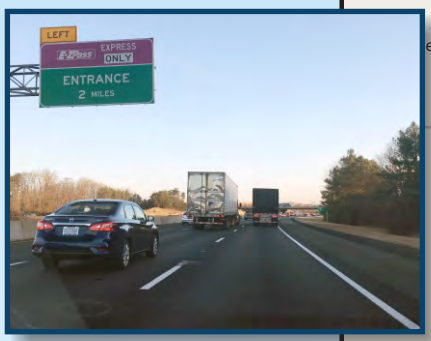
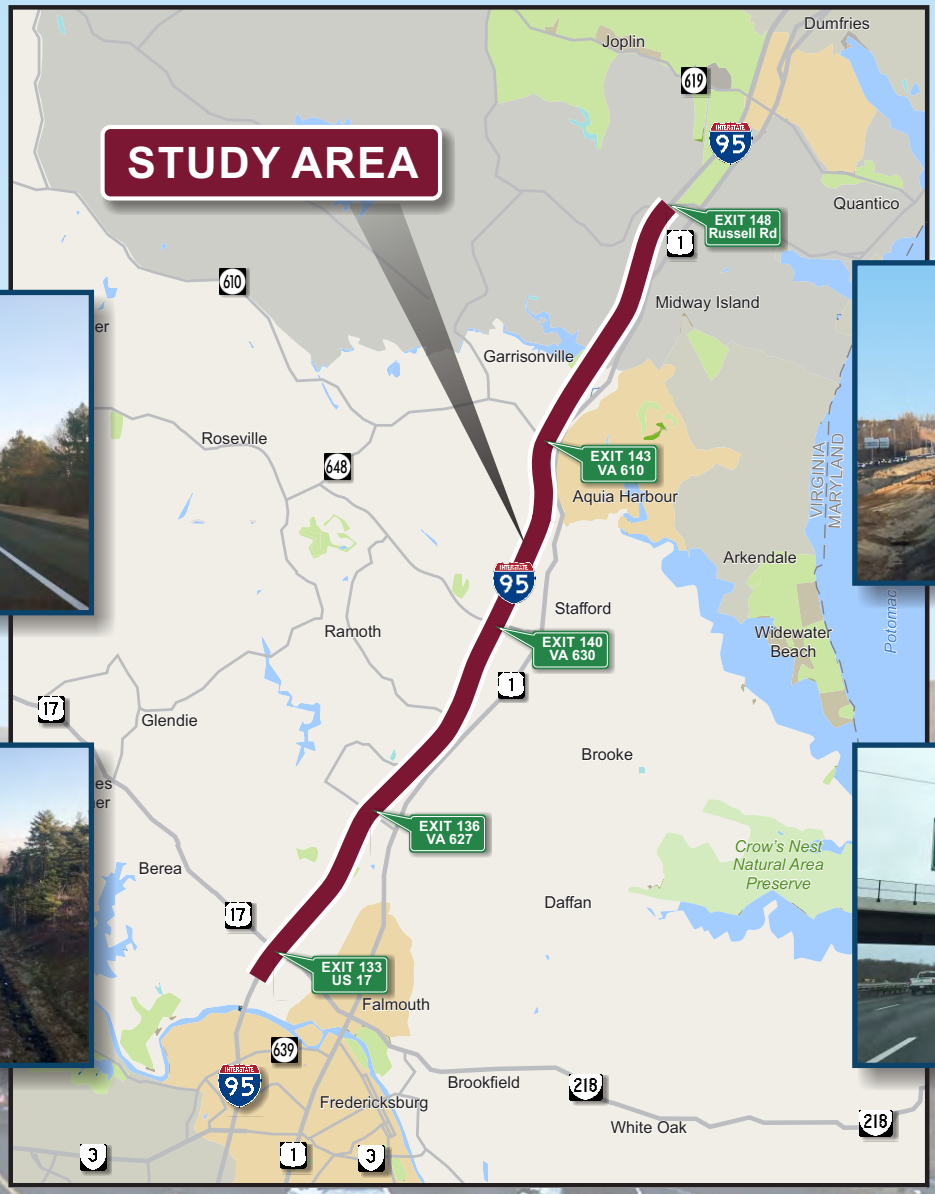
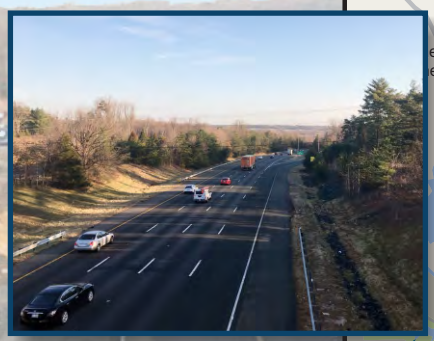
Interstate 95 Express Lanes
Fredericksburg Extension Study

# TRAFFIC AND TRANSPORTATION TECHNICAL REPORT





VDOT Virginia Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

AUGUST 2017

# TRAFFIC AND TRANSPORTATION TECHNICAL REPORT

## INTERSTATE 95 EXPRESS LANES FREDERICKSBURG EXTENSION STUDY

Prepared in support of the Revised Environmental Assessment

VDOT Project #: 0095-969-739

UPC#: 110527

**August 2017**

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**LIST OF ACRONYMS**

| | |
|---|---|
| ADT | Average Daily Traffic |
| EA | Environmental Assessment |
| FBG | Fredericksburg Station |
| FHWA | Federal Highway Administration |
| FRED | Fredericksburg Regional Transit |
| GP | General Purpose |
| HCS | Highway Capacity Software |
| HOT | High-Occupancy Toll |
| I-95 | Interstate 95 |
| IPF | Iterative Proportional Fitting |
| LOS | Level of Service |
| MCBQ | Marine Corps Base Quantico |
| MPH | Miles per Hour |
| MPO | Metropolitan Planning Organization |
| MVMT | Million Vehicle Miles Traveled |
| MWCOG | Metropolitan Washington Council of Governments |
| NCHRP | National Cooperative Highway Research Program |
| NEPA | National Environmental Policy Act |
| TRB | Transportation Research Board |
| VDOT | Virginia Department of Transportation |
| VRE | Virginia Railway Express |

# 1. INTRODUCTION

## 1.1 PROJECT DESCRIPTION

The Virginia Department of Transportation (VDOT), in coordination with the Federal Highway Administration (FHWA) as the lead federal agency, is preparing a Revised Environmental Assessment (Revised EA) for the Interstate 95 (I-95) HOT Lanes Project, for which a Finding of No Significant Impact (FONSI) was issued by FHWA in 2011. The Revised EA, which is being completed for the I-95 Express Lanes Fredericksburg Extension Study (or the "Fredericksburg Extension Study"), presents improvements identified in a portion of the 2011 FONSI-selected Alternative, from the I-95 / US 17 North interchange at Warrenton Road (Exit 133) to south of the I-95 / Russell Road interchange (Exit 148). The Revised EA also includes new access points along this portion of the 2011 FONSI-selected Alternative. As part of the current study, environmental resources along the corridor were updated according to the latest available data and information.

The purpose of this Transportation and Traffic Technical report is to document the data collection, traffic forecasting, and analysis efforts performed to assess potential operational improvements for the study area corridors. Information in this report, described below, will support discussions presented in the Revised EA.

- **Section 1** provides an overview of the study.
- **Section 2** outlines the methods used to assess traffic operations.
- **Section 3** describes existing conditions including an inventory of multimodal transportation infrastructure, as well as peak hour and daily traffic volumes, crash trends, vehicle speeds, and traffic operations along the Study Corridor.
- **Section 4** provides an overview of alternatives considered for the study.
- **Section 5** outlines potential impacts to traffic operations in the design year (2042) associated with each of the alternatives presented in the EA.
- **Section 6** outlines potential impacts to traffic operations in the opening year (2022) associated with each of the alternatives presented in the EA.
- **Section 7** includes the references cited.

### 1.1.1 Purpose and Need

The purpose of the Fredericksburg Extension Study is to:

- Reduce daily congestion and accommodate travel demands more efficiently. Existing traffic volumes exceed available highway capacity, and the forecasts prepared using the regional travel demand models show continuing traffic growth in the corridor, with much of the Fredericksburg region's workforce continuing to commute north.
- Provide higher reliability of travel times. People place a high value on reaching their destinations in a timely manner, and in recent years, I-95 has become so congested that the existing I-95 facilities cannot provide reliable travel times during the peak periods.
- Expand travel choices by increasing the attractiveness and utility of ridesharing and transit usage while also providing an option for single-occupant vehicles to bypass congested conditions.

### 1.1.2 Alternatives

The proposed Build Alternative and the No-Build Alternative are under consideration. The proposed limits of the Build Alternative and areas identified for access improvements are shown on **Figure 2-1**. Additional information on the alternatives is included in the *Fredericksburg Extension Study Alternatives Technical Report* (VDOT, 2017b), and in the Revised EA (VDOT, 2017a).

**No-Build Alternative**

Under the No-Build Alternative, the Express Lanes would not be extended beyond the southern terminus of the Southern Extension project, which is currently under construction south of VA 610 / Garrisonville Road (Exit 143). There would be no change to existing access points, and I-95 would remain in its present configuration. VDOT would continue maintenance and repairs of the existing roadway, as needed, with no substantial changes to current capacity or management activities. The No-Build Alternative was not identified as the Preferred Alternative in the 2011 EA and subsequent FONSI, but is retained as a baseline for comparison in this technical report.

**Build Alternative**

The Build Alternative would extend two reversible Express Lanes in the median of I-95 from the vicinity of the I-95 / US 17 North Interchange at Warrenton Road (Exit 133) to south of the I-95 / VA 610 Interchange at Garrisonville Road (Exit 143) to tie into the Southern Extension Project. It would also provide Express Lane access in the vicinity of the I-95 / US 17 North Interchange at Warrenton Road (Exit 133), the I-95 / VA 630 Interchange at Courthouse Road (Exit 140), and the I-95 / Russell Road Interchange (Exit 148). The Build Alternative is consistent with the 2011 FONSI-selected alternative.

# 2. METHODOLOGY

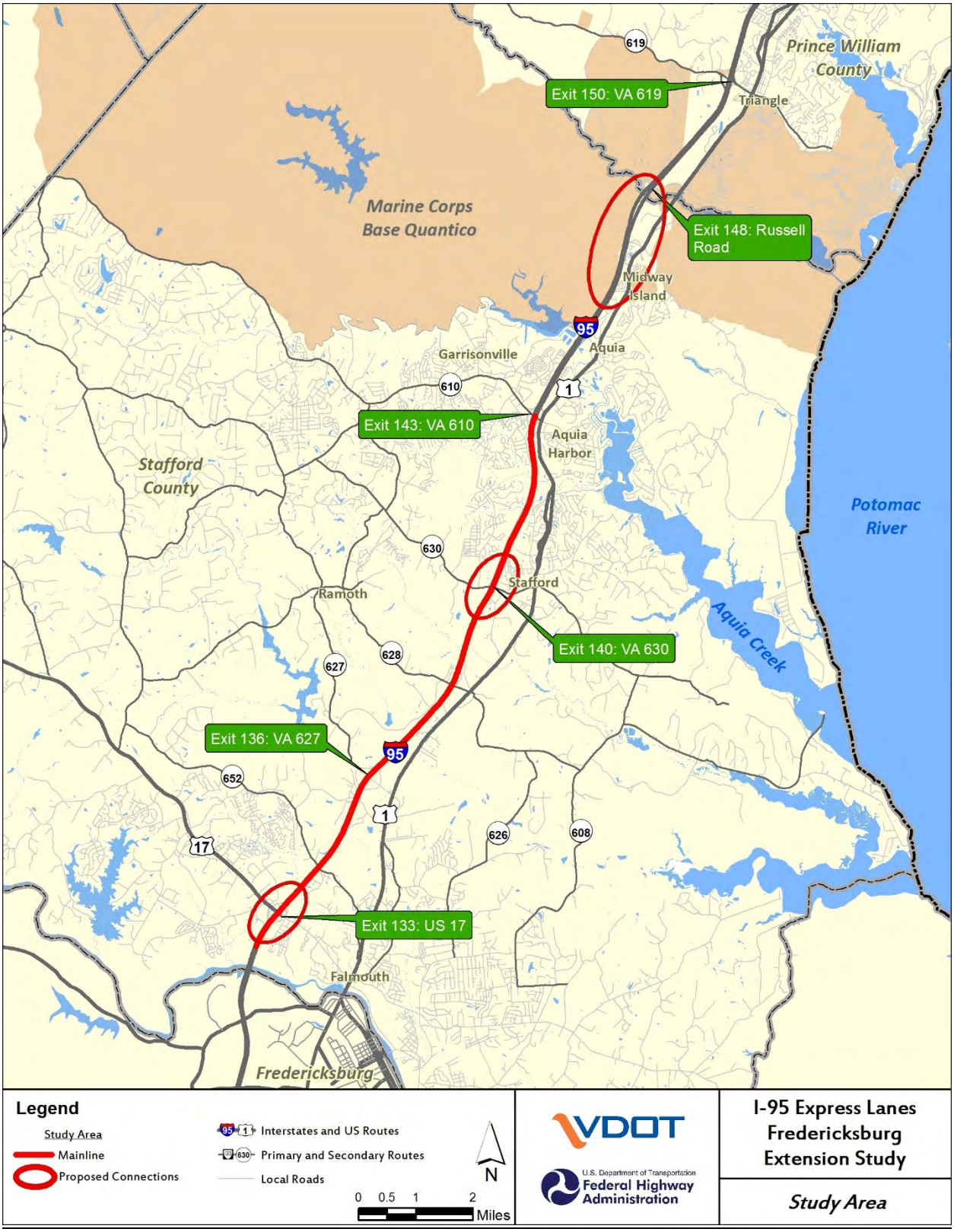
The traffic analysis study area extends along the mainline roadway segments, and includes interchange ramps and signalized and unsignalized intersections within the interchanges at Exit 133, Exit 136, Exit 140, Exit 143, and Exit 148. Travel forecasting and analysis efforts undertaken to support the EA process include data collection, development of balanced peak hour and daily volume forecasts, and capacity analyses for the peak periods, as described in the following subsections.

## 2.1 DATA COLLECTION

An extensive data collection effort was undertaken in September 2016 to establish baseline traffic conditions for the study area. To support the evaluation of future enhancements to the corridor, data collection was conducted for an extended corridor on I-95, from automatic ramp counts and manual intersection turning movement counts, to the data reviewed from VDOT's permanent count stations.

Ramp counts, including existing access points to the I-95 Express Lanes and mainline vehicle classification counts, were conducted for a minimum of 48 consecutive hours on non-holiday Tuesdays, Wednesdays, and Thursdays, and during typical school and non-holiday periods. Ramp and mainline counts were performed using tube and video count equipment. All turning movement counts were conducted on a typical, non-holiday Tuesday, Wednesday, or Thursday when schools were in session. Twelve-hour turning movement counts were performed manually by using video count equipment.

**Figure 2-1: Study Area**



Ramp and mainline vehicle classification counts, along with intersection turning movement counts within the study area, were conducted between September 27 and 29, 2016. Supplemental ramp classification counts and turning movements counts were obtained at I-95 Exit 130 (Plank Road) in November 2016. Supplemental ramp classification counts were obtained at I-95 Exit 161 (US 1) in December 2016.

**Table 2-1** provides the locations of the mainline and ramp vehicle classification counts and **Table 2-2** provides the locations of the intersection turning movement counts conducted within the study area for the Fredericksburg Extension Study. Additional data collection locations outside the proposed project limits are summarized in **Appendix A**.

**Table 2-1: Mainline & Ramp Count Locations**

| Exit | Mainline / Ramp Movement | | | |
|---|---|---|---|---|
| | From | | To | |
| 133 | I-95 | SB | US 17 | NB |
| 133 | I-95 | SB | US 17 Bus | SB |
| 133 | US 17 | SB | I-95 | SB |
| 133 | US 17 Bus | NB | I-95 | SB |
| 133 | I-95 | NB | US 17 Bus | SB |
| 133 | I-95 | NB | US 17 | NB |
| 133 | US 17 | SB | I-95 | NB |
| 133 | US 17 Bus | NB | I-95 | NB |
| I-95 Mainline | Centreport Pkwy | SB | US 17 | |
| I-95 Mainline | US 17 | NB | Centreport Pkwy | |
| 136 | I-95 | SB | Centreport Pkwy | |
| 136 | Centreport Pkwy | | I-95 | SB |
| 136 | I-95 | NB | Centreport Pkwy | |
| 136 | Centreport Pkwy | | I-95 | NB |
| 140 | I-95 | SB | Courthouse Rd | |
| 140 | Courthouse Rd | | I-95 | SB |
| 140 | I-95 | NB | Courthouse Rd | |
| 140 | Courthouse Rd | | I-95 | NB |
| 143 | I-95 | SB | Garrisonville Rd | WB |
| 143 | I-95 | SB | Garrisonville Rd | EB |
| 143 | Garrisonville Rd | WB | I-95 | SB |
| 143 | Garrisonville Rd | EB | I-95 | SB |
| 143 | I-95 | NB | US 1 | |
| 143 | I-95 | NB | Garrisonville Rd | WB |

| Exit | Mainline / Ramp Movement | | | |
|---|---|---|---|---|
| | From | | To | |
| 143 | US 1 | NB | I-95 | NB |
| 143 | Garrisonville Rd | EB | I-95 | NB |
| I-95 Express | I-95 | NB | I-95 Express Lanes (Slip) | |
| I-95 Express | I-95 Express Lanes (Flyover) | | I-95 | SB |
| 148 | I-95 | SB | Russell Rd | |
| 148 | Russell Rd | | I-95 | SB |
| 148 | I-95 | NB | Russell Rd | |
| 148 | Russell Rd | | I-95 | NB |

**Table 2-2: Intersection Turning Movement Count Locations**

| Exit | Location | | |
|---|---|---|---|
| 133 | US 17 | at | South Gateway Dr |
| 133 | US 17 Bus | at | Short St |
| 136 | I-95 NB Ramps | at | Centreport Pkwy |
| 136 | I-95 SB Ramps | at | Centreport Pkwy |
| 136 | US 1 | at | Centreport Pkwy |
| 140 | I-95 NB Ramps | at | Courthouse Rd |
| 140 | I-95 SB Ramps | at | Courthouse Rd |
| 143 | I-95 NB Off-Ramp | at | US 1 |
| 143 | Garrisonville Rd | at | US 1 |
| 143 | US 1 | at | I-95 NB On-Ramp |
| 143 | I-95 SB Off-Ramp | at | Garrisonville Rd |
| 148 | I-95 NB Off-Ramp | at | Russell Rd |
| 148 | Russell Rd | at | I-95 NB On-Ramp |
| 148 | I-95 SB Ramps | at | Russell Rd |

Permanent count data were obtained from VDOT permanent count stations along I-95 within the study area for 2016. The ramp, mainline, and intersection turning movement counts and data from VDOT's permanent count stations were analyzed to determine heavy vehicle percentages used in the capacity analyses.

INRIX data were used to develop speed profiles of I-95 over the course of an average day to help identify recurring areas of congestion and quantify the level of congestion. The 2016 data were compared with 2013 data to evaluate whether traffic operations and congestion have changed over the past several years, particularly after the opening of the I-95 Express Lanes in late 2014.

Finally, crash data from VDOT's Tableau Crash Tool for the Study segment of I-95 were obtained to identify crash trends and crash hotspots, and to compare with crash rates on similar facilities within the state.

## 2.2 DEVELOPMENT OF BALANCED EXISTING TRAFFIC VOLUMES

To support the traffic analysis of alternatives for the Fredericksburg Extension Study, peak period and weekday Average Daily Traffic (ADT) volumes were developed for each alternative to provide a comprehensive assessment of operations during both the highest volume peak period conditions and over the course of a typical weekday.

### 2.2.1 Peak Period Volumes

Given the existing recurring congestion within the study segment, it was determined that multiple hours within the AM and PM peak periods should be evaluated to understand the operations of the corridor. Raw traffic counts were reviewed to identify the peak periods at each data collection location (mainline segments, ramps, intersections, and VDOT mainline permanent count stations). After reviewing the peak periods for the individual data collection locations, common peak periods for I-95 within the study segment were selected. The AM peak period was determined to be between 6:00 – 9:00 AM and the PM peak period was determined to be between 3:00 – 7:00 PM.

The hourly traffic volumes for each hour within the peak periods were then extracted from the raw count data at each location. Heavy vehicle percentages were reviewed along the corridor and minimal variation was found within each hour within the peak periods. Therefore, a peak period heavy vehicle percentage was selected for each direction of I-95 for both the AM and PM peaks and applied during each hour of the analysis period.

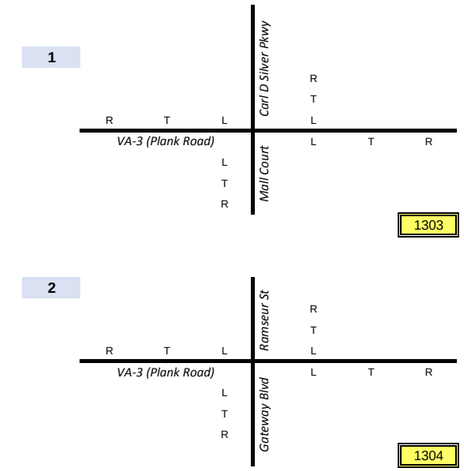
Hourly volumes within each peak period were manually adjusted for balance between interchanges and intersections by holding the volumes at key mainline locations constant, then adding and subtracting ramp volumes between these locations. The balanced 2016 peak hour volumes for each hour within the peak periods (6 – 9 AM and 3 – 7 PM) are provided in **Figures A-1.1** through **A-7.7** in **Appendix A.**

### 2.2.2 Daily Volumes

Development of the daily volumes followed the same approach as the development of peak hour volumes. The balanced daily volumes represent average weekday conditions, although higher weekend and seasonal volumes have been observed along I-95.

Two key reasonableness checks were performed on the final balanced peak hour and daily volumes. First, k-factors were re-computed using the balanced daily and peak hour volumes. These factors were then reviewed to ensure that there were no ramps or intersections where the ratio of peak-to-daily volume is beyond typical values, and that k-factors reflect existing traffic patterns. Second, the daily volumes were compared to the latest available (2015) traffic data published by VDOT to ensure 2016 volumes are generally consistent with the established 2014 average weekday traffic volumes.

The balanced 2015 weekday daily volumes are provided in **Figure 2-2.**




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

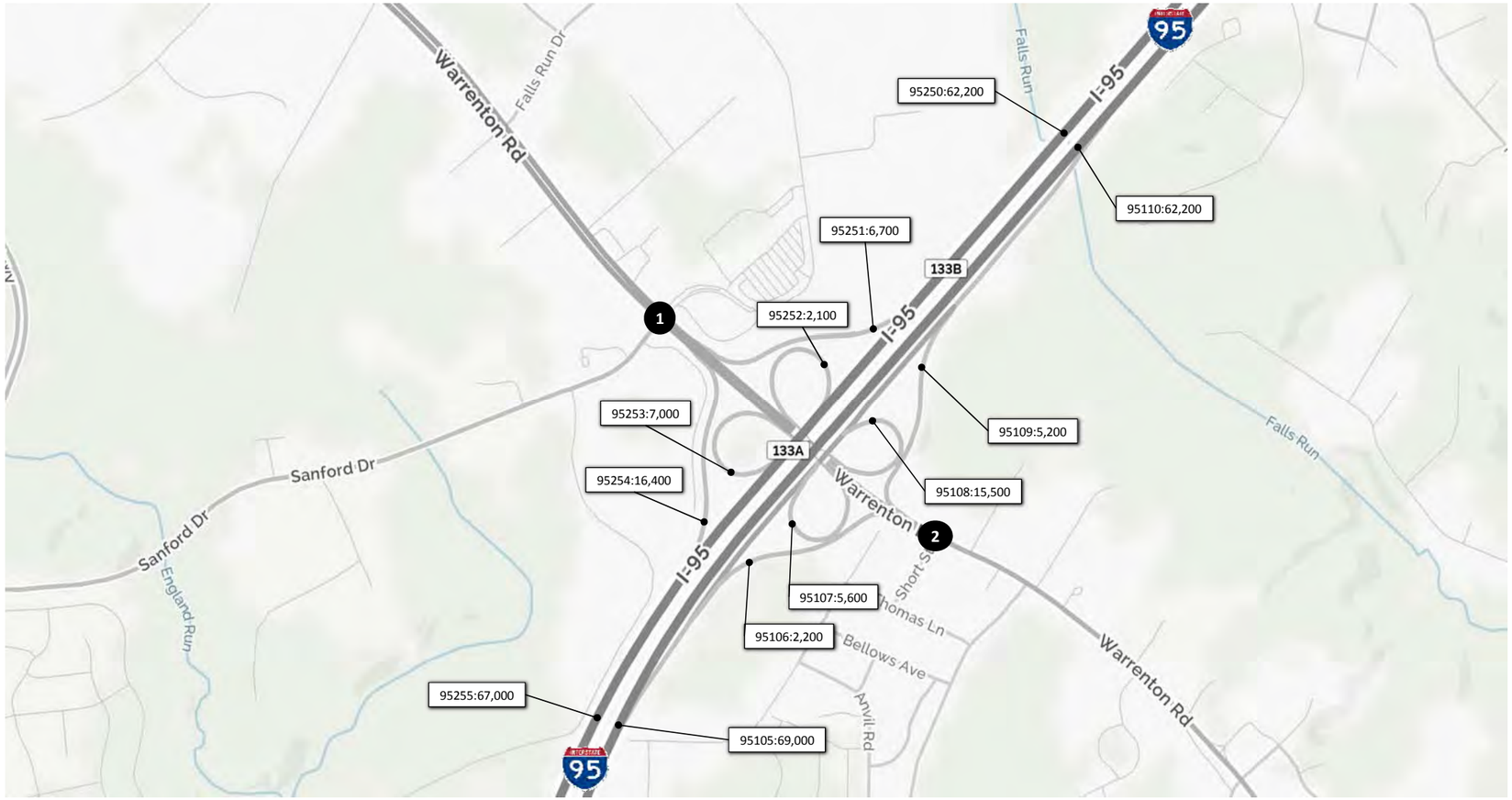
U.S. Department of Transportation Federal Highway Administration

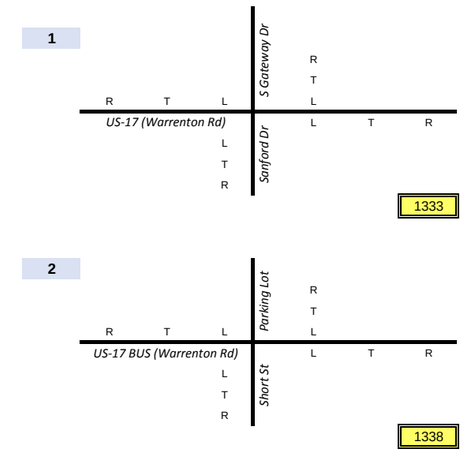
I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday Daily Volumes I-95 Corridor

August 2017

Figure 2.2-1




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

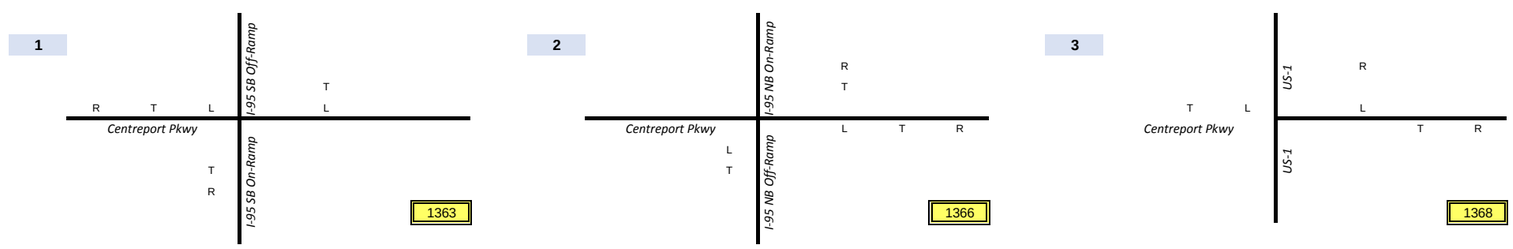
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday Daily Volumes I-95 Corridor

