-95 GP	Between Gordon Blvd Int & Richmond Hwy Int	SB	3,700	8:00 AM	4.1%	7.0%	3,289	152	259	7,076	3:00 PM	4.5%	5.3%	6,383	318	375
MS1003	I-95 GP	Within Richmond Hwy Int	SB					0	0	0					0	0	0
MS1002	I-95 GP	(Exit 161)	SB					0	0	0					0	0	0
MS1001	I-95 GP	Between Richmond Hwy Int & Lorton Rd Int	SB	3,597	8:00 AM	4.3%	8.3%	3,144	155	299	6,203	3:00 PM	4.3%	6.4%	5,539	267	397
MS0902	I-95 GP	Within Lorton Rd Interchange (Exit 163)	SB					0	0	0					0	0	0
MS0901A	I-95 GP	Between Lorton Rd Int & FCP Int	SB	3,726	8:00 AM	5.1%	7.9%	3,242	190	294	6,255	3:00 PM	5.3%	6.2%	5,536	332	388
MS0901B	I-95 GP	FCP Int	SB	3,713	8:00 AM	5.1%	7.9%	3,230	189	293	6,461	3:00 PM	5.2%	6.0%	5,737	336	388
MS0805	I-95 GP	Within Fairfax County	SB					0	0	0					0	0	0
MS0804	I-95 GP	Parkway Interchange	SB					0	0	0					0	0	0
MS0803	I-95 GP	(Exit 166)	SB					0	0	0					0	0	0
MS0802	I-95 GP	Between FCP Int & Fraconia Rd/I-495 Int	SB	4,161	8:00 AM	4.8%	7.7%	3,641	200	320	5,825	3:00 PM	5.9%	6.8%	5,085	344	396
MS0801	I-95 GP		SB	4,197	8:00 AM	4.8%	7.7%	3,672	201	323	6,901	3:00 PM	5.6%	6.1%	6,094	386	421
MS0701	I-95 GP		SB	4,946	8:00 AM	5.4%	6.7%	4,348	267	331	7,613	3:00 PM	5.3%	5.6%	6,783	403	426
MS0602	I-95 GP		SB	4,953	8:00 AM	5.4%	6.7%	4,354	267	332	7,471	3:00 PM	5.3%	5.7%	6,649	396	426
MS0601	I-95 GP	Within Franconia Road & I-495 "Mixing Bowl"	SB					0	0	0					0	0	0
MS0504	I-95 GP	Interchange (Exits 169 & 170)	SB					0	0	0					0	0	0
MS0503	I-95 GP		SB					0	0	0					0	0	0
MS0502	I-95 GP		SB					0	0	0					0	0	0
MS0501	I-95 GP	Between Franconia Rd/ I-495 Int & Edsall Rd Int	SB	3,934	8:00 AM	4.7%	3.6%	3,607	185	142	6,507	3:00 PM	4.6%	2.4%	6,052	299	156
MS0205	I-95 GP	Within Edsall Road	SB					0	0	0					0	0	0
MS0204	I-95 GP	Interchange (Exit 2)	SB					0	0	0					0	0	0
MS0203	I-95 GP		SB					0	0	0					0	0	0
MS0202	I-95 GP	Between Edsall Road Int & Duke Street Int	SB	3,970	8:00 AM	4.5%	2.9%	3,676	179	115	6,277	3:00 PM	4.8%	2.2%	5,838	301	138
MS0201	I-95 GP		SB	3,321	8:00 AM	4.5%	2.9%	3,075	149	96	5,715	3:00 PM	4.5%	2.0%	5,344	257	114
MS0105	I-95 GP		SB	3,615	8:00 AM	4.5%	2.9%	3,347	163	105	5,708	3:00 PM	4.7%	2.2%	5,314	268	126
MS0104	I-95 GP	Within Duke Street	SB					0	0	0					0	0	0
MS0103	I-95 GP	Interchange (Exit 3)	SB					0	0	0					0	0	0
MS0102	I-95 GP		SB					0	0	0					0	0	0
MS0101	I-95 GP	North End of Project	SB	4,114	8:00 AM	4.5%	3.0%	3,805	185	123	6,633	3:00 PM	4.5%	2.1%	6,195	298	139

2035 AM No-Build Conditions

I-95 Northbound General Purpose Lanes

2035 PM No-Build Conditions

I-95 Northbound General Purpose Lanes

Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MN2301	I-95 GP	Between South End & Jeff Davis Hwy Int	NB	3,643	8:00 AM	2.0%	13.8%	3,067	73	503	3,663	3:00 PM	1.9%	13.1%	3,114	70	480
MN2302	I-95 GP	Between South End & Jeff Davis Hwy Int	NB	3,643	8:00 AM	2.0%	13.8%	3,067	73	503	3,663	3:00 PM	1.9%	13.1%	3,114	70	480
MN2303	I-95 GP	Within Jeff Davis Hwy Interchange (Exit 126)	NB					0	0	0					0	0	0
MN2304	I-95 GP	Within Jeff Davis Hwy Interchange (Exit 126)	NB					0	0	0					0	0	0
MN2305	I-95 GP	Between Jeff Davis Hwy & Plank Rd	NB	4,119	7:00 AM	0.0%	9.6%	3,724	0	395	3,610	3:00 PM	0.4%	11.1%	3,195	14	401
MN2306	I-95 GP	Between Jeff Davis Hwy & Plank Rd	NB	4,119	7:00 AM	0.0%	9.6%	3,724	0	395	3,610	3:00 PM	0.4%	11.1%	3,195	14	401
MN2201	I-95 GP	Within Plank Rd Interchange (Exit 130)	NB					0	0	0					0	0	0
MN2202	I-95 GP	Within Plank Rd Interchange (Exit 130)	NB					0	0	0					0	0	0
MN2203	I-95 GP	Within Plank Rd Interchange (Exit 130)	NB					0	0	0					0	0	0
MN2204	I-95 GP	Between Plank Road & Warrenton Rd	NB	6,932	7:00 AM	15.4%	7.1%	5,372	1,068	492	4,820	4:00 PM	6.3%	9.8%	4,044	304	472
MN2205	I-95 GP	Between Plank Road & Warrenton Rd	NB	6,932	7:00 AM	15.4%	7.1%	5,372	1,068	492	4,820	4:00 PM	6.3%	9.8%	4,044	304	472
MN2206	I-95 GP	Between Plank Road & Warrenton Rd	NB	6,932	7:00 AM	15.4%	7.1%	5,372	1,068	492	4,820	4:00 PM	6.3%	9.8%	4,044	304	472
MN2101	I-95 GP	Within Warrenton Road Interchange (Exit 133)	NB					0	0	0					0	0	0
MN2102	I-95 GP	Between Warrenton Rd Interchange & Centreport Pkwy Interchange	NB	7,001	6:00 AM	20.1%	6.6%	5,132	1,407	462	4,642	4:00 PM	10.1%	10.8%	3,672	469	501
MN2103	I-95 GP	Between Warrenton Rd Interchange & Centreport Pkwy Interchange	NB	7,001	6:00 AM	20.1%	6.6%	5,132	1,407	462	4,642	4:00 PM	10.1%	10.8%	3,672	469	501
MN2104	I-95 GP	Between Warrenton Rd Interchange & Centreport Pkwy Interchange	NB	7,001	6:00 AM	20.1%	6.6%	5,132	1,407	462	4,642	4:00 PM	10.1%	10.8%	3,672	469	501
MN2001	I-95 GP	Within Centreport Pkwy Interchange (Exit 136)	NB					0	0	0					0	0	0
MN2002	I-95 GP	Between Centreport Pkwy & Courthouse Rd	NB	7,506	6:00 AM	18.5%	6.2%	5,652	1,389	465	4,588	4:00 PM	9.7%	10.6%	3,657	445	486
MN2003	I-95 GP	Between Centreport Pkwy & Courthouse Rd	NB	7,506	6:00 AM	18.5%	6.2%	5,652	1,389	465	4,588	4:00 PM	9.7%	10.6%	3,657	445	486
MN1901	I-95 GP	Within Courthouse Rd Int (Exit 140)	NB					0	0	0					0	0	0
MN1902	I-95 GP	Between Courthouse Rd Int & Garrisonville Rd Int	NB	7,356	6:00 AM	1.4%	4.6%	6,915	103	338	4,210	4:00 PM	2.1%	8.8%	3,751	88	370
MN1903	I-95 GP	Between Courthouse Rd Int & Garrisonville Rd Int	NB	7,356	6:00 AM	1.4%	4.6%	6,915	103	338	4,210	4:00 PM	2.1%	8.8%	3,751	88	370
MN1904	I-95 GP	Between Courthouse Rd Int & Garrisonville Rd Int	NB	7,356	6:00 AM	1.4%	4.6%	6,915	103	338	4,210	4:00 PM	2.1%	8.8%	3,751	88	370
MN1801	I-95 GP	Within Garrisonville Road Int (Exit 143)	NB					0	0	0					0	0	0
MN1802	I-95 GP	Within Garrisonville Road Int (Exit 143)	NB					0	0	0					0	0	0
MN1803	I-95 GP	Within Garrisonville Road Int (Exit 143)	NB					0	0	0					0	0	0
MN1804	I-95 GP	Between Garrisonville Rd & Russell Rd	NB	7,581	6:00 AM	1.1%	4.6%	7,149	83	349	4,076	4:00 PM	2.0%	8.3%	3,656	82	338
MN1805	I-95 GP	Between Garrisonville Rd & Russell Rd	NB	7,581	6:00 AM	1.1%	4.6%	7,149	83	349	4,076	4:00 PM	2.0%	8.3%	3,656	82	338
MN1701	I-95 GP	Within Russell Rd Int (Exit 148)	NB					0	0	0					0	0	0
MN1702	I-95 GP	Between Russell Rd Int & Joplin Rd Int	NB	6,444	6:00 AM	0.0%	4.8%	6,135	0	309	4,683	4:00 PM	1.8%	7.5%	4,247	84	351
MN1601	I-95 GP	Within Joplin Road Interchange (Exit 150)	NB					0	0	0					0	0	0
MN1602	I-95 GP	Between Joplin Rd Int & Dumfries Rd Int	NB	6,988	5:00 AM	1.6%	6.5%	6,422	112	454	5,240	4:00 PM	1.8%	6.5%	4,805	94	341
MN1501	I-95 GP	Between Joplin Rd Int & Dumfries Rd Int	NB	5,423	7:00 AM	0.4%	6.1%	5,071	22	331	5,261	4:00 PM	1.8%	6.5%	4,824	95	342
MN1502	I-95 GP	Within Dumfries Road Interchange (Exit 152)	NB					0	0	0					0	0	0
MN1503	I-95 GP	Within Dumfries Road Interchange (Exit 152)	NB					0	0	0					0	0	0
MN1504	I-95 GP	Between Dumfries Rd & Truck Rest Area	NB	5,833	6:00 AM	0.8%	4.5%	5,524	47	262	4,722	5:00 PM	0.9%	6.8%	4,358	42	321
MN1505	I-95 GP	Within Truck Rest Area	NB					0	0	0					0	0	0
MN1506	I-95 GP	Between Truck Rest Area & Rest Area	NB	5,833	6:00 AM	0.4%	4.1%	5,571	23	239	4,722	5:00 PM	0.2%	6.0%	4,429	9	283
MN1507	I-95 GP	Between Truck Rest Area & Rest Area	NB	5,603	6:00 AM	0.0%	4.2%	5,368	0	235	4,712	5:00 PM	0.2%	6.0%	4,420	9	283
MN1508	I-95 GP	Within Rest Area	NB					0	0	0					0	0	0
MN1509	I-95 GP	Between Rest Area & Opitz/Dale Blvd	NB	5,598	6:00 AM	0.0%	4.3%	5,357	0	241	4,733	5:00 PM	0.2%	6.0%	4,440	9	284
MN1301	I-95 GP	Within Dale Blvd/Opitz Blvd Int (Exit 156)	NB					0	0	0					0	0	0
MN1302	I-95 GP	Between Dale Blvd/Opitz Blvd Int & PWP Int	NB	6,524	5:00 AM	2.1%	6.5%	5,963	137	424	5,261	5:00 PM	1.4%	5.9%	4,877	74	310

2035 AM No-Build Conditions

I-95 Northbound General Purpose Lanes

2035 PM No-Build Conditions

I-95 Northbound General Purpose Lanes

Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MN1201	I-95 GP	Within PWP Interchange (Exit 158)	NB					0	0	0					0	0	0
MN1202	I-95 GP		NB					0	0	0					0	0	0
MN1203	I-95 GP	Between PWP Int & Gordon Blvd Int	NB	7,217	5:00 AM	4.4%	8.0%	6,322	318	577	5,098	5:00 PM	4.1%	7.4%	4,512	209	377
MN1101	I-95 GP	Within Gordon Blvd Interchange (Exit 160)	NB					0	0	0					0	0	0
MN1102	I-95 GP		NB					0	0	0					0	0	0
MN1103	I-95 GP		NB					0	0	0					0	0	0
MN1104	I-95 GP	Between Gordon Blvd Int & Richmond Hwy Int	NB	8,882	5:00 AM	4.6%	9.1%	7,665	409	808	5,868	5:00 PM	4.5%	8.4%	5,111	264	493
MN1001	I-95 GP	Within Richmond Hwy Int (Exit 161)	NB					0	0	0					0	0	0
MN1002	I-95 GP	Between Richmond Hwy Int & Lorton Rd Int	NB	8,328	5:00 AM	4.4%	9.7%	7,154	366	808	5,510	5:00 PM	4.4%	8.5%	4,799	242	468
MN0901	I-95 GP	Within Lorton Rd Interchange (Exit 163)	NB					0	0	0					0	0	0
MN0902	I-95 GP	Between Lorton Rd & Fairfax County Pkwy	NB	8,312	5:00 AM	4.3%	9.3%	7,182	357	773	5,383	5:00 PM	4.5%	8.3%	4,694	242	447
MS0801	I-95 GP	Within Fairfax County Pkwy Int (Exit 166)	NB	8,488	5:00 AM	4.4%	9.4%	7,317	373	798	5,607	5:00 PM	4.5%	8.3%	4,889	252	465
MN0802	I-95 GP	Within Fairfax County Pkwy Int (Exit 166)	NB					0	0	0					0	0	0
MN0803	I-95 GP		NB					0	0	0					0	0	0
MN0805	I-95 GP	Between Fairfax County Pkwy Int & Franconia Rd/I-495 Interchange	NB	7,388	6:00 AM	3.6%	10.5%	6,346	266	776	6,371	5:00 PM	3.7%	7.1%	5,683	236	452
MN0806	I-95 GP	Between Franconia Rd/I-495 Interchange	NB	8,185	5:00 AM	4.0%	9.1%	7,113	327	745	6,090	5:00 PM	3.7%	7.1%	5,432	225	432
MN0701	I-95 GP	Within Franconia Road & I-495 "Mixing Bowl" Interchange (Exits 169 & 170)	NB	7,992	5:00 AM	4.1%	9.4%	6,913	328	751	5,552	5:00 PM	3.9%	7.8%	4,902	217	433
MN0601	I-95 GP		NB	7,687	5:00 AM	4.2%	9.5%	6,634	323	730	5,416	5:00 PM	3.9%	7.8%	4,782	211	422
MN0602	I-95 GP		NB					0	0	0					0	0	0
MN0603	I-95 GP		NB					0	0	0					0	0	0
MN0501	I-95 GP		NB					0	0	0					0	0	0
MN0502	I-95 GP		NB	5,047	7:00 AM	8.9%	16.9%	3,745	449	853	3,757	5:00 PM	7.7%	14.3%	2,930	289	537
MN0201	I-95 GP	Between Franconia Rd/I-495 Int & Edsall Rd Int	NB	6,511	7:00 AM	8.2%	13.4%	5,105	534	872	5,470	5:00 PM	5.9%	9.7%	4,617	323	531
MN0202	I-95 GP	Within Edsall Road Interchange (Exit 2)	NB					0	0	0					0	0	0
MN0203	I-95 GP		NB					0	0	0					0	0	0
MN0204	I-95 GP	Between Edsall Rd Int & Duke St Int	NB	5,948	7:00 AM	8.6%	13.6%	4,628	512	809	5,346	5:00 PM	5.7%	9.4%	4,539	305	503
MN0205	I-95 GP		NB	5,841	7:00 AM	8.4%	14.0%	4,533	491	818	5,413	5:00 PM	5.7%	9.4%	4,596	309	509
MN0101	I-95 GP		NB	5,549	7:00 AM	8.4%	14.0%	4,306	466	777	5,143	5:00 PM	5.7%	9.4%	4,366	293	483
MN0102	I-95 GP	Within Duke Street Interchange (Exit 3)	NB					0	0	0					0	0	0
MN0103	I-95 GP		NB					0	0	0					0	0	0
MN0104	I-95 GP	North End of Project	NB	5,784	6:00 AM	7.6%	3.0%	5,171	440	174	5,323	5:00 PM	4.0%	1.5%	5,030	213	80