August 2017

Figure 2.2-2




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

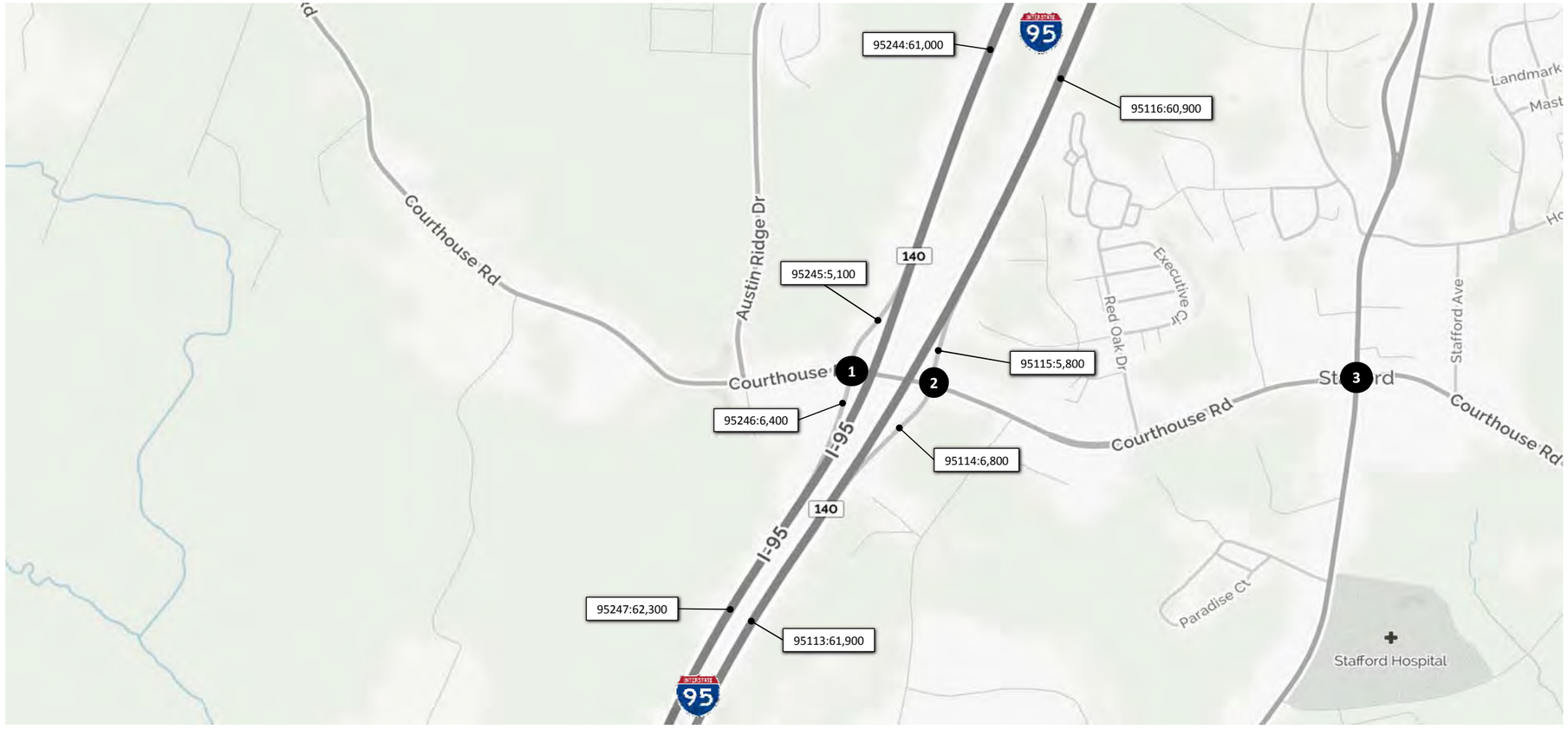
U.S. Department of Transportation Federal Highway Administration

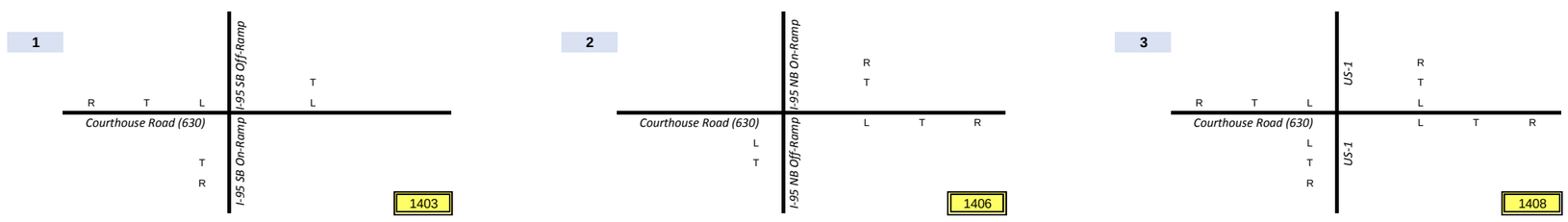
I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday Daily Volumes I-95 Corridor

August 2017

Figure 2.2-3




**Legend**

xx,xxx Weekday Daily Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

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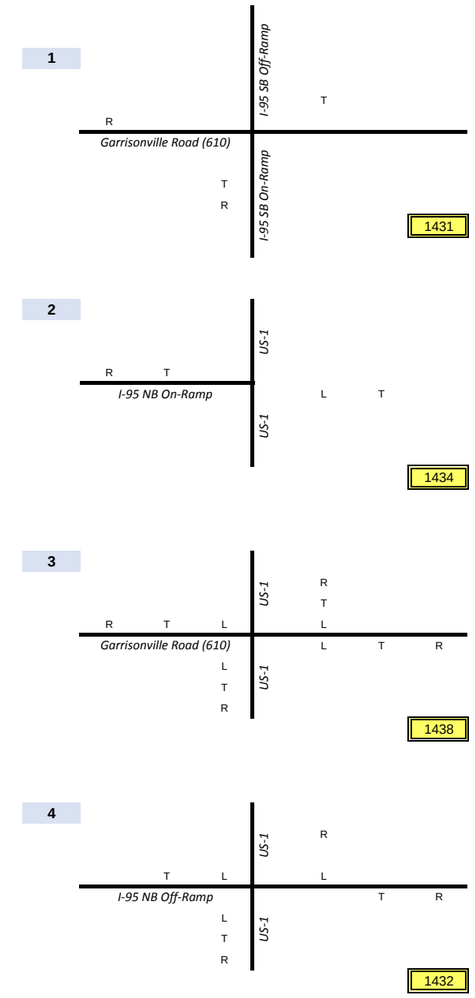
I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday Daily Volumes I-95 Corridor

August 2017

Figure 2.2-4




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday Daily Volumes I-95 Corridor

August 2017

Figure 2.2-5

**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

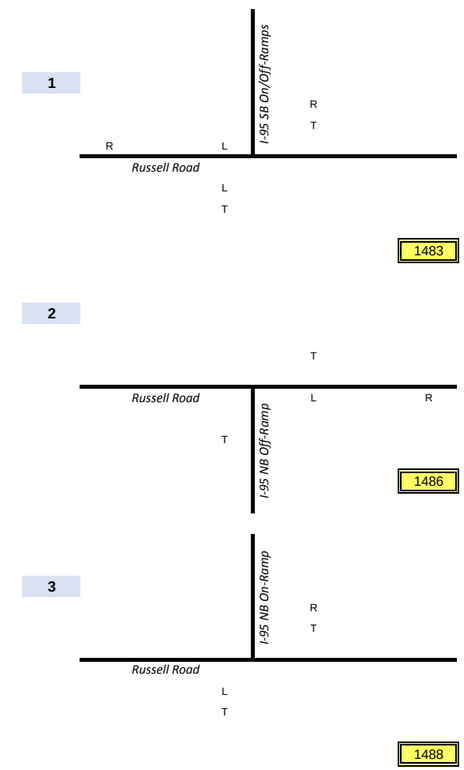
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday Daily Volumes I-95 Corridor

August 2017

Figure 2.2-6




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday Daily Volumes I-95 Corridor

August 2017

Figure 2.2-7

## 2.3 CAPACITY ANALYSES

Capacity analyses along I-95 were conducted for weekday AM and PM peak period conditions under Existing, 2042 No-Build, and 2042 Build Alternative scenarios using the latest version of the Highway Capacity Software (HCS 7 Version 7.1), which was developed based on the methodologies presented in the *Highway Capacity Manual, 6th Edition* (TRB, 2016). The Freeway Facilities module was used to conduct the mainline capacity analyses.

The I-95 corridor was divided into segments, representing either a mainline basic freeway segment, a weaving segment, or a ramp junction (merge or diverge segment). Segments were then evaluated to determine the Level of Service (LOS) for AM and PM peak period conditions based on existing (2016) and future (2042) volumes developed for this study.

Level of Service is a letter-grade description of the quality of traffic flow, ranging from A (best) to F (worst). LOS A represents free-flow conditions where vehicles can travel unimpeded, and where incidents can generally be absorbed. LOS E represents operations near the roadway's capacity, with very unstable flow in which even minor incidents lead to significant queueing. LOS F represents a breakdown in traffic flow with demand exceeding capacity.

Capacity analyses at intersections within the interchanges were conducted for weekday AM and PM peak hour conditions under Existing, 2022 No-Build, 2022 Build Alternative, 2042 No-Build, and 2042 Build Alternative scenarios using the latest version of Synchro with SimTraffic (Version 9.1), which implements the methodologies presented in the *2010 Highway Capacity Manual*. Intersections were evaluated to determine the AM and PM peak hour delay (in seconds) and LOS based on existing (2016) and future (2022 and 2042) volumes developed for this study. Intersection analyses were conducted for the worst-case hour during the individual peak periods.

## 2.4 FORECASTING PROCESS

### 2.4.1 Travel Demand Model

Year 2022 and 2042 travel demand forecasts were developed for both No-Build conditions and the Build Alternative using the latest adopted regional Travel Demand Forecast Model maintained by the Metropolitan Washington Council of Governments [Version 2.3.57a Travel Demand Model (MWCOG Model) with Round 8.4 Cooperative Land Use Forecasts]. A travel demand forecast model is a set of computer-based mathematical relationships that attempts to capture the interaction of travel activities and choices made by a population in a specific region given a proposed network (e.g., highway, transit, etc.) and demographic or land use inputs (e.g., population, employment, etc.). The latest approved model version was provided by MWCOG on October 11, 2016. The main inputs to the travel demand model are:

- Demographic and economic changes in the region, specifically the location of employment and housing; and
- Characteristics of the region's transportation system, including proposed changes in the transportation facilities and operating policies.

The Existing and Future Year (2040) No-Build models were verified to assure that all current planned projects were accounted for. This verification was completed noting that no projects had been omitted and the base geometry was acceptable for this project. Upon completion of the geometric verification, the Existing (2015) model was run and the outputs were compared with existing field data to determine how the model was performing in relation to existing conditions. It was determined that the model was performing within acceptable tolerance for the existing conditions in most locations and therefore a re-

calibration of the model was not deemed necessary. The locations at the far southern end of the study area were the worst performing when compared to the 2015 model, however, these locations are at the southern extents a very large regional network where the traffic analysis zone and link network is less robust than in the model's core. Thus, these differences were evaluated and accounted for as part of the post-processing.

The most recently validated 2040 model with corresponding model networks is the last year for which MWCOG had forecasted land use data available at the time of this study. The 2040 MWCOG model was used to develop 2040 traffic forecasts which were then extrapolated to Year 2042 forecasts. The growth rate used to project 2042 daily volumes to 2040 daily volumes were based on the calculated annual linear growth rate from 2016 to 2040. The growth of 0.75 percent was applied to all study area roadways. The Interim Year (2022) volumes were produced using straight-line linear interpolation between 2016 and 2040.

### 2.4.2 Post-Processing

Post-processing refers to analyses performed after execution of the travel demand forecast model run. Post-processing activities are applied to the travel demand forecast model results to compensate for the limitations of the model. The model used for the study produced raw daily link volumes and raw AM (6:00 – 9:00 AM) and PM (4:00 – 7:00 PM) peak period link volumes. To develop daily and hourly volumes for the peak travel periods, the link-level model outputs were refined for the segments of interest. The freeway system included all mainline links, collector/distributor roads, and ramps. The arterial links included the approaches to each interchange within the study area.

For this study, all post-processing activities for refining the highway link volumes and developing turning movement volumes involved procedures outlined in the National Cooperative Highway Research Program (NCHRP), Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design* (Pedersen et al., 1982) and NCHRP Report 765, *Analytical Travel Forecasting Approaches for Project-Level Planning and Design* (Horowitz et al., 2014). These technical reports provide a set of procedures for refining "raw" link volumes output directly from the model.

The procedure outlined below was followed for both the daily and peak period volumes, for both the Future Year (2042) No-Build and Build scenarios:

**Step 1. Determine 2015 Comparative Ratio**

The existing (2016) volumes were compared to the 2015 model output to determine a comparative ratio. This ratio was calculated as follows:

***2015_Ratio = 2015_NoBuildModel ÷ 2016_Count***

This ratio was used to see where the 2016 counts (based on field data) varied the most from the 2015 model data. This comparison was used to select the appropriate fitting method for developing the future year estimates at each location.

**Step 2. Compute Ratio and Difference Values**

The 2040 volumes were then calculated using two different methodologies. First, they were estimated using a "ratio" methodology, by multiplying the 2016 volumes by the ratio of growth between the 2015 and 2040 No-Build models. These were computed using the following formula:

***2040_r = 2016_Count * (2040_Model ÷ 2015_NoBuildModel)***

****Build or No-Build Model depending on scenario***

Second, they were calculated using a "difference" methodology. These were computed using the following formula:

***2040_d = 2016_Count + (2040_Model* - 2015_NoBuildModel)***

****Build or No-Build Model depending on scenario***

**Step 3. Determine Unbalanced 2040 Volumes**

To determine the 2040 volumes a three-tiered system was utilized based on the 2015_Ratio computed in Step 1:

- If *2015_Ratio* was between 0.5 and 2.0, then the 2040 volume was computed by averaging the two volumes calculated in Step 2.
- If *2015_Ratio* was less than 0.5 or between 2.0 and 5.0, then the 2040 volume was computed by using the *2040_d* value.
- If *2015_Ratio* was greater than 5.0, then the 2040 volume was computed by using the *2040_r* value.

These three different methods were used to normalize the inconsistencies of the model with respect to the actual counts. In the majority of locations, the *2015_Ratio* value fell between 0.5 and 2.0, meaning that the model was assessing the existing conditions between 50% and 200% of the actual field collected count, therefore the 2040 volumes were based on the average of the ratio and difference fields. However, in some locations, it was found that the model output was either exceedingly high or exceedingly low – outside the 50% - 200% range - in comparison with the field collected counts. Therefore, to assure that unreasonably high or low growth rates were not applied at these locations, either the ratio or difference method was utilized to lessen the impact of the gap between the 2016 counts and modeled link volumes.

The specific thresholds identified above were selected using engineering judgment based on past experience on traffic forecasting projects, particularly with the MWCOG model. Using these values, growth rates on facilities (typically low volume facilities) where the Base Year model assignments vary substantially from the field collected data can be moderated to produce more realistic projected volumes. To better illustrate, consider the following examples. If the 2015 model assigned 100 vehicles and 2040 model assigned 200 vehicles to a certain location but the field count showed a volume of 500 (2015_Ratio of 0.2), simply using the model projected growth rate would create a volume in that location of 1,000 vehicles (500 x 100 percent) which would be unreasonably high for that specific corridor. Therefore, to account for such differences, the difference method was utilized to create a more reasonable estimated volume of 600 vehicles (500 + 100). In another example, if the 2015 model assigned 600 vehicles to a certain location and the 2040 model assigned 1,200 vehicles to the same location, but the field count showed a volume of 100 vehicles, the difference method would create a total volume of 700 vehicles on that link, which would be an unreasonably high growth rate of 700 percent. The ratio method would create a more reasonable estimated volume of 200 vehicles (100 x 200 percent). Averaging the two methods, would also result in an unreasonably high growth rate of 350 percent.

The post-processing methodology produced unbalanced daily and AM and PM peak period ramp and mainline volumes and total inflows and outflows at intersections. To account for the turning movement volumes, iterative proportional fitting (IPF) methods outlined in NCHRP 765 and Transportation Research Record 1287, *Model of Turning Movement Propensity* (Furth, 1990) were used. The existing (2016) volumes were used as the seed for the IPF procedure, and the post-processed 2040 link volumes were used as the target inflows and outflows. The IPF routine iteratively adjusted the existing turning movement volumes to balance the turns given the forecasted approach inbound and outbound link volumes.

The 2040 daily link volumes were manually adjusted as necessary to achieve volume balance between interchanges by holding volumes at key mainline I-95 locations constant and then proportionally adding and subtracting ramp volumes between these locations.

The 2040 peak period link and turning movement volumes were manually adjusted as necessary to achieve volume balance between interchanges and intersections by holding volumes at key locations constant and then proportionally adding and subtracting ramp volumes, similar to the process completed for the 2040 daily link volumes. As previously noted, the southern extents of the model were not performing as strong when compared to existing data; therefore, to further smooth the future year forecasts for Exits 130 and 133, the Fredericksburg Area Metropolitan Planning Organization (MPO) Model, version 3.0—as directed by the MPO—was used to provide a more detailed understanding of the projected growth at the southern interchanges within the corridor. This data was used to make manual adjustments to the 2040 volumes which better reflected the anticipated growth by the locality at these locations.

Once the balanced 2040 peak period volumes were finalized, hourly factors were applied to the AM and PM peak period volumes at each location to generate volumes for each hour within the peak periods. **Table 2-3** summarizes the factors applied to estimate hourly future volumes within the peak period. These factors were based on guidance provided with the MWCOG model and verified based on existing count data within the study area.

**Table 2-3: Peak Period to Hourly Factors**

| AM Peak Period | | PM Peak Period | |
|---|---|---|---|
| **Hour** | **Factor** | **Hour** | **Factor** |
| - | - | 3:00 – 4:00 PM | 0.30 (90% of 4:00-5:00 PM volume) |
| 6:00 – 7:00 AM | 0.33 | 4:00 – 5:00 PM | 0.33 |
| 7:00 – 8:00 AM | 0.34 | 5:00 – 6:00 PM | 0.34 |
| 8:00 – 9:00 AM | 0.33 | 6:00 – 7:00 PM | 0.33 |

To generate volumes for the Future Year (2042), RK&K evaluated the growth rates of the balanced 2040 network from the 2016 balanced network and found a relatively consistent 0.75 percent per year rate. This rate was applied to the 2040 networks to develop the Future Year (2042) volumes. In a review of the projects within the model, it was found that within our study area the projects completed in the 2020, 2025, and 2040 networks were the same. As a result, the Interim Year (2022) volumes were produced using straight-line linear interpolation.

### 2.4.3 Toll Facilities and Managed Lanes

The study corridor along I-95 currently includes High-Occupancy Toll (HOT) Lanes (branded as the I-95 Express Lanes). North of Garrisonville Road (Exit 143), there are two reversible HOT lanes located in the median of I-95, which operate in the northbound direction in the AM and the southbound direction in the PM. The existing I-95 Express Lane system extends approximately 27 miles north to I-495 (Capital Beltway). The only access points within the study area for the Fredericksburg Extension Study are located between Exits 143 and 148; there is a left-hand slip ramp to enter the I-95 Express Lanes from the I-95 general purpose (GP) lanes in the northbound direction and a flyover which allows vehicles to exit the I-95 Express Lanes and enter the I-95 GP lanes in the southbound direction. The I-95 Express Lanes are a managed facility; managed facilities apply strategies, such as tolling, to balance demand and available capacity on the system. On the I-95 Express Lanes, dynamically-priced tolling is used to manage demand for the facility and maintain free-flow operations.

The No-Build condition would retain the current I-95 Express Lanes system, with an extension of a single reversible lane from north of Exit 143 to south of Exit 143.

The Build alternative would extend two reversible Express Lanes from Exit 143 to Exit 133 and provide access points at Exit 140 (Courthouse Road) and Exit 133 (US 17). New access points would also be provided in the vicinity of Exit 148 (Russell Road).

For existing conditions, weekday demand was estimated for I-95 Express Lanes based on existing field collected traffic counts and a VDOT permanent count station. Forty-eight-hour traffic counts were obtained in September 2016 for each of the access points to the I-95 Express Lanes between Exit 143 and Exit 160. Hourly volumes from a permanent VDOT count station located at the Occoquan River (just north of Exit 160) were also obtained for September and October 2016. The total entering/exiting volumes from the I-95 Express Lane ramps for the September 2016 ground counts and were compared to the total throughput volumes from VDOT's permanent count station. The existing ramp volumes were manually adjusted to reflect the total throughput at Exit 160. The refined Express Lane volumes were then incorporated into the overall volume balancing effort for the I-95 GP lanes.

For future conditions, the MWCOG model explicitly models managed lane / HOT facilities within the region. A subroutine within the traffic assignment step is used to iteratively load volumes to each managed lane / HOT facility within the model; toll rate structures are assumed and the demand is optimized to approximate minimum operating speeds within each facility. Similar to any other facility in the study area, the daily and peak period raw link volumes from the 2040 MWCOG model runs were extracted and post-processed based on the methodologies presented in **Section 2.4.2**. The hourly volumes for each access point and the total hourly demand within the HOT lanes was checked for reasonableness based on existing facilities and assumed maximum capacities of 1,700 to 1,800 vehicles per lane per hour to maintain acceptable operating speeds.

# 3. EXISTING CONDITIONS

Transportation facilities in the Fredericksburg region comprise all modes of surface and air transportation. In addition to the highway network, the region is also served by intercity passenger rail service provided by Amtrak as well as the Virginia Railway Express (VRE) commuter rail service. Local bus transit is provided within the study area by Fredericksburg Regional Transit (FRED). The region contains a number of general aviation airports, including the Stafford Regional Airport, located just west of I-95 between Exit 136 and 140. International air service is available from two locations in the neighboring Northern Virginia region and one location in the neighboring Richmond region.

Environmental consequences to transportation facilities are described in Revised EA.

## 3.1 LIMITED ACCESS HIGHWAYS

Interstate-95 is the only limited-access highway within the study area and is summarized in **Table 3-1**. This highway serves a critical transportation function for commuters, interstate and intrastate freight movement, national defense, and commercial activities.

**Table 3-1: Limited Access Highways**

| Highway | Functional Classification | Description | Number of Lanes | Speed Limit |
|---|---|---|---|---|
| I-95 | Interstate | Within the study area, I-95 extends from the US 17 (Warrenton Road) interchange (Exit 133) to just north of the Russell Road interchange (Exit 148), a distance of approximately 15 miles. | 3 NB, 3 SB | 65 MPH |
| I-95 Express Lanes | - | Within the study area, the I-95 Express Lanes extend from approximately 1 mile north of the Garrisonville Road interchange (Exit 143) to just north of the Russell Road interchange, a distance of approximately 5 miles. | 2 (Reversible) | 65 MPH |

## 3.2 CONNECTING ARTERIAL ROADS

Arterial roads, including state primary and secondary roads and facilities maintained by Marine Corps Base Quantico (MCBQ) which link to I-95, are summarized in **Table 3-2**.

**Table 3-2: Connecting Arterial Roads**

| Numerical Designation | Roadway Name | Functional Classification | Interchange/ Exit Number | Number of Lanes | Maintained By |
|---|---|---|---|---|---|
| US 17 | Warrenton Road | Other Principal Arterial | 133 | 6 | VDOT |
| SR 8900 | Centreport Parkway | Major Collector | 136 | 2 | VDOT |
| SR 630 | Courthouse Road | Major Collector | 140 | 2 | VDOT |
| SR 610 | Garrisonville Road | Major Collector | 143 | 6 | VDOT |
| - | Russell Road | Minor Arterial | 148 | 4 | MCBQ |

## 3.3 TRANSIT ROUTES AND FACILITES

Public transportation in the region is provided by FRED. FRED serves Caroline, Spotsylvania, and Stafford Counties, as well as the City of Fredericksburg and Mary Washington University. FRED operates a total of 21 local fixed bus routes, including shuttle service to the Fredericksburg and Spotsylvania County VRE stations. Accessible transportation is provided through deviated fixed route service. Based on 2009 data, annual ridership was approximately 550,000.

Commuter rail service within the Fredericksburg Region is provided by VRE. The Fredericksburg Line originates at the Spotsylvania Station with four additional stops in the region at the Fredericksburg, Leeland Road, Brooke, and Quantico stations. During the morning, only northbound service is provided, with a total of eight trains departing. During the afternoon and evening, only southbound service is provided, with eight trains arriving in the region. Daily passenger boardings at the Spotsylvania, Fredericksburg, Leeland Road, and Brooke stations were approximately 3,300 per day in 2016.

## 3.4 INTERCITY PASSENGER RAIL SERVICE (AMTRAK)

Intercity passenger rail service in the Fredericksburg region is provided by the National Railroad Passenger Corporation (Amtrak). Amtrak operates three routes with service to the Fredericksburg station (FBG): Northeast Regional, Carolinian/Piedmont, and Silver Service / Palmetto. The Northeast Regional route provides service north to Washington, DC; New York City; and Boston, Massachusetts; and south to Richmond, Newport News, and Norfolk, Virginia. Weekday service on the Northeast Regional route includes seven southbound trains and five northbound trains. Annual Amtrak ridership at the Fredericksburg station was approximately 120,275 passengers in 2016.

## 3.5 PARK AND RIDE FACILITIES & RIDESHARING

Carpooling and ridesharing is an important component of the transportation system in Fredericksburg. There are publicly owned and maintained park-and-ride facilities dispersed throughout the Fredericksburg Region. **Table 3-3** summarizes major commuter park and ride facilities in the vicinity of the study area.

**Table 3-3: Park and Ride Facilities in Study Area**

| Name | Location | Jurisdiction | Capacity (Spaces) | Transit Service |
|---|---|---|---|---|
| Old Salem Church | Route 3 & Route 649 | Spotsylvania County | 672 | FRED |
| Route 3 West | Route 3 & Route 627 | Spotsylvania County | 250 | FRED |
| Fredericksburg VRE Commuter Lot | Fredericksburg VRE Station | City of Fredericksburg | 631 | FRED/VRE/Amtrak |
| Falmouth | US 17 & Route 618 | County of Stafford | 1024 | FRED |
| Leeland Road VRE | Route 626 & Route 624 | County of Stafford | 825 | FRED/VRE |
| Brook Road VRE | Route 608 & Route 629 | County of Stafford | 505 | FRED/VRE |
| Courthouse Road | Route 630 & I-95 | County of Stafford | 534 | FRED |
| South Commuter Lot | Route 684 & Route 679 | County of Stafford | 740 | FRED |
| Garrisonville | Route 684 & Route 1413 | County of Stafford | 890 | FRED |

*Source: http://www.virginiadot.org/travel/parkride/home.asp*

GWRideConnect provides free ridesharing services for commuters within the Fredericksburg region and between the Fredericksburg region and major employment centers in Washington, DC, Northern Virginia, Richmond, and Dahlgren.

"Instant" or "Casual" carpooling, also known as "slugging" is also a feature of the transportation system in the Fredericksburg region. This unique mode allows travelers to instantly form carpools to satisfy the two-person and three-person high occupancy requirements for the I-95 Express Lanes and other facilities. Slugging is available for destinations in Northern Virginia and Washington, DC at the Mine Road, Route

610, Route 630, Route 3 (Cordon Rd), Route 17, and Route 208 park-and-ride lots in Stafford County and the City of Fredericksburg.

## 3.6 BICYCLE AND PEDESTRIAN NETWORK

There are no bicycle or pedestrian facilities along the study corridor of I-95. State law generally do not permit bicyclists to ride on interstate and certain controlled access highways, unless the operation is limited to bicycle or pedestrian facilities that are barrier separated from the roadway and automobile traffic.

Pedestrian or bicycle facilities currently exist along any of the intersecting arterial streets within their interchanges with I-95. A shared-use path, crossing over I-95 on the same structure as relocated Courthouse Road, is proposed as part of the interchange improvements at Exit 140.

## 3.7 EXISTING TRAFFIC VOLUMES

Existing 2016 Average Daily Traffic volumes were provided in **Figure 2-2**: 2016 Daily Volumes**.** Existing balanced hourly volumes are provided in **Appendix A: Figures A.1.1 through A.7.7**. The balanced daily and hourly volumes represent typical weekday conditions, although higher weekend and seasonal volumes have been observed on I-95.

## 3.8 CRASH ANALYSIS

Crash data for the period from January 1, 2011 through December 31, 2016 were obtained from VDOT's Tableau Crash Tool for the following roadway segments:

- I-95 Northbound, from milepost 132.5 to 149
- I-95 Southbound, from milepost 149 to 132.75
- I-95 Express Lanes, from milepost 13 to 17.5

Crash data were analyzed by quarter-mile segments. Crash data were tabulated by crash type, severity, pavement condition and time of day. Crash rates (calculated per 100 Million Vehicle Miles Traveled) were calculated for each quarter-mile segment. The analysis summaries for each section are presented in **Figure 3-1** through **Figure 3-2.**

The overall crash rates on I-95 northbound and I-95 southbound within the study area during the study period were 81 and 90 crashes per 100 Million Vehicle Miles Traveled (MVMT), respectively. The 2014 statewide average crash rate on the Interstate system was 72 crashes per 100 MVMT.

The overall injury and fatality rates on I-95 northbound were 29 injuries and 0.51 fatalities per 100 MVMT, respectively. The overall injury and fatality rates on I-95 southbound were 31 injuries and 0.12 fatalities per 100 MVMT, respectively. The 2014 statewide average injury and fatality rates on the Interstate system were 30 injuries and 0.35 fatalities per 100 MVMT.

Rear-end crashes are most prevalent along both directions of I-95, representing 60 percent of all crashes within the study area. Additional details on the crash analyses are provided below.

### 3.8.1 I-95 Northbound Crash Analysis

A total of 2,050 crashes were reported along northbound I-95 during the six-year study period. As shown in **Figure 3-1**: I-95 Northbound Crash Analysis, crashes were predominantly rear-end crashes (60 percent), with fixed object off-road (17 percent), and sideswipe collisions (11 percent) being the next most frequent types.

A total of 488 crashes (24 percent) resulted in 742 injuries with 11 crashes resulting in 13 fatalities. The remaining 1,551 crashes resulted in property damage only.

Approximately 21 percent of all crashes occurred during the AM peak period for northbound travel between 6 AM – 9 AM. Approximately 77 percent of all crashes occurred on dry pavement.

The average crash rate along northbound I-95 is 81 crashes per 100 Million Vehicle Miles Traveled; there are ten quarter-mile segments along northbound I-95 that experience a crash rate more than 50 percent higher than the average crash rate. The critical segments are for the most part located in the vicinity of Exit 143 (Garrisonville Road) and near Exit 136 (Centreport Parkway). In the northbound direction, congestion typically begins near Garrisonville Road with queues propagating upstream towards Courthouse Road and Centreport Parkway.

### 3.8.2 I-95 Southbound Crash Analysis

A total of 2,227 crashes were reported along southbound I-95 during the six-year study period. As shown in **Figure 3-2**, crashes were predominantly rear-end crashes (60 percent), with fixed object off-road (17 percent), and sideswipe collisions (14 percent) being the next most frequent types.

A total of 484 crashes (22 percent) resulted in 777 injuries with three crashes resulting in three fatalities. The remaining 1,740 crashes resulted in property damage only.

Approximately 29 percent of all crashes occurred during the PM peak period for southbound travel between 3 PM – 6 PM. An additional 23 percent of all crashes occurred between 12 PM – 3 PM. Approximately 79 percent of all crashes occurred on dry pavement.

The average crash rate along southbound I-95 is 89 crashes per 100 Million Vehicle Miles Traveled; there are six quarter-mile segments along southbound I-95 that experience a crash rate more than 50 percent higher than the average crash rate. The critical segments are for the most part located in the vicinity of Exit 148 (Russell Road). In the southbound direction, congestion typically begins just north of Garrisonville Road with queues propagating upstream towards Russell Road during PM peak periods.

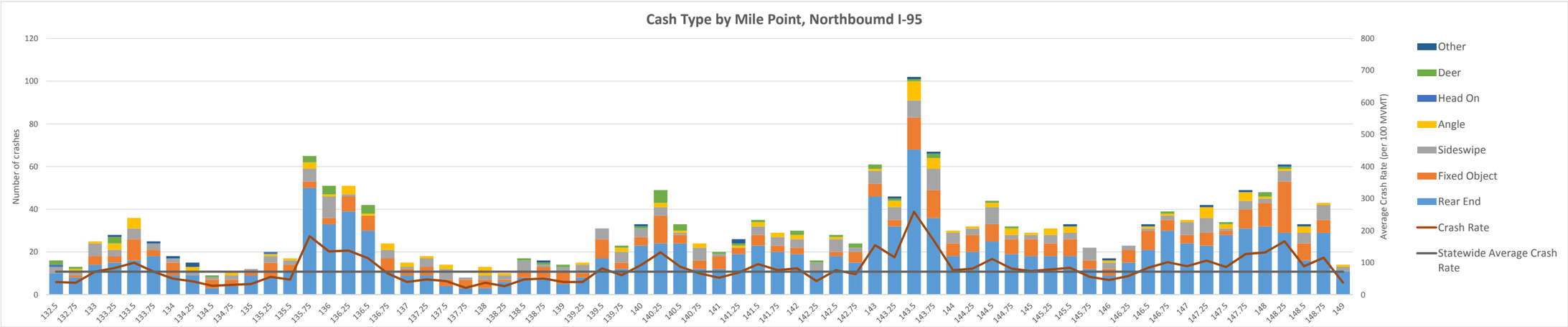
### 3.8.3 I-95 Express Lanes Crash Analysis

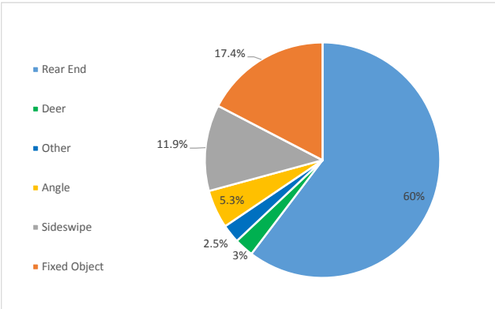
The I-95 Express Lanes opened to traffic in December 2014 for a two-week toll-free period and then tolling operations began just prior to the start of 2015. Therefore, crash data for I-95 Express Lanes segment within the study area, approximately 4.5 miles, is limited to a two-year period from January 1, 2015 through December 31, 2016.

A total of 17 crashes were reported during this time period. Crashes were predominantly rear-end crashes (58 percent), with fixed object off-road (11 percent) and sideswipe collisions (11 percent) being the next most frequent types.

A total of three crashes resulted in three injuries and no fatalities were reported during the two-year study period. Thirteen of the crashes, including all ten rear-end crashes, involved vehicles travelling in the southbound direction. Approximately 53 percent of the southbound crashes occurred between 3 PM – 6 PM, during the peak period for southbound travel.

Crashes were dispersed throughout the 4.5 study segment. The average crash rate was 54.99 crashes per 100 Million Vehicles Miles Traveled. There was one quarter-mile segment with a crash rate more than 50 percent higher than the average crash rate; that segment experienced a total of three crashes during the two-year study period.




**Severity By Crash Type**

| | Fatal | Injury | PDO | Total |
|---|---|---|---|---|
| Rear End | 1 | 301 | 935 | 1,237 |
| Deer | | 3 | 51 | 54 |
| Other Animal | | 1 | 3 | 4 |
| Backed Into | | 0 | 2 | 2 |
| Other | | 3 | 10 | 13 |
| Angle | | 37 | 71 | 108 |
| Head On | 1 | 0 | 1 | 2 |
| Sideswipe | 2 | 43 | 198 | 243 |
| Fixed Object | 6 | 87 | 263 | 356 |
| Non-Collision | 1 | 13 | 17 | 31 |
| Grand Total | 11 | 488 | 1,551 | 2,050 |

**Time of Day by Crash Type**

| | 0AM TO 3AM | 3AM TO 6AM | 6AM TO 9AM | 9AM TO 12PM | 12PM TO 3PM | 3PM TO 6PM | 6PM TO 9PM | 9PM TO 12AM | Total |
|---|---|---|---|---|---|---|---|---|---|
| Rear End | 20 | 83 | 306 | 187 | 266 | 229 | 108 | 38 | 1,237 |
| Deer | 6 | 9 | 6 | 5 | 5 | 4 | 8 | 11 | 54 |
| Other Animal | 1 | 2 | 1 | | | | | | 4 |
| Backed Into | | | 1 | | | | 1 | | 2 |
| Other | | 1 | | 2 | 4 | 3 | 1 | 2 | 13 |
| Angle | 5 | 14 | 13 | 17 | 23 | 18 | 11 | 7 | 108 |
| Head On | | 1 | | 1 | | | | | 2 |
| Sideswipe | 19 | 26 | 46 | 36 | 44 | 28 | 20 | 24 | 243 |
| Fixed Object | 28 | 37 | 53 | 58 | 53 | 54 | 42 | 31 | 356 |
| Non-Collision | | 5 | 5 | 3 | 4 | 6 | 5 | 3 | 31 |
| Grand Total | 79 | 178 | 431 | 309 | 399 | 342 | 196 | 116 | 2,050 |

**Severity by Pavement Condition**

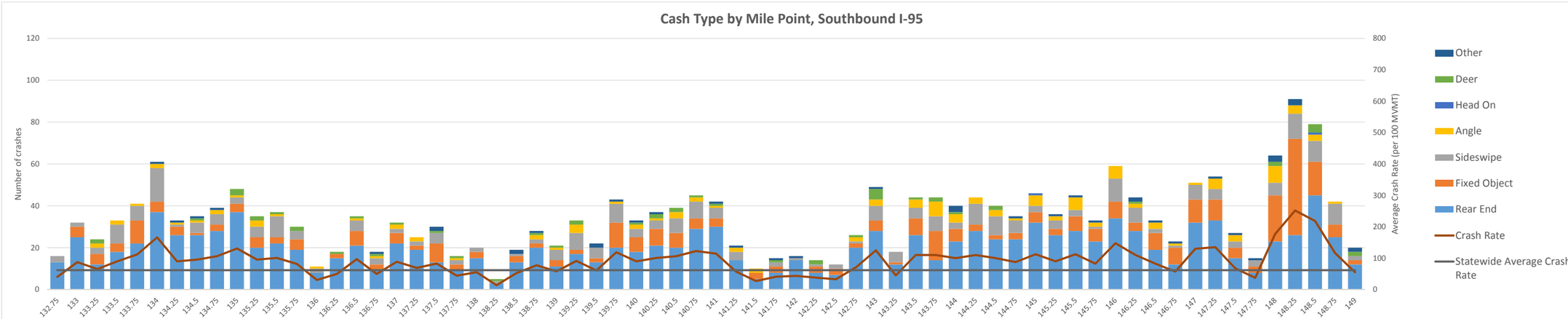
| | Fatal | Injury | PDO | Total |
|---|---|---|---|---|
| Dry | 9 | 380 | 1,190 | 1,579 |
| Fog | | 5 | 1 | 6 |
| Mist | 1 | 6 | 28 | 35 |
| Rain | 1 | 89 | 284 | 374 |
| Snow | | 8 | 43 | 51 |
| Sleet/Hail | | | 5 | 5 |
| Grand Total | 3 | 173 | 412 | 2,050 |

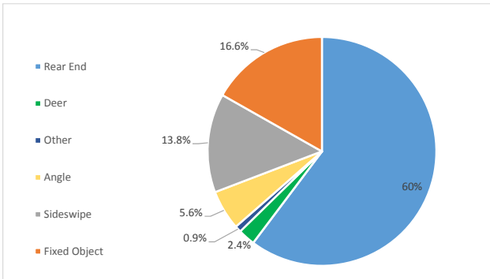
I-95 Express Lanes Fredericksburg Extension Study

Crash Summary
2011 - 2016
Northbound I-95

August 2017

Figure 3.1




**Severity By Crash Type**

| | Fatal | Injury | PDO | Total |
|---|---|---|---|---|
| Rear End | | 286 | 1,041 | 1,327 |
| Deer | | 1 | 52 | 53 |
| Ped | | 2 | 1 | 3 |
| Backed Into | | | 5 | 5 |
| Other | 1 | 2 | 8 | 11 |
| Angle | 1 | 37 | 86 | 124 |
| Head On | | 1 | | 1 |
| Sideswipe | | 43 | 265 | 308 |
| Fixed Object | 1 | 94 | 275 | 370 |
| Non-Collision | | 18 | 7 | 25 |
| Grand Total | 3 | 484 | 1,740 | 2,227 |

**Time of Day by Crash Type**

| | 0AM TO 3AM | 3AM TO 6AM | 6AM TO 9AM | 9AM TO 12PM | 12PM TO 3PM | 3PM TO 6PM | 6PM TO 9PM | 9PM TO 12AM | Total |
|---|---|---|---|---|---|---|---|---|---|
| Rear End | 26 | 17 | 45 | 169 | 373 | 492 | 174 | 31 | 1,327 |
| Deer | 12 | 6 | 11 | 5 | 4 | 1 | 4 | 10 | 53 |
| Other Animal | | 1 | | | | | | | 1 |
| Ped | | | | | 1 | 1 | 1 | | 3 |
| Backed Into | 2 | | 1 | | | 1 | 1 | | 5 |
| Other | | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 10 |
| Angle | 9 | 2 | 18 | 14 | 26 | 26 | 23 | 6 | 124 |
| Head On | | 1 | | | | | | | 1 |
| Sideswipe | 18 | 19 | 25 | 48 | 60 | 77 | 44 | 17 | 308 |
| Fixed Object | 54 | 39 | 63 | 55 | 48 | 36 | 27 | 48 | 370 |
| Non-Collision | 2 | 2 | 3 | 3 | 3 | 5 | 4 | 3 | 25 |
| Grand Total | 123 | 88 | 168 | 296 | 516 | 641 | 279 | 116 | 2,227 |

**Severity by Pavement Condition**

| | Fatal | Injury | PDO | Total |
|---|---|---|---|---|
| Dry | | 371 | 1,386 | 1,757 |
| Fog | | 1 | 2 | 3 |
| Mist | 1 | 12 | 25 | 38 |
| Rain | 2 | 92 | 292 | 386 |
| Snow | | 5 | 27 | 32 |
| Sleet/Hail | | 1 | 8 | 9 |
| Other | | 2 | | 2 |
| Grand Total | 3 | 484 | 1,740 | 2,227 |

I-95 Express Lanes Fredericksburg Extension Study

Crash Summary
2011 - 2016
Southbound I-95

August 2017

Figure 3.2

## 3.9 ASSESSMENT OF VEHICLE SPEEDS & TRAVEL TIMES

### 3.9.1 Vehicle Speeds

As part of the Fredericksburg Extension Study, INRIX speed data for the I-95 corridor within the study area was analyzed. INRIX provides average speed data for individual segments (generally between consecutive ramp terminals) in 15-minute increments. Corridor data from September and October 2016 were analyzed. The 16.1-mile northbound study segment extends from the Rappahannock River to the northbound on-ramp at Russell Road. The 17.8 southbound study segment extends from the southbound on-ramp at Joplin Road to the Rappahannock River. Speeds for each segment and each 15-minute period were averaged and cross-tabulated by mile point and time period. The results for northbound and southbound I-95 are shown in **Figure 3-3** and **Figure 3-4**, respectively. These figures show the average speed on Tuesdays, Wednesdays, and Thursdays along the I-95 corridor between 5:00 AM and 10:00 AM and 2:00 PM and 8:00 PM. In these figures, segments are shown on the vertical axis, and time of day is shown along the horizontal axis. The color gradations indicate average speed, with green being the highest and red being the lowest speed.

Additionally, INRIX data was analyzed for weekday periods in 2013, prior to the opening of the I-95 Express Lanes system. Speeds for each segment and each 15-minute period were averaged and cross-tabulated by mile point and time period. The results are shown in **Figure 3-5 and Figure 3-6.**

As shown in **Figure 3-3**, there is a pronounced period of reduced speeds (below 40 MPH) along northbound I-95 during the AM peak period. Congestion (indicated by red and orange colors) begins to form along northbound I-95 beginning at Exit 143 (Garrisonville Road) in the early morning hours (approximately 5:15 AM) and extends upstream towards Exit 133 (US 17), peaking between 6-7 AM, before queues begin to dissipate between 8:30 and 9:30 AM. No notable periods of reduced speeds occur during the PM peak periods along northbound I-95. Comparing the 2013 and 2016 speeds along northbound I-95, the periods of low speeds (red and yellow areas) span a longer period of time and impact a longer portion of the corridor in 2016 during the AM period.

As shown in **Figure 3-4**, there is pronounced period of reduced speeds (below 40 MPH) along southbound I-95 during the PM peak period. Two different areas are noted. Beginning at approximately 3:30 PM, congestion begins to form along southbound I-95 beginning north of Exit 143 (Garrisonville Road) and extends upstream towards Exit 148 (Russell Road), peaking between 4:30 – 5:30 PM, before queues begin to dissipate between 6:00 and 6:30 PM. Further south, congestion begins to form along southbound I-95 at Exit 133 (US 17) at approximately 4:30 PM and extends upstream towards Exit 143, peaking between 5:00 – 6:00 PM, before queues begin to dissipate between 6:30 and 7:30 PM.

No notable periods of reduced speeds occur during the AM peak periods along southbound I-95. Comparing the 2013 and 2016 speeds along southbound I-95 during the PM peak, the location and duration of congestion differs. In 2013, congestion was primarily limited to the area north of Exit 148 (Russell Road), with pronounced reductions in speeds between 3:30 and 6:30 PM in this area. There was a reduction in speeds (below 50 MPH) between Exits 148 and 143, but the intensity was less than observed in 2016. Further south, speeds reduced to below 40 MPH at Exit 133 (US 17) between 5:00 and 6:00 PM with reduced speeds (below 50 MPH) extending upstream towards Exit 140. The intensity and duration of the congestion in this area was less than that observed in 2016.

## Figure 3-3: 2016 I-95 Northbound General Purpose Lane Travel Speeds

**2016 Northbound I-95 General Purpose Lane Speeds, AM Peak Hours**

| Segment | 5:00 | 5:15 | 5:30 | 5:45 | 6:00 | 6:15 | 6:30 | 6:45 | 7:00 | 7:15 | 7:30 | 7:45 | 8:00 | 8:15 | 8:30 | 8:45 | 9:00 | 9:15 | 9:30 | 9:45 | 10:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rappahannock River to Exit 133 Off-Ramp | 69 | 68 | 68 | 68 | 67 | 66 | 66 | 67 | 64 | 65 | 63 | 54 | 55 | 60 | 62 | 64 | 64 | 65 | 66 | 67 | 67 |
| Exit 133 Off-Ramp to Exit 133 On-Ramp | 71 | 69 | 69 | 70 | 68 | 68 | 66 | 64 | 64 | 67 | 67 | 65 | 62 | 64 | 66 | 67 | 64 | 62 | 65 | 69 | 69 |
| Exit 133 On-Ramp to Exit 140 Off-Ramp | 70 | 67 | 65 | 61 | 52 | 42 | 35 | 32 | 34 | 33 | 33 | 36 | 45 | 48 | 52 | 57 | 60 | 63 | 65 | 66 | 68 |
| Exit 140 Off-Ramp to Exit 140 On-Ramp | 67 | 63 | 55 | 37 | 28 | 23 | 18 | 17 | 17 | 17 | 19 | 24 | 31 | 37 | 43 | 54 | 58 | 65 | 63 | 62 | 61 |
| Exit 140 On-Ramp to Exit 143 Off-Ramp | 68 | 57 | 35 | 26 | 23 | 20 | 18 | 18 | 19 | 19 | 21 | 25 | 27 | 32 | 40 | 48 | 56 | 58 | 58 | 57 | 55 |
| Exit 143 Off-Ramp to Exit 143 On-Ramp | 62 | 38 | 25 | 24 | 21 | 19 | 18 | 20 | 20 | 20 | 22 | 24 | 24 | 28 | 33 | 40 | 50 | 50 | 50 | 55 | 57 |
| Exit 143 On-Ramp to Exit 148 Off-Ramp | 67 | 63 | 60 | 59 | 59 | 57 | 57 | 57 | 58 | 59 | 60 | 61 | 60 | 61 | 61 | 63 | 64 | 65 | 66 | 66 | 68 |
| Exit 148 Off-Ramp to Exit 148 On-Ramp | 68 | 68 | 68 | 70 | 68 | 68 | 68 | 69 | 69 | 69 | 70 | 71 | 69 | 69 | 68 | 68 | 68 | 69 | 69 | 68 | 69 |

**2016 Northbound I-95 General Purpose Lane Speeds, PM Peak Hours**

| Segment | 14:00 | 14:15 | 14:30 | 14:45 | 15:00 | 15:15 | 15:30 | 15:45 | 16:00 | 16:15 | 16:30 | 16:45 | 17:00 | 17:15 | 17:30 | 17:45 | 18:00 | 18:15 | 18:30 | 18:45 | 19:00 | 19:15 | 19:30 | 19:45 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rappahannock River to Exit 133 Off-Ramp | 66 | 67 | 68 | 68 | 66 | 67 | 68 | 68 | 67 | 68 | 66 | 68 | 68 | 66 | 67 | 67 | 67 | 67 | 66 | 67 | 66 | 66 | 66 | 66 | 66 |
| Exit 133 Off-Ramp to Exit 133 On-Ramp | 68 | 68 | 69 | 69 | 69 | 69 | 70 | 70 | 69 | 70 | 69 | 69 | 70 | 69 | 69 | 66 | 68 | 69 | 69 | 68 | 68 | 66 | 67 | 68 | 68 |
| Exit 133 On-Ramp to Exit 140 Off-Ramp | 70 | 67 | 69 | 70 | 70 | 69 | 70 | 69 | 69 | 69 | 69 | 69 | 70 | 69 | 70 | 70 | 69 | 69 | 69 | 68 | 69 | 67 | 68 | 69 | 69 |
| Exit 140 Off-Ramp to Exit 140 On-Ramp | 70 | 69 | 70 | 69 | 70 | 70 | 70 | 70 | 69 | 70 | 69 | 69 | 70 | 69 | 70 | 69 | 69 | 69 | 70 | 69 | 70 | 68 | 68 | 69 | 70 |
| Exit 140 On-Ramp to Exit 143 Off-Ramp | 70 | 69 | 69 | 70 | 70 | 70 | 70 | 69 | 69 | 69 | 70 | 69 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 68 | 69 | 68 | 69 | 69 | 69 |
| Exit 143 Off-Ramp to Exit 143 On-Ramp | 67 | 66 | 67 | 67 | 67 | 68 | 69 | 67 | 67 | 67 | 68 | 67 | 68 | 68 | 68 | 69 | 68 | 68 | 68 | 67 | 67 | 65 | 66 | 66 | 67 |
| Exit 143 On-Ramp to Exit 148 Off-Ramp | 69 | 69 | 69 | 69 | 69 | 70 | 69 | 69 | 69 | 68 | 68 | 67 | 69 | 70 | 69 | 69 | 68 | 69 | 69 | 68 | 68 | 67 | 67 | 68 | 68 |
| Exit 148 Off-Ramp to Exit 148 On-Ramp | 69 | 70 | 69 | 69 | 69 | 70 | 70 | 70 | 68 | 65 | 66 | 64 | 65 | 68 | 69 | 69 | 69 | 69 | 69 | 69 | 68 | 68 | 69 | 68 | 68 |

**Speed Color Scale (mph)**

| 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
|---|---|---|---|---|---|---|---|---|

## Figure 3-4: 2016 I-95 Southbound General Purpose Lane Travel Speeds

**2016 Southbound I-95 General Purpose Lane Speeds, AM Peak Hours**

| Segment | 5:00 | 5:15 | 5:30 | 5:45 | 6:00 | 6:15 | 6:30 | 6:45 | 7:00 | 7:15 | 7:30 | 7:45 | 8:00 | 8:15 | 8:30 | 8:45 | 9:00 | 9:15 | 9:30 | 9:45 | 10:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Exit 150 On-Ramp to Exit 148 Off-Ramp | 68 | 69 | 70 | 70 | 69 | 69 | 68 | 68 | 68 | 69 | 69 | 68 | 69 | 69 | 69 | 69 | 69 | 69 | 70 | 69 | 68 |
| Exit 148 Off-Ramp to Exit 148 On-Ramp | 68 | 69 | 71 | 70 | 69 | 70 | 70 | 70 | 68 | 70 | 69 | 69 | 69 | 69 | 71 | 69 | 70 | 70 | 70 | 70 | 69 |
| Exit 148 On-Ramp to Exit 143 Off-Ramp | 67 | 68 | 69 | 68 | 68 | 68 | 68 | 68 | 67 | 69 | 69 | 68 | 68 | 68 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Exit 143 Off-Ramp to Exit 143 On-Ramp | 66 | 67 | 68 | 68 | 67 | 67 | 68 | 67 | 66 | 67 | 67 | 67 | 67 | 67 | 68 | 67 | 68 | 69 | 67 | 67 | 68 |
| Exit 143 On-Ramp to Exit 140 Off-Ramp | 67 | 68 | 69 | 69 | 69 | 69 | 69 | 68 | 68 | 68 | 69 | 68 | 68 | 68 | 69 | 68 | 69 | 70 | 68 | 69 | 69 |
| Exit 140 Off-Ramp to Exit 140 On-Ramp | 66 | 67 | 68 | 68 | 68 | 68 | 69 | 67 | 67 | 67 | 68 | 68 | 68 | 67 | 68 | 68 | 68 | 68 | 67 | 67 | 67 |
| Exit 140 On-Ramp to Exit 133 Off-Ramp | 66 | 67 | 68 | 68 | 67 | 68 | 69 | 68 | 67 | 67 | 69 | 68 | 67 | 67 | 68 | 68 | 69 | 68 | 68 | 68 | 68 |
| Exit 133 Off-Ramp to Exit 133 On-Ramp | 66 | 66 | 66 | 68 | 67 | 68 | 69 | 67 | 66 | 66 | 68 | 67 | 67 | 67 | 66 | 67 | 68 | 67 | 66 | 61 | 61 |
| Exit 133 On-Ramp to Rappahannock River | 66 | 66 | 68 | 69 | 68 | 68 | 69 | 68 | 66 | 67 | 68 | 67 | 66 | 67 | 68 | 68 | 68 | 66 | 63 | 60 | 60 |

**2016 Southbound I-95 General Purpose Lane Speeds, PM Peak Hours**

| Segment | 14:00 | 14:15 | 14:30 | 14:45 | 15:00 | 15:15 | 15:30 | 15:45 | 16:00 | 16:15 | 16:30 | 16:45 | 17:00 | 17:15 | 17:30 | 17:45 | 18:00 | 18:15 | 18:30 | 18:45 | 19:00 | 19:15 | 19:30 | 19:45 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Exit 150 On-Ramp to Exit 148 Off-Ramp | 70 | 69 | 66 | 64 | 65 | 61 | 55 | 47 | 44 | 40 | 35 | 32 | 29 | 38 | 40 | 48 | 56 | 63 | 62 | 67 | 68 | 68 | 67 | 67 | 64 |
| Exit 148 Off-Ramp to Exit 148 On-Ramp | 70 | 71 | 69 | 64 | 63 | 58 | 50 | 37 | 37 | 30 | 28 | 25 | 27 | 32 | 35 | 44 | 55 | 59 | 63 | 68 | 68 | 69 | 68 | 66 | 66 |
| Exit 148 On-Ramp to Exit 143 Off-Ramp | 66 | 66 | 63 | 60 | 55 | 52 | 43 | 38 | 34 | 31 | 30 | 29 | 32 | 32 | 34 | 34 | 38 | 49 | 60 | 64 | 66 | 66 | 66 | 65 | 66 |
| Exit 143 Off-Ramp to Exit 143 On-Ramp | 66 | 64 | 61 | 59 | 54 | 52 | 46 | 46 | 40 | 39 | 35 | 43 | 39 | 42 | 43 | 45 | 50 | 59 | 59 | 62 | 64 | 65 | 65 | 65 | 65 |
| Exit 143 On-Ramp to Exit 140 Off-Ramp | 65 | 62 | 60 | 57 | 56 | 51 | 51 | 47 | 43 | 41 | 42 | 42 | 40 | 38 | 39 | 39 | 48 | 53 | 60 | 61 | 64 | 67 | 67 | 66 | 67 |
| Exit 140 Off-Ramp to Exit 140 On-Ramp | 60 | 59 | 57 | 56 | 55 | 50 | 52 | 47 | 46 | 45 | 47 | 40 | 40 | 40 | 38 | 39 | 45 | 44 | 50 | 59 | 65 | 66 | 67 | 66 | 65 |
| Exit 140 On-Ramp to Exit 133 Off-Ramp | 59 | 59 | 56 | 57 | 55 | 55 | 54 | 50 | 50 | 50 | 48 | 42 | 40 | 37 | 35 | 34 | 34 | 36 | 43 | 53 | 60 | 65 | 67 | 66 | 66 |
| Exit 133 Off-Ramp to Exit 133 On-Ramp | 57 | 56 | 58 | 59 | 61 | 60 | 56 | 49 | 50 | 43 | 37 | 38 | 32 | 31 | 27 | 25 | 24 | 29 | 34 | 40 | 49 | 60 | 66 | 66 | 66 |
| Exit 133 On-Ramp to Rappahannock River | 57 | 57 | 59 | 60 | 63 | 61 | 56 | 52 | 50 | 46 | 42 | 42 | 38 | 37 | 33 | 30 | 30 | 34 | 35 | 39 | 48 | 58 | 66 | 67 | 67 |

**Speed Color Scale (mph)**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |

## Figure 3-5: 2013 I-95 Northbound General Purpose Lane Travel Speeds

**2013 Northbound I-95 General Purpose Lane Speeds, AM Peak Hours**

| Segment | 5:00 | 5:15 | 5:30 | 5:45 | 6:00 | 6:15 | 6:30 | 6:45 | 7:00 | 7:15 | 7:30 | 7:45 | 8:00 | 8:15 | 8:30 | 8:45 | 9:00 | 9:15 | 9:30 | 9:45 | 10:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rappahannock River to Exit 133 Off-Ramp | 69 | 69 | 69 | 68 | 68 | 67 | 67 | 67 | 67 | 66 | 62 | 54 | 60 | 65 | 66 | 66 | 67 | 67 | 67 | 68 | 67 |
| Exit 133 Off-Ramp to Exit 133 On-Ramp | 70 | 70 | 70 | 69 | 69 | 69 | 69 | 69 | 69 | 67 | 65 | 64 | 66 | 67 | 68 | 68 | 68 | 69 | 69 | 69 | 68 |
| Exit 133 On-Ramp to Exit 140 Off-Ramp | 70 | 70 | 70 | 69 | 69 | 69 | 68 | 65 | 63 | 60 | 59 | 59 | 62 | 63 | 65 | 66 | 67 | 68 | 69 | 68 | 68 |
| Exit 140 Off-Ramp to Exit 140 On-Ramp | 71 | 70 | 70 | 70 | 70 | 69 | 65 | 58 | 56 | 53 | 49 | 49 | 55 | 59 | 61 | 64 | 67 | 67 | 68 | 68 | 69 |
| Exit 140 On-Ramp to Exit 143 Off-Ramp | 70 | 69 | 66 | 67 | 67 | 66 | 60 | 53 | 49 | 46 | 42 | 44 | 50 | 54 | 58 | 62 | 63 | 64 | 66 | 67 | 67 |
| Exit 143 Off-Ramp to Exit 143 On-Ramp | 67 | 57 | 48 | 55 | 56 | 54 | 47 | 40 | 37 | 34 | 33 | 34 | 38 | 42 | 47 | 52 | 56 | 57 | 58 | 59 | 57 |
| Exit 143 On-Ramp to Exit 148 Off-Ramp | 67 | 61 | 55 | 56 | 60 | 60 | 59 | 57 | 57 | 55 | 55 | 54 | 55 | 56 | 58 | 59 | 60 | 60 | 60 | 57 | 55 |
| Exit 148 Off-Ramp to Exit 148 On-Ramp | 67 | 63 | 58 | 59 | 63 | 65 | 65 | 66 | 66 | 66 | 66 | 65 | 65 | 65 | 65 | 65 | 64 | 64 | 64 | 62 | 61 |