2035 AM No-Build Conditions

I-95 Southbound General Purpose Lanes

2035 PM No-Build Conditions

I-95 Southbound General Purpose Lanes

Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MS2305	I-95 GP	Between South End &	SB	2,604	7:00 AM	1.9%	16.1%	2,135	49	419	3,836	3:00 PM	2.0%	12.9%	3,264	77	495
MS2304	I-95 GP	Jefferson Davis Hwy Int	SB	2,604	7:00 AM	1.9%	16.1%	2,135	49	419	3,836	3:00 PM	2.0%	12.9%	3,264	77	495
MS2303	I-95 GP	Within Jeff Davis Hwy Interchange (Exit 126)	SB					0	0	0					0	0	0
MS2302	I-95 GP	Between Jeff Davis Hwy	SB	2,892	9:00 AM	2.1%	14.8%	2,403	61	428	6,148	4:00 PM	3.3%	7.0%	5,515	203	430
MS2301	I-95 GP	Int & Plank Rd Int	SB	2,892	9:00 AM	2.1%	14.8%	2,403	61	428	6,148	4:00 PM	3.3%	7.0%	5,515	203	430
MS2207	I-95 GP	Within Plank Road Interchange (Exit 130)	SB					0	0	0					0	0	0
MS2206	I-95 GP		SB					0	0	0					0	0	0
MS2205	I-95 GP		SB					0	0	0					0	0	0
MS2204	I-95 GP	Between Plank Rd Int &	SB	3,469	9:00 AM	2.0%	13.0%	2,949	69	451	6,777	4:00 PM	3.1%	6.7%	6,113	210	454
MS2203	I-95 GP	MP 131 Rest Area	SB	3,469	9:00 AM	2.0%	13.0%	2,949	69	451	6,777	4:00 PM	3.1%	6.7%	6,113	210	454
MS2202	I-95 GP	Within MP 131 Rest Area	SB					0	0	0					0	0	0
MS2201	I-95 GP	Between Rest Area & Warrenton Rd Int	SB	3,569	9:00 AM	2.0%	13.0%	3,034	71	464	6,972	4:00 PM	3.1%	6.7%	6,289	216	467
MS2106	I-95 GP	Within Warrenton Road Interchange (Exit 133)	SB					0	0	0					0	0	0
MS2105	I-95 GP		SB					0	0	0					0	0	0
MS2104	I-95 GP		SB					0	0	0					0	0	0
MS2103	I-95 GP	Between Warrenton Road	SB	3,872	8:00 AM	3.9%	9.0%	3,373	151	348	7,110	4:00 PM	3.3%	6.0%	6,449	235	427
MS2102	I-95 GP	Int & Centreport Pkwy	SB	3,872	8:00 AM	3.9%	9.0%	3,373	151	348	7,110	4:00 PM	3.3%	6.0%	6,449	235	427
MS2101	I-95 GP	Interchange	SB	3,872	8:00 AM	3.9%	9.0%	3,373	151	348	7,110	4:00 PM	3.3%	6.0%	6,449	235	427
MS2003	I-95 GP	Within Centreport Pkwy Interchange (Exit 136)	SB					0	0	0					0	0	0
MS2002	I-95 GP	Between Centreport	SB	3,836	8:00 AM	3.5%	9.1%	3,353	134	349	7,346	4:00 PM	3.2%	5.6%	6,700	235	411
MS2001	I-95 GP	Pkwy & Courthouse Rd	SB	3,836	8:00 AM	3.5%	9.1%	3,353	134	349	7,346	4:00 PM	3.2%	5.6%	6,700	235	411
MS1904	I-95 GP	Within Courthouse Rd Int (Exit 140)	SB					0	0	0					0	0	0
MS1903	I-95 GP	Between Courthouse	SB	3,433	8:00 AM	3.6%	9.7%	2,976	124	333	6,846	4:00 PM	3.2%	5.9%	6,223	219	404
MS1902	I-95 GP	Road Int & Garrisonville	SB	3,433	8:00 AM	3.6%	9.7%	2,976	124	333	6,846	4:00 PM	3.2%	5.9%	6,223	219	404
MS1901	I-95 GP	Road Int	SB	3,433	8:00 AM	3.6%	9.7%	2,976	124	333	6,846	4:00 PM	3.2%	5.9%	6,223	219	404
MS1805	I-95 GP	Within Garrisonville Road Int (Exit 143)	SB					0	0	0					0	0	0
MS1804	I-95 GP		SB					0	0	0					0	0	0
MS1803	I-95 GP		SB					0	0	0					0	0	0
MS1802	I-95 GP	Between Garrisonville	SB	3,235	8:00 AM	1.8%	8.2%	2,912	58	265	6,954	3:00 PM	0.6%	5.3%	6,544	42	369
MS1801	I-95 GP	Rd Int & Russell Rd Int	SB	3,235	8:00 AM	1.8%	8.2%	2,912	58	265	6,954	3:00 PM	0.6%	5.3%	6,544	42	369
MS1702	I-95 GP	Within Russell Rd Int (Exit 148)	SB					0	0	0					0	0	0
MS1701	I-95 GP	Between Russell Rd Int & Joplin Rd Int	SB	3,565	7:00 AM	3.0%	7.4%	3,194	107	264	6,043	3:00 PM	0.5%	5.0%	5,711	30	302
MS1603	I-95 GP	Within Joplin Road	SB					0	0	0					0	0	0
MS1602	I-95 GP	Interchange (Exit 150)	SB					0	0	0					0	0	0
MS1601	I-95 GP	Between Joplin Rd Int &	SB	3,739	7:00 AM	2.6%	6.9%	3,384	97	258	5,737	3:00 PM	0.0%	5.0%	5,450	0	287
MS1507	I-95 GP	Dumfries Rd Int	SB	3,652	7:00 AM	2.6%	6.9%	3,305	95	252	4,426	3:00 PM	0.9%	6.7%	4,090	40	297
MS1506	I-95 GP	Within Dumfries Road	SB					0	0	0					0	0	0
MS1505	I-95 GP	Interchange (Exit 152)	SB					0	0	0					0	0	0
MS1504	I-95 GP	Between Dumfries Rd & Truck Rest Area	SB	3,510	7:00 AM	3.3%	6.0%	3,184	116	211	5,121	3:00 PM	2.1%	3.8%	4,819	108	195
MS1503	I-95 GP	Within Truck Rest Area	SB					0	0	0					0	0	0
MS1502	I-95 GP	Between Truck Rest Area & Rest Area/Dale Blvd/Opitz Blvd Int	SB	3,430	7:00 AM	1.4%	5.9%	3,180	48	202	5,139	3:00 PM	1.0%	5.9%	4,784	51	303
MS1501	I-95 GP	Blvd/Opitz Blvd Int	SB	3,185	7:00 AM	2.9%	6.4%	2,889	92	204	5,467	3:00 PM	5.0%	4.6%	4,942	273	251
MS1304	I-95 GP	Within Dale Blvd/Opitz	SB					0	0	0					0	0	0
MS1303	I-95 GP	Blvd Int (Exit 156)	SB					0	0	0					0	0	0

2035 AM No-Build Conditions

I-95 Southbound General Purpose Lanes

2035 PM No-Build Conditions

I-95 Southbound General Purpose Lanes

Segment	Road	Location	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
MS1302	I-95 GP	Between Dale Blvd/Opitz	SB	3,547	8:00 AM	3.4%	8.1%	3,139	121	287	6,595	3:00 PM	4.8%	5.7%	5,903	317	376
MS1301	I-95 GP	Bldv Int & PWP Int	SB	3,600	8:00 AM	3.4%	8.1%	3,186	122	292	6,109	3:00 PM	4.9%	5.9%	5,449	299	360
MS1203	I-95 GP	Within PWP Interchange	SB					0	0	0					0	0	0
MS1202	I-95 GP	(Exit 158)	SB					0	0	0					0	0	0
MS1201	I-95 GP	Between PWP Int & Gordon Blvd Int	SB	3,954	8:00 AM	3.9%	7.6%	3,499	154	301	6,940	3:00 PM	4.8%	5.6%	6,218	333	389
MS1103	I-95 GP	Within Gordon Blvd	SB					0	0	0					0	0	0
MS1102	I-95 GP	Interchange (Exit 160)	SB					0	0	0					0	0	0
MS1101	I-95 GP	Between Gordon Blvd Int & Richmond Hwy Int	SB	3,705	8:00 AM	4.1%	7.0%	3,294	152	259	7,085	3:00 PM	4.5%	5.3%	6,391	319	376
MS1003	I-95 GP	Within Richmond Hwy Int	SB					0	0	0					0	0	0
MS1002	I-95 GP	(Exit 161)	SB					0	0	0					0	0	0
MS1001	I-95 GP	Between Richmond Hwy Int & Lorton Rd Int	SB	3,602	8:00 AM	4.3%	8.3%	3,148	155	299	6,211	3:00 PM	4.3%	6.4%	5,546	267	398
MS0902	I-95 GP	Within Lorton Rd Interchange (Exit 163)	SB					0	0	0					0	0	0
MS0901A	I-95 GP	Between Lorton Rd Int & FCP Int	SB	3,731	8:00 AM	5.1%	7.9%	3,246	190	295	6,264	3:00 PM	5.3%	6.2%	5,544	332	388
MS0901B	I-95 GP	FCP Int	SB	3,718	8:00 AM	5.1%	7.9%	3,235	190	294	6,470	3:00 PM	5.2%	6.0%	5,745	336	388
MS0805	I-95 GP	Within Fairfax County Parkway Interchange	SB					0	0	0					0	0	0
MS0804	I-95 GP	(Exit 166)	SB					0	0	0					0	0	0
MS0803	I-95 GP		SB					0	0	0					0	0	0
MS0802	I-95 GP	Between FCP Int & Fraconia Rd/I-495 Int	SB	4,172	8:00 AM	4.8%	7.7%	3,651	200	321	5,840	3:00 PM	5.9%	6.8%	5,098	345	397
MS0801	I-95 GP		SB	4,202	8:00 AM	4.8%	7.7%	3,677	202	324	6,909	3:00 PM	5.6%	6.1%	6,101	387	421
MS0701	I-95 GP		SB	4,951	8:00 AM	5.4%	6.7%	4,352	267	332	7,621	3:00 PM	5.3%	5.6%	6,790	404	427
MS0602	I-95 GP		SB	4,958	8:00 AM	5.4%	6.7%	4,358	268	332	7,479	3:00 PM	5.3%	5.7%	6,656	396	426
MS0601	I-95 GP	Within Franconia Road & I-495 "Mixing Bowl"	SB					0	0	0					0	0	0
MS0504	I-95 GP	Interchange (Exits 169 & 170)	SB					0	0	0					0	0	0
MS0503	I-95 GP		SB					0	0	0					0	0	0
MS0502	I-95 GP		SB					0	0	0					0	0	0
MS0501	I-95 GP	Between Franconia Rd/ I-495 Int & Edsall Rd Int	SB	3,939	8:00 AM	4.7%	3.6%	3,612	185	142	6,515	3:00 PM	4.6%	2.4%	6,059	300	156
MS0205	I-95 GP	Within Edsall Road Interchange (Exit 2)	SB					0	0	0					0	0	0
MS0204	I-95 GP		SB					0	0	0					0	0	0
MS0203	I-95 GP		SB					0	0	0					0	0	0
MS0202	I-95 GP	Between Edsall Road Int & Duke Street Int	SB	4,047	8:00 AM	4.5%	2.9%	3,748	182	117	6,398	3:00 PM	4.8%	2.2%	5,950	307	141
MS0201	I-95 GP		SB	3,381	8:00 AM	4.5%	2.9%	3,131	152	98	5,817	3:00 PM	4.5%	2.0%	5,439	262	116
MS0105	I-95 GP		SB	3,797	8:00 AM	4.5%	2.9%	3,516	171	110	5,995	3:00 PM	4.7%	2.2%	5,581	282	132
MS0104	I-95 GP	Within Duke Street Interchange (Exit 3)	SB					0	0	0					0	0	0
MS0103	I-95 GP		SB					0	0	0					0	0	0
MS0102	I-95 GP		SB					0	0	0					0	0	0
MS0101	I-95 GP	North End of Project	SB	4,156	8:00 AM	4.5%	3.0%	3,844	187	125	6,701	3:00 PM	4.5%	2.1%	6,259	302	141