**2013 Northbound I-95 General Purpose Lane Speeds, PM Peak Hours**

| Segment | 14:00 | 14:15 | 14:30 | 14:45 | 15:00 | 15:15 | 15:30 | 15:45 | 16:00 | 16:15 | 16:30 | 16:45 | 17:00 | 17:15 | 17:30 | 17:45 | 18:00 | 18:15 | 18:30 | 18:45 | 19:00 | 19:15 | 19:30 | 19:45 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rappahannock River to Exit 133 Off-Ramp | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 67 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Exit 133 Off-Ramp to Exit 133 On-Ramp | 69 | 69 | 69 | 68 | 68 | 68 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 68 | 69 | 68 | 69 | 69 | 69 | 69 |
| Exit 133 On-Ramp to Exit 140 Off-Ramp | 68 | 68 | 68 | 68 | 68 | 68 | 69 | 69 | 69 | 69 | 70 | 70 | 69 | 69 | 69 | 69 | 68 | 68 | 68 | 69 | 69 | 69 | 69 | 69 | 69 |
| Exit 140 Off-Ramp to Exit 140 On-Ramp | 69 | 69 | 69 | 69 | 68 | 69 | 69 | 69 | 69 | 69 | 69 | 70 | 70 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 70 | 70 | 70 | 69 | 69 |
| Exit 140 On-Ramp to Exit 143 Off-Ramp | 68 | 68 | 67 | 67 | 67 | 68 | 69 | 68 | 69 | 68 | 69 | 69 | 69 | 69 | 68 | 68 | 68 | 68 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| Exit 143 Off-Ramp to Exit 143 On-Ramp | 61 | 60 | 60 | 61 | 62 | 63 | 64 | 65 | 65 | 66 | 66 | 67 | 66 | 66 | 66 | 65 | 65 | 66 | 66 | 66 | 67 | 67 | 66 | 67 | 66 |
| Exit 143 On-Ramp to Exit 148 Off-Ramp | 58 | 58 | 58 | 59 | 60 | 60 | 62 | 64 | 64 | 65 | 65 | 66 | 65 | 65 | 65 | 65 | 66 | 66 | 66 | 67 | 67 | 68 | 67 | 67 | 67 |
| Exit 148 Off-Ramp to Exit 148 On-Ramp | 61 | 61 | 60 | 60 | 60 | 60 | 61 | 61 | 62 | 62 | 63 | 63 | 62 | 62 | 61 | 63 | 64 | 65 | 65 | 66 | 67 | 67 | 67 | 67 | 67 |

**Speed Color Scale (mph)**

| 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
|---|---|---|---|---|---|---|---|---|

## Figure 3-6: 2013 I-95 Southbound General Purpose Lane Travel Speeds

**2013 Southbound I-95 General Purpose Lane Speeds, AM Peak Hours**

| Segment | 5:00 | 5:15 | 5:30 | 5:45 | 6:00 | 6:15 | 6:30 | 6:45 | 7:00 | 7:15 | 7:30 | 7:45 | 8:00 | 8:15 | 8:30 | 8:45 | 9:00 | 9:15 | 9:30 | 9:45 | 10:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Exit 150 On-Ramp to Exit 148 Off-Ramp | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 66 | 66 | 66 | 66 | 65 | 65 | 65 | 65 | 65 | 65 | 66 | 66 | 65 | 64 |
| Exit 148 Off-Ramp to Exit 148 On-Ramp | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 69 | 69 | 69 | 69 | 69 | 69 | 69 | 68 | 68 | 68 | 68 | 68 | 67 | 67 |
| Exit 148 On-Ramp to Exit 143 Off-Ramp | 67 | 67 | 67 | 67 | 67 | 68 | 68 | 67 | 67 | 67 | 66 | 67 | 66 | 65 | 65 | 65 | 65 | 64 | 64 | 63 | 63 |
| Exit 143 Off-Ramp to Exit 143 On-Ramp | 66 | 66 | 66 | 66 | 66 | 67 | 67 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 65 | 65 | 66 | 65 | 65 |
| Exit 143 On-Ramp to Exit 140 Off-Ramp | 67 | 67 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 67 | 67 | 67 | 68 | 68 | 68 | 68 | 68 |
| Exit 140 Off-Ramp to Exit 140 On-Ramp | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 68 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 68 | 68 | 68 | 67 | 67 |
| Exit 140 On-Ramp to Exit 133 Off-Ramp | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 68 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 68 | 67 | 67 | 67 | 67 |
| Exit 133 Off-Ramp to Exit 133 On-Ramp | 66 | 66 | 66 | 66 | 66 | 66 | 67 | 67 | 66 | 66 | 66 | 66 | 66 | 67 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| Exit 133 On-Ramp to Rappahannock River | 67 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 67 | 67 | 68 | 68 | 68 | 68 | 68 | 67 | 67 | 67 |

**2013 Southbound I-95 General Purpose Lane Speeds, PM Peak Hours**

| Segment | 14:00 | 14:15 | 14:30 | 14:45 | 15:00 | 15:15 | 15:30 | 15:45 | 16:00 | 16:15 | 16:30 | 16:45 | 17:00 | 17:15 | 17:30 | 17:45 | 18:00 | 18:15 | 18:30 | 18:45 | 19:00 | 19:15 | 19:30 | 19:45 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Exit 150 On-Ramp to Exit 148 Off-Ramp | 53 | 55 | 55 | 55 | 53 | 47 | 39 | 31 | 29 | 29 | 28 | 28 | 27 | 29 | 29 | 32 | 36 | 42 | 48 | 55 | 60 | 62 | 63 | 65 | 65 |
| Exit 148 Off-Ramp to Exit 148 On-Ramp | 54 | 57 | 57 | 56 | 54 | 44 | 36 | 29 | 29 | 27 | 27 | 26 | 27 | 28 | 29 | 32 | 35 | 40 | 47 | 55 | 61 | 63 | 65 | 67 | 67 |
| Exit 148 On-Ramp to Exit 143 Off-Ramp | 58 | 58 | 59 | 59 | 57 | 54 | 50 | 50 | 50 | 49 | 49 | 49 | 49 | 49 | 49 | 50 | 50 | 53 | 55 | 59 | 60 | 62 | 64 | 64 | 64 |
| Exit 143 Off-Ramp to Exit 143 On-Ramp | 63 | 62 | 63 | 62 | 61 | 60 | 58 | 59 | 59 | 59 | 57 | 57 | 56 | 55 | 55 | 57 | 59 | 61 | 62 | 62 | 63 | 64 | 65 | 65 | 65 |
| Exit 143 On-Ramp to Exit 140 Off-Ramp | 65 | 65 | 65 | 63 | 62 | 60 | 60 | 60 | 60 | 59 | 55 | 53 | 51 | 52 | 53 | 56 | 59 | 61 | 63 | 64 | 65 | 66 | 67 | 67 | 67 |
| Exit 140 Off-Ramp to Exit 140 On-Ramp | 65 | 65 | 64 | 63 | 61 | 59 | 59 | 58 | 58 | 54 | 52 | 48 | 46 | 48 | 49 | 53 | 54 | 57 | 60 | 62 | 64 | 65 | 65 | 66 | 66 |
| Exit 140 On-Ramp to Exit 133 Off-Ramp | 65 | 65 | 64 | 63 | 62 | 61 | 61 | 60 | 58 | 56 | 53 | 50 | 48 | 49 | 49 | 49 | 51 | 54 | 57 | 60 | 62 | 64 | 65 | 66 | 66 |
| Exit 133 Off-Ramp to Exit 133 On-Ramp | 65 | 64 | 64 | 64 | 64 | 64 | 62 | 58 | 55 | 53 | 48 | 44 | 41 | 39 | 38 | 37 | 40 | 46 | 50 | 55 | 59 | 62 | 64 | 64 | 65 |
| Exit 133 On-Ramp to Rappahannock River | 66 | 65 | 65 | 66 | 65 | 64 | 62 | 58 | 56 | 54 | 50 | 46 | 44 | 42 | 40 | 39 | 41 | 46 | 51 | 55 | 60 | 63 | 65 | 66 | 66 |

**Speed Color Scale (mph)**

| 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
|---|---|---|---|---|---|---|---|---|

### 3.9.2 Travel Times

Corridor and segment travel times were also analyzed using the available INRIX data. The 2016 weekday corridor travel times for each hour during the peak periods for both northbound and southbound I-95 are summarized in **Table 3-4**. The 2013 weekday corridor travel times for the same time periods are summarized in **Table 3-5.**

**Table 3-4: 2016 Average Corridor Travel Times**

| I-95 Northbound | | | | I-95 Southbound | | | |
|---|---|---|---|---|---|---|---|
| Distance (miles) | Time Period | Average Travel Time (minutes) | Average Speed (mph) | Distance (miles) | Time Period | Average Travel Time (minutes) | Average Speed (mph) |
| 16.1 | 5-6AM | 17.1 | 56 | 17.8 | 5-6AM | 15.8 | 68 |
| | 6-7AM | 26.8 | 36 | | 6-7AM | 15.6 | 68 |
| | 7-8AM | 27.6 | 35 | | 7-8AM | 15.7 | 68 |
| | 8-9AM | 19.8 | 49 | | 8-9AM | 15.7 | 68 |
| | 9-10AM | 15.4 | 63 | | 9-10AM | 15.6 | 68 |
| | 2-3PM | 14.0 | 69 | | 2-3PM | 17.6 | 61 |
| | 3-4PM | 13.9 | 69 | | 3-4PM | 20.8 | 51 |
| | 4-5PM | 14.1 | 69 | | 4-5PM | 27.0 | 40 |
| | 5-6PM | 13.9 | 69 | | 5-6PM | 29.9 | 36 |
| | 6-7PM | 14.0 | 69 | | 6-7PM | 23.4 | 46 |
| | 7-8PM | 14.2 | 68 | | 7-8PM | 16.5 | 65 |

**Table 3-5: 2013 Average Corridor Travel Times**

| I-95 Northbound | | | | I-95 Southbound | | | |
|---|---|---|---|---|---|---|---|
| Distance (miles) | Time Period | Average Travel Time (minutes) | Average Speed (mph) | Distance (miles) | Time Period | Average Travel Time (minutes) | Average Speed (mph) |
| 16.1 | 5-6AM | 14.7 | 66 | 17.8 | 5-6AM | 15.9 | 67 |
| | 6-7AM | 15.3 | 63 | | 6-7AM | 15.9 | 67 |
| | 7-8AM | 17.7 | 54 | | 7-8AM | 15.9 | 67 |
| | 8-9AM | 16.2 | 60 | | 8-9AM | 16.0 | 67 |
| | 9-10AM | 15.0 | 65 | | 9-10AM | 16.1 | 66 |
| | 2-3PM | 14.9 | 65 | | 2-3PM | 17.3 | 62 |
| | 3-4PM | 14.7 | 66 | | 3-4PM | 19.3 | 55 |
| | 4-5PM | 14.3 | 68 | | 4-5PM | 22.3 | 48 |

| I-95 Northbound | | | | I-95 Southbound | | | |
|---|---|---|---|---|---|---|---|
| Distance (miles) | Time Period | Average Travel Time (minutes) | Average Speed (mph) | Distance (miles) | Time Period | Average Travel Time (minutes) | Average Speed (mph) |
| | 5-6PM | 14.3 | 68 | | 5-6PM | 23.7 | 45 |
| | 6-7PM | 14.3 | 68 | | 6-7PM | 19.9 | 54 |
| | 7-8PM | 14.1 | 68 | | 7-8PM | 16.7 | 64 |

Segment and cumulative travel times for the peak hour within each peak period are summarized in **Figure 3-7** for 2016 conditions and in **Figure 3-8** for 2013 conditions.

**Figure 3-7: 2016 I-95 Northbound General Purpose Lane AM Peak Hour Travel Times**

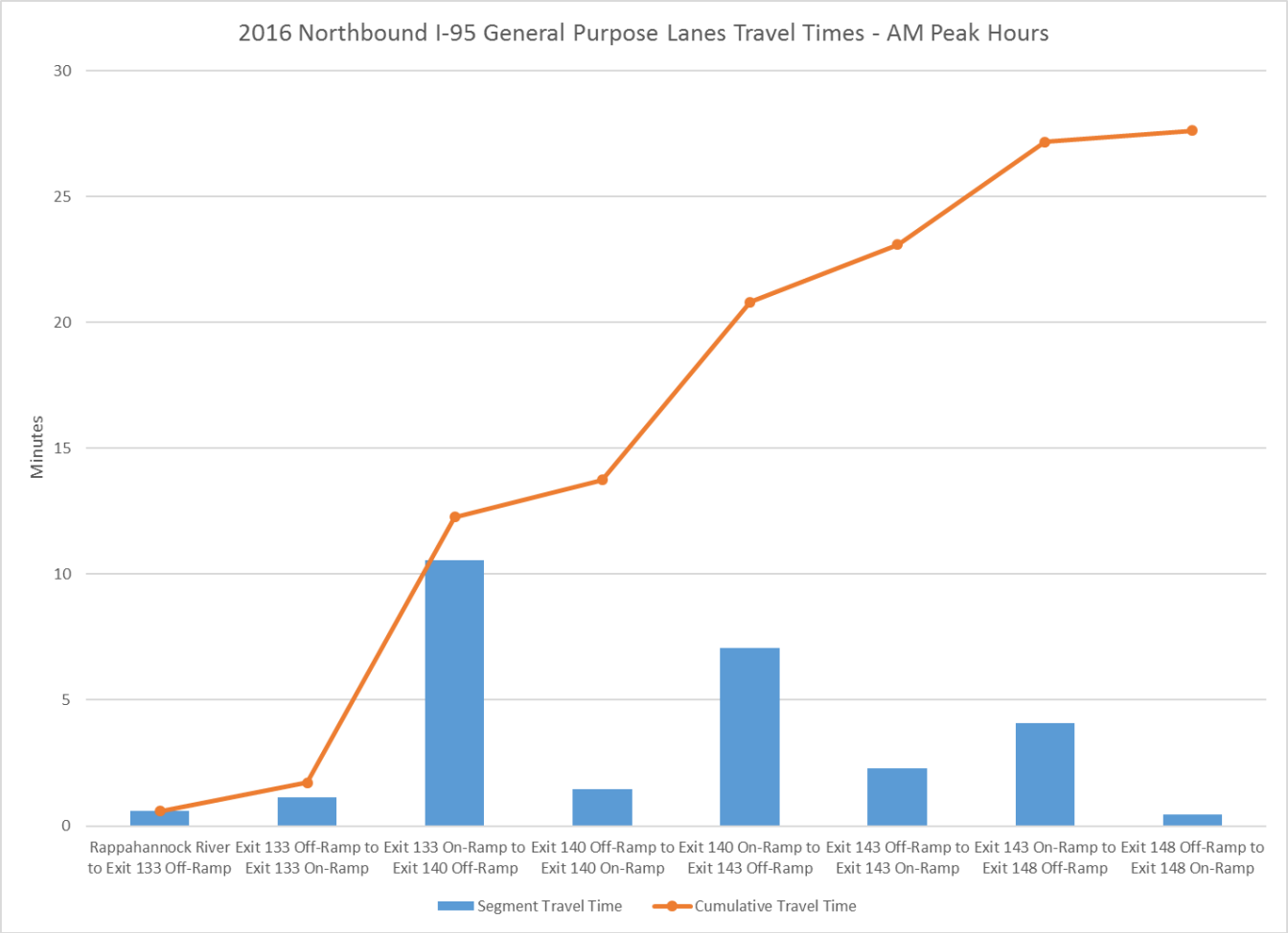
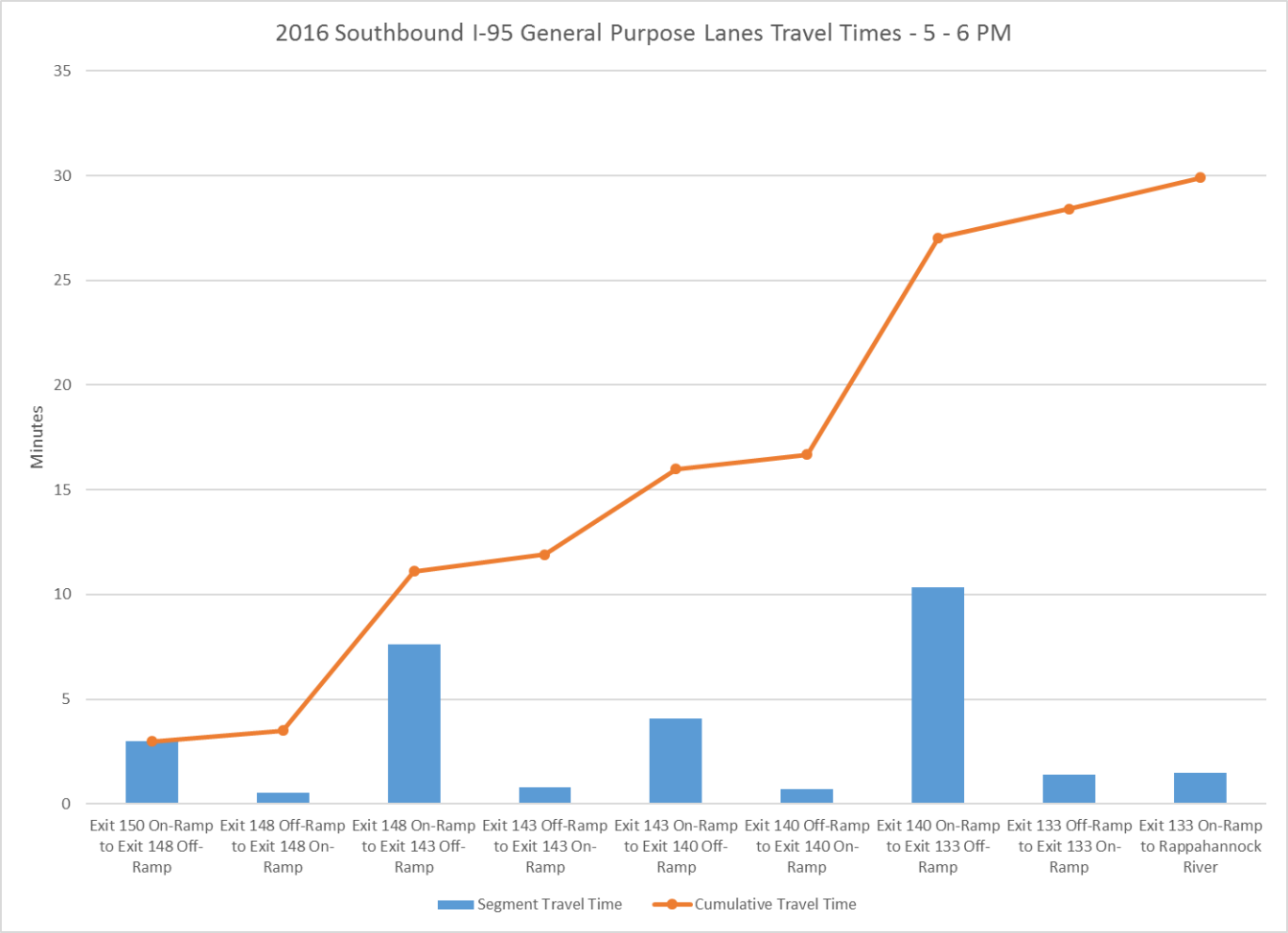


**Figure 3-8: 2016 I-95 Southbound General Purpose Lanes PM Peak Hour Travel Times**




## 3.10 CAPACITY ANALYSIS

The 2016 peak period volumes shown in **Appendix A** were analyzed using the methodologies outlined in **Section 2.3**. The results of these mainline capacity analyses are provided in **Table 3-6;** the mainline freeway facility analyzed in each direction extended from the Rappahannock River to north of Exit 148**.** Capacity adjustments were made for the northbound weaving segment at Exit 143 during the AM peak period to better match the field observed capacity at this location.

The intersections identified in **Table 2-2** were also analyzed for existing conditions. The results of the intersection analyses are provided in **Table 3-7**.

**Table 3-6: 2016 HCS Freeway Facilities Results**

| | NB | | SB | |
|---|---|---|---|---|
| | LOS | Travel Time (min) | LOS | Travel Time (min) |
| 6 – 7 AM | F | 26 | A | 17 |
| 7 – 8 AM | F | | B | |
| 8 – 9 AM | F | | B | |
| 3 – 4 PM | C | 17 | F | 30 |
| 4 – 5 PM | C | | F | |
| 5 – 6 PM | C | | F | |
| 6 – 7 PM | C | | F | |

**Table 3-7: 2016 Intersection Analysis Results**

| Intersection | | | AM (7 – 8 AM) | | PM (5 – 6 PM) | |
|---|---|---|---|---|---|---|
| | | | LOS | Delay | LOS | Delay |
| US 17 | at | South Gateway Dr | C | 32.0 | C | 30.4 |
| US 17 Bus | at | Short St | B | 15.3 | C | 27.4 |
| I-95 NB Ramps | at | Centreport Pkwy | B | 10.7 | C | 29 |
| I-95 SB Ramps | at | Centreport Pkwy | E | 62 | A | 9.6 |
| US 1 | at | Centreport Pkwy | F | 174.3 | C | 34.3 |
| I-95 NB Ramps | at | Courthouse Rd | B | 11.8 | B | 19.2 |
| I-95 SB Ramps | at | Courthouse Rd | C | 21.4 | C | 23.7 |
| I-95 NB Off-Ramp | at | US 1 | A | 3.4 | A | 8.5 |
| Garrisonville Rd | at | US 1 | B | 13.7 | A | 6.2 |
| US 1 | at | I-95 NB On-Ramp | E | 70 | F | 85.6 |
| I-95 SB Off-Ramp | at | Garrisonville Rd | B | 18.9 | B | 13.7 |
| I-95 NB Off-Ramp | at | Russell Rd | D | 36.9 | B | 17.2 |
| Russell Rd | at | I-95 NB On-Ramp | C | 26.8 | A | 6.1 |
| I-95 SB Ramps | at | Russell Rd | A | 1.9 | B | 13.7 |

# 4. ALTERNATIVES CONSIDERED

A detailed discussion on alternatives development is included in **Chapter 2** of the Revised EA and the accompanying I-95 Express Lanes Fredericksburg Extension Study Alternatives Analysis Technical Report. One Build Alternative was identified for inclusion in the Revised EA.

The Build Alternative would extend two reversible Express Lanes in the median of I-95 from south of Exit 143 to the vicinity of the I-95 / US 17 North Interchange at Warrenton Road (Exit 133). It would also provide Express Lane access at several locations including Exit 133, the I-95 / VA 630 Interchange at Courthouse Road (Exit 140), and in the vicinity of the I-95 / Russell Road Interchange at Marine Corps Base Quantico (Exit 148). The Courthouse Road / I-95 Interchange is currently being reconstructed by the Department as a diverging diamond interchange on a new alignment immediately south of existing Courthouse Road. The Build Alternative, including mainline and access improvements, is shown in Appendix B of the Revised EA. The Build Alternative is consistent with the selected alternative identified in the 2011 EA and subsequent FONSI.

Because the access points to and from the Express Lanes will vary for NB and SB travel, the Build Alternative description is provided for each direction below. The Express Lanes would operate as reversible HOT lanes based on peak traffic flow.

**Northbound Travel**

Northbound access to the Express Lanes would begin south of the I-95 / US 17 North Interchange (Exit 133) and tie into the proposed Express Lanes approximately two miles north of VA 610 / Garrisonville Road (Exit 143). Access to and from the NB Express Lanes would occur as follows:

- North of the I-95/US 17 North Interchange (Exit 133), vehicles could enter the Express Lanes from the left lane (west side) of I-95 via a new slip ramp or from a new flyover entrance from the right lane (east side) of NB I-95.
- At VA 630 / Courthouse Road (Exit 140), an entrance to the Express Lanes would come directly from Courthouse Road (this ramp is reversible and will serve both NB and SB travel).
- South of Russell Road (Exit 148), a new flyover ramp would provide an exit from the Express Lanes to the GP lanes.

**Southbound Travel**

Southbound access to the Express Lanes would begin approximately one mile south of VA 610 / Garrisonville Road (Exit 143) where the current Express Lanes end and would continue to the proposed terminus of the Express Lanes which is just north of US 17 (Exit 133). Access to and from the SB Express Lanes would occur as follows:

- South of Russell Road (Exit 148), users in the GP lanes could enter the Express Lanes just south of VA 637 via a new flyover from the right lane (west side) of SB I-95 or via new slip ramp from the left lane (east side) of SB I-95.
- At VA 630 / Courthouse Road (Exit 140), a new exit from the Express Lanes would connect directly to existing Courthouse Road (VA 630, Exit 140); this ramp is reversible and will serve both NB and SB travel.
- North of US 17 North (Exit 133), a new flyover ramp would provide an exit from the Express Lanes to access the GP lanes or to access US 17, or SB travelers could access GP lanes via a new slip ramp.

In order to accommodate the Express Lane improvements and associated entrance and exit ramps, the existing GP lanes of I-95 would be widened or realigned in several locations. Specifically, the NB GP lanes would be widened to include an auxiliary lane between 0.9 miles north (0.5 miles north of US 17 North), and 0.5 miles north of VA 652 / Truslow Road. The SB GP lanes would be realigned between 0.3 miles north of Route 628 and 0.4 miles south of Route 628, and between 0.6 miles north of VA 652 / Truslow Road and the I-95 / US 17 North Interchange. Details regarding these proposed revised access points are provided in the *Alternatives Technical Report*.

# 5. DESIGN YEAR 2042 FORECASTS AND ANALYSES

## 5.1 SUMMARY

A summary of daily traffic volumes for each major segment of I-95 (defined as segments between interchanges) within the study area is provided in **Table 5-1**. A summary of projected total AM (6-9 AM) and PM (4-7 PM) peak period volumes is provided in **Table 5-2**. A summary of projected AM (7-8 AM) and PM (5-6 PM) peak hour volumes are provided in **Table 5-3** and **Table 5-4**, respectively.

A summary of projected LOS and travel times for the I-95 corridor for 2042 No-Build and 2042 Build conditions are provided in **Table 5-5**.

. It should be noted that the travel time estimates were developed from planning-level capacity analysis output and are intended only to indicate relative changes in travel time between alternatives.

A summary of projected LOS for the signalized intersections in the study area for 2042 No-Build and 2042 Build conditions are provided in **Table 5-6.**

The traffic impacts of each alternative are discussed in more detail in **Sections 5.2** and **5.3** below.

**Table 5-1: I-95 Daily Volumes by Segment**

| Location on I-95 | Direction | 2016 Daily Volumes | | | 2042 No-Build Daily Volumes | | | 2042 Build Daily Volumes | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | GP | Express | Total | GP | Express | Total | GP | Express | Total |
| North of Jefferson Davis Highway (US 1, Exit 126) | NB | 52,000 | - | **105,100** | 75,500 | - | **151,400** | 77,400 | - | **156,000** |
| | SB | 53,100 | - | | 75,900 | - | | 78,600 | - | |
| North of Plank Road (Route 3, Exit 130) | NB | 69,000 | - | **136,000** | 88,300 | - | **173,800** | 91,100 | - | **180,100** |
| | SB | 67,000 | - | | 85,500 | - | | 89,000 | - | |
| North of Warrenton Road (US 17, Exit 133) | NB | 62,200 | - | **124,400** | 80,700 | - | **157,800** | 76,200 | 13,300 | **171,100** |
| | SB | 62,200 | - | | 77,100 | - | | 68,400 | 13,200 | |
| North of Centreport Parkway (Route 8900, Exit 136) | NB | 61,900 | - | **124,200** | 78,200 | - | **154,400** | 76,000 | 13,300 | **170,000** |
| | SB | 62,300 | - | | 76,200 | - | | 67,500 | 13,200 | |
| North of Courthouse Road (Route 630, Exit 140) | NB | 60,900 | - | **121,900** | 81,400 | - | **158,000** | 76,400 | 15,300 | **175,500** |
| | SB | 61,000 | - | | 76,600 | - | | 67,900 | 15,900 | |

| Location on I-95 | Direction | 2016 Daily Volumes | | | 2042 No-Build Daily Volumes | | | 2042 Build Daily Volumes | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | GP | Express | Total | GP | Express | Total | GP | Express | Total |
| North of Garrisonville Road (Route 610, Exit 143) | NB | 69,600 | 6,200 | **153,700** | 85,300 | 12,500 | **188,800** | 81,500 | 20,500 | **199,800** |
| | SB | 68,600 | 9,300 | | 75,000 | 16,000 | | 75,500 | 22,300 | |
| North of Russell Road (Exit 148) | NB | 64,900 | 6,200 | **143,000** | 77,600 | 12,500 | **175,400** | 76,100 | 20,500 | **183,100** |
| | SB | 62,600 | 9,300 | | 69,300 | 16,000 | | 70,200 | 16,300 | |

**Table 5-2: I-95 Peak Period Volumes by Segment**

| Location on I-95 | | 2016 Peak Period Volumes | | | 2042 No-Build Peak Period Volumes | | | 2042 Build Peak Period Volumes | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SB | NB | Express Lanes | SB | NB | Express Lanes | SB | NB | Express Lanes |
| North of Russell Road (Exit 148) | AM | 9,350 | 10,260 | 2,675 NB | 9,915 | 14,150 | 3,200 NB | 9,585 | 11,470 | 4,775 NB |
| | PM | 12,110 | 13,605 | 4,508 SB | 18,980 | 13,440 | 4,665 SB | 18,660 | 13,325 | 5,405 SB |
| North of Garrisonville Road (Route 610, Exit 143) | AM | 6,120 | 11,370 | 2,675 NB | 7,170 | 18,160 | 3,200 NB | 6,935 | 17,275 | 4,775 NB |
| | PM | 12,820 | 10,325 | 3,925 SB | 21,925 | 12,025 | 4,665 SB | 21,595 | 12,720 | 5,405 SB |
| North of Courthouse Road (Route 630, Exit 140) | AM | 6,570 | 9,790 | - | 7,515 | 20,655 | - | 8,350 | 15,950 | 3,695 NB |
| | PM | 14,130 | 10,020 | - | 25,155 | 11,790 | - | 23,525 | 15,950 | 6,840 SB |
| North of Centreport Parkway (Route 8900, Exit 136) | AM | 7,200 | 9,450 | - | 8,185 | 16,865 | - | 8,435 | 16,500 | 3,155 NB |
| | PM | 14,080 | 10,530 | - | 20,315 | 11,510 | - | 21,825 | 11,575 | 5,925 SB |
| North of Warrenton Road (US 17, Exit 133) | AM | 7,590 | 10,530 | - | 8,705 | 15,865 | - | 9,105 | 15,255 | 3,155 NB |
| | PM | 14,025 | 10,420 | - | 18,785 | 11,505 | - | 20,655 | 11,785 | 5,925 SB |
| North of Plank Road (Route 3, Exit 130) | AM | 8,085 | 13,100 | - | 10,215 | 18,220 | - | 10,200 | 18,790 | - |
| | PM | 14,705 | 11,400 | - | 20,365 | 13,250 | - | 25,435 | 13,430 | - |

**Table 5-3: I-95 AM Peak Hour Volumes by Segment**

| Location on I-95 | 2016 7-8 AM Volumes[1] | | | 2042 No-Build 7-8 AM Volumes[1] | | | 2042 Build 7-8 AM Volumes[1] | | |
|---|---|---|---|---|---|---|---|---|---|
| | SB | NB | Express Lanes | SB | NB | Express Lanes | SB | NB | Express Lanes |
| North of Russell Road (Exit 148) | 3,470 | 3,305 | 760 NB | 3,400 | 4,400 | 1,100 NB | 3,300 | 4,600 | 1,700 NB |
| North of Garrisonville Road (Route 610, Exit 143) | 2,095 | 3,670 | 760 NB | 2,500 | 6,200 | 1,100 NB | 2,400 | 5,700 | 1,900 NB |
| North of Courthouse Road (Route 630, Exit 140) | 2,500 | 3,155 | - | 2,600 | 7,100 | - | 2,900 | 6,900 | 1,300 NB |
| North of Centreport Parkway (Route 8900, Exit 136) | 2,750 | 3,035 | - | 2,800 | 5,800 | - | 2,900 | 5,700 | 1,100 NB |
| North of Warrenton Road (US 17, Exit 133) | 2,915 | 3,575 | - | 3,000 | 5,400 | - | 3,100 | 5,200 | 1,100 NB |
| North of Plank Road (Route 3, Exit 130) | 3,705 | 4,680 | - | 3,500 | 6,200 | - | 3,500 | 6,400 | - |

**Table 5-4: I-95 PM Peak Hour Volumes by Segment**

| Location on I-95 | 2016 5-6 PM Volumes | | | 2042 No-Build 5-6 PM Volumes | | | 2042 Build 5-6 PM Volumes | | |
|---|---|---|---|---|---|---|---|---|---|
| | SB | NB | Express Lanes | SB | NB | Express Lanes | SB | NB | Express Lanes |
| North of Russell Road (Exit 148) | 3,930 | 4,120 | 1,230 SB | 6,500 | 4,600 | 1,600 SB | 6,400 | 4,800 | 1,900 SB |
| North of Garrisonville Road (Route 610, Exit 143) | 4,530 | 3,500 | 1,230 SB | 7,500 | 4,200 | 7,500 SB | 7,400 | 4,400 | 2,500 SB |
| North of Courthouse Road (Route 630, Exit 140) | 4,850 | 3,385 | - | 8,600 | 4,100 | - | 8,300 | 4,200 | 2,300 SB |
| North of Centreport Parkway (Route 8900, Exit 136) | 4,790 | 3,645 | - | 7,000 | 4,000 | - | 7,500 | 4,000 | 2,000 SB |
| North of Warrenton Road (US 17, Exit 133) | 4,705 | 3,595 | - | 6,400 | 4,000 | - | 7,000 | 4,100 | 2,000 SB |
| North of Plank Road (Route 3, Exit 130) | 4,975 | 3,875 | - | 7,000 | 4,600 | - | 8,700 | 4,600 | - |

**Table 5-5: HCS Freeway Facilities Results**

| | Existing | | | | 2042 No-Build | | | | 2042 Build | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NB | | SB | | NB | | SB | | NB | | SB | |
| | LOS | Travel Time (min) | LOS | Travel Time (min) | LOS | Travel Time (min) | LOS | Travel Time (min) | LOS | Travel Time (min) | LOS | Travel Time (min) |
| 6 – 7 AM | F | 26 | A | 17 | F | 37 | B | 17 | F | 32 | B | 17 |
| 7 – 8 AM | F | | B | | F | | B | | F | | B | |
| 8 – 9 AM | F | | B | | F | | B | | F | | B | |
| 3 – 4 PM | C | 17 | F | 30 | C | 17 | F | 32 | C | 17 | F | 25 |
| 4 – 5 PM | C | | F | | C | | F | | C | | F | |
| 5 – 6 PM | C | | F | | C | | F | | C | | F | |
| 6 – 7 PM | C | | F | | C | | F | | C | | F | |

**Table 5-6: Intersection Analysis Results**

| Intersection | | | Existing | | | | 2042 No-Build | | | | 2042 Build | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM (7 – 8 AM) | | PM (5 – 6 PM) | | AM (7 – 8 AM) | | PM (5 – 6 PM) | | AM (7 – 8 AM) | | PM (5 – 6 PM) | |
| | | | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay |
| US 17 | at | South Gateway Dr | C | 32.0 | C | 30.4 | D | 35.4 | D | 47.9 | D | 41.7 | E | 78.5 |
| US 17 Bus | at | Short St | B | 15.3 | C | 27.4 | C | 22.9 | F | 96.0 | C | 23 | F | 87.3 |
| I-95 NB Ramps | at | Centreport Pkwy | B | 10.7 | C | 29 | B | 10.2 | D | 45.0 | B | 11.3 | D | 43.6 |
| I-95 SB Ramps | at | Centreport Pkwy | E | 62 | A | 9.6 | E | 56.0 | C | 26.1 | C | 24.0 | C | 29.7 |
| US 1 | at | Centreport Pkwy | F | 174.3 | C | 34.3 | F | 102.2 | D | 53.9 | E | 62.6 | D | 51.8 |
| I-95 NB Ramps | at | Courthouse Rd | B | 11.8 | B | 19.2 | B | 16.5 | C | 30.3 | B | 17.6 | B | 13.5 |
| I-95 SB Ramps | at | Courthouse Rd | C | 21.4 | C | 23.7 | D | 51.1 | B | 17.9 | A | 9.2 | B | 13.1 |
| I-95 NB Off-Ramp | at | US 1 | A | 3.4 | A | 8.5 | A | 3.1 | B | 10.2 | A | 1.3 | C | 24.3 |
| Garrisonville Rd | at | US 1 | B | 13.7 | A | | B | 15.7 | F | 160.9 | B | 10.4 | F | 118.7 |
| US 1 | at | I-95 NB On-Ramp | E | 70 | F | 85.6 | F | 131.7 | F | 258.9 | F | 127.1 | F | 221.4 |
| I-95 SB Off-Ramp | at | Garrisonville Rd | B | 18.9 | B | 13.7 | C | 32.7 | C | 30.9 | E | 58.7 | C | 25.2 |
| I-95 NB Off-Ramp | at | Russell Rd | D | 36.9 | B | 17.2 | C | 23.1 | C | 31.9 | B | 18.4 | C | 32.6 |
| Russell Rd | at | I-95 NB On-Ramp | C | 26.8 | A | 6.1 | C | 27.7 | C | 21.4 | C | 25.8 | B | 14.8 |
| I-95 SB Ramps | at | Russell Rd | A | 1.9 | B | 13.7 | A | 0.8 | B | 11.8 | C | 23.5 | B | 11 |

## 5.2 2042 NO-BUILD ALTERNATIVE

As described in **Section 1.1.2**, the No-Build Alternative assumes the following improvements along the I-95 Corridor:

- I-95 Express Lanes Southern Terminus Extension – A two-mile extension of a single, reversible Express Lane (High Occupancy Toll – 3 Persons Per Vehicle) from the existing terminus of the system north of Garrisonville Road (Exit 143) to south of Garrisonville Road.
- I-95 Exit 140 (Courthouse Road) – Relocation and reconstruction of the existing diamond interchange as a diverging diamond interchange with increased park-and-ride lot capacity.

All other projects that are contained in the region's Constrained Long-Range Transportation Plan are assumed to be in place. These roadway network modifications were retained for all modeling scenarios.

The 2042 No-Build forecast shows continuing growth in traffic volumes along the I-95 corridor. Daily traffic volumes on I-95 are projected to increase by approximately 25 to 30 percent (from approximately 122,000 to 158,000 vehicles per day) between 2016 and 2042 for the segments between Exit 133 and Exit 143. North of Exit 143, daily traffic volumes are projected to increase by approximately 23 percent (from approximately 154,000 to 189,000 vehicles per day).

The three-hour peak period and peak hourly demand volumes also show continuing growth along the I-95 corridor. During the AM peak period, northbound I-95 volumes are projected to increase by approximately 50 percent between Exit 133 and Exit 143 and by approximately 59 percent north of Exit 143.

During the PM peak period, southbound I-95 volumes are projected to increase by approximately 34 percent between Exit 140 and Exit, 78 percent between Exit 143 and Exit 140, and by approximately 71 percent north of Exit 143.

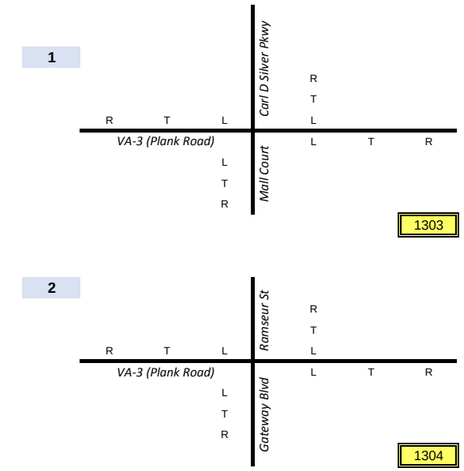
Detailed daily volumes for 2042 No-Build conditions are provided in **Figure 5-1-1** through **5-1-7**.

Detailed AM and PM peak period hourly volumes for 2042 No-Build conditions, including turning movement volumes at the ramp terminal intersections, are provided in **Appendix B** in **Figures B-1-1** through **B-7-7**.

### 5.2.1 Operational Analysis

**Table 5-5** presents the LOS for the I-95 corridor for the AM and PM peak periods for 2042 No-Build conditions**. Table 5-6** presents the intersection LOS for all ramp terminal intersections for the AM and PM peak hours under 2042 No-Build conditions.

Overall, under 2042 No-Build conditions, the I-95 GP lanes are projected to continue to operate at LOS F in the northbound direction during the AM peak period and at LOS F in the southbound direction during the PM peak period. Compared to existing conditions, travel times within the GP lanes within the study segment are projected to increase by 11 minutes in the northbound direction during the AM peak period and two minutes in the southbound direction during the PM peak period. It should be noted that in the southbound direction, the congested segment extends beyond the Study Limits in 2042, so the overall increase in SB travel times may be larger if a larger study limit were selected.




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

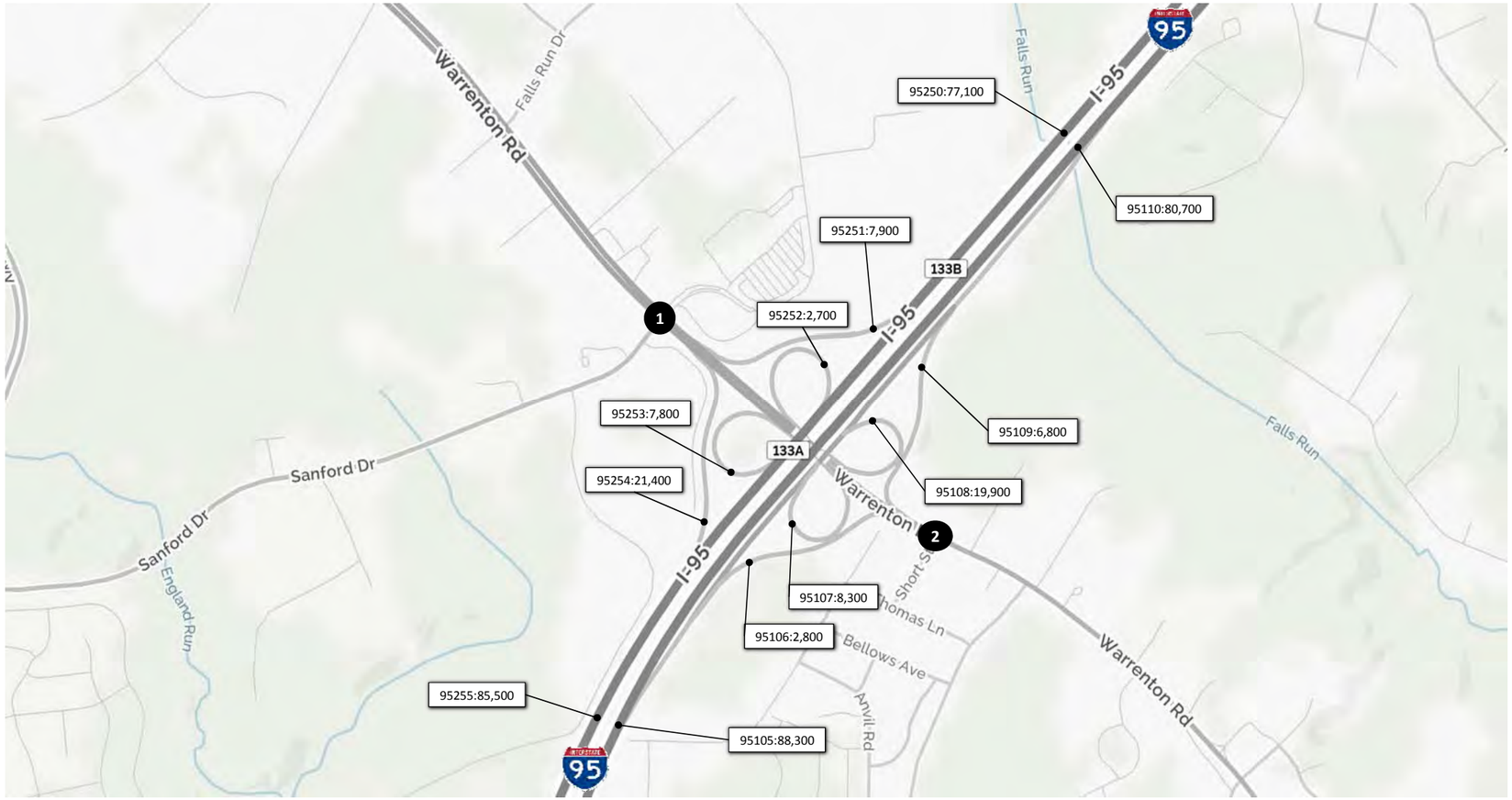
2042 No Build

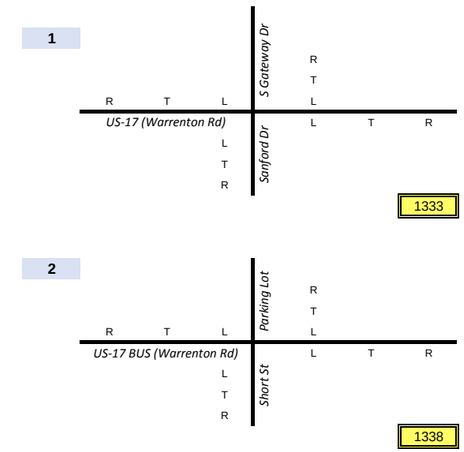
Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.1-1




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

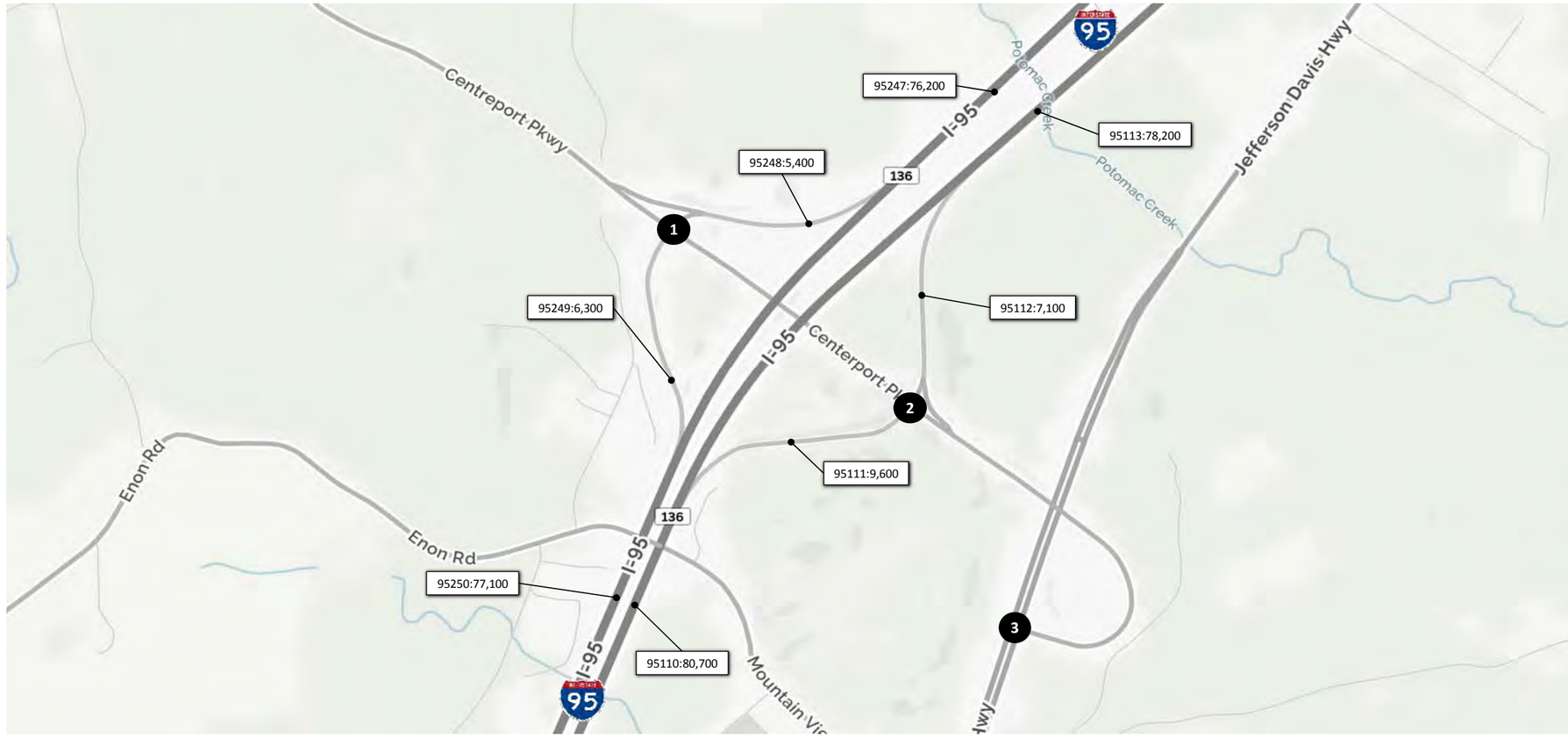
U.S. Department of Transportation Federal Highway Administration

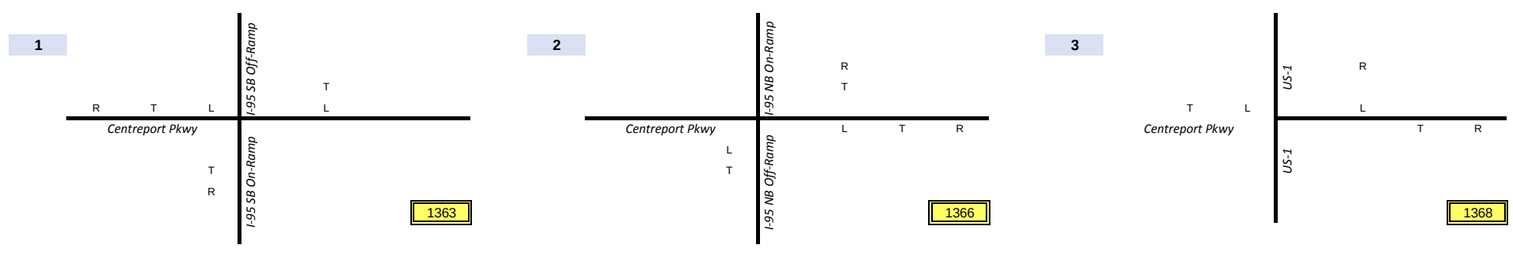
I-95 Express Lanes Fredericksburg Extension Study

2042 No Build
Weekday Daily Volumes
I-95 Corridor

August 2017

Figure 5.1-2




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

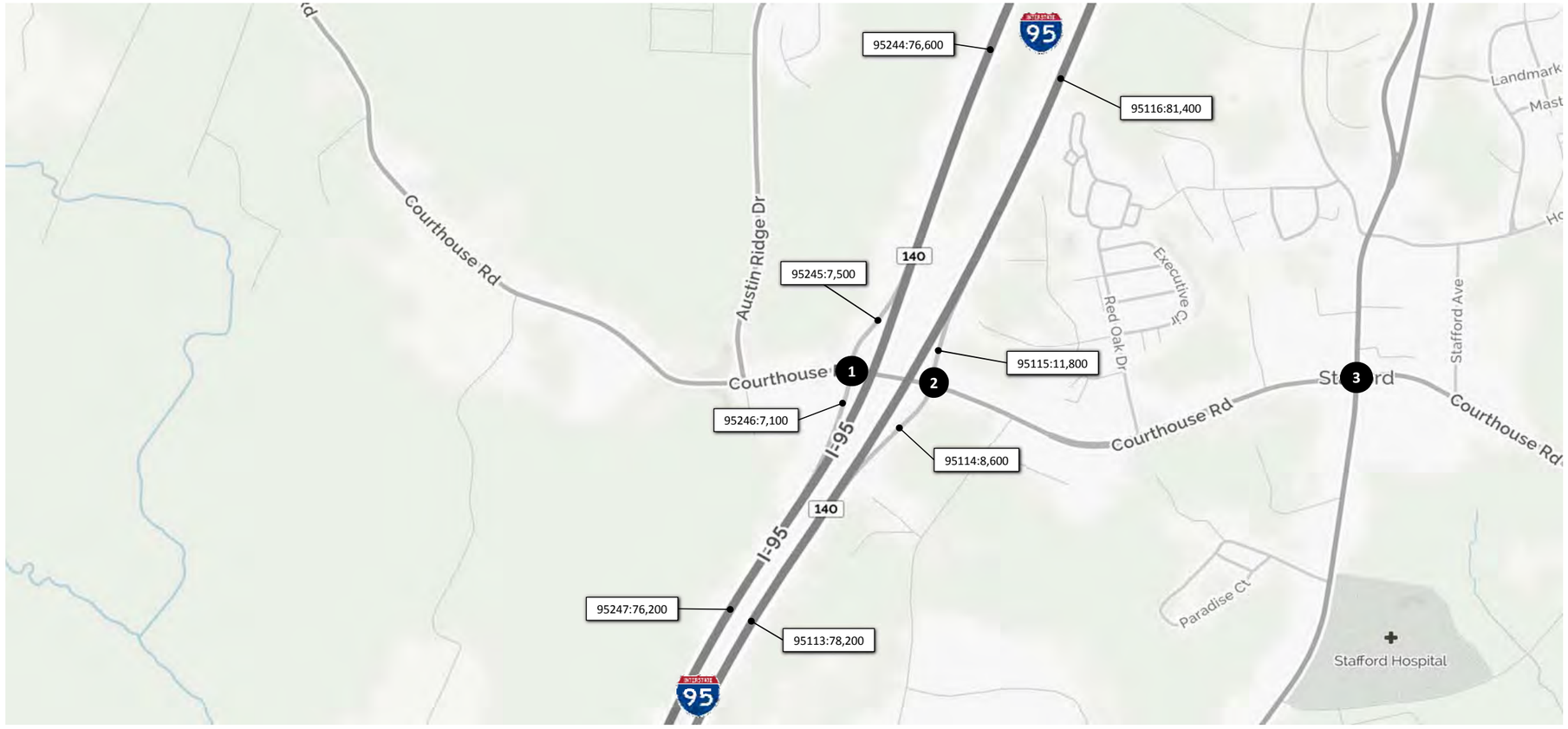
U.S. Department of Transportation Federal Highway Administration

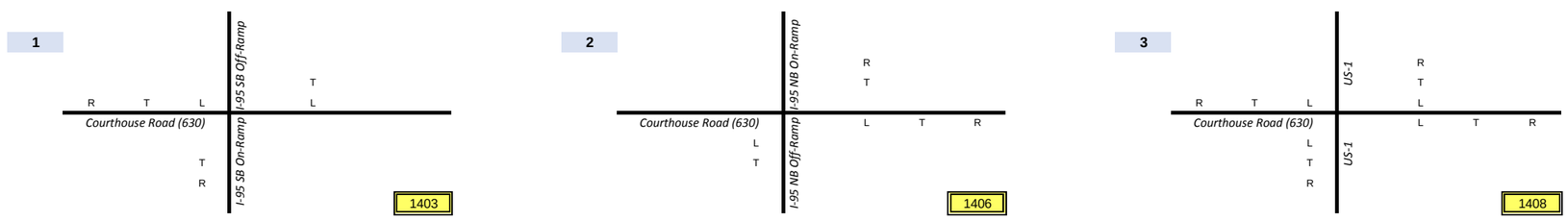
I-95 Express Lanes Fredericksburg Extension Study

2042 No Build
Weekday Daily Volumes
I-95 Corridor

August 2017

Figure 5.1-3




**Legend**

xx,xxx Weekday Daily Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

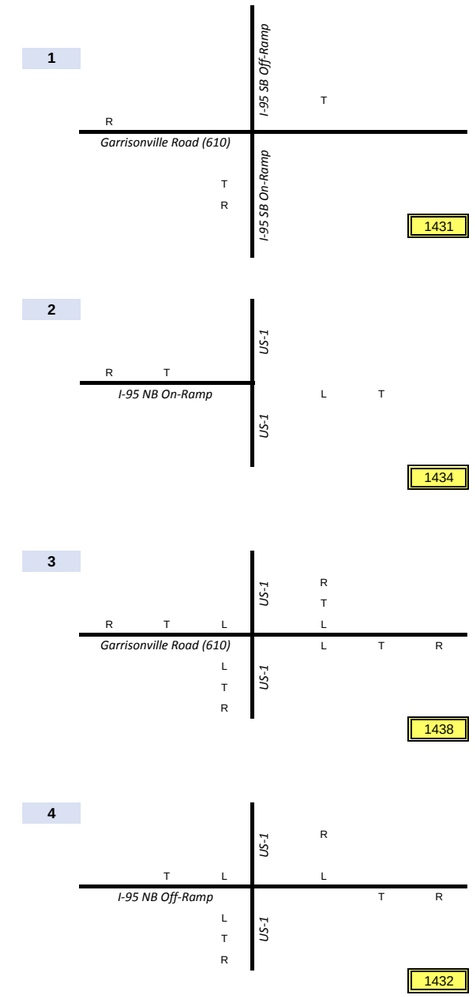
2042 No Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.1-4




**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build Weekday Daily Volumes I-95 Corridor

August 2017

Figure 5.1-5

**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

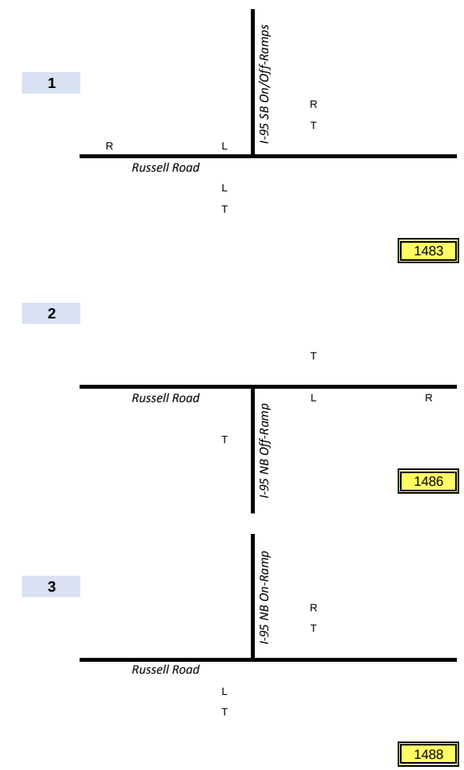
2042 No Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.1-6




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build
Weekday Daily Volumes
I-95 Corridor

August 2017

Figure 5.1-7

## 5.3 2042 BUILD ALTERNATIVE

As described in **Section 1.1.2**, the Build Alternative would extend the I-95 Express Lanes from the current terminus at Garrisonville Road (Exit 143) to Route 17 (Exit 133) in Stafford County north of Fredericksburg. It would also provide Express Lane Access Points near US 17 (Exit 133), VA 630 (Exit 140 at Courthouse Road), and Marine Corps Base Quantico (Exit 148 at Russell Road). The Build Alternative would provide a direct connection with the Southbound and Northbound Rappahannock River Crossing Projects.