2035 AM Build Conditions

I-95 Northbound HOT Lanes

Seg	From	To	Between Ramps:	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
HN2301	South End of Project	North of Exit 126/Jeff Davis Hwy	RH2301 & RH2201	NB	1,244	5:00 AM	2.0%	0.0%	1,219	25	0
HN2201	North of Exit 126/Jeff Davis Hwy	North of Exit 130/Plank Rd	RH2201 & RH2202	NB	1,622	5:00 AM	2.0%	0.0%	1,590	32	0
HN2202	North of Exit 130/Plank Rd	North of Exit 130/Plank Rd	RH2202 & RH2203	NB	1,133	5:00 AM	2.0%	0.0%	1,110	23	0
HN2101	North of Exit 130/Plank Rd	North of Exit 133/Warrenton Rd	RH2203 & RH2101	NB	1,555	5:00 AM	2.0%	0.0%	1,524	31	0
HN2102	North of Exit 133/ Warrenton Rd	North of Exit 133/Warrenton Rd	RH2101 & RH2102	NB	1,422	5:00 AM	2.0%	0.0%	1,394	28	0
HN2001	North of Exit 133/ Warrenton Rd	North of Exit 136/ Centreport Pkwy	RH2102 & RH2001	NB	1,778	5:00 AM	2.0%	0.0%	1,742	36	0
HN1901	North of Exit 136/ Centreport Pkwy	North of Exit 140/Crthse Rd	RH2001 & RH1903	NB	1,889	5:00 AM	2.0%	0.0%	1,851	38	0
HN1902	North of Exit 140/Crthse Rd	North of Exit 140/Crthse Rd	RH1903 & RH1904	NB	1,067	5:00 AM	2.0%	0.0%	1,046	21	0
HN1801	North of Exit 140/Crthse Rd	North of Exit 143/Garrville Rd	RH1904 & RH1702	NB	1,133	5:00 AM	2.0%	0.0%	1,110	23	0
HN1601	North of Exit 143/Garrville Rd	North of Exit 150/Joplin Rd	RH1702 & RH1509	NB	1,244	5:00 AM	2.0%	0.0%	1,219	25	0
HN1501	North of Exit 150/Joplin Rd	North of MP 153 Weigh Station	RH1509 & RH1501	NB	2,255	5:00 AM	4.1%	2.4%	2,108	92	54
HN1401	North of MP 153 Weigh Station	North of Exit 156/Opitz Blvd	RH1501 & RH1301	NB	2,465	5:00 AM	5.0%	2.3%	2,285	123	57
HN1402	North of Exit 156/Opitz Blvd	North of Exit 156/Opitz Blvd	RH1301 & RH1201	NB	2,819	5:00 AM	5.4%	2.5%	2,596	152	70
HN1301	North of Exit 156/Opitz Blvd	Exit 158/Pr William Pkwy	RH1201 & RH1205	NB	3,044	5:00 AM	5.4%	2.5%	2,804	164	76
HN1201	Exit 158/Pr William Pkwy	Exit 160/Gordon Blvd	RH1205 & RH1113	NB	3,225	5:00 AM	4.8%	2.3%	2,996	155	74
HN1101	Exit 160/Gordon Blvd	Exit 161/Richmond Hwy	RH1113 & RH1002	NB	3,367	5:00 AM	4.7%	2.4%	3,128	158	81
HN1001	Exit 161/Richmond Hwy	North of Exit 163/Lorton Rd	RH1002 & RH0902	NB	3,470	5:00 AM	4.6%	2.4%	3,227	160	83
HN1002	North of Exit 163/Lorton Rd	Alban Road off-ramp	RH0902 & RH0903	NB	3,406	5:00 AM	4.4%	2.6%	3,168	150	89
HN0901	Alban Road off-ramp	Heller Road off-ramp	RH0903 & RH0801	NB	3,131	5:00 AM	4.4%	2.6%	2,912	138	81
HN0801	Heller Road off-ramp	Fr-Spr Pkwy Off-Ramp	RH0801 & RH0705	NB	2,219	5:00 AM	5.8%	3.0%	2,024	129	67
HN0701	Fr-Spr Pkwy Off-Ramp	Fr-Spr Pkwy On-Ramp	RH0705 & RH0704	NB	2,589	5:00 AM	6.2%	3.3%	2,343	161	85
HN0702	Fr-Spr Pkwy On-Ramp	I-95 NB to HOT Lanes NB slip ramp	RH0704 & RH0703	NB	2,927	5:00 AM	5.4%	2.9%	2,684	158	85
HN0601	I-95 NB to HOT Lanes NB slip ramp	Franconia Rd On-Ramp	RH0703 & RH0607	NB	3,145	5:00 AM	5.2%	2.9%	2,890	164	91
HN0602	Franconia Rd On-Ramp	Off-ramp to I-495 HOT Lanes	RH0607 & RH0514	NB	3,395	5:00 AM	4.9%	2.8%	3,134	166	95
HN0501	Off-ramp to I-495 HOT Lanes	On-ramp from I-495 HOT Lanes	RH0514 & RH0510	NB	2,270	5:00 AM	4.9%	2.8%	2,095	111	64
HN0502	On-ramp from I-495 HOT Lanes	North of Edsall Rd	RH0510 & RH0204	NB	2,352	5:00 AM	4.9%	2.8%	2,171	115	66
HN0201	North of Edsall Rd	North of Edsall Rd	RH0204 & RH0201	NB	2,352	5:00 AM	4.9%	2.8%	2,171	115	66
HN0101	North of Edsall Rd	North of Duke Street	RH0201 & North End	NB	2,893	7:00 AM	8.1%	13.6%	2,265	234	393

2035 No-Build AM Conditions

I-95 Northbound HOT Lanes

Segment	From	To	Between Ramps:	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
HN1501	South of Exit 152/Dumfries	North of MP 153 Weigh Station	RH1509 & RH1501	NB	2,229	5:00 AM	4.1%	2.4%	2,084	91	53
HN1401	North of MP 153 Weigh Station	North of Exit 156/Opitz Blvd	RH1501 & RH1301	NB	2,415	5:00 AM	5.0%	2.3%	2,239	121	56
HN1301	North of Exit 156/Opitz Blvd	Exit 158/Prince William Pkwy	RH1301 & RH1205	NB	2,769	5:00 AM	5.4%	2.5%	2,550	150	69
HN1201	Exit 158/Prince William Pkwy	Exit 160/Gordon Blvd	RH1205 & RH1113	NB	3,086	5:00 AM	4.8%	2.3%	2,867	148	71
HN1101	Exit 160/Gordon Blvd	Exit 161/Richmond Hwy	RH1113 & RH1002	NB	3,257	5:00 AM	4.7%	2.4%	3,026	153	78
HN1001	Exit 161/Richmond Hwy	North of Exit 163/Lorton Rd	RH1002 & RH0902	NB	3,318	5:00 AM	4.6%	2.4%	3,086	153	80
HN0901	North of Exit 163/Lorton Rd	Off-ramp to Heller Road	RH0902 & RH0803	NB	2,645	5:00 AM	4.4%	2.6%	2,460	116	69
HN0801	Off-ramp to Heller Road	Fr-Spr Pkwy Off-Ramp	RH0803 & RH0705	NB	2,197	5:00 AM	5.8%	3.0%	2,004	127	66
HN0701	Fr-Spr Pkwy Off-Ramp	Fr-Spr Pkwy On-Ramp	RH0705 & RH0704	NB	2,072	5:00 AM	6.2%	3.3%	1,875	128	68
HN0702	Fr-Spr Pkwy On-Ramp	I-95 NB to HOT Lanes NB slip ramp	RH0704 & RH0703	NB	2,429	5:00 AM	5.4%	2.9%	2,227	131	70
HN0601	I-95 NB to HOT Lanes NB slip ramp	Franconia Rd On-Ramp	RH0703 & RH0607	NB	3,059	5:00 AM	5.2%	2.9%	2,811	159	89
HN0602	Franconia Rd On-Ramp	Off-ramp to I-495 HOT Lanes	RH0607 & RH0201	NB	3,088	5:00 AM	4.9%	2.8%	2,850	151	86
HN0501	Off-ramp to I-495 HOT Lanes	On-ramp from I-495 HOT Lanes	RH0514 & RH0510	NB	1,963	5:00 AM	4.9%	2.8%	1,812	96	55
HN0502	On-ramp from I-495 HOT Lanes	North of Edsall Rd	RH0510 & RH0201	NB	2,086	5:00 AM	4.9%	2.8%	1,925	102	58
HN0101	North of Edsall Rd	North of Duke Street	RH0201 & North End	NB	2,780	7:00 AM	8.1%	13.6%	2,177	225	378

2035 PM Build Conditions

I-95 Southbound HOT Lanes

Segment	From	To	Between Ramps:	Dir	Peak Vol	time begin	%MT	%HT	Cars	Med Trk	Heav Trk
HS0101	North of Duke St	HOT Lanes SB to I-95 SB ramp	RH0202 & North End	SB	3,530	5:00 PM	2.6%	5.4%	3,248	92	191
HS0201	HOT Lanes SB to I-95 SB ramp	I-95 SB to HOT Lanes SB ramp	RH0203 & RH0202	SB	2,779	5:00 PM	1.8%	6.0%	2,562	50	167
HS0501	I-95 SB to HOT Lanes SB ramp	Off-ramp to I-495 HOT Lanes	RH0509 & RH0203	SB	2,867	5:00 PM	1.6%	4.9%	2,681	46	140
HS0502	Off-ramp to I-495 HOT Lanes	On-ramp from I-495 HOT Lanes	RH0513 & RH0509	SB	2,693	5:00 PM	1.6%	4.9%	2,518	43	132
HS0601	On-ramp from I-495 HOT Lanes	Franconia Rd Off-Ramp	RH0606 & RH0513	SB	3,590	5:00 PM	1.6%	4.9%	3,357	57	176
HS0602	Franconia Rd Off-Ramp	HOT Lanes SB to I-95 SB ramp	RH0706 & RH0606	SB	2,911	5:00 PM	1.2%	5.0%	2,731	35	146
HS0701	HOT Lanes SB to I-95 SB ramp	Fr-Spr Pkwy Off-Ramp	RH0707 & RH0706	SB	2,487	5:00 PM	0.9%	5.1%	2,338	22	127
HS0702	Fr-Spr Pkwy Off-Ramp	Fr-Spr Pkwy On-Ramp	RH0708 & RH0707	SB	2,440	5:00 PM	0.8%	6.0%	2,274	20	146
HS0801	Fr-Spr Pkwy On-Ramp	North of Exit 166/FCP	RH0802 & RH0708	SB	2,716	5:00 PM	0.9%	5.2%	2,550	24	141
HS0802	North of Exit 166/FCP	On-ramp from Heller Road	RH0803 & RH0802	SB	4,067	2:00 PM	3.5%	2.8%	3,811	142	114
HS0901	On-ramp from Heller Road	On-Ramp from Alban Road	RH0904 & RH0803	SB	4,305	2:00 PM	3.5%	2.8%	4,034	151	121
HS1001	On-Ramp from Alban Road	Exit 161/Richmond Hwy	RH1004 & RH0904	SB	3,931	2:00 PM	3.6%	2.9%	3,675	142	114
HS1101	Exit 161/Richmond Hwy	I-95 SB to HOT Lanes SB ramp	RH1005 & RH1004	SB	3,700	2:00 PM	3.7%	2.6%	3,467	137	96
HS1102	I-95 SB to HOT Lanes SB ramp	Exit 160/Gordon Blvd	RH1107 & RH1005	SB	3,568	2:00 PM	3.7%	2.6%	3,343	132	93
HS1201	Exit 160/Gordon Blvd	Exit 158/Prince William Pkwy	RH1216 & RH1107	SB	3,430	2:00 PM	3.8%	2.7%	3,207	130	93
HS1301	Exit 158/Prince William Pkwy	North of Exit 156/Opitz Blvd	RH1302 & RH1216	SB	2,812	2:00 PM	3.9%	2.7%	2,626	110	76
HS1401	North of Exit 156/Opitz Blvd	North of Exit 156/Dale Blvd	RH1401 & RH1302	SB	2,540	2:00 PM	3.7%	0.7%	2,428	94	18
HS1402	North of Exit 156/Dale Blvd	North of MP 153 Weigh Station	RH1502 & RH1401	SB	2,540	2:00 PM	3.7%	0.7%	2,428	94	18
HS1501	North of MP 153 Weigh Station	North of Exit 150/Joplin Rd	RH1503 & RH1502	SB	1,566	2:00 PM	0.5%	0.2%	1,555	8	3
HS1601	North of Exit 150/Joplin Rd	North of Exit 143/Garrville Rd	RH1701 & RH1503	SB	1,130	2:00 PM	2.0%	0.0%	1,107	23	0
HS1801	North of Exit 143/Garrville Rd	North of Exit 140/Crthse Rd	RH1901 & RH1701	SB	1,024	2:00 PM	2.0%	0.0%	1,004	20	0
HS1901	North of Exit 140/Crthse Rd	North of Exit 140/Crthse Rd	RH1902 & RH1901	SB	1,484	2:00 PM	2.0%	0.0%	1,454	30	0
HS1902	North of Exit 140/Crthse Rd	North of Exit 136/C'port Pkwy	RH2002 & RH1902	SB	1,392	2:00 PM	2.0%	0.0%	1,364	28	0
HS2001	North of Exit 136/C'port Pkwy	North of Exit 133/Warr. Road	RH2103 & RH2002	SB	1,366	2:00 PM	2.0%	0.0%	1,339	27	0
HS2101	North of Exit 133/Warr. Road	North of Exit 133/Warr. Road	RH2104 & RH2103	SB	1,537	2:00 PM	2.0%	0.0%	1,506	31	0
HS2102	North of Exit 133/Warr. Road	North of Exit 130/Plank Rd	RH2204 & RH2104	SB	1,313	2:00 PM	2.0%	0.0%	1,287	26	0
HS2201	North of Exit 130/Plank Rd	North of Exit 126/Jeff Davis Hwy	RH2205 & RH2204	SB	1,090	2:00 PM	2.0%	0.0%	1,068	22	0
HS2301	North of Exit 126/Jeff Davis Hwy	South End of Project	RH2302 & RH2205	SB	919	2:00 PM	2.0%	0.0%	901	18	0

2011 PM

Interchange	Ramp	Description	Total Volume	% MT	% HT	Total Cars	MT	HT
DUKE RD	RS0105	95 SB to Duke Rd WB	800	4.5%	2.1%	747	36	17
	RS0108	Duke Rd EB to 95 SB	615	1.9%	1.6%	593	12	10
	RN0104	Duke Rd EBto 95 NB	495	1.9%	1.6%	478	9	8
	RS0106	95 SB to Duke Rd EB	835	4.5%	2.1%	779	38	18
	RS0107	Duke Rd WB to 95 SB	575	1.9%	1.6%	555	11	9
	RN0101	95 NB to Duke Rd EB	620	5.7%	9.4%	527	35	58
	RN0102	95 NB to Duke WB	460	5.7%	9.4%	391	26	43
	RN0103	Duke WB to 95 NB	770	1.9%	1.6%	743	15	12
EDSALL	RS0208	95 SB to Edsall WB	575	4.7%	2.1%	536	27	12
	RS0211	Edsall EB to 95 SB	725	2.2%	2.2%	693	16	16
	RN0207	Edsall EB to 95 NB	465	2.2%	2.2%	445	10	10
	RS0210	Edsall WB to 95 SB	800	2.2%	2.2%	764	18	18
	RS0209	95 SB to Edsall EB	210	4.7%	2.1%	196	10	4
	RN0205	95 NB to Edsall WB	345	5.9%	9.7%	292	20	33
	RN0204	95 NB to Edsall EB	500	5.9%	9.7%	421	30	49
495 EB	ME0305	495 EB GP Lanes to off ramp t	7420	6.4%	8.5%	6314	475	631
495 WB	MW0301	495 WB GP Lanes West of 95	6775	8.5%	5.4%	5833	576	366
495/Franconia Rd	RS0501	95 SB to 495 WB	1735	4.6%	2.4%	1613	80	42
	RS0502	95 SB to 495 EB	735	4.6%	2.4%	683	34	18
	RS0510	95 SB to Franconia Rd CD	1600	4.6%	2.4%	1488	74	38
	RW0509	495 WB to Franconia Rd CD	975	8.5%	5.4%	839	83	53
	RS0508	495 EB to 95 SB	2500	6.4%	8.5%	2127	160	213
	RS0605	495 EB to Franconia Rd EB	1650	6.4%	8.5%	1404	106	140
	RN0507	495 EB to 95 NB	1275	6.4%	8.5%	1085	82	108
	RH0606	HOT lanes SB to Franconia	310	0.9%	5.1%	291	3	16
	RS0503	495 WB to 95 SB	2040	8.5%	5.4%	1757	173	110
	RE0505	95 NB to 495 EB	1835	3.7%	7.1%	1637	68	130
	RN0504	495 WB to 95 NB	490	8.5%	5.4%	422	42	26
	RE0518	Franconia WB to 495 EB	1350	3.0%	1.9%	1283	41	26
	RN0514	Franconia WB to 95 NB	320	3.0%	1.9%	304	10	6
	RN0616	95 NB to 495 WB	1525	3.7%	7.1%	1361	56	108
	RN0701	95 NB to Franconia Rd	610	3.7%	7.1%	544	23	43
RW0513	Franconia WB to 495 WB	175	3.0%	1.9%	167	5	3	
RS0615	Franconia Rd to 95 SB	590	3.0%	1.9%	561	18	11	
Franconia Springfield Parkway	RS0801	95 SB to Backlick Rd	795	4.6%	2.4%	739	37	19
	RH0706	HOT Lanes to 95 SB	40	1.2%	5.0%	38	0	2
	RH0707	HOT Lanes to Franconia Pkwy	365	0.9%	5.1%	343	3	19
	RH0708	Franconia Pkwy to HOT Lanes	345	1.5%	2.9%	330	5	10
	RH0802	95 SB to HOT Lanes	550	5.5%	6.1%	487	30	33
	RN0701	95 NB to Loisdale/Franconia R	610	3.7%	7.1%	544	23	43
NO RAMP VOLUMES FOR FAIRFAX CTY PKWY BECAUSE THERE IS NO TNM RUN FOR AREA (NO RESIDENCES)								
Lorton	RS0905	95 SB to Lorton	960	5.3%	6.1%	850	51	59
	RS0906	Lorton to 95 SB	315	3.1%	1.7%	300	10	5
	RN0903	95 NB to Lorton	225	4.4%	8.5%	196	10	19
	RN0904	Lorton to 95 NB	480	3.1%	1.7%	457	15	8
NO RAMP VOLUMES FOR RICHMOND HWY BECAUSE THERE IS NO TNM RUN FOR AREA (NO RESIDENCES)								
Gordon Blvd	RH1107	Gordon to HOT Lanes	245	3.9%	6.5%	219	10	16
	RS1108	95 SB to Devils Reach NB	1245	4.5%	5.3%	1123	56	66
	RS1110	Gordon SB to 95 SB	910	3.9%	6.5%	816	35	59
	RN1102	Gordon SB to 95 NB	510	3.9%	6.5%	457	20	33
	RN1101	95 NB to Gordon SB	110	4.1%	7.4%	97	5	8
	RN1104	Gordon NB to 95 NB	570	3.9%	6.5%	511	22	37
	RN1106	95 NB to Gordon NB	695	4.1%	7.4%	616	28	51
	RS1109	Gordon NB to 95 SB	185	3.9%	6.5%	166	7	12
Prince William	RH1215	HOT Lanes to Prince William	295	3.8%	2.7%	276	11	8
	RS1207	95 SB to PW WB	1265	4.8%	5.6%	1133	61	71
	RS1208	95 SB to PW EB	105	4.8%	5.6%	94	5	6
	RS1209	PW EB to 95 SB	835	2.9%	3.2%	784	24	27
	RN1203	95 NB to PW WB	530	1.4%	5.9%	492	7	31
	RN1202	PW EB to 95 NB	610	2.9%	3.2%	572	18	20
	RN1204	PW WB to 95 NB	100	2.9%	3.2%	94	3	3
	RN1201	95 NB to PW EB	265	1.4%	5.9%	245	4	16
Opitz	RN1304	Opitz WB to 95 NB	180	9.3%	1.8%	160	17	3
	RN1303	Opitz EB to 95 NB	220	9.3%	1.8%	196	20	4
	RS1306	95 SB to Potomac Mills Rd	420	4.9%	5.8%	375	21	24
Dale	RS1307	95 SB to Dale WB	1095	4.9%	5.8%	977	54	64
	RS1407	Dale EB to 95 SB	440	2.8%	3.4%	413	12	15
	RS1405	Dale WB to 95 SB	295	2.8%	3.4%	277	8	10
	RS1406	95 SB to Dale EB	920	4.9%	5.8%	822	45	53
	RN1403	95NB to Dale WB	380	0.2%	6.0%	356	1	23
	RN1402	Dale EB to 95 NB	225	2.8%	3.4%	211	6	8
	RN1404	Dale WB to 95 NB	360	2.8%	3.4%	338	10	12
	RN1401	95 NB to Dale EB	200	0.2%	6.0%	188	0	12
Dumfries	RS1508	Dumfries to 95 SB	875	4.5%	2.9%	811	39	25
	RS1507	95 SB to Dumfries EB	920	2.1%	3.8%	866	19	35
	RS1506	95 SB to Dumfries WB	655	2.1%	3.8%	616	14	25
	RN1503	95 NB to Dumfries EB	150	1.8%	6.5%	137	3	10
	RN1504	95 NB to Dumfries WB	800	1.8%	6.5%	734	14	52
	RN1505	Dumfries to 95 NB	670	4.5%	2.9%	621	30	19
Joplin Rd	RS1605	95 SB to Joplin WB	40	0.5%	5.8%	38	0	2
	RS1607	Joplin EB to 95 SB	170	6.4%	2.7%	154	11	5
	RS1608	Joplin to 95 SB	280	6.4%	2.7%	254	18	8
	RS1606	95 SB to Joplin EB	450	0.5%	5.8%	422	2	26
	RN1604	Joplin to 95 NB	35	6.4%	2.7%	32	2	1
	RN1601	95 NB to Joplin	70	1.8%	7.5%	64	1	5
	RN1603	Joplin WB to 95 NB	635	6.4%	2.7%	577	41	17
	RN1602	95 NB to Joplin EB	150	1.8%	7.5%	136	3	11
Garrisonville	RS1805	95 SB to Garrisonville WB	1505	0.6%	5.3%	1416	9	80
	RS1808	Garrisonville EB to 95 SB	925	4.0%	3.0%	860	37	28
	RS1806	Garrisonville WB to 95 SB	355	4.0%	3.0%	330	14	11
	RS1807	95 SB to Garrisonville EB	290	0.6%	5.3%	273	2	15
	RN1804	US 1 to 95 NB	265	4.0%	3.0%	246	11	8
	RN1803	95 NB to Garrisonville WB	405	2.1%	8.8%	360	9	36
	RN1802	Garrisonville EB to 95 NB	580	4.0%	3.0%	540	23	17
	RN1801	95NB to US 1	205	2.1%	8.8%	183	4	18

2035 PM BUILD

Interchange	Ramp	Description	Total Volume	% MT	% HT	Total Cars	MT	HT
DUKE RD	RS0105	95 SB to Duke Rd WB	875	4.5%	2.1%	818	39	18
	RS0108	Duke Rd EB to 95 SB	710	1.9%	1.6%	686	13	11
	RN0104	Duke Rd EBto 95 NB	1130	1.9%	1.6%	1091	21	18
	RS0106	95 SB to Duke Rd EB	625	4.5%	2.1%	584	28	13
	RS0107	Duke Rd WB to 95 SB	1220	1.9%	1.6%	1177	23	20
	RN0101	95 NB to Duke Rd EB	890	5.7%	9.4%	755	51	84
	RN0102	95 NB to Duke WB	550	5.7%	9.4%	467	31	52
	RN0103	Duke WB to 95 NB	570	1.9%	1.6%	550	11	9
EDSALL	RS0208	95 SB to Edsall WB	650	4.7%	2.1%	605	31	14
	RS0211	Edsall EB to 95 SB	705	2.2%	2.2%	673	16	16
	RN0207	Edsall EB to 95 NB	635	2.2%	2.2%	607	14	14
	RS0210	Edsall WB to 95 SB	825	2.2%	2.2%	789	18	18
	RS0209	95 SB to Edsall EB	335	4.7%	2.1%	312	16	7
	RN0205	95 NB to Edsall WB	455	5.9%	9.7%	384	27	44
	RN0204	95 NB to Edsall EB	965	5.9%	9.7%	814	57	94
495 EB	ME0305	495 EB GP Lanes to off ramp 1	9505	6.4%	8.5%	8089	608	808
495 WB	MW0301	495 WB GP Lanes West of 95	7095	8.5%	5.4%	6109	603	383
495/Franconia Rd	RS0501	95 SB to 495 WB	1830	4.6%	2.4%	1702	84	44
	RS0502	95 SB to 495 EB	1015	4.6%	2.4%	944	47	24
	RS0510	95 SB to Franconia Rd CD	2050	4.6%	2.4%	1907	94	49
	RW0509	495 WB to Franconia Rd CD	1330	8.5%	5.4%	1145	113	72
	RS0508	495 EB to 95 SB	3035	6.4%	8.5%	2583	194	258
	RS0605	495 EB to Franconia Rd EB	2435	6.4%	8.5%	2072	156	207
	RN0507	495 EB to 95 NB	1730	6.4%	8.5%	1472	111	147
	RH0606	HOT lanes SB to Franconia	925	0.9%	5.1%	870	8	47
	RS0503	495 WB to 95 SB	2390	8.5%	5.4%	2058	203	129
	RE0505	95 NB to 495 EB	3295	3.7%	7.1%	2939	122	234
	RN0504	495 WB to 95 NB	790	8.5%	5.4%	680	67	43
	RE0518	Franconia WB to 495 EB	1990	3.0%	1.9%	1892	60	38
	RN0514	Franconia WB to 95 NB	880	3.0%	1.9%	837	26	17
	RN0616	95 NB to 495 WB	1375	3.7%	7.1%	1226	51	98
	RN0701	95 NB to Franconia Rd	655	3.7%	7.1%	584	24	47
	RW0513	Franconia WB to 495 WB	215	3.0%	1.9%	205	6	4
RS0615	Franconia Rd to 95 SB	1540	3.0%	1.9%	1465	46	29	
Franconia Springfield Parkway	RS0801	95 SB to Backlick Rd	710	4.6%	2.4%	660	33	17
	RH0706	HOT Lanes to 95 SB	175	1.2%	5.0%	164	2	9
	RH0707	HOT Lanes to Franconia Pkwy	1165	0.9%	5.1%	1096	10	59
	RH0708	Franconia Pkwy to HOT Lanes	965	1.5%	2.9%	923	14	28
	RH0802	95 SB to HOT Lanes	570	5.5%	6.1%	505	31	34
	RN0701	95 NB to Loisdale/Franconia R	655	3.7%	7.1%	584	24	47
NO RAMP VOLUMES FOR FAIRFAX CTY PKWY BECAUSE THERE IS NO TNM RUN FOR AREA (NO RESIDENCES)								
Lorton	RS0905	95 SB to Lorton	1600	5.3%	6.1%	1417	85	98
	RS0906	Lorton to 95 SB	1200	3.1%	1.7%	1143	37	20
	RN0903	95 NB to Lorton	1600	4.4%	8.5%	1394	70	136
	RN0904	Lorton to 95 NB	535	3.1%	1.7%	509	17	9
NO RAMP VOLUMES FOR RICHMOND HWY BECAUSE THERE IS NO TNM RUN FOR AREA (NO RESIDENCES)								
Gordon Blvd	RH1107	Gordon to HOT Lanes	1195	3.9%	6.5%	1070	47	78
	RS1108	95 SB to Devils Reach NB	1290	4.5%	5.3%	1164	58	68
	RS1110	Gordon SB to 95 SB	860	3.9%	6.5%	770	34	56
	RN1102	Gordon SB to 95 NB	710	3.9%	6.5%	636	28	46
	RN1101	95 NB to Gordon SB	160	4.1%	7.4%	141	7	12
	RN1104	Gordon NB to 95 NB	1395	3.9%	6.5%	1250	54	91
	RN1106	95 NB to Gordon NB	490	4.1%	7.4%	434	20	36
	RS1109	Gordon NB to 95 SB	245	3.9%	6.5%	219	10	16
Prince William	RH1215	HOT Lanes to Prince William	780	3.8%	2.7%	729	30	21
	RS1207	95 SB to PW WB	1305	4.8%	5.6%	1169	63	73
	RS1208	95 SB to PW EB	160	4.8%	5.6%	143	8	9
	RS1209	PW EB to 95 SB	1435	2.9%	3.2%	1347	42	46
	RN1203	95 NB to PW WB	680	1.4%	5.9%	630	10	40
	RN1202	PW EB to 95 NB	770	2.9%	3.2%	723	22	25
	RN1204	PW WB to 95 NB	430	2.9%	3.2%	404	12	14
	RN1201	95 NB to PW EB	585	1.4%	5.9%	542	8	35
Opitz	RN1304	Opitz WB to 95 NB	315	9.3%	1.8%	280	29	6
	RN1303	Opitz EB to 95 NB	470	9.3%	1.8%	418	44	8
	RS1306	95 SB to Potomac Mills Rd	695	4.9%	5.8%	621	34	40
Dale	RS1307	95 SB to Dale WB	1035	4.9%	5.8%	924	51	60
	RS1407	Dale EB to 95 SB	580	2.8%	3.4%	544	16	20
	RS1405	Dale WB to 95 SB	455	2.8%	3.4%	427	13	15
	RS1406	95 SB to Dale EB	1210	4.9%	5.8%	1081	59	70
	RN1403	95NB to Dale WB	460	0.2%	6.0%	431	1	28
	RN1402	Dale EB to 95 NB	275	2.8%	3.4%	258	8	9
	RN1404	Dale WB to 95 NB	635	2.8%	3.4%	595	18	22
	RN1401	95 NB to Dale EB	205	0.2%	6.0%	193	0	12
Dumfries	RS1508	Dumfries to 95 SB	1055	4.5%	2.9%	977	47	31
	RS1507	95 SB to Dumfries EB	1145	2.1%	3.8%	1077	24	44
	RS1506	95 SB to Dumfries WB	650	2.1%	3.8%	611	14	25
	RN1503	95 NB to Dumfries EB	580	1.8%	6.5%	532	10	38
	RN1504	95 NB to Dumfries WB	970	1.8%	6.5%	890	17	63
	RN1505	Dumfries to 95 NB	1085	4.5%	2.9%	1005	49	31
Joplin Rd	RS1605	95 SB to Joplin WB	50	0.5%	5.8%	47	0	3
	RS1607	Joplin EB to 95 SB	205	6.4%	2.7%	186	13	6
	RS1608	Joplin to 95 SB	525	6.4%	2.7%	477	34	14
	RS1606	95 SB to Joplin EB	460	0.5%	5.8%	431	2	27
	RN1604	Joplin to 95 NB	35	6.4%	2.7%	32	2	1
	RN1601	95 NB to Joplin	270	1.8%	7.5%	245	5	20
	RN1603	Joplin WB to 95 NB	1035	6.4%	2.7%	941	66	28
	RN1602	95 NB to Joplin EB	400	1.8%	7.5%	363	7	30
Garrisonville	RS1805	95 SB to Garrisonville WB	1885	0.6%	5.3%	1774	11	100
	RS1808	Garrisonville EB to 95 SB	1605	4.0%	3.0%	1493	64	48
	RS1806	Garrisonville WB to 95 SB	1195	4.0%	3.0%	1111	48	36
	RS1807	95 SB to Garrisonville EB	840	0.6%	5.3%	790	5	45
	RN1804	US 1 to 95 NB	530	4.0%	3.0%	493	21	16
	RN1803	95 NB to Garrisonville WB	1135	2.1%	8.8%	1011	24	100
	RN1802	Garrisonville EB to 95 NB	755	4.0%	3.0%	702	30	23
	RN1801	95NB to US 1	920	2.1%	8.8%	820	19	81