The proposed new segments of the I-95 Express Lanes, along with the proposed connections to the I-95 GP lanes near Exit 133 and Exit 148 and the proposed direction connection to Old Courthouse Road, were coded into the MWCOG travel demand model, and the raw model output was processed as described in Section 2.4. The resulting daily, peak period, and AM and PM peak hourly volumes are summarized in **Table 5-1**, **Table 5-2**, **Table 5-3**, and **Table 5-4**, respectively.

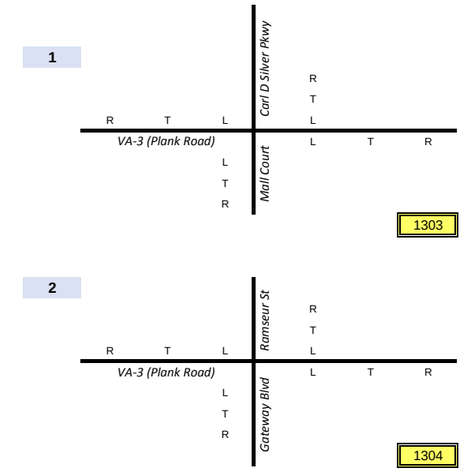
As shown in **Table 5-1** compared to 2042 No-Build conditions, the proposed I-95 Express Lane extension would increase the total daily volumes along the I-95 within the study corridor. Projected daily traffic volumes would increase by approximately six percent (8,000 to 11,000 vehicles per day) north of Exit 143 and approximately eight to ten percent (15,000 to 17,000 vehicles per day) between Exits 133 and 143. North of Exit 143, the daily volumes in the I-95 GP lanes would decrease by approximately 4,000 vehicles per day, while the Express Lane volumes would increase by approximately 14,000 vehicles per day. Between Exits 133 and 143, the daily I-95 GP volumes would decrease by approximately 14,000 vehicles per day and the proposed I-95 Express Lanes would carry approximately 26,000 vehicles per day.

The three-hour peak period and peak hourly demand volumes also show increased traffic volume along I-95 compared to 2042 No-Build conditions. During the AM peak period (6 – 9 AM), north of Exit 143, total northbound I-95 volumes are projected to increase by approximately three percent (700 vehicles); the I-95 Express Lanes volume would increase by approximately 1,500 vehicles and the GP volume would decrease by approximately 800 vehicles. Between Exits 133 and 140, total northbound I-95 volumes are projected to increase by approximately 16 percent; the GP lane volumes would essentially remain unchanged, but an additional 3,200 vehicles would be served by the proposed I-95 Express Lanes.

During the PM peak period (4 – 7 PM), north of Exit 143, total southbound volumes are projected to increase by approximately two percent (500 vehicles); the GP lane volumes would decrease by approximately 300 vehicles, but the I-95 Express Lanes would carry an additional 800 vehicles. Between Exits 140 and 133, total southbound volumes are projected to increase by approximately 7,500 vehicles; the I-95 GP lane volume would increase by approximately 1,500 vehicles and the proposed I-95 Express Lanes would carry approximately 6,000 vehicles in this segment.

Detailed daily volumes for 2042 Build conditions are provided in **Figures 5-2-1** through **5-2-7**.

Detailed AM and PM peak period hourly volumes for 2042 Build conditions, including turning movement volumes at the ramp terminal intersections, are provided in **Appendix C** in **Figures C-1-1** through **C-7-7**.




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

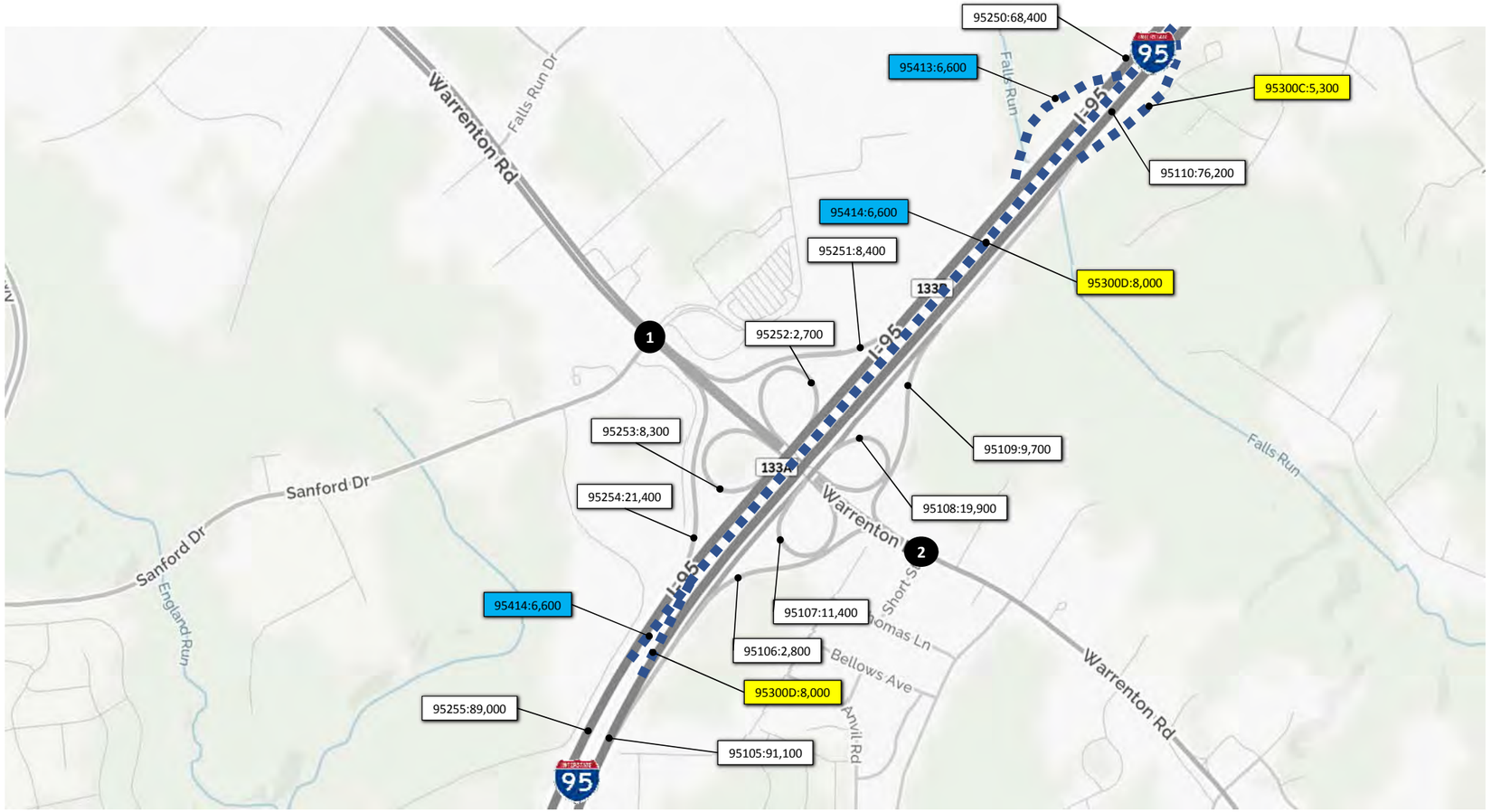
2042 Build

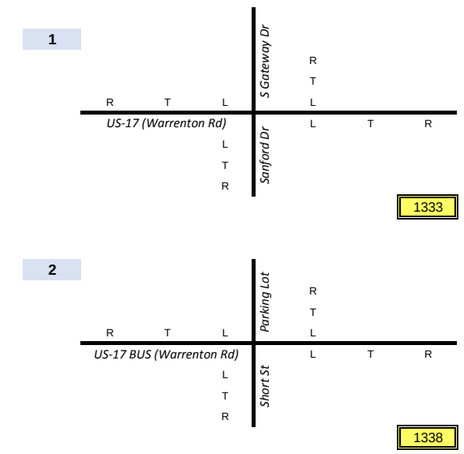
Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.2-1




**Legend**

xx,xxx Weekday Daily Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

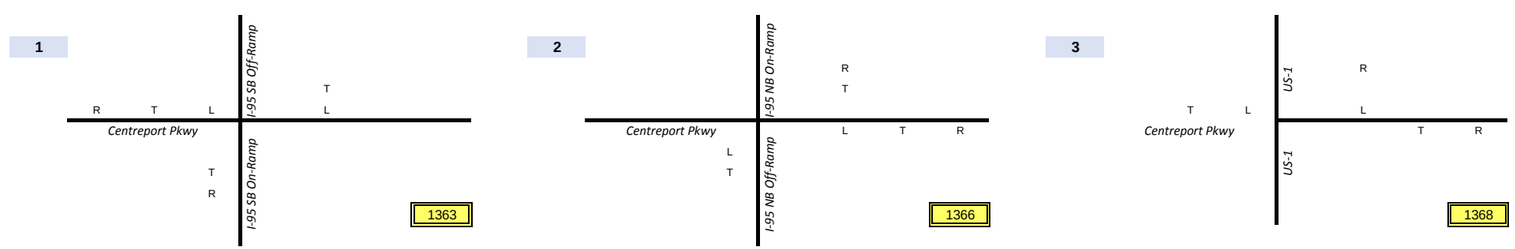
2042 Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.2-2




**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

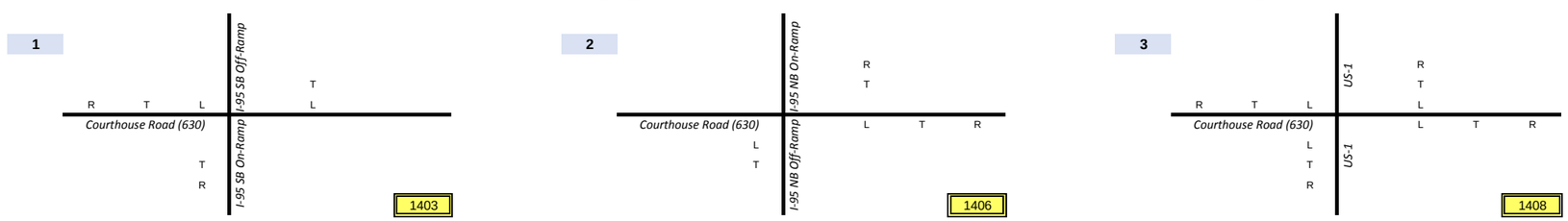
2042 Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.2-3




**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

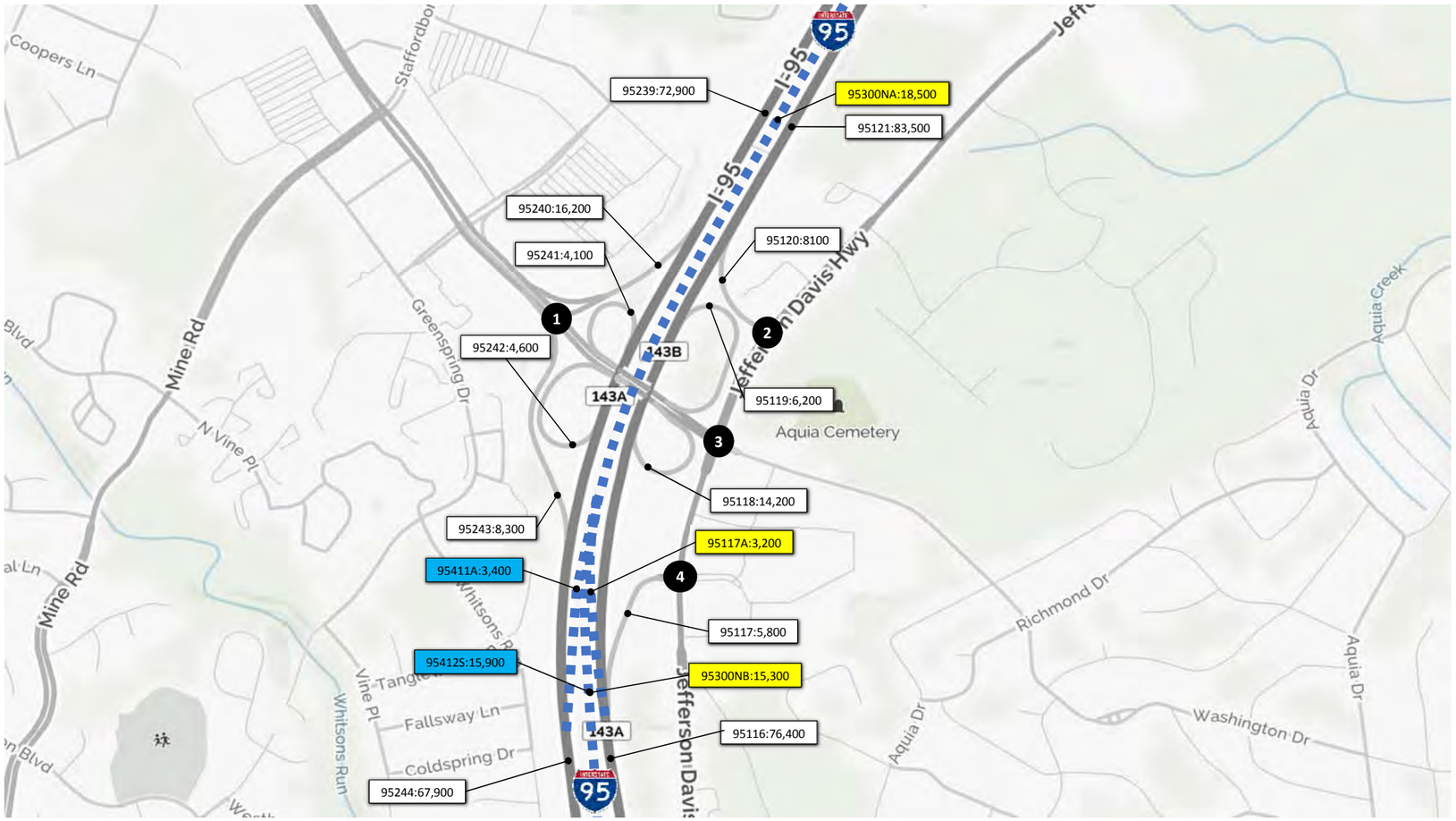
2042 Build

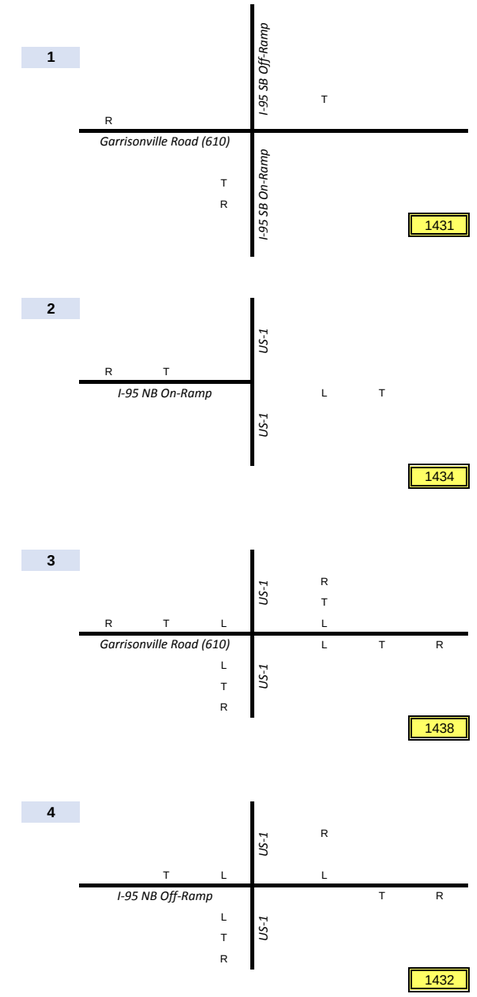
Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.2-4




**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.2-5

**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

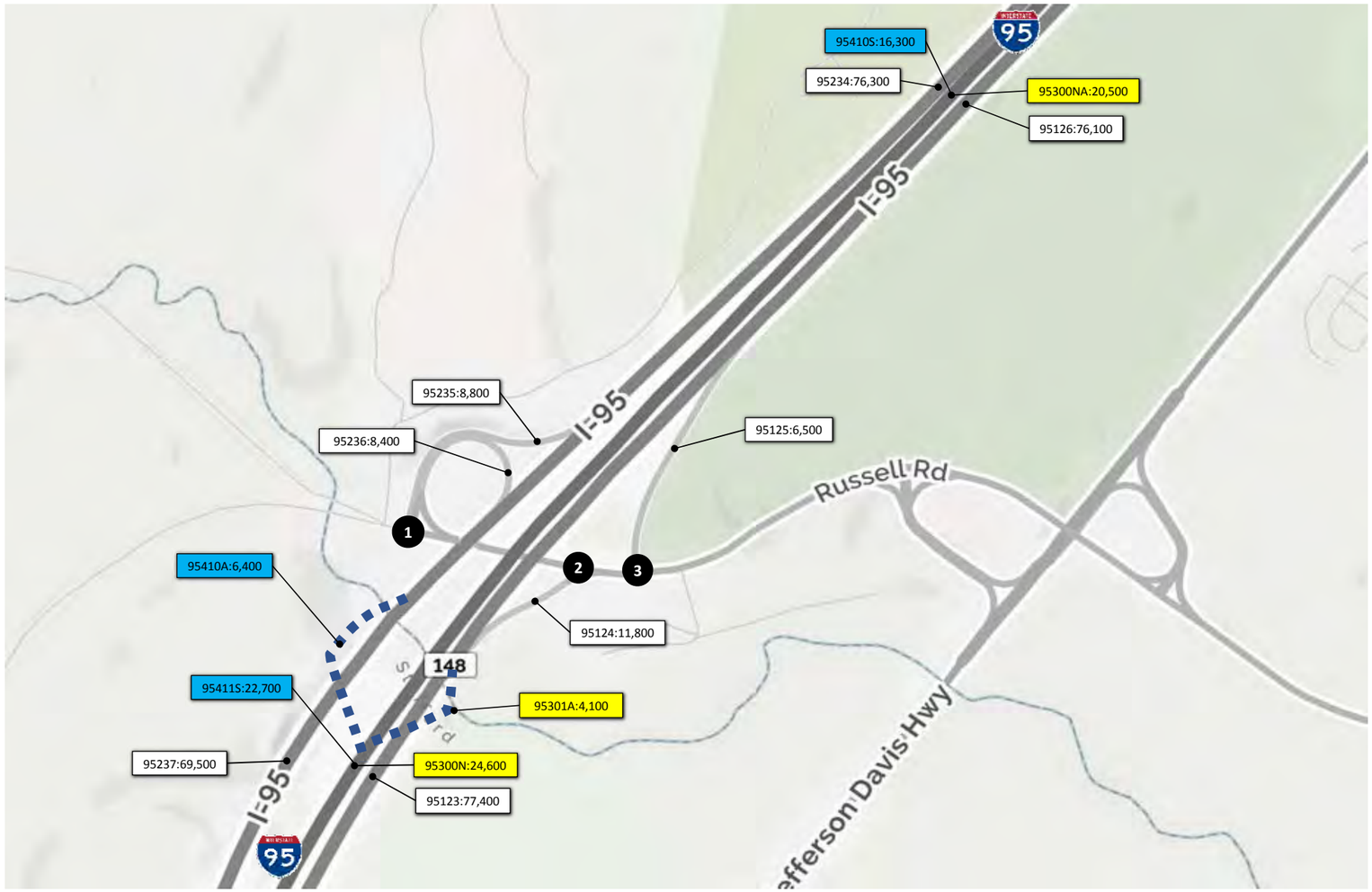
2042 Build

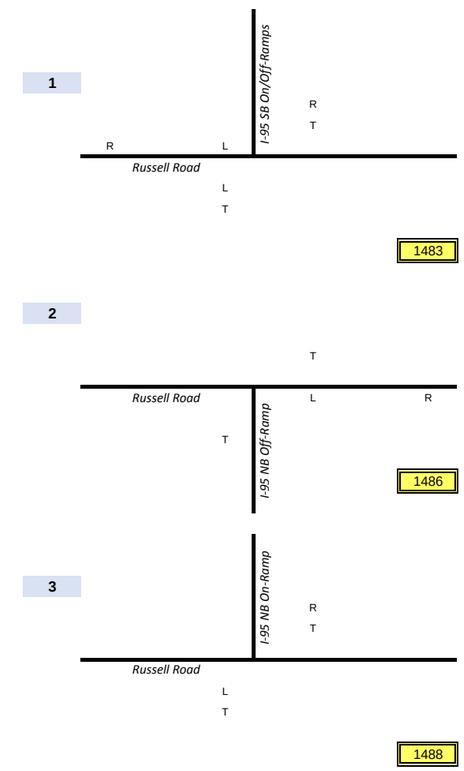
Weekday Daily Volumes

I-95 Corridor

August 2017

Figure 5.2-6




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build
Weekday Daily Volumes
I-95 Corridor

August 2017

Figure 5.2-7

### 5.3.1 Operational Analysis

**Table 5-5** presents the LOS for the I-95 corridor for the AM and PM peak periods for 2042 Build conditions**.** **Table 5-6** presents the intersection LOS for all ramp terminal intersections for the AM and PM peak hours under 2042 Build conditions.

Overall, the I-95 general purpose lanes are projected to continue to operate at LOS F in the northbound direction during the AM peak period and at LOS F in the southbound direction during the PM peak period. Compared to 2042 No-Build conditions, travel times within the GP lanes within the study segment are projected to decrease by five minutes in the northbound direction during the AM peak period and seven minutes in the southbound direction during the PM peak period. It should be noted that in the southbound direction, the congested segment extends beyond the study limits in 2042, so the overall change in SB travel times may be larger if a larger study limit were selected.

Travel times within the I-95 Express Lanes within the Study limits are projected to be 16 minutes with free-flow conditions throughout the Express Lanes based on the forecasted demand, offering a travel time savings of nine to 16 minutes compared to the I-95 GP lanes in the peak periods.

# 6. OPENING YEAR FORECASTS AND ANALYSES

## 6.1 SUMMARY

A summary of daily traffic volumes on key roadway links for 2022 No-Build and Build within the study area is provided in **Table 6-1**.

**Table 6-1: 2022 Daily Volumes by Segment**

| Location on I-95 | Direction | 2016 Daily Volumes | | | 2042 No-Build Daily Volumes | | | 2042 Build Daily Volumes | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | GP | Express | Total | GP | Express | Total | GP | Express | Total |
| North of Jefferson Davis Highway (US 1, Exit 126) | NB | 52,000 | - | **105,100** | 75,500 | - | **151,400** | 77,400 | - | **156,000** |
| | SB | 53,100 | - | | 75,900 | - | | 78,600 | - | |
| North of Plank Road (Route 3, Exit 130) | NB | 69,000 | - | **136,000** | 88,300 | - | **173,800** | 91,100 | - | **180,100** |
| | SB | 67,000 | - | | 85,500 | - | | 89,000 | - | |
| North of Warrenton Road (US 17, Exit 133) | NB | 62,200 | - | **124,400** | 80,700 | - | **157,800** | 76,200 | 13,300 | **171,100** |
| | SB | 62,200 | - | | 77,100 | - | | 68,400 | 13,200 | |
| North of Centreport Parkway (Route 8900, Exit 136) | NB | 61,900 | - | **124,200** | 78,200 | - | **154,400** | 76,000 | 13,300 | **170,000** |
| | SB | 62,300 | - | | 76,200 | - | | 67,500 | 13,200 | |
| North of Courthouse Road (Route 630, Exit 140) | NB | 60,900 | - | **121,900** | 81,400 | - | **158,000** | 76,400 | 15,300 | **175,500** |
| | SB | 61,000 | - | | 76,600 | - | | 67,900 | 15,900 | |

| Location on I-95 | Direction | 2016 Daily Volumes | | | 2042 No-Build Daily Volumes | | | 2042 Build Daily Volumes | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | GP | Express | Total | GP | Express | Total | GP | Express | Total |
| North of Garrisonville Road (Route 610, Exit 143) | NB | 69,600 | 6,200 | **153,700** | 85,300 | 12,500 | **188,800** | 81,500 | 20,500 | **199,800** |
| | SB | 68,600 | 9,300 | | 75,000 | 16,000 | | 75,500 | 22,300 | |
| North of Russell Road (Exit 148) | NB | 64,900 | 6,200 | **143,000** | 77,600 | 12,500 | **175,400** | 76,100 | 20,500 | **183,100** |
| | SB | 62,600 | 9,300 | | 69,300 | 16,000 | | 70,200 | 16,300 | |

For purposes of environmental analyses, capacity analyses for ramp terminal intersections were performed using 2022 opening year volumes, as discussed in **Section 2.3**. Mainline capacity analyses were not performed for opening year conditions.

**Table 6-2** presents the intersection LOS for all ramp terminal intersections for the Existing, 2022 No-Build, and 2022 Build Alternatives.

Detailed daily volumes for 2022 No-Build conditions are provided in **Appendix D** in **Figures D-1-1** through **D-1-7**.

Detailed AM and PM peak period hourly volumes for 2022 No-Build conditions, including turning movement volumes at the ramp terminal intersections, are provided in **Appendix D** in **Figures D-2-1** through **D-8-7**.

Detailed daily volumes for 2022 Build conditions are provided in **Appendix E** in **Figures E-1-1** through **E-1-7**.

Detailed AM and PM peak period hourly volumes for 2022 Build conditions, including turning movement volumes at the ramp terminal intersections, are provided in **Appendix E** in **Figures E-2-1** through **E-8-7**.