2035 PM NO BUILD

Interchange	Ramp	Description	Total Volume	% MT	% HT	Total Cars	MT	HT
DUKE RD	RS0105	95 SB to Duke Rd WB	985	4.5%	2.1%	920	44	21
	RS0108	Duke Rd EB to 95 SB	635	1.9%	1.6%	613	12	10
	RN0104	Duke Rd EBto 95 NB	1225	1.9%	1.6%	1182	23	20
	RS0106	95 SB to Duke Rd EB	785	4.5%	2.1%	734	35	16
	RS0107	Duke Rd WB to 95 SB	1160	1.9%	1.6%	1119	22	19
	RN0101	95 NB to Duke Rd EB	1015	5.7%	9.4%	862	58	95
	RN0102	95 NB to Duke WB	425	5.7%	9.4%	361	24	40
	RN0103	Duke WB to 95 NB	590	1.9%	1.6%	570	11	9
EDSALL	RS0208	95 SB to Edsall WB	605	4.7%	2.1%	564	28	13
	RS0211	Edsall EB to 95 SB	755	2.2%	2.2%	721	17	17
	RN0207	Edsall EB to 95 NB	695	2.2%	2.2%	665	15	15
	RS0210	Edsall WB to 95 SB	925	2.2%	2.2%	885	20	20
	RS0209	95 SB to Edsall EB	460	4.7%	2.1%	428	22	10
	RN0205	95 NB to Edsall WB	525	5.9%	9.7%	443	31	51
	RN0204	95 NB to Edsall EB	1020	5.9%	9.7%	861	60	99
495 EB	ME0305	495 EB GP Lanes to off ramp t	9650	6.4%	8.5%	8212	618	820
495 WB	MW0301	495 WB GP Lanes West of 95	7125	8.5%	5.4%	6134	606	385
495/Franconia Rd	RS0501	95 SB to 495 WB	1795	4.6%	2.4%	1669	83	43
	RS0502	95 SB to 495 EB	950	4.6%	2.4%	883	44	23
	RS0510	95 SB to Franconia Rd CD	1575	4.6%	2.4%	1465	72	38
	RW0509	495 WB to Franconia Rd CD	640	8.5%	5.4%	551	54	35
	RS0508	495 EB to 95 SB	3025	6.4%	8.5%	2574	194	257
	RS0605	495 EB to Franconia Rd EB	1745	6.4%	8.5%	1485	112	148
	RN0507	495 EB to 95 NB	1940	6.4%	8.5%	1651	124	165
	RH0606	HOT lanes SB to Franconia	365	0.9%	5.1%	343	3	19
	RS0503	495 WB to 95 SB	1990	8.5%	5.4%	1714	169	107
	RE0505	95 NB to 495 EB	2800	3.7%	7.1%	2497	104	199
	RN0504	495 WB to 95 NB	810	8.5%	5.4%	697	69	44
	RE0518	Franconia WB to 495 EB	1845	3.0%	1.9%	1755	55	35
	RN0514	Franconia WB to 95 NB	695	3.0%	1.9%	661	21	13
	RN0616	95 NB to 495 WB	1365	3.7%	7.1%	1217	51	97
	RN0701	95 NB to Franconia Rd	485	3.7%	7.1%	433	18	34
RW0513	Franconia WB to 495 WB	175	3.0%	1.9%	167	5	3	
RS0615	Franconia Rd to 95 SB	845	3.0%	1.9%	804	25	16	
Franconia Springfield Parkway	RS0801	95 SB to Backlick Rd	1170	4.6%	2.4%	1088	54	28
	RH0706	HOT Lanes to 95 SB	130	1.2%	5.0%	121	2	7
	RH0707	HOT Lanes to Franconia Pkwy	460	0.9%	5.1%	433	4	23
	RH0708	Franconia Pkwy to HOT Lanes	445	1.5%	2.9%	425	7	13
	RH0802	95 SB to HOT Lanes	650	5.5%	6.1%	575	36	39
	RN0701	95 NB to Loisdale/Franconia R	485	3.7%	7.1%	433	18	34
NO RAMP VOLUMES FOR FAIRFAX CTY PKWY BECAUSE THERE IS NO TNM RUN FOR AREA (NO RESIDENCES)								
Lorton	RS0905	95 SB to Lorton	1300	5.3%	6.1%	1152	69	79
	RS0906	Lorton to 95 SB	1410	3.1%	1.7%	1342	44	24
	RN0903	95 NB to Lorton	1595	4.4%	8.5%	1389	70	136
	RN0904	Lorton to 95 NB	325	3.1%	1.7%	309	10	6
NO RAMP VOLUMES FOR RICHMOND HWY BECAUSE THERE IS NO TNM RUN FOR AREA (NO RESIDENCES)								
Gordon Blvd	RH1107	Gordon to HOT Lanes	325	3.9%	6.5%	291	13	21
	RS1108	95 SB to Devils Reach NB	1430	4.5%	5.3%	1290	64	76
	RS1110	Gordon SB to 95 SB	650	3.9%	6.5%	583	25	42
	RN1102	Gordon SB to 95 NB	560	3.9%	6.5%	502	22	36
	RN1101	95 NB to Gordon SB	110	4.1%	7.4%	97	5	8
	RN1104	Gordon NB to 95 NB	1405	3.9%	6.5%	1259	55	91
	RN1106	95 NB to Gordon NB	555	4.1%	7.4%	491	23	41
	RS1109	Gordon NB to 95 SB	200	3.9%	6.5%	179	8	13
Prince William	RH1215	HOT Lanes to Prince William	295	3.8%	2.7%	276	11	8
	RS1207	95 SB to PW WB	1075	4.8%	5.6%	963	52	60
	RS1208	95 SB to PW EB	365	4.8%	5.6%	327	18	20
	RS1209	PW EB to 95 SB	1165	2.9%	3.2%	1094	34	37
	RN1203	95 NB to PW WB	950	1.4%	5.9%	881	13	56
	RN1202	PW EB to 95 NB	825	2.9%	3.2%	775	24	26
	RN1204	PW WB to 95 NB	485	2.9%	3.2%	455	14	16
RN1201	95 NB to PW EB	440	1.4%	5.9%	408	6	26	
Opitz	RN1304	Opitz WB to 95 NB	180	9.3%	1.8%	160	17	3
	RN1303	Opitz EB to 95 NB	450	9.3%	1.8%	400	42	8
	RS1306	95 SB to Potomac Mills Rd	790	4.9%	5.8%	705	39	46
Dale	RS1307	95 SB to Dale WB	1075	4.9%	5.8%	960	53	62
	RS1407	Dale EB to 95 SB	490	2.8%	3.4%	459	14	17
	RS1405	Dale WB to 95 SB	360	2.8%	3.4%	338	10	12
	RS1406	95 SB to Dale EB	1610	4.9%	5.8%	1438	79	93
	RN1403	95NB to Dale WB	330	0.2%	6.0%	309	1	20
	RN1402	Dale EB to 95 NB	570	2.8%	3.4%	535	16	19
	RN1404	Dale WB to 95 NB	370	2.8%	3.4%	347	10	13
	RN1401	95 NB to Dale EB	235	0.2%	6.0%	221	0	14
Dumfries	RS1508	Dumfries to 95 SB	1110	4.5%	2.9%	1028	50	32
	RS1507	95 SB to Dumfries EB	1110	2.1%	3.8%	1045	23	42
	RS1506	95 SB to Dumfries WB	675	2.1%	3.8%	635	14	26
	RN1503	95 NB to Dumfries EB	215	1.8%	6.5%	197	4	14
	RN1504	95 NB to Dumfries WB	940	1.8%	6.5%	862	17	61
	RN1505	Dumfries to 95 NB	775	4.5%	2.9%	718	35	22
Joplin Rd	RS1605	95 SB to Joplin WB	50	0.5%	5.8%	47	0	3
	RS1607	Joplin EB to 95 SB	200	6.4%	2.7%	182	13	5
	RS1608	Joplin to 95 SB	440	6.4%	2.7%	400	28	12
	RS1606	95 SB to Joplin EB	450	0.5%	5.8%	422	2	26
	RN1604	Joplin to 95 NB	125	6.4%	2.7%	114	8	3
	RN1601	95 NB to Joplin	210	1.8%	7.5%	190	4	16
	RN1603	Joplin WB to 95 NB	735	6.4%	2.7%	668	47	20
	RN1602	95 NB to Joplin EB	335	1.8%	7.5%	304	6	25
Garrisonville	RS1805	95 SB to Garrisonville WB	1695	0.6%	5.3%	1595	10	90
	RS1808	Garrisonville EB to 95 SB	1105	4.0%	3.0%	1028	44	33
	RS1806	Garrisonville WB to 95 SB	1345	4.0%	3.0%	1251	54	40
	RS1807	95 SB to Garrisonville EB	1370	0.6%	5.3%	1289	8	73
	RN1804	US 1 to 95 NB	765	4.0%	3.0%	711	31	23
	RN1803	95 NB to Garrisonville WB	1595	2.1%	8.8%	1422	33	140
	RN1802	Garrisonville EB to 95 NB	920	4.0%	3.0%	855	37	28
	RN1801	95NB to US 1	830	2.1%	8.8%	740	17	73

Appendix E

HB 2577 DOCUMENTATION



June 06, 2012

Document ID: FL95-VDT-L-0018

Lewis King
Regional Transportation Finance Manager
Virginia Department Of Transportation
Virginia Mega Projects
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Project No. 0095-96A-107, PE-101, UPC 70849
Subject: 95 Express Lanes Project in Virginia

Dear Mr. Kohler:

The 2009 General Assembly passed Chapter 120 (HB 2577, as amended by HB2025), which amends the Code of Virginia by adding in Article 15 of Chapter 1 of Title 33.1 a section numbered 33.1-223.2:21, relating to highway noise abatement.

House Bill 2025 States: Requires that whenever the Commonwealth Transportation Board or the Department plan for or undertake any highway construction or improvement project and such project includes or may include the requirement for the mitigation of traffic noise impacts, first consideration should be given to the use of noise reducing design and low noise pavement materials and techniques in lieu of construction of noise walls or sound barriers. Vegetative screening, such as the planting of appropriate conifers, in such a design would be utilized to act as a visual screen if visual screening is required.

In an effort to honor the intent of HB 2025 we are asking for your input (per Chapter VI of Materials Division's Manual of Instruction and Section 2B-3 Determination of Roadway Design of the VDOT Road Design manual (pages 2B-5 and 2B-6)). As part of the Noise Technical Report and technical files, we are seeking your professional opinion by providing comments for the project noted above. Please distribute this memorandum to the appropriate District staff and combine all responses into one response.

Should you have any questions, please contact me at (804) 373-3932. Thank you for your time and consideration regarding this request.

Comment: Is noise reducing design feasible in lieu of construction of noise walls or sound barriers? For example, the roadway alignment can be shifted away from noise sensitive receptors or the roadway can be placed in deep cut.

Response: No, the alignment of the roadway is constrained within the existing highway median. The project consists of converting existing HOV Lanes into Express Lanes and an 8 mile extension of the facility within the median. Little, if any work is being performed on the main "General Purpose" Travel Lanes. (John Thomas)

Comment: Can the project support the use of low noise pavement in lieu of construction of noise walls or sound barriers?

Response: The Virginia Department of Transportation is not authorized by the Federal Highway Administration to use “quiet pavement” at this time as a form of noise mitigation. Upon completion of the Quiet Pavement Pilot Program and approval from FHWA, the use of “quiet pavement” will be given additional consideration. (Josh Wilson)

Comment: Can landscaping be utilized to act as a visual screen if visual screening is required?

Response: Only in limited locations along the Project corridor can landscaping effectively be used as a visual screen. The existing roadside area between the highway and the Right-of-Way limits are generally wooded and offer little space for additional visual screening. Any additional landscaping that could be used as visual screening must be placed outside of the clear zone, must not decrease driver sight distance and cannot require additional right of way. (John Thomas)

Please contact me with any questions.

Sincerely,

John Heffley
Project Director

JH:jvd

cc: Walter Lewis, Fluor
John Thomas, Fluor
Josh Wilson, McCormick Taylor
Document Control

Appendix F

WARRANTED, FEASIBLE & REASONABLE WORKSHEETS

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

Date:	January 7 2013
Project No. and UPC:	0095-96A-107, PE-101; UPC 70849
County:	Fairfax
District:	
Barrier System ID:	CNE A
Community Name and/or CNE#	CNE A
Noise Abatement Category(s)	B and D
Design phase:	Final design

Warranted

1	Community Documentation (if applicable)	
a.	Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
c.	Does the date in 1.a precede the date in 1.b? If yes, proceed to Warranted Item 2. If no, consideration of noise abatement is not warranted. Proceed to "Decision" block and answer "no" to warranted question. As the reason for this decision, state that "Community was permitted after the date of approval of CE, ROD, or FONSI, as appropriate."	NA
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

Feasibility

1	Impacted receptor units	
a.	Number of impacted receptor units:	54
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	50
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	93%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	No
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	No

Reasonableness

1 Surface Area (Square foot)-Benefit Factors

a. Surface Area (Total square foot) of the proposed noise barrier. (ft ²)	86,900 SF
b. Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	50
c. Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	46
d. Total number of benefited receptors.	96
e. Surface Area per benefited receptor unit. (ft ² /BR)	905 SF/BR
f. Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g. Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes

2 Additional Noise Barrier Details

a. Length of the proposed noise barrier. (ft)	4,219 ft
b. Height range of the proposed noise barrier. (ft)	12-30 ft
c. Average height of the proposed noise barrier. (ft)	21 ft
d. Cost per square foot. (\$/ft ²)	\$36/SF
e. Total Barrier Cost (\$)	\$3,128,400
f. Barrier Material	Absorptive

3 Community Desires Related to the Barrier

Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier can be considered not to be reasonable. Proceed to "decision" block and answer "no" to reasonableness question. As the reason for this decision, state that "The majority of the impacted receptor unit owners do not desire the barrier."

Decision

Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes

Additional Reasons for Decision:

Community Solicitation to be completed upon FHWA/VDOT concurrence.

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

Date:	January 7 2013
Project No. and UPC:	0095-96A-107, PE-101; UPC 70849
County:	Fairfax
District:	
Barrier System ID:	CNE B
Community Name and/or CNE#	CNE B
Noise Abatement Category(s)	B and C
Design phase:	Final design

Warranted

1	Community Documentation (if applicable)	
a.	Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
c.	Does the date in 1.a precede the date in 1.b? If yes, proceed to Warranted Item 2. If no, consideration of noise abatement is not warranted. Proceed to "Decision" block and answer "no" to warranted question. As the reason for this decision, state that "Community was permitted after the date of approval of CE, ROD, or FONSI, as appropriate."	NA
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

Feasibility

1	Impacted receptor units	
a.	Number of impacted receptor units:	147
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	143
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	97%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	No
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	No

Reasonableness

1 Surface Area (Square foot)-Benefit Factors

a. Surface Area (Total square foot) of the proposed noise barrier. (ft ²)	85,064 SF
b. Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	143
c. Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	25
d. Total number of benefited receptors.	168
e. Surface Area per benefited receptor unit. (ft ² /BR)	506 SF/BR
f. Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g. Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes

2 Additional Noise Barrier Details

a. Length of the proposed noise barrier. (ft)	4,561 ft
b. Height range of the proposed noise barrier. (ft)	9-32
c. Average height of the proposed noise barrier. (ft)	21 ft
d. Cost per square foot. (\$/ft ²)	\$36/SF
e. Total Barrier Cost (\$)	\$3,062,304
f. Barrier Material	Absorptive

3 Community Desires Related to the Barrier

Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier can be considered not to be reasonable. Proceed to "decision" block and answer "no" to reasonableness question. As the reason for this decision, state that "The majority of the impacted receptor unit owners do not desire the barrier."

Decision

Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes

Additional Reasons for Decision:

Community Solicitation to be completed upon FHWA/VDOT concurrence.

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

Date:	January 7 2013
Project No. and UPC:	0095-96A-107, PE-101; UPC 70849
County:	Fairfax
District:	
Barrier System ID:	CNE C
Community Name and/or CNE#	CNE C
Noise Abatement Category(s)	B
Design phase:	Final design

Warranted

1	Community Documentation (if applicable)	
a.	Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
c.	Does the date in 1.a precede the date in 1.b? If yes, proceed to Warranted Item 2. If no, consideration of noise abatement is not warranted. Proceed to "Decision" block and answer "no" to warranted question. As the reason for this decision, state that "Community was permitted after the date of approval of CE, ROD, or FONSI, as appropriate."	NA
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

Feasibility

1	Impacted receptor units	
a.	Number of impacted receptor units:	66
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	63
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	95%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	No
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	No

Reasonableness

1 Surface Area (Square foot)-Benefit Factors

a. Surface Area (Total square foot) of the proposed noise barrier. (ft ²)	74,200 SF
b. Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	63
c. Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	3
d. Total number of benefited receptors.	66
e. Surface Area per benefited receptor unit. (ft ² /BR)	1,124 SF/BR
f. Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g. Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes

2 Additional Noise Barrier Details

a. Length of the proposed noise barrier. (ft)	4,277 ft
b. Height range of the proposed noise barrier. (ft)	14-22 ft
c. Average height of the proposed noise barrier. (ft)	17 ft
d. Cost per square foot. (\$/ft ²)	\$36/SF
e. Total Barrier Cost (\$)	\$2,671,200
f. Barrier Material	Absorptive

3 Community Desires Related to the Barrier

Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier can be considered not to be reasonable. Proceed to "decision" block and answer "no" to reasonableness question. As the reason for this decision, state that "The majority of the impacted receptor unit owners do not desire the barrier."

Decision

Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes

Additional Reasons for Decision:

Community Solicitation to be completed upon FHWA/VDOT concurrence.

**VDOT Highway Traffic Noise Abatement
Warranted, Feasible, and Reasonable Worksheet**

Note: Not all questions apply depending on the design phase which may cause differing answers between preliminary and final design phase. Answers to the questions may change depending on the design phase of the project.

Date:	January 7 2013
Project No. and UPC:	0095-96A-107, PE-101; UPC 70849
County:	Fairfax
District:	
Barrier System ID:	CNE D
Community Name and/or CNE#	CNE D
Noise Abatement Category(s)	B
Design phase:	Final design

Warranted

1	Community Documentation (if applicable)	
a.	Date community was permitted. (Per 23CFR 772 this is the date the building permit was issued).	NA
b.	Date of approval for the Categorical Exclusion (CE), Record of Decision (ROD), or Finding of No Significant Impact (FONSI):	NA
c.	Does the date in 1.a precede the date in 1.b? If yes, proceed to Warranted Item 2. If no, consideration of noise abatement is not warranted. Proceed to "Decision" block and answer "no" to warranted question. As the reason for this decision, state that "Community was permitted after the date of approval of CE, ROD, or FONSI, as appropriate."	NA
2	Criteria requiring consideration of noise abatement	
a.	Project causes design year noise levels to approach or exceed the Noise Abatement Criteria?	Yes
b.	Project causes a substantial noise increase of 10 dB(A) or more?	No

Feasibility

1	Impacted receptor units	
a.	Number of impacted receptor units:	54
b.	Number of impacted receptor units receiving 5 dB(A) or more insertion loss (IL):	46
c.	Percentage of impacted receptor units receiving 5 dB(A) or more IL	85%
d.	Is the percentage 50 or greater?	Yes
2	Will placement of the noise barrier cause engineering or safety conflicts, e.g drainage issues or site distance issues?	No
3	Will placement of the noise barrier restrict access to vehicular or pedestrian travel?	No
4	Will placement of the noise barrier conflict with existing utility locations?	No

Reasonableness

1 Surface Area (Square foot)-Benefit Factors

a. Surface Area (Total square foot) of the proposed noise barrier. (ft ²)	60,447 SF
b. Impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	46
c. Non-impacted noise sensitive receptor(s) receiving 5 dB(A) IL or more.	16
d. Total number of benefited receptors.	62
e. Surface Area per benefited receptor unit. (ft ² /BR)	975 SF/BR
f. Is (1e) less than or equal to the maximum square feet per benefited receptor (MaxSF/BR) value of 1600?	Yes
g. Does the barrier provide an IL of at least 7 dB(A) for at least one impacted receptor in the design year?	Yes

2 Additional Noise Barrier Details

a. Length of the proposed noise barrier. (ft)	3,489 ft
b. Height range of the proposed noise barrier. (ft)	14-20 ft
c. Average height of the proposed noise barrier. (ft)	18 ft
d. Cost per square foot. (\$/ft ²)	\$36/SF
e. Total Barrier Cost (\$)	\$2,176,092
f. Barrier Material	Absorptive

3 Community Desires Related to the Barrier

Do at least 50 percent of the benefited receptor unit owner(s) and renters desire the noise barrier? If yes, continue to "decision" block. If no, the barrier can be considered not to be reasonable. Proceed to "decision" block and answer "no" to reasonableness question. As the reason for this decision, state that "The majority of the impacted receptor unit owners do not desire the barrier."

Decision

Is the Noise Barrier(s) WARRANTED?	Yes
Is the Noise Barrier(s) FEASIBLE?	Yes
Is the Noise Barrier(s) REASONABLE?	Yes

Additional Reasons for Decision:

Community Solicitation to be completed upon FHWA/VDOT concurrence.

Appendix G

REFERENCES

References

- Virginia Department of Transportation, Highway Traffic Noise Impact Analysis Guidance Manual, Approved March 15 2011, effective July 13, 2011, updated September 16, 2011.
- Virginia Department of Transportation, Section 107.14(b) 3 Noise (VDOT, 2002).
- Federal Highway Administration, Federal Aid Policy Guide 23 CFR 772, U.S. Government Printing Office, updated July 13, 2010.
- U.S. Department of Transportation, Federal Highway Administration “FHWA Traffic Noise Model User’s Guide,” FHWA Report No. FHWA-PD-96-009, January 1998.
- U.S. Department of Transportation, Federal Highway Administration “Highway Traffic Noise Analysis and Abatement Guidance,” January 2011.

Appendix H

LIST OF PREPARERS & REVIEWERS

List of Preparers / Reviewers

McCormick Taylor, Inc.

Josh J. Wilson

Senior Acoustical Scientist

Education: *B.S., Geo-Environmental Studies*

M.S., Geo-Environmental Studies

Professional Experience: 11.3 Years

Role: Project Coordination, Noise Modeling, and Report Preparation

Rich A. Butala

Contract Manager

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Role: QA/QC

Jack A. Cramer

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Role: Report Preparation

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B.A., Geology

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Role: QA/QC

Virginia Department of Transportation

Paul Kohler

VDOT Noise Abatement Section Manager

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Role: Technical Analysis Reviewer

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Education: *B.S. Mechanical Engineering*

Professional Experience: 4 Years

Role: Technical Analysis Reviewer

Fluor-Lane 95, LLC

John C. Thomas, P.E.

Fluor-Lane 95, LLC Engineering Manager

Education: *B.S. Civil & Environmental Engineer*

Professional Experience: 15 Years

Role: Constructibility Reviewer

Appendix I

BARRIER HEIGHT CHART

Wall 15B (CNE A)

Station	Barrier Height (Feet)	Station	Barrier Height (Feet)
54+62-55+00	20	80+00-80+50	22
55+00-55+50	20	80+50-81+00	22
55+50-56+00	20	81+00-81+50	22
56+00-56+50	22	81+50-82+00	22
56+50-57+00	22	82+00-82+50	22
57+00-57+50	22	82+50-83+00	20
57+50-58+00	22	83+00-83+50	20
58+00-58+50	22	83+50-84+00	20
58+50-59+00	22	84+00-84+50	20
59+00-59+50	22	84+50-85+00	20
59+50-60+00	18	85+00-85+50	20
60+00-60+50	16	85+50-86+00	20
60+50-61+00	12.91	86+00-86+50	20
61+00-61+50	12	86+50-87+00	20
61+50-62+00	12	87+00-87+50	20
62+00-62+50	12	87+50-88+00	20
62+50-63+00	12	88+00-88+50	20
63+00-63+50	14.41	88+50-89+00	20
63+50-64+00	12	89+00-89+50	20
64+00-64+50	13.44	89+50-90+00	20
64+50-65+00	16.73	90+00-90+50	20
65+00-65+50	21.5	90+50-91+00	20
65+50-66+00	27.25	91+00-91+50	20
66+00-66+50	30.48	91+50-92+00	20
66+50-67+00	30	92+00-92+50	20
67+00-67+50	30	92+50-93+00	20
67+50-68+00	30	93+00-93+50	20
68+00-68+50	30	93+50-94+00	20
68+50-69+00	30	94+00-94+50	18
69+00-69+50	30	94+50-95+00	18
69+50-70+00	25.23	95+00-95+50	18
70+00-70+50	22	95+50-96+00	18
70+50-71+00	22	96+00-96+50	16
71+00-71+50	22	96+50-97+00	16
71+50-72+00	22	97+00-97+50	16
72+00-72+50	22		
72+50-73+00	22		
73+00-73+50	22		
73+50-74+00	22		
74+00-74+50	22		
74+50-75+00	22		
75+00-75+50	22		
75+50-76+00	22		
76+00-76+50	22		
76+50-77+00	22		
77+00-77+50	22		
77+50-78+00	22		
78+00-78+50	22		
78+50-79+00	22		
79+00-79+50	12		
79+50-80+00	22		

*Along GP, northbound lanes, south of 14B wall

**Make 20' high along entire length

Wall 14B (CNE B)

Station	Barrier Height (Feet)	Station	Barrier Height (Feet)
10+00-10+50	14	31+00-31+50	16
10+50-11+00	14	31+50-32+00	16
11+00-11+50	14	32+00-32+50	16
11+50-12+00	14	32+50-33+00	20
12+00-12+50	16	33+00-33+50	20.84
12+50-13+00	16	33+50-34+00	21.84
13+00-13+50	16	34+00-34+50	22.84
13+50-14+00	16	34+50-35+00	23.84
14+00-14+50	18	35+00-35+50	24.5
14+50-15+00	16	35+50-36+00	25.1
15+00-15+50	12	36+00-36+50	32.15
15+50-16+00	12	36+50-37+00	31.35
16+00-16+50	12	37+00-37+50	30.45
16+50-17+00	12	37+50-38+00	30
17+00-17+50	12	38+00-38+50	30
17+50-18+00	12	38+50-39+00	30
18+00-18+50	12	39+00-39+50	29.25
18+50-19+00	12	39+50-40+00	28.78
19+00-19+50	12	40+00-40+50	29.7
19+50-20+00	12	40+50-41+00	32.24
20+00-20+50	12	41+00-41+50	31.95
20+50-21+00	12	41+50-42+00	31.48
21+00-21+50	12	42+00-42+50	30
21+50-22+00	12	42+50-43+00	30
22+00-22+50	12	43+00-43+50	30
22+50-23+00	12	43+50-44+00	30
23+00-23+50	12	44+00-44+50	30
23+50-24+00	12	44+50-45+00	30
24+00-24+50	12	45+00-45+50	30
24+50-25+00	12	45+50-46+00	30
25+00-25+50	12	46+00-46+50	31.43
25+50-26+00	12	46+50-47+00	31.19
26+00-26+50	12	47+00-47+50	28.42
26+50-27+00	12	47+50-48+00	28
27+00-27+50	12	48+00-48+50	25.94
27+50-28+00	12	48+50-49+00	24.31
28+00-28+50	12	49+00-49+50	22.41
28+50-29+00	12	49+50-50+00	21.29
29+00-29+50	12	50+00-50+50	20.18
29+50-30+00	9	50+50-51+00	19.05
30+00-30+50	9	51+00-51+50	18.15
30+50-31+00	12	51+50-52+00	17.17
		52+00-52+50	16.17
		52+50	14

Wall 15A (CNE C)			Wall 15A (CNE C)		
Station	Bottom Elevation	Barrier Height	Station	Bottom Elevation	Barrier Height
10+00-10+50	246.02	14	35+50-36+00	226.16	14
10+50-11+00	244.88	16	36+00-36+50	232.04	14
11+00-11+50	245.69	16	36+50-37+00	236.81	14
11+50-12+00	246.56	16	37+00-37+50	238.54	14
12+00-12+50	247.78	16	37+50-38+00	240.22	14
12+50-13+00	249.24	16	38+00-38+50	241.08	14
13+00-13+50	250.22	16	38+50-39+00	240.09	14
13+50-14+00	250.86	16	39+00-39+50	236.58	14
14+00-14+50	252.58	16	39+50-40+00	230.55	14
14+50-15+00	253.96	16	40+00-40+50	225.28	14
15+00-15+50	254.04	16	40+50-41+00	221.97	14
15+50-16+00	253.51	16	41+00-41+50	220.57	14
16+00-16+50	252.46	16	41+50-42+00	219.81	14
16+50-17+00	250.56	16	42+00-42+50	221.99	14
17+00-17+50	248.24	16	42+50-43+00	226.89	14
17+50-18+00	244.08	16	43+00-43+50	228.49	14
18+00-18+50	235.31	18	43+50-44+00	227.27	14
18+50-19+00	225.15	22.89	44+00-44+50	222.99	16
19+00-19+50	218.81	24.61	44+50-45+00	216.12	18
19+50-20+00	223.37	20.55	45+00-45+50	208.46	18.85
20+00-20+50	223.96	19.26	45+50-46+00	204.87	19.93
20+50-21+00	223.46	18.38	46+00-46+50	203	21.39
21+00-21+50	223.06	18	46+50-47+00	202.2	21.57
21+50-22+00	222.75	18	47+00-47+50	200.42	21.66
22+00-22+50	222.26	18	47+50-48+00	201.19	20
22+50-23+00	221.98	18	48+00-48+50	203.93	18
23+00-23+50	221.24	18	48+50-49+00	202.4	18
23+50-24+00	220.41	18	49+00-49+50	196.96	18
24+00-24+50	219.13	18	49+50-50+00	188.96	18
24+50-25+00	218.33	18	50+00-50+50	183.12	18.35
25+00-25+50	216.58	18	50+50-51+00	176.83	21.54
25+50-26+00	215.11	18	51+00-51+50	172.93	22
26+00-26+50	214.43	18	51+50-52+00	171.65	22.08
26+50-27+00	213.04	18	52+00-52+50	172.78	22.09
27+00-27+50	212.38	18	52+50-53+00	174.71	21.46
27+50-28+00	211.78	18	53+00 - 53+18	175.11	20.4
28+00-28+50	211.35	18	53+18	175.48	20
28+50-29+00	210.84	18			
29+00-29+50	210.04	18			
29+50-30+00	209.43	18			
30+00-30+50	208.83	18			
30+50-31+00	207.45	18			
31+00-31+50	206.86	18			
31+50-32+00	204.09	18			
32+00-32+50	205.44	18			
32+50-33+00	204.34	18			
33+00-33+50	202.83	18.89			
33+50-34+00	201.08	21.01			
34+00-34+50	202.04	20			
34+50-35+00	211.11	16			
35+00-35+50	219.12	14			

Wall 16A (CNE D)		
Station	Bottom Elevation	Barrier Height
10+00-10+50	249.8	18
10+50-11+00	250.51	18
11+00-11+50	251.04	18
11+50-12+00	250.43	18
12+00-12+50	250.23	18
12+50-13+00	248.12	18
13+00-13+50	246.47	18
13+50-14+00	245.4	18
14+00-14+50	245.31	18
14+50-15+00	244.53	18
15+00-15+50	241.45	18
15+50-16+00	236.72	18
16+00-16+50	228.13	22.66
16+50-17+00	223.51	23.63
17+00-17+50	226.27	21.09
17+50-18+00	225.15	20
18+00-18+50	221.67	20
18+50-19+00	220.27	20
19+00-19+50	219.28	20
19+50-20+00	216.97	20
20+00-20+50	216.33	20

Wall 16B (CNE D)		
Station	Bottom Elevation	Barrier Height
30+00-30+50	209.82	18
30+50-31+00	208.25	18
31+00-31+50	207.6	18
31+50-32+00	208.14	18
32+00-32+50	208.78	18
32+50-33+00	208.86	18
33+00-33+50	207.71	18
33+50-34+00	206.33	18
34+00-34+50	205.44	18
34+50-35+00	204.04	18
35+00-35+50	202.8	18
35+50-36+00	200.52	18
36+00-36+50	200.08	18
36+50-37+00	199.11	18
37+00-37+50	198.8	18
37+50-38+00	197.68	18
38+00-38+50	196.87	18
38+50-39+00	196.18	18
39+00-39+50	195.59	18
39+50-40+00	194.61	18
40+00-40+50	194.08	18
40+50-41+00	193.53	18
41+00-41+50	195.85	18
41+50-42+00	202.42	18
42+00-42+50	212.92	18
42+50-43+00	220.51	18
43+00-43+50	228.37	16
43+50-44+00	233.5	14
44+00-44+50	239.37	14
44+50-45+00	243.4	14
45+00-45+50	244.86	14
45+50-46+00	245.36	14
46+00-46+50	245.96	14
46+50-47+00	245.46	14
47+00-47+50	244.09	14
47+50-48+00	242.08	14
48+00-48+50	234.81	16.81
48+50-49+00	229.86	19.71
49+00-49+50	232.51	15.35
49+50-50+00	233.18	14
50+00-50+50	231.69	14
50+50-51+00	230.95	14
51+00-51+50	230.35	14
51+50-52+00	228.44	14
52+00-52+50	224.5	14
52+50-53+00	217.12	14.54
53+00-53+50	207.38	16.69
53+50-54+00	203.91	16
54+00-54+50	197.59	16

Appendix J

QA/QC DOCUMENTATION

FORM DQP 3.5-1

LEVEL 2 REVIEW MEMORANDUM

Client Name: **Fluor Enterprises, Inc.**

Job Title: **95 Express Lanes Project**

Job Number: **5446**

Charge Number: **5446-01-01**

Document Title: **INTERSTATE 95-EXPRESS LANES PROJECT, FINAL DESIGN NOISE ANALYSIS TECHNICAL REPORT (SEGMENT IV)**

Document Number: _____

Check Level (mark one): Studies or Report-Type Document

CADD QC Audit

Documents Prepared by Others

Other

Specify below:

Date of Review: **January 7, 2013**

Review Lead: **Jack A. Cramer (Technical Analysis Review)**

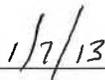
Review Team Member(s): **Diane M. Nulton, John Thomas (Document Review)**

Review Team Findings:
Recommended formatting and typographical changes to text of document. Also, confirmed suggested revisions from project team were incorporated.