**Table 6-2: Opening Year 2022 Intersection Analysis Results**

| Intersection | | | Existing | | | | 2022 No-Build | | | | 2022 Build | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM (7 – 8 AM) | | PM (5 – 6 PM) | | AM (7 – 8 AM) | | PM (5 – 6 PM) | | AM (7 – 8 AM) | | PM (5 – 6 PM) | |
| | | | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay |
| US 17 | at | South Gateway Dr | C | 32.0 | C | 30.4 | C | 30.7 | C | 32.3 | C | 32.9 | D | 41.8 |
| US 17 Bus | at | Short St | B | 15.3 | C | 27.4 | B | 15.1 | C | 27.4 | C | 16.6 | D | 36.2 |
| I-95 NB Ramps | at | Centreport Pkwy | B | 10.7 | C | 29 | B | 10.6 | C | 30.7 | C | 10.2 | C | 29.9 |
| I-95 SB Ramps | at | Centreport Pkwy | E | 62 | A | 9.6 | D | 36.1 | B | 13.9 | B | 18.2 | B | 19.7 |
| US 1 | at | Centreport Pkwy | F | 174.3 | C | 34.3 | E | 62.7 | C | 34.2 | B | 38.6 | D | 38.4 |
| I-95 NB Ramps | at | Courthouse Rd | B | 11.8 | B | 19.2 | B | 18.4 | B | 19.5 | B | 18.5 | B | 11.6 |
| I-95 SB Ramps | at | Courthouse Rd | C | 21.4 | C | 23.7 | B | 11.8 | C | 29.8 | D | 8.8 | B | 11.5 |
| I-95 NB Off-Ramp | at | US 1 | A | 3.4 | A | 8.5 | A | 1.4 | A | 3.1 | B | 1.2 | A | 4.9 |
| Garrisonville Rd | at | US 1 | B | 13.7 | A | | B | 10.8 | B | 15.3 | A | 5.4 | E | 64.2 |
| US 1 | at | I-95 NB On-Ramp | E | 70 | F | 85.6 | F | 93.3 | F | 107 | A | 87 | F | 153.1 |
| I-95 SB Off-Ramp | at | Garrisonville Rd | B | 18.9 | B | 13.7 | C | 29.6 | C | 23 | A | 29.1 | B | 19.1 |
| I-95 NB Off-Ramp | at | Russell Rd | D | 36.9 | B | 17.2 | B | 18.2 | C | 30.4 | F | 22.4 | C | 24.0 |
| Russell Rd | at | I-95 NB On-Ramp | C | 26.8 | A | 6.1 | C | 29.9 | B | 13.7 | C | 24.8 | C | 20 |
| I-95 SB Ramps | at | Russell Rd | A | 1.9 | B | 13.7 | A | 1.5 | B | 11.5 | C | 12.6 | B | 10.3 |

# 7. REFERENCES

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http://www.slug-lines.com/Index.htm

# APPENDIX A:
# 2016 EXISTING
# TRAFFIC VOLUMES

**1**

| | | | | | |
|---|---|---|---|---|---|
| 30 | 2 | 276 | Carl D Silver Pkwy | R | 346 |
| | | | | T | 1,056 |
| R | T | L | | L | 8 |
| VA-3 (Plank Road) | | | | L | T | R |
| 128 | | L | Mall Court | | | |
| 2,832 | | T | | 8 | 0 | 10 |
| 4 | | R | | | | |
| | | | | | | 1303 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 12 | 0 | 0 | Ramseur St | R | 0 |
| | | | | T | 892 |
| R | T | L | | L | 86 |
| VA-3 (Plank Road) | | | | L | T | R |
| 72 | | L | Gateway Blvd | | | |
| 1,219 | | T | | 290 | 0 | 112 |
| 208 | | R | | | | |
| | | | | | | 1304 |

**Legend**

x,xxx Weekday 6-7 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

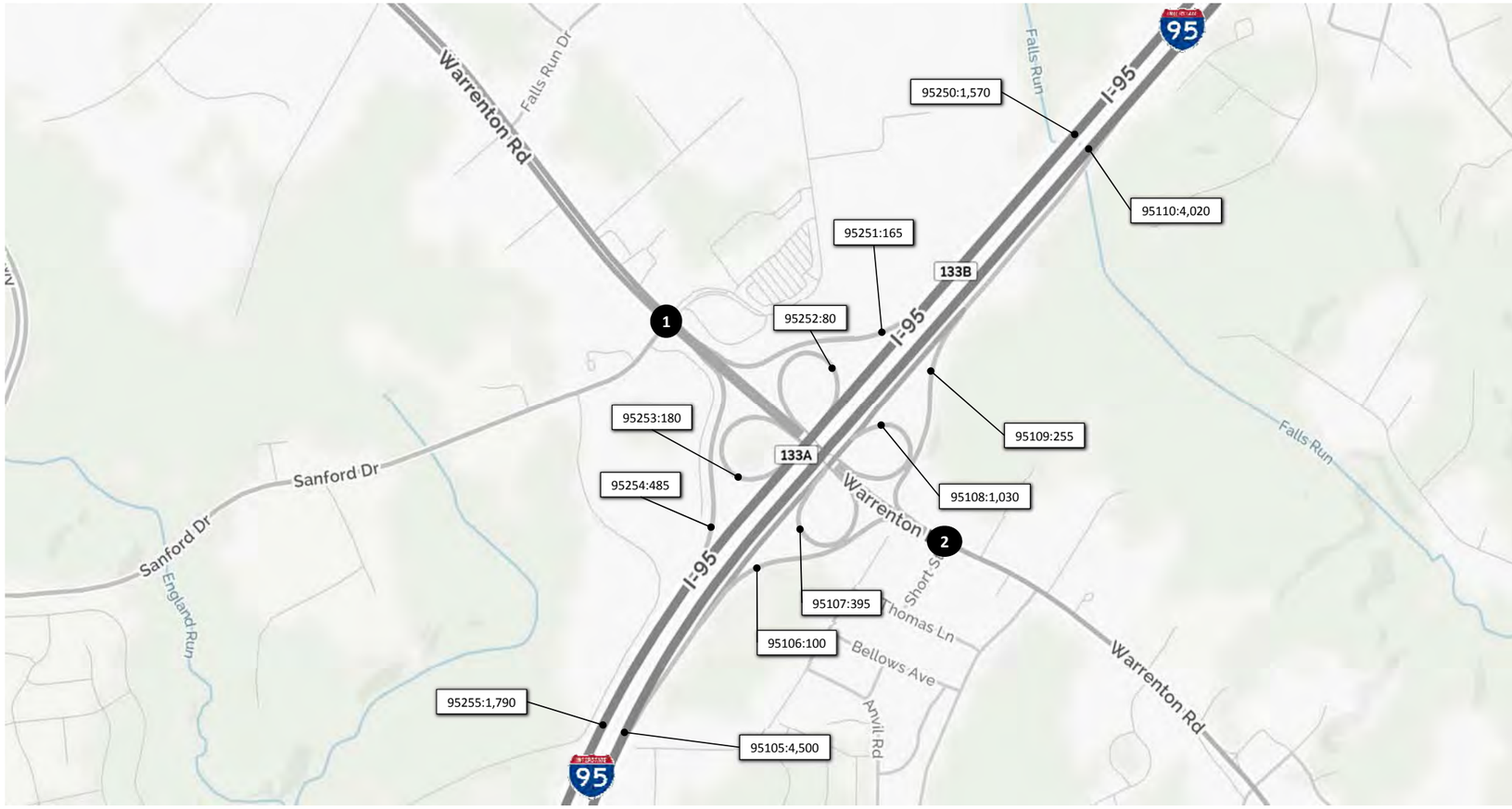
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 AM Volumes I-95 Corridor

August 2017

Figure A.1-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 15 | 0 | 172 | S Gateway Dr | R | 165 |
| | | | | | T | 1,549 |
| | R | T | L | | L | 63 |
| | US-17 (Warrenton Rd) | | | | L | T | R |
| | 20 | | L | Sanford Dr | | | |
| | 1,006 | | T | | 10 | 10 | 58 |
| | 10 | | R | | | | |

1333

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 0 | 2 | 2 | Parking Lot | R | 0 |
| | | | | | T | 838 |
| | R | T | L | | L | 3 |
| | US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 0 | | L | Short St | | | |
| | 595 | | T | | 82 | 0 | 10 |
| | 43 | | R | | | | |

1338

**Legend**

x,xxx Weekday 6-7 AM Volume

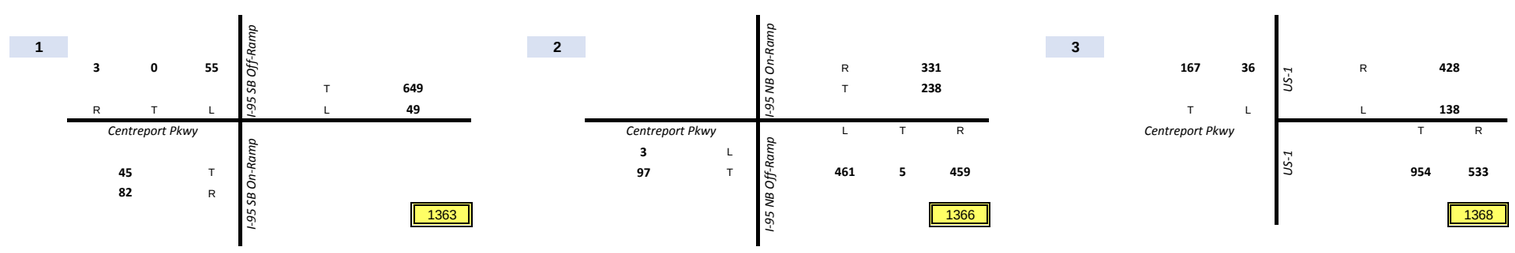
NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 6-7 AM Volumes
I-95 Corridor

August 2017

Figure A.1-2




**Legend**

x,xxx Weekday 6-7 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

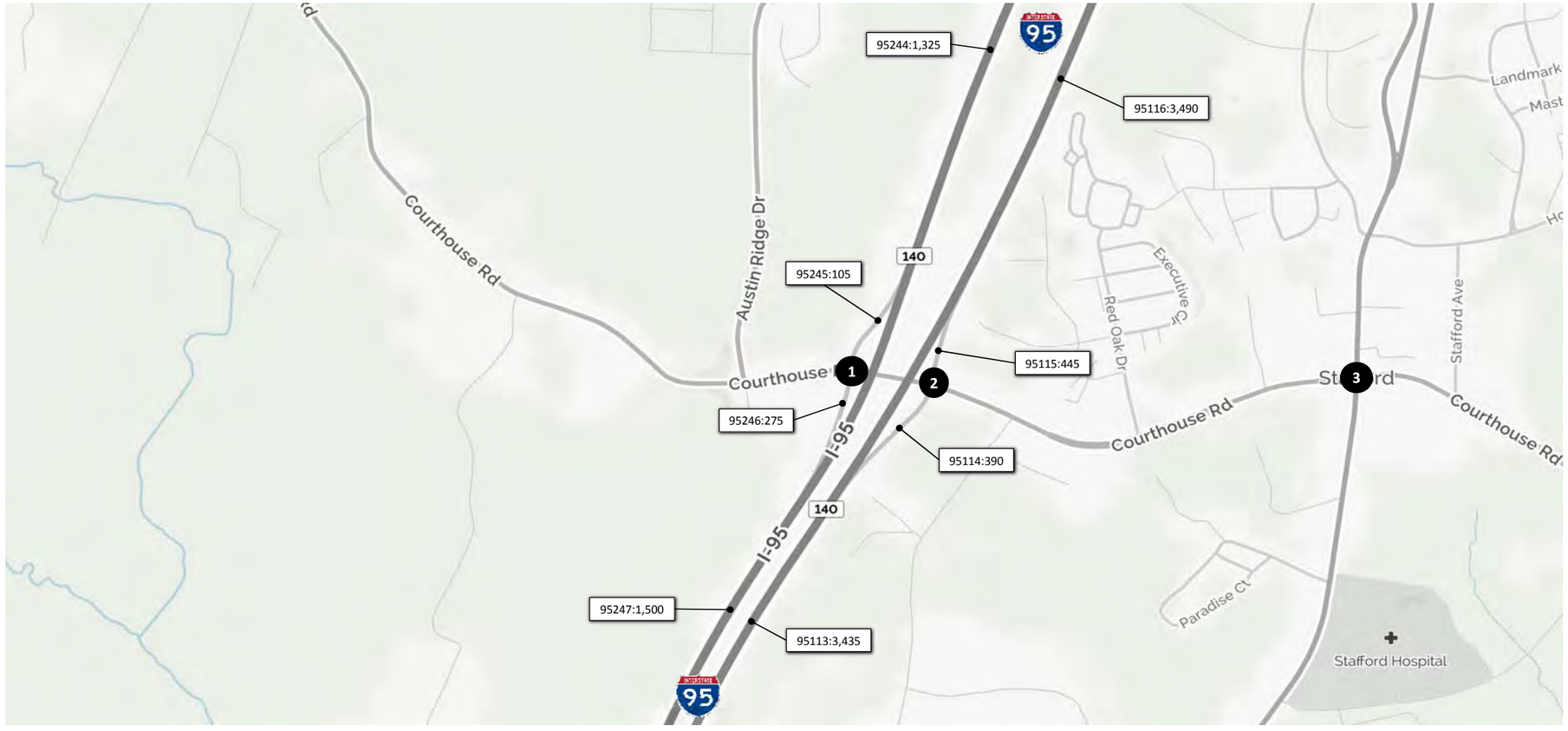
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 AM Volumes I-95 Corridor

August 2017

Figure A.1-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 36 | 0 | 69 | | |
| | R | T | L | | |
| *Courthouse Road (630)* | | | | *I-95 SB Off-Ramp* | |
| | | | | T | 707 |
| | | | | L | 99 |
| *I-95 SB On-Ramp* | | | | | |
| | 251 | | T | | |
| | 179 | | R | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | | R | 328 |
| | | | | T | 544 |
| *Courthouse Road (630)* | | | | *I-95 NB On-Ramp* | |
| 104 | L | | | | |
| 216 | T | | | | |
| *I-95 NB Off-Ramp* | | | | L | T | R |
| | | | | 262 | 15 | 115 |

1406

**3**

| | | | | | |
|---|---|---|---|---|---|
| | 304 | 105 | 65 | | |
| | R | T | L | | |
| *Courthouse Road (630)* | | | | *US-1* | |
| | | | | R | 155 |
| | | | | T | 209 |
| | | | | L | 15 |
| *US-1* | | | | | |
| | 120 | | L | | |
| | 105 | | T | | |
| | 105 | | R | | |
| *Courthouse Road (630)* | | | | L | T | R |
| | | | | 359 | 427 | 12 |

1408

**Legend**

x,xxx Weekday 6-7 AM Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

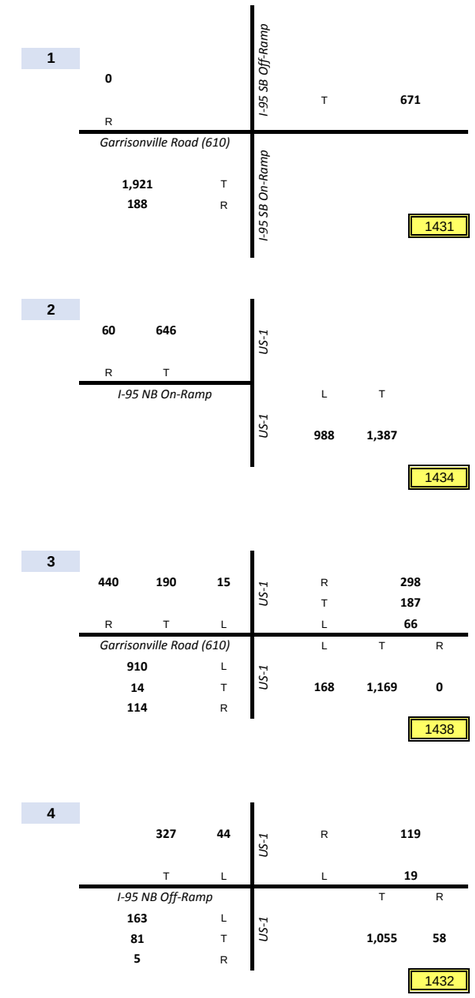
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 AM Volumes I-95 Corridor

August 2017

Figure A.1-4




**Legend**

x,xxx Weekday 6-7 AM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 6-7 AM Volumes
I-95 Corridor

August 2017

Figure A.1-5

**Legend**

x,xxx Weekday 6-7 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

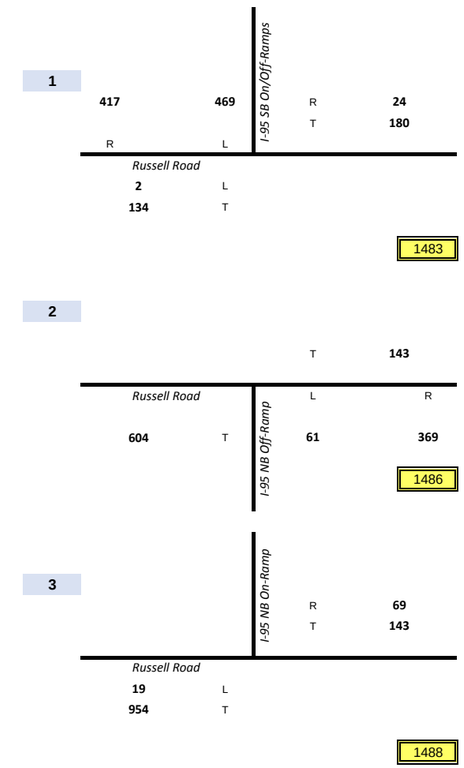
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 AM Volumes I-95 Corridor

August 2017

Figure A.1-6




**Legend**

x,xxx Weekday 6-7 AM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 AM Volumes I-95 Corridor

August 2017

Figure A.1-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 41 | 2 | 313 | *Carl D Silver Pkwy* | R | 410 |
| | | | | T | 1,385 |
| R | T | L | | L | 13 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 156 | | L | *Mall Court* | | | |
| 2,849 | | T | | 1 | 3 | 9 |
| 4 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 15 | 2 | 5 | *Ramseur St* | R | 7 |
| | | | | T | 1,044 |
| R | T | L | | L | 104 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 73 | | L | *Gateway Blvd* | | | |
| 1,614 | | T | | 263 | 1 | 140 |
| 271 | | R | | | | |

1304

**Legend**

x,xxx Weekday 7-8 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

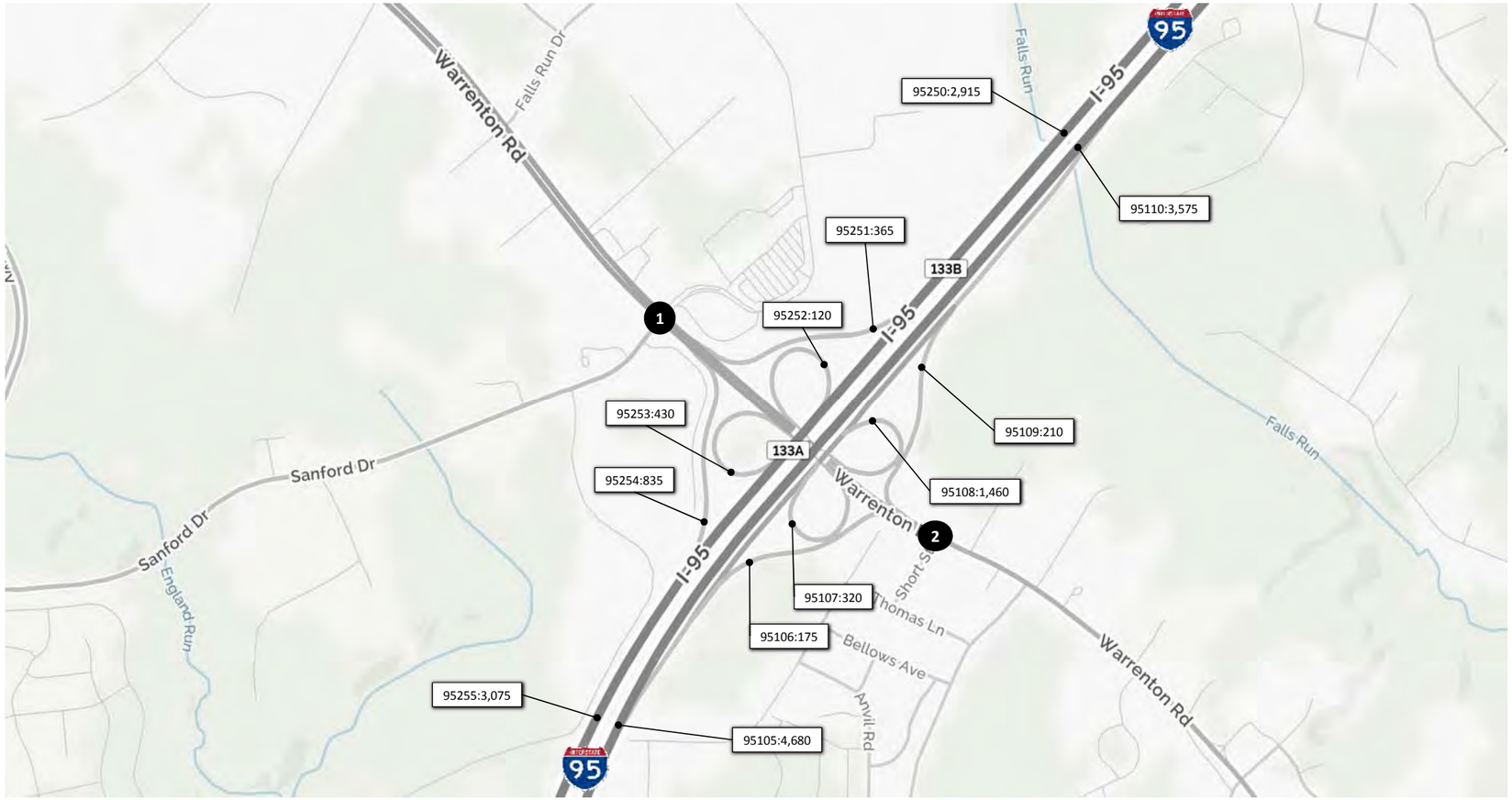
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 7-8 AM Volumes I-95 Corridor

August 2017

Figure A.2-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| 36 | 27 | 286 | S Gateway Dr | R | 337 |
| | | | | T | 2,174 |
| R | T | L | | L | 289 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 53 | | L | Sanford Dr | | | |
| 1,380 | | T | | 29 | 19 | 114 |
| 28 | | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 6 | 0 | 3 | Parking Lot | R | 2 |
| | | | | T | 1,200 |
| R | T | L | | L | 5 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 4 | | L | Short St | | | |
| 1,167 | | T | | 100 | 3 | 18 |
| 60 | | R | | | | |
| | | | | | | 1338 |

**Legend**

x,xxx Weekday 7-8 AM Volume

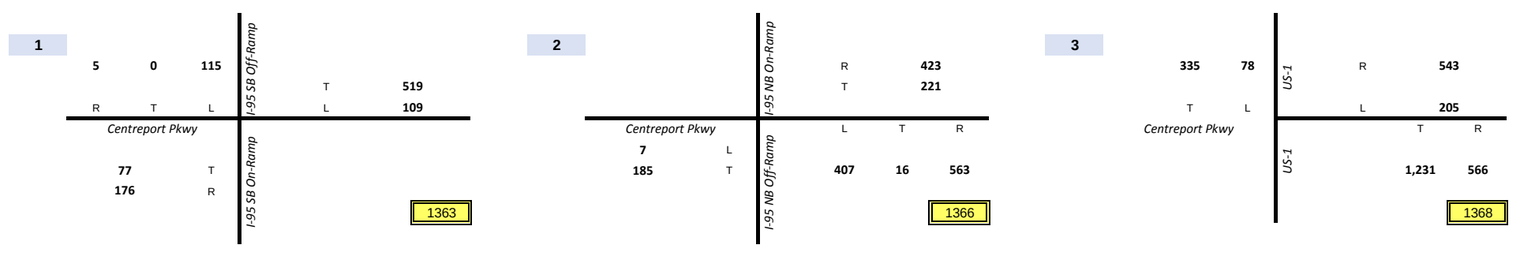
NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 7-8 AM Volumes
I-95 Corridor

August 2017

Figure A.2-2




**Legend**

x,xxx Weekday 7-8 AM Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

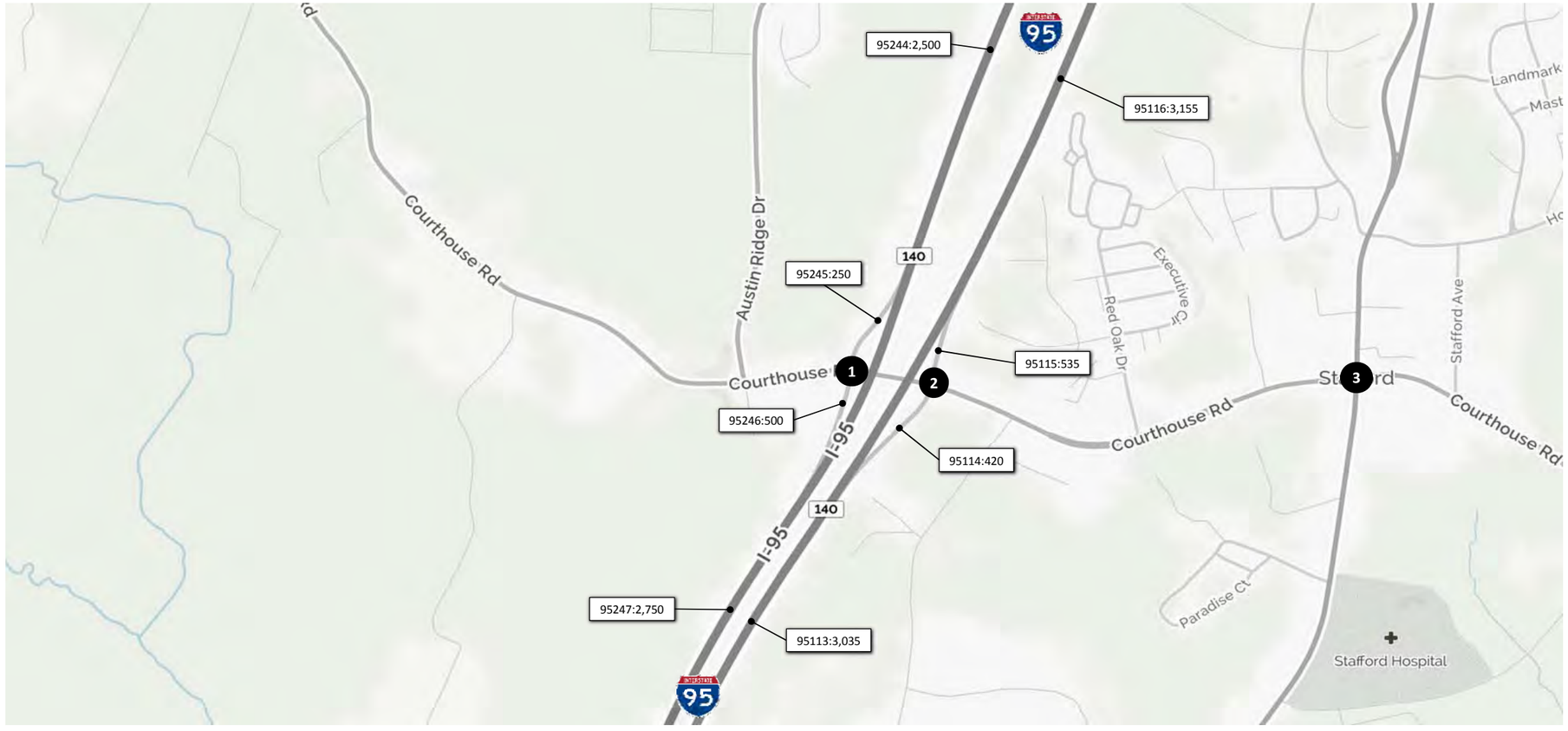
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 7-8 AM Volumes I-95 Corridor

August 2017

Figure A.2-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 86 | 0 | 164 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | I-95 SB Off-Ramp | |
| | | | | T | 766 |
| | | | | L | 94 |
| | 488 | | T | I-95 SB On-Ramp | |
| | 404 | | R | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | |
| | | | R | | 365 |
| | | | T | | 606 |
| Courthouse Road (630) | | | | | |
| 145 | L | | | | |
| 507 | T | | | I-95 NB Off-Ramp | |
| | | | L | T | R |
| | | | 254 | 26 | 139 |
| | | | | | 1406 |

**3**

| | | | | | |
|---|---|---|---|---|---|
| 349 | 231 | 180 | | | |
| R | T | L | | | |
| Courthouse Road (630) | | | US-1 | | |
| | | | R | | 367 |
| | | | T | | 321 |
| | | | L | | 18 |
| 227 | | L | | | |
| 98 | | T | US-1 | | |
| 321 | | R | | | |
| | | | L | T | R |
| | | | 301 | 340 | 16 |
| | | | | | 1408 |

**Legend**

x,xxx Weekday 7-8 AM Volume

**NOT TO SCALE**

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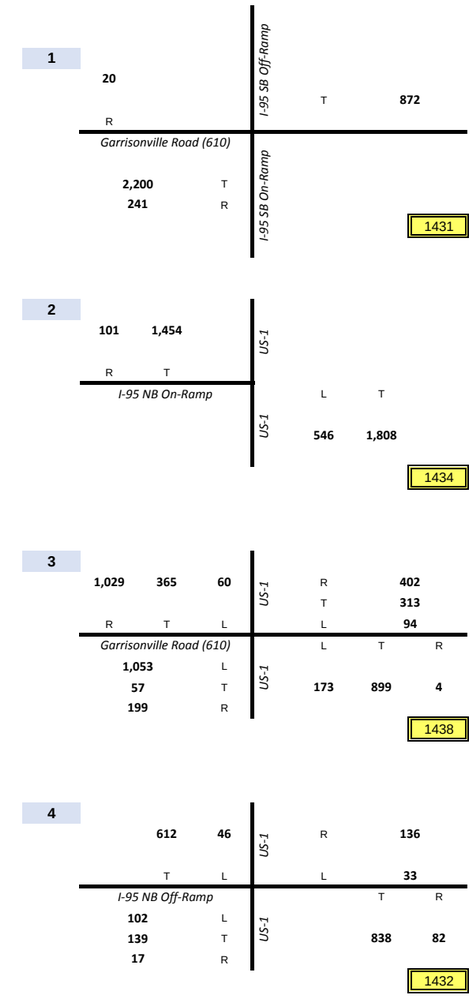
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 7-8 AM Volumes I-95 Corridor

August 2017

Figure A.2-4




**Legend**

x,xxx Weekday 7-8 AM Volume

**NOT TO SCALE**

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 7-8 AM Volumes
I-95 Corridor

August 2017

Figure A.2-5

**Legend**

x,xxx Weekday 7-8 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

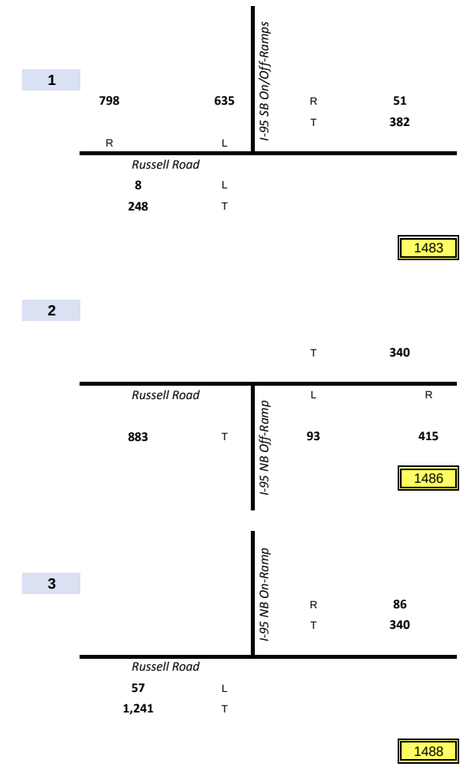
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 7-8 AM Volumes I-95 Corridor

August 2017

Figure A.2-6




**Legend**

x,xxx Weekday 7-8 AM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 7-8 AM Volumes
I-95 Corridor