Review Team Lead:

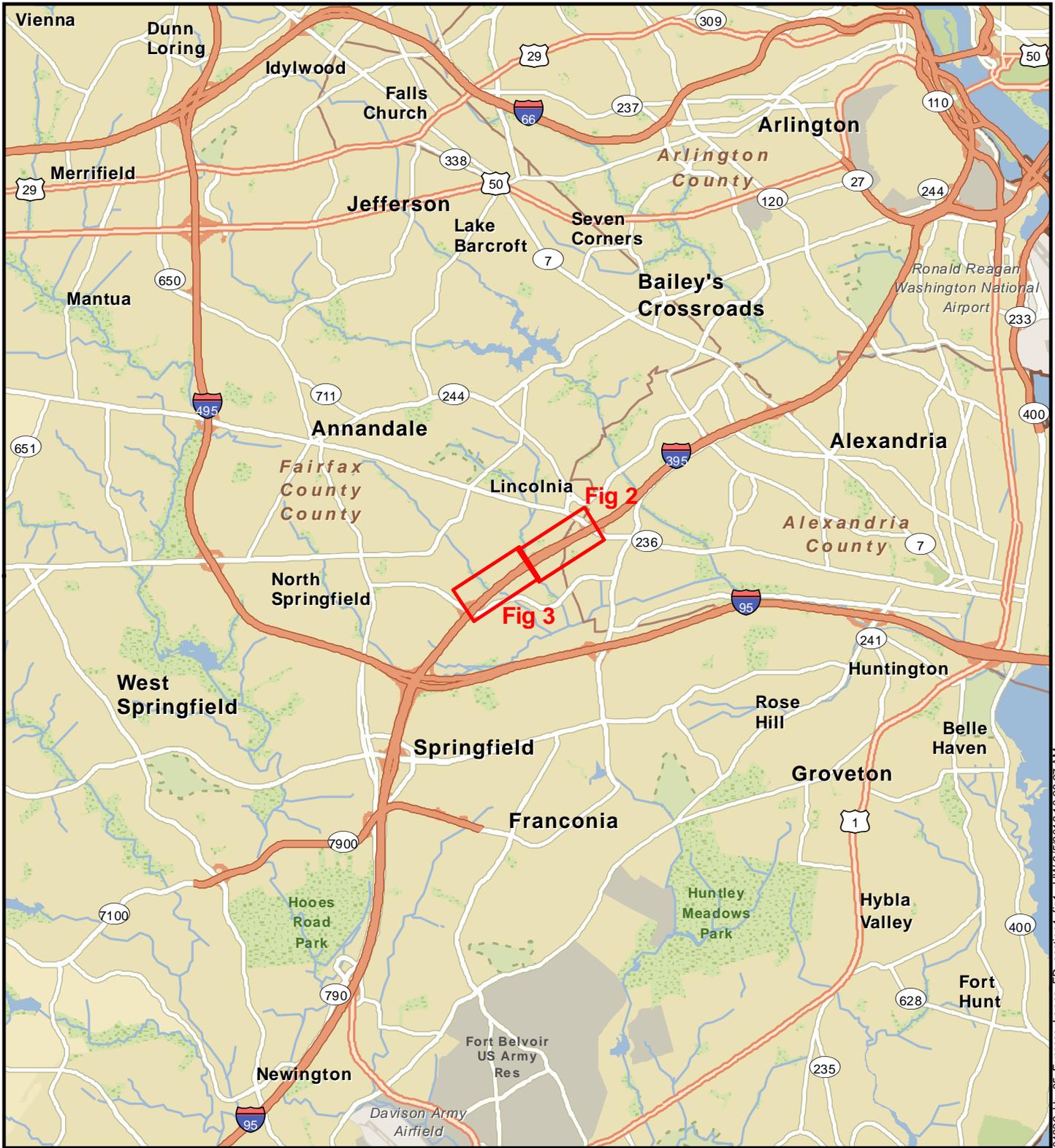


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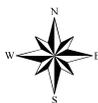
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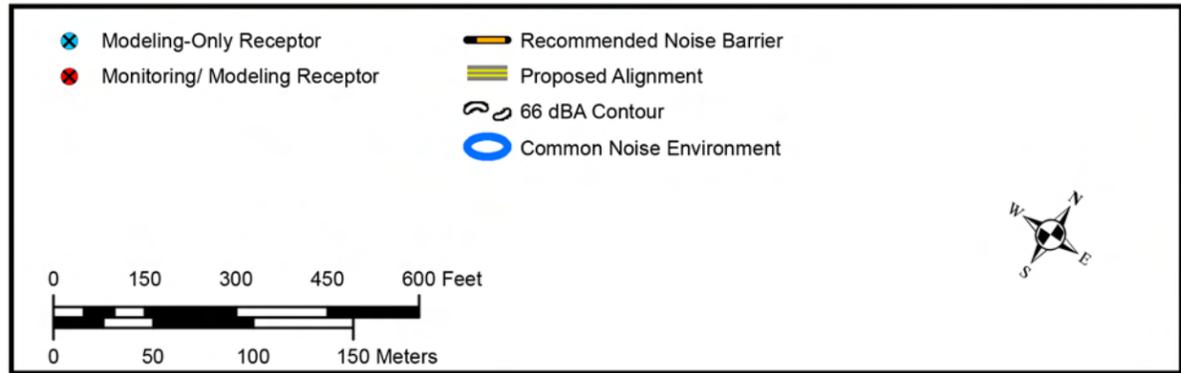
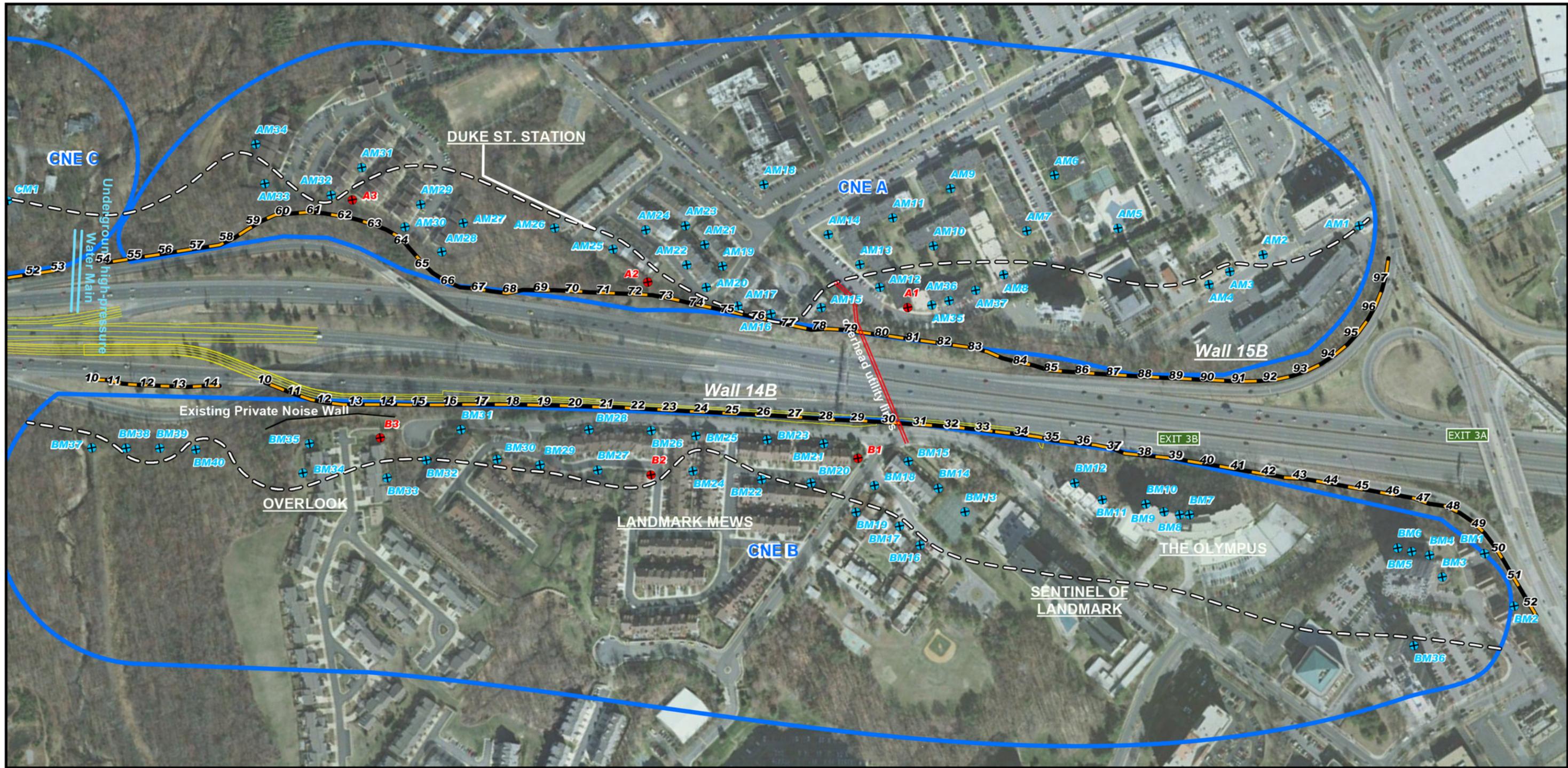
Figures



04332_nb_95_Express_Lanes_FD_sector4_fig1_JJW 6/5/2012 10:23:27 AM

**Figure 1 - Regional location map
I-95 HOV Final Design
Fairfax County, Virginia**

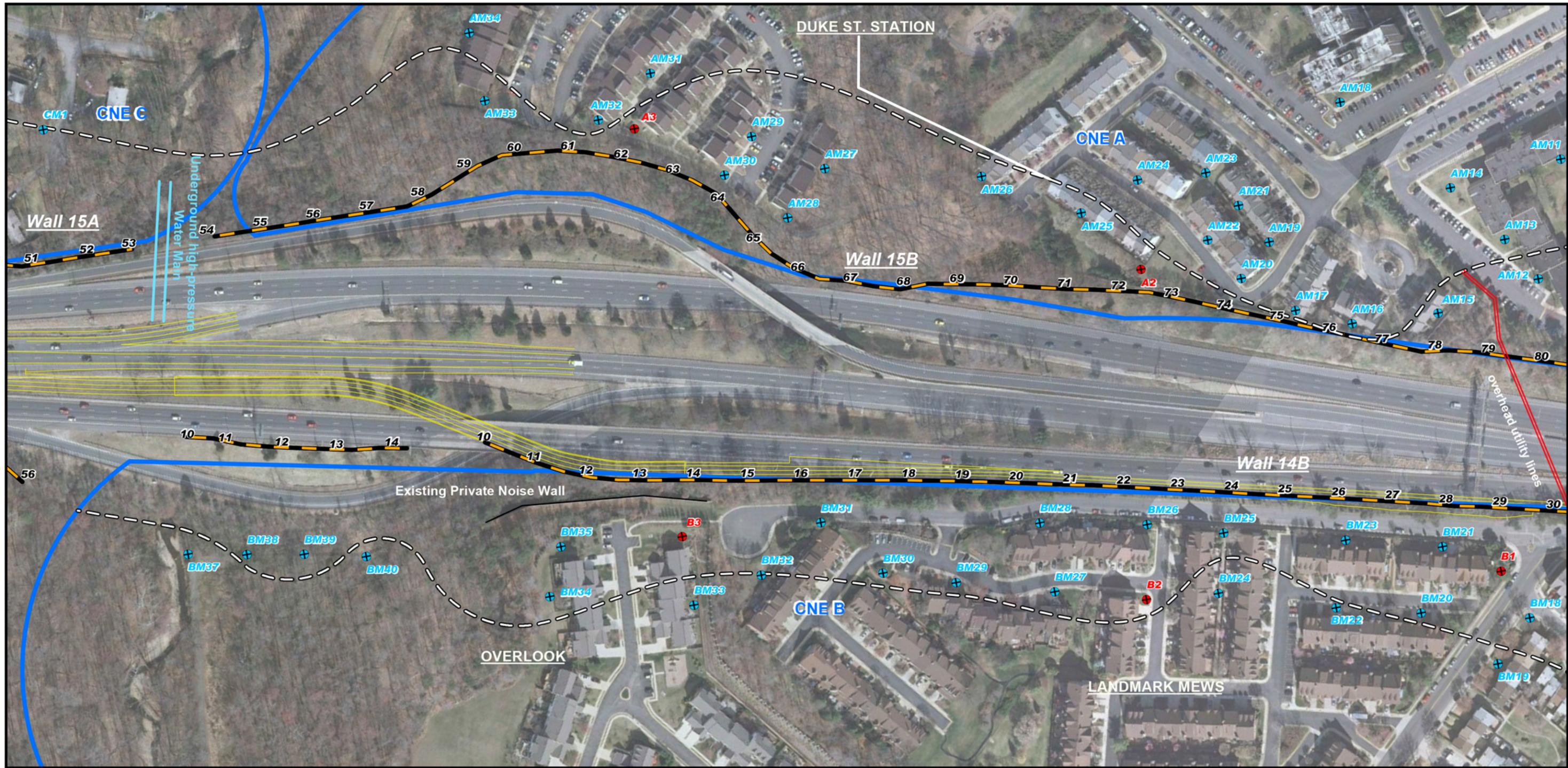




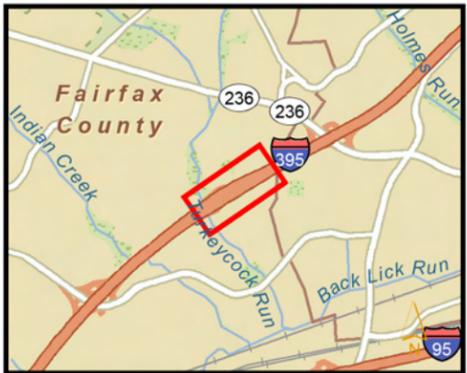
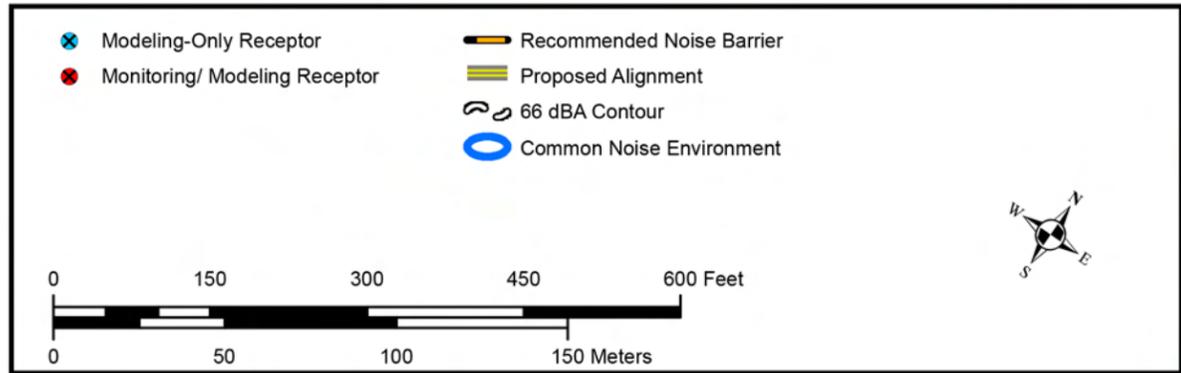
Virginia Department of Transportation
Interstate 95 – Express Lanes Project
 State Project No.: 0095-96A-107, PE-101; UPC 70849
 From: I-95 Exit 143 (Garrisonville Road Interchange)
 To: I-395 Exit 3A (Duke Street)
 Section IV

Figure 2

Fairfax, Prince William, and Stafford Counties, Virginia



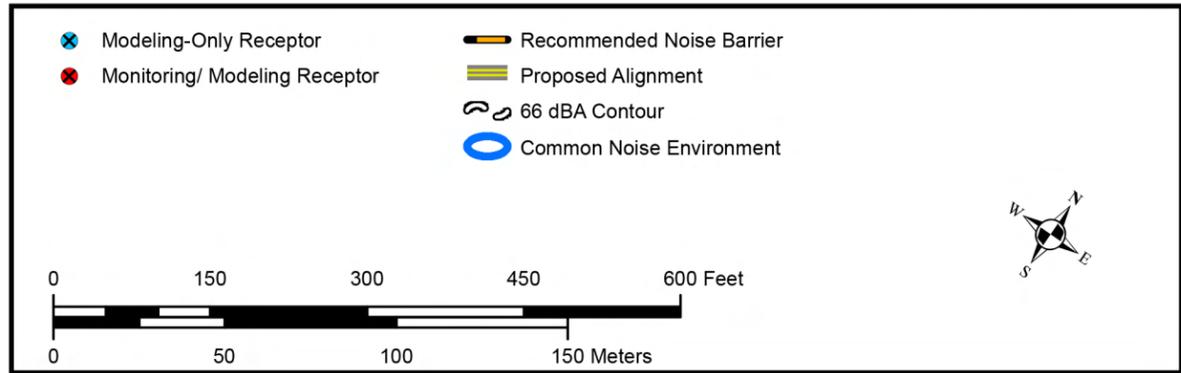
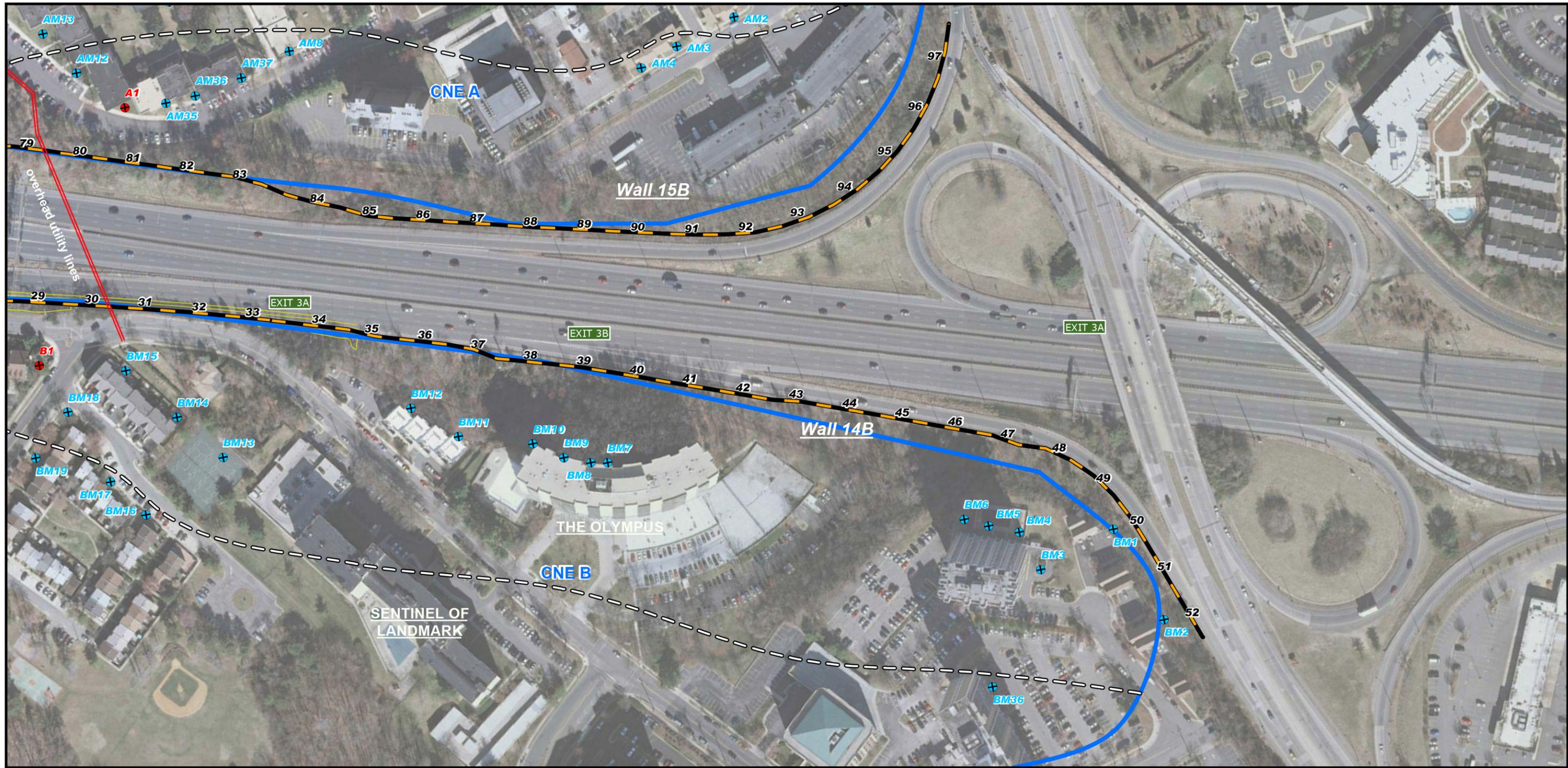
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Virginia Department of Transportation
Interstate 95 – Express Lanes Project
 State Project No.: 0095-96A-107, PE-101; UPC 70849
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 To: I-395 Exit 3A (Duke Street)
 Section IV

Figure 2A

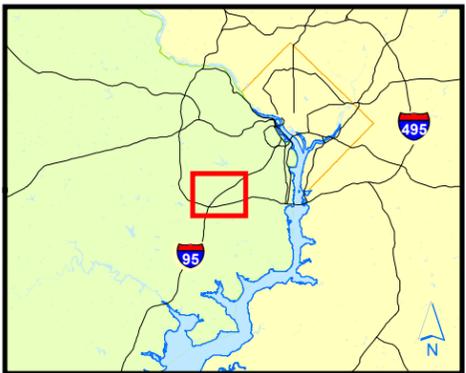
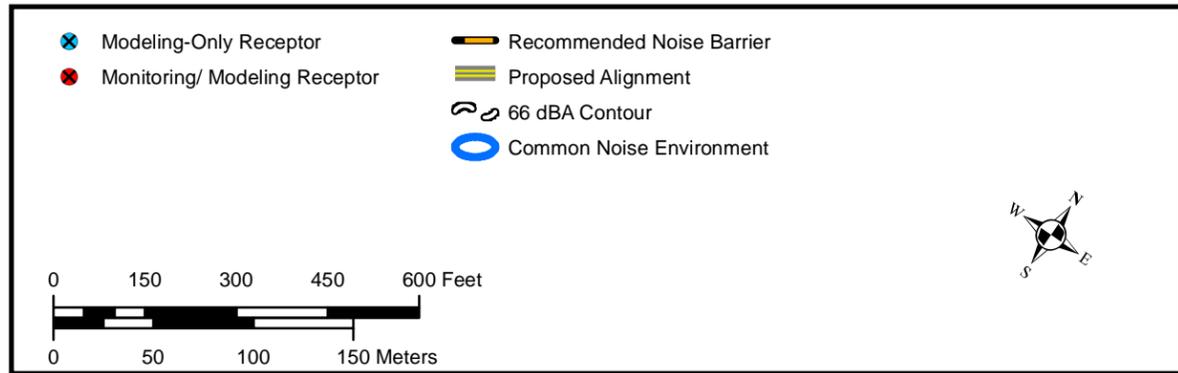
Fairfax, Prince William, and Stafford Counties, Virginia



Virginia Department of Transportation
Interstate 95 – Express Lanes Project
 State Project No.: 0095-96A-107, PE-101; UPC 70849
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 To: I-395 Exit 3A (Duke Street)
 Section IV

Figure 2B

Fairfax, Prince William, and Stafford Counties, Virginia



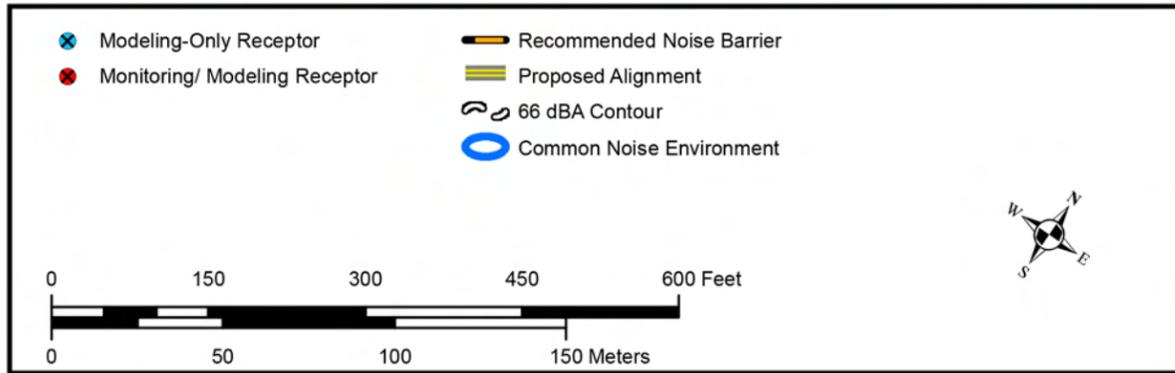
Virginia Department of Transportation
Interstate 95 – Express Lanes Project
 State Project No.: 0095-96A-107, PE-101; UPC 70849
 From: I-95 Exit 143 (Garrisonville Road Interchange)
 To: I-395 Exit 3A (Duke Street)
 Section IV

Figure 3

Fairfax, Prince William, and Stafford Counties, Virginia



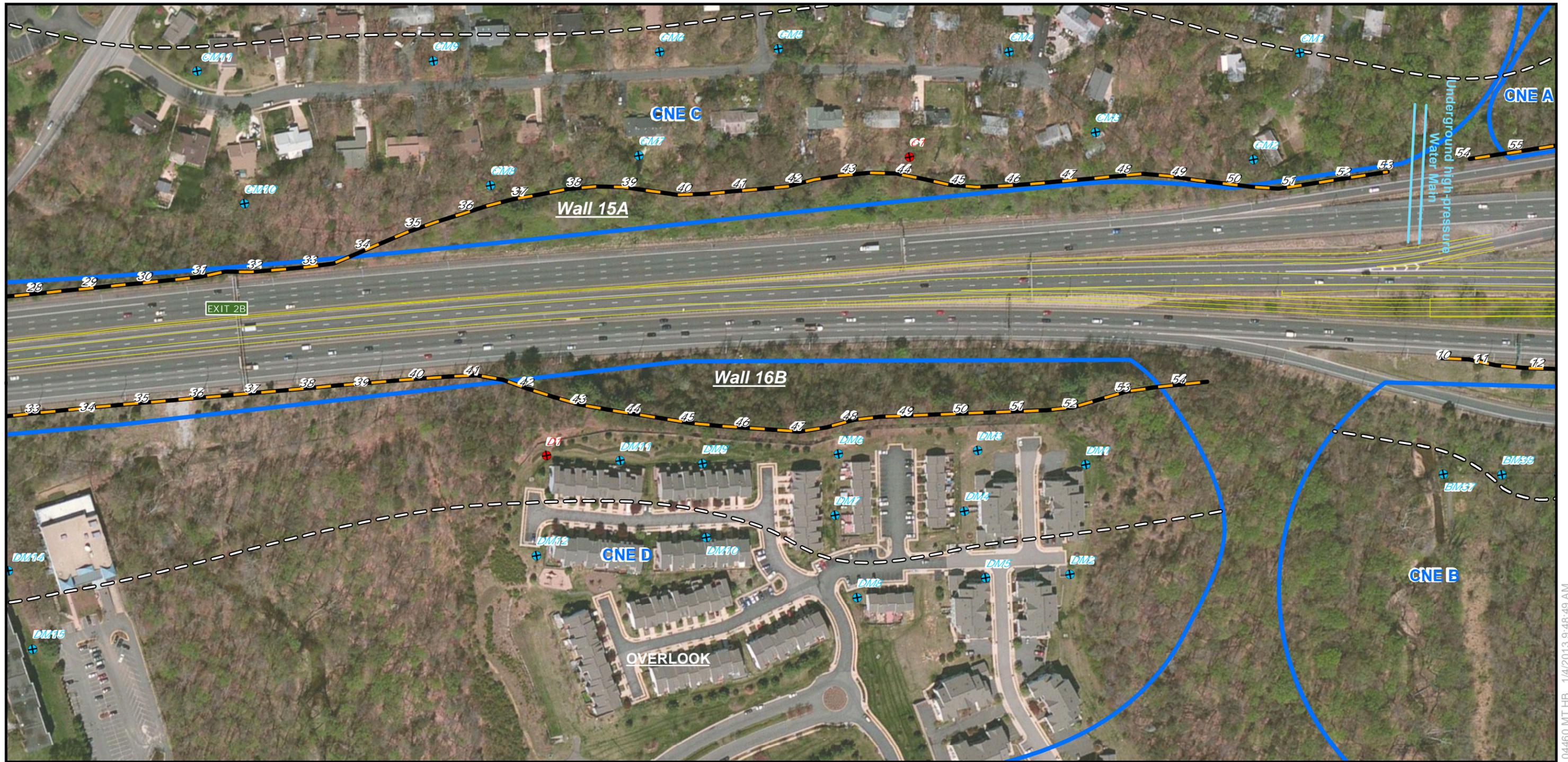
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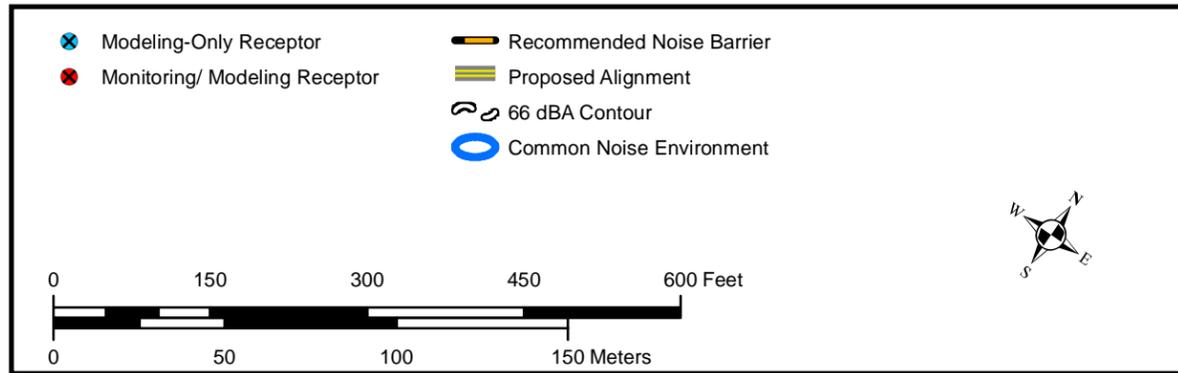
Virginia Department of Transportation
Interstate 95 – Express Lanes Project
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 To: I-395 Exit 3A (Duke Street)
 Section IV

Figure 3A

Fairfax, Prince William, and Stafford Counties, Virginia



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Virginia Department of Transportation
Interstate 95 – Express Lanes Project
 State Project No.: 0095-96A-107, PE-101; UPC 70849
 From: I-95 Exit 143 (Garrisonville Road Interchange)
 To: I-395 Exit 3A (Duke Street)
 Section IV

Figure 3B

Fairfax, Prince William, and Stafford Counties, Virginia