August 2017

Figure A.2-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 82 | 10 | 308 | Carl D Silver Pkwy | R | 609 |
| | | | | T | 1,383 |
| R | T | L | | L | 19 |
| VA-3 (Plank Road) | | | | L | T | R |
| 210 | L | | Mall Court | | | |
| 2,302 | T | | | 7 | 6 | 12 |
| 2 | R | | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 16 | 7 | 4 | Ramseur St | R | 15 |
| | | | | T | 1,032 |
| R | T | L | | L | 132 |
| VA-3 (Plank Road) | | | | L | T | R |
| 27 | L | | Gateway Blvd | | | |
| 1,427 | T | | | 253 | 1 | 173 |
| 299 | R | | | | | |

1304

**Legend**

x,xxx Weekday 8-9 AM Volume

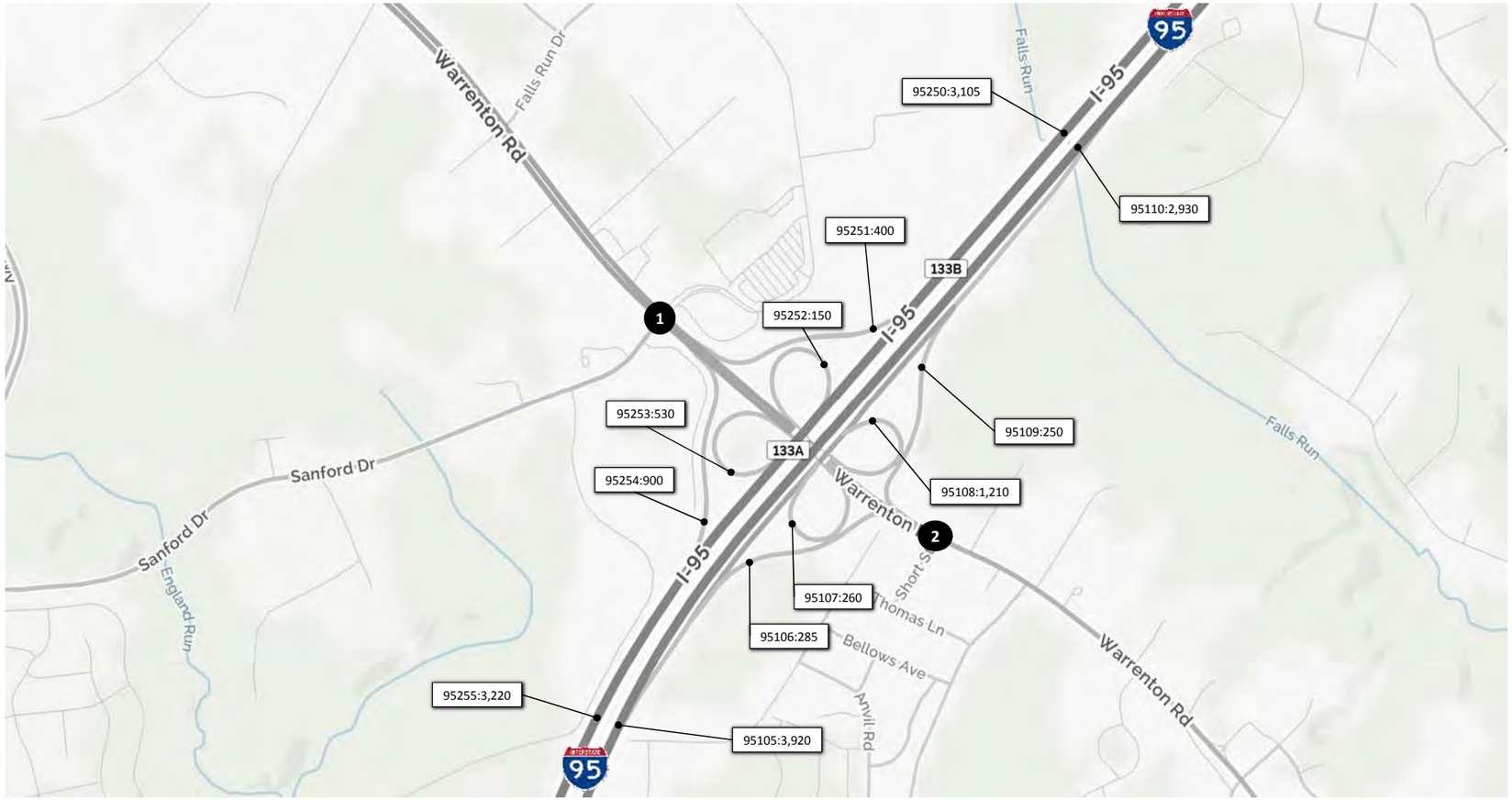
NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 8-9 AM Volumes I-95 Corridor

August 2017

Figure A.3-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 83 | 59 | 273 | S Gateway Dr | R | 354 |
| | | | | | T | 1,913 |
| | R | T | L | | L | 168 |
| | US-17 (Warrenton Rd) | | | | L | T | R |
| | 77 | | L | Sanford Dr | | | |
| | 1,448 | | T | | 28 | 12 | 137 |
| | 28 | | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 7 | 0 | 5 | Parking Lot | R | 2 |
| | | | | | T | 1,108 |
| | R | T | L | | L | 13 |
| | US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 5 | | L | Short St | | | |
| | 1,438 | | T | | 104 | 2 | 25 |
| | 70 | | R | | | | |
| | | | | | | 1338 |

**Legend**

x,xxx Weekday 8-9 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

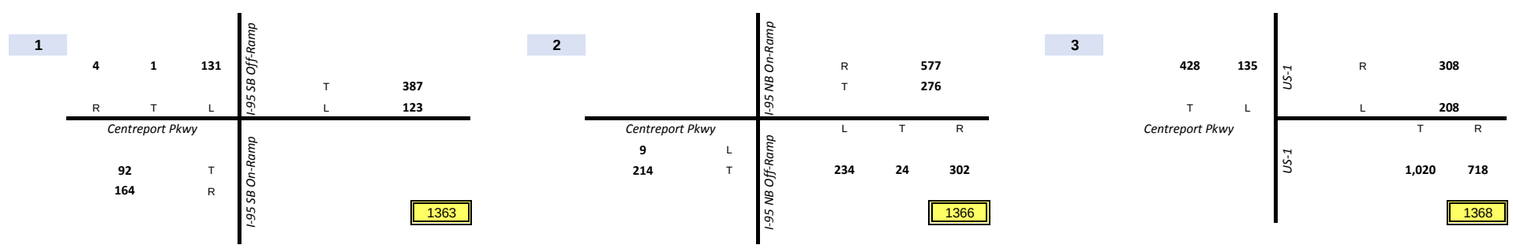
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 8-9 AM Volumes I-95 Corridor

August 2017

Figure A.3-2




**Legend**

x,xxx Weekday 8-9 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

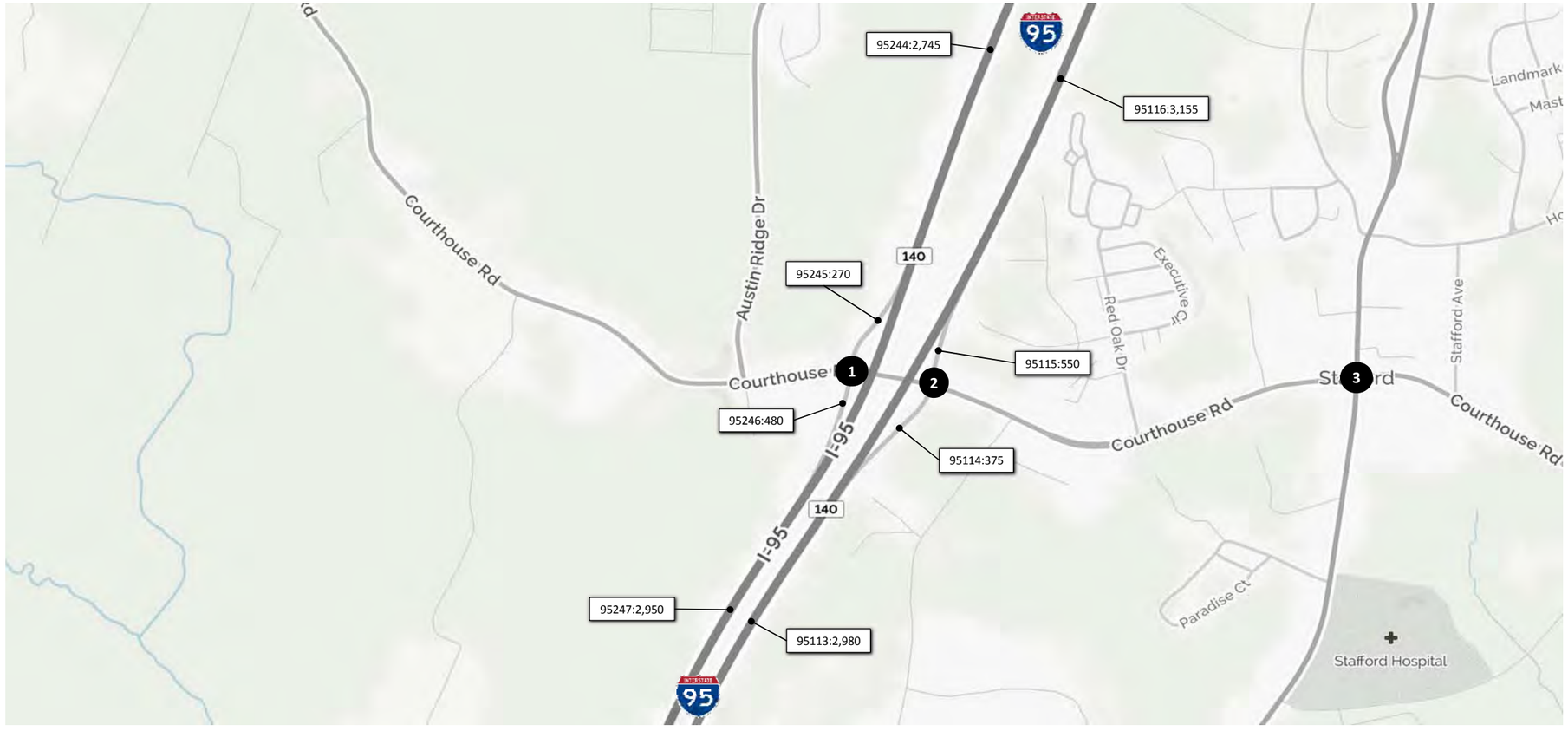
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 8-9 AM Volumes I-95 Corridor

August 2017

Figure A.3-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 90 | 2 | 180 | | T | 663 |
| R | T | L | | L | 116 |
| Courthouse Road (630) | | | | | |
| 538 | | T | I-95 SB On-Ramp | | |
| 360 | | R | | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | |
| | | | | R | 358 |
| | | | | T | 591 |
| Courthouse Road (630) | | | | | |
| 181 | L | | | L | T | R |
| 537 | T | | I-95 NB Off-Ramp | 188 | 10 | 178 |
| | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | US-1 | | | |
| 316 | 258 | 69 | | R | | 313 |
| | | | | T | | 287 |
| R | T | L | | L | | 31 |
| Courthouse Road (630) | | | | | | |
| 256 | | L | | L | T | R |
| 67 | | T | US-1 | 346 | 312 | 16 |
| 392 | | R | | | | |
| | | | | | | 1408 |

**Legend**

x,xxx Weekday 8-9 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 8-9 AM Volumes I-95 Corridor

August 2017

Figure A.3-4

**1**

| | | | | | |
|---|---|---|---|---|---|
| | 78 | | I-95 SB Off-Ramp | | |
| | R | | | T | 1,013 |
| Garrisonville Road (610) | | | | | |
| | 2,695 | T | I-95 SB On-Ramp | | |
| | 346 | R | | | |
| | | | | | 1431 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 44 | 836 | | US-1 | | |
| R | T | | | | |
| I-95 NB On-Ramp | | | | | |
| | | | US-1 | L | T |
| | | | | 652 | 1,927 |
| | | | | | 1434 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 581 | 189 | 66 | US-1 | R | | 260 |
| | | | | T | | 325 |
| R | T | L | | L | | 55 |
| Garrisonville Road (610) | | | | | | |
| 1,141 | | L | US-1 | L | T | R |
| 208 | | T | | 243 | 1,178 | 10 |
| 345 | | R | | | | |
| | | | | | | 1438 |

**4**

| | | | | | | |
|---|---|---|---|---|---|---|
| 525 | 64 | | US-1 | R | | 147 |
| T | L | | | L | | 35 |
| I-95 NB Off-Ramp | | | | | T | R |
| 185 | | L | US-1 | | | |
| 92 | | T | | | 1,099 | 131 |
| 41 | | R | | | | |
| | | | | | | 1432 |

**Legend**

x,xxx Weekday 8-9 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 8-9 AM Volumes I-95 Corridor

August 2017

Figure A.3-5

**Legend**

x,xxx Weekday 8-9 AM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

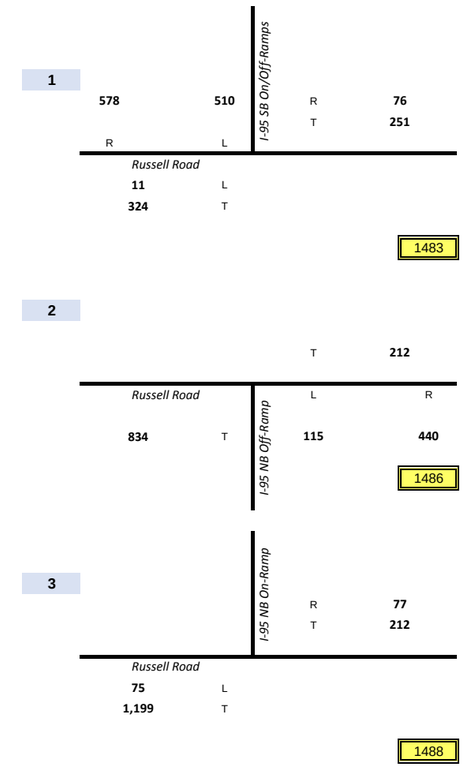
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 8-9 AM Volumes I-95 Corridor

August 2017

Figure A.3-6




**Legend**

x,xxx Weekday 8-9 AM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 8-9 AM Volumes
I-95 Corridor

August 2017

Figure A.3-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 285 | 8 | 784 | *Carl D Silver Pkwy* | R | 847 |
| | | | | T | 2,409 |
| R | T | L | | L | 18 |
| *VA-3 (Plank Road)* | | | *Mall Court* | L | T | R |
| 235 | | L | | | | |
| 1,928 | | T | | 8 | 9 | 16 |
| 3 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 28 | 2 | 10 | *Ramseur St* | R | 4 |
| | | | | T | 1,477 |
| R | T | L | | L | 152 |
| *VA-3 (Plank Road)* | | | *Gateway Blvd* | L | T | R |
| 35 | | L | | | | |
| 1,550 | | T | | 269 | 0 | 180 |
| 367 | | R | | | | |

1304

**Legend**

x,xxx Weekday 3-4 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

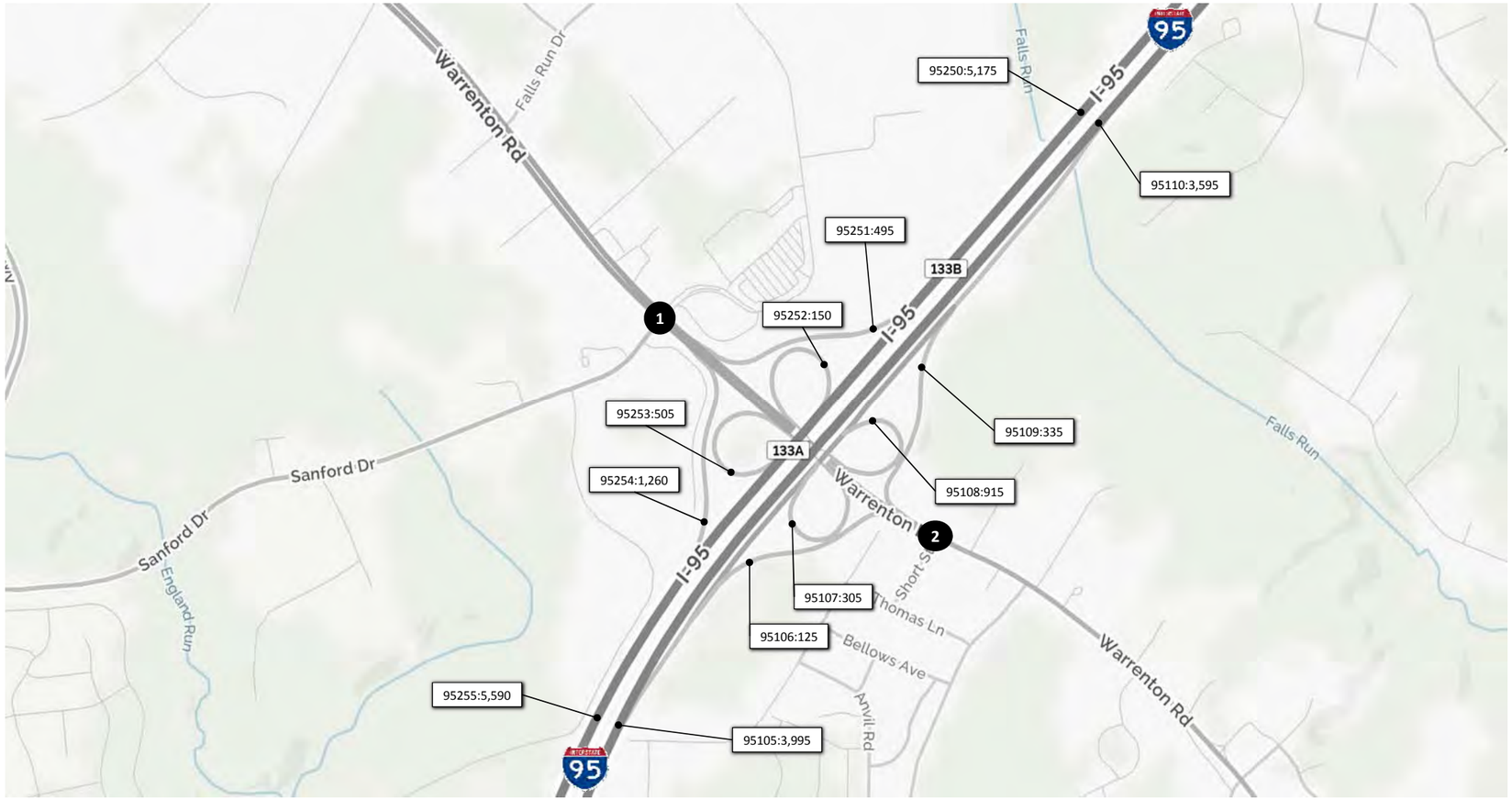
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 3-4 PM Volumes I-95 Corridor

August 2017

Figure A.4-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 92 | 19 | 423 | R | 372 |
| | | | | T | 1,590 |
| | R | T | L | L | 74 |
| | US-17 (Warrenton Rd) | | | L | T | R |
| | 76 | | L | | |
| | 1,878 | | T | 20 | 16 | 230 |
| | 13 | | R | | |

S Gateway Dr

Sanford Dr

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 10 | 1 | 7 | R | 7 |
| | | | | T | 1,094 |
| | R | T | L | L | 12 |
| | US-17 BUS (Warrenton Rd) | | | L | T | R |
| | 6 | | L | | |
| | 1,494 | | T | 92 | 1 | 12 |
| | 95 | | R | | |

Parking Lot

Short St

1338

**Legend**

x,xxx Weekday 3-4 PM Volume

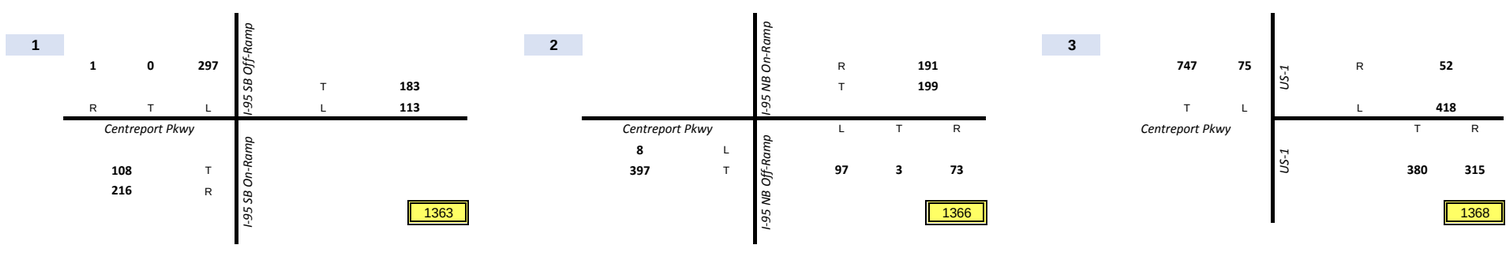
NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 3-4 PM Volumes I-95 Corridor

August 2017

Figure A.4-2




**Legend**

x,xxx Weekday 3-4 PM Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

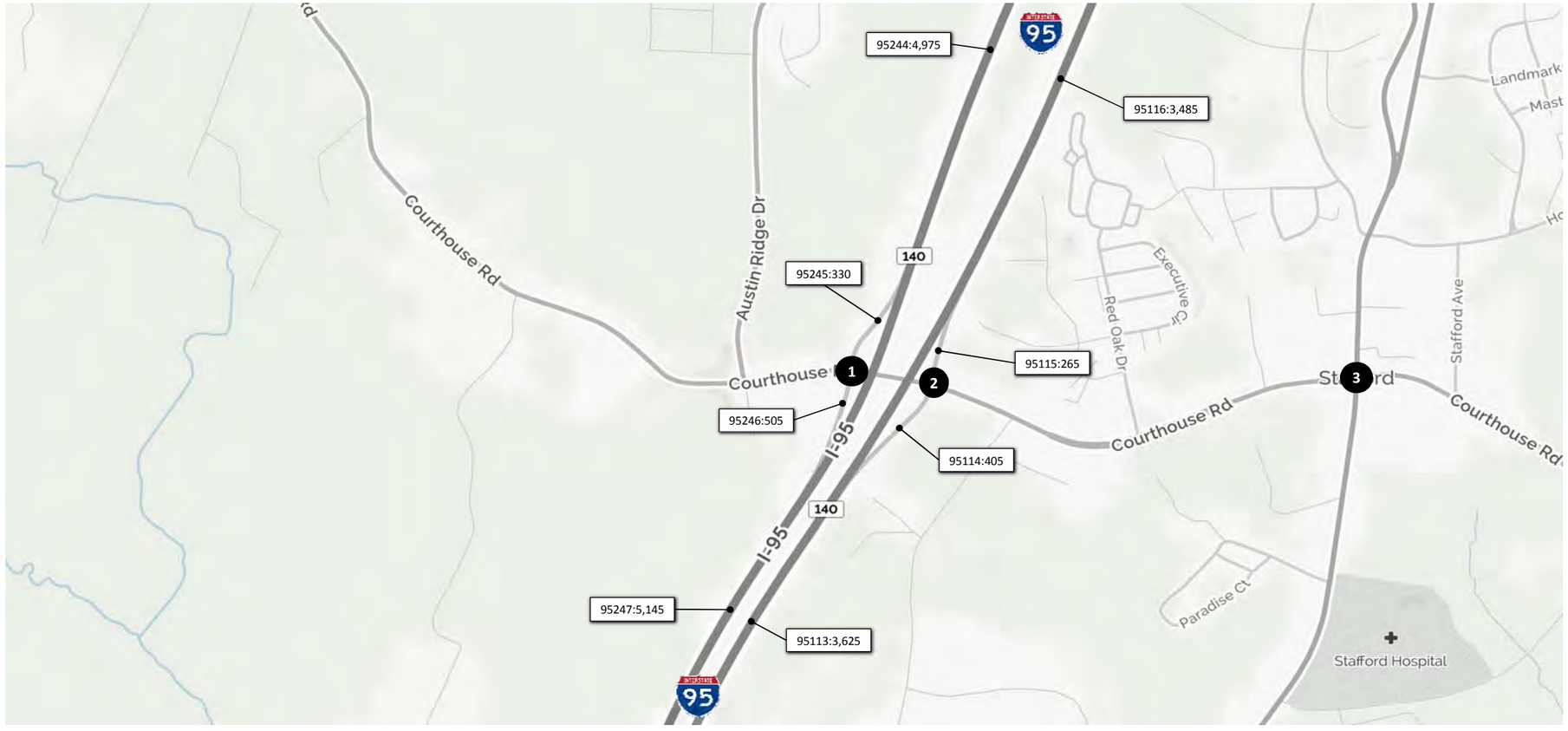
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 3-4 PM Volumes I-95 Corridor

August 2017

Figure A.4-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 116 | 0 | 216 | | | |
| R | T | L | | T | 515 |
| Courthouse Road (630) | | | | L | 227 |
| | | | I-95 SB On-Ramp | | |
| 422 | | T | | | |
| 276 | | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | |
| | | | | R | 160 |
| | | | | T | 521 |
| Courthouse Road (630) | | | | | |
| 100 | L | | | L | T | R |
| 538 | T | | I-95 NB Off-Ramp | 221 | 4 | 181 |

1406

**3**

| | | | | | |
|---|---|---|---|---|---|
| | | | US-1 | | |
| 249 | 490 | 128 | | R | 101 |
| | | | | T | 217 |
| R | T | L | | L | 31 |
| Courthouse Road (630) | | | | | |
| | | | | L | T | R |
| 216 | | L | | | |
| 183 | | T | US-1 | 215 | 237 | 22 |
| 320 | | R | | | |

1408

**Legend**

x,xxx Weekday 3-4 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

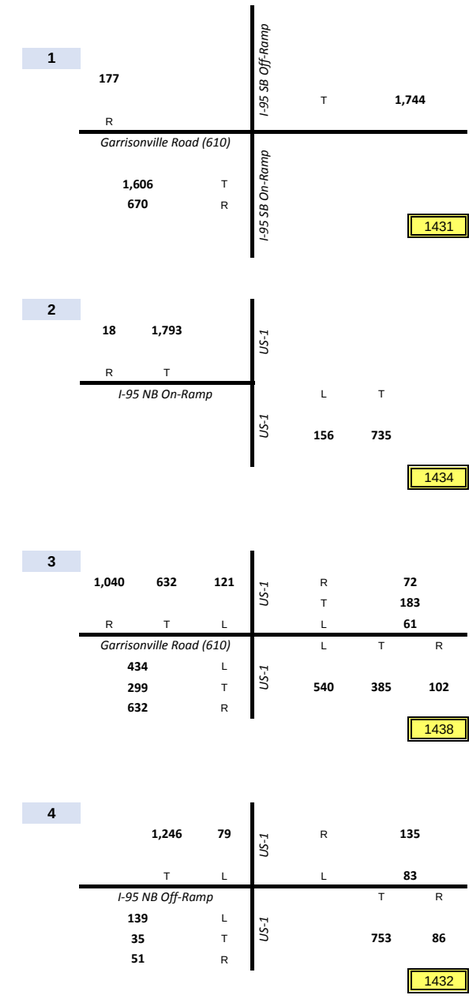
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 3-4 PM Volumes I-95 Corridor

August 2017

Figure A.4-4




**Legend**

x,xxx Weekday 3-4 PM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 3-4 PM Volumes I-95 Corridor

August 2017

Figure A.4-5

**Legend**

x,xxx Weekday 3-4 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

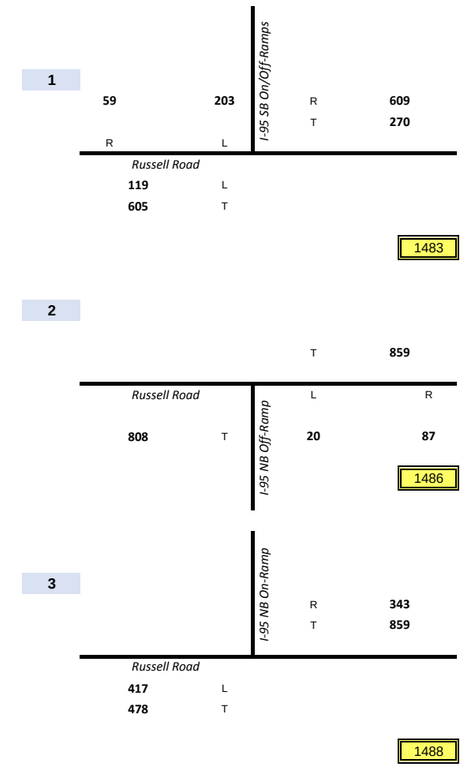
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 3-4 PM Volumes I-95 Corridor

August 2017

Figure A.4-6




**Legend**

x,xxx Weekday 3-4 PM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 3-4 PM Volumes
I-95 Corridor

August 2017

Figure A.4-7

**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | *Carl D Silver Pkwy* | R | | 925 |
| 290 | 9 | 818 | | T | | 2,040 |
| R | T | L | | L | | 17 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 251 | | L | *Mall Court* | | | |
| 1,996 | | T | | 9 | 12 | 15 |
| 5 | | R | | | | |

1303

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | *Ramseur St* | R | | 2 |
| 22 | 7 | 7 | | T | | 1,580 |
| R | T | L | | L | | 160 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 33 | | L | *Gateway Blvd* | | | |
| 1,432 | | T | | 295 | 2 | 206 |
| 385 | | R | | | | |

1304

**Legend**

x,xxx Weekday 4-5 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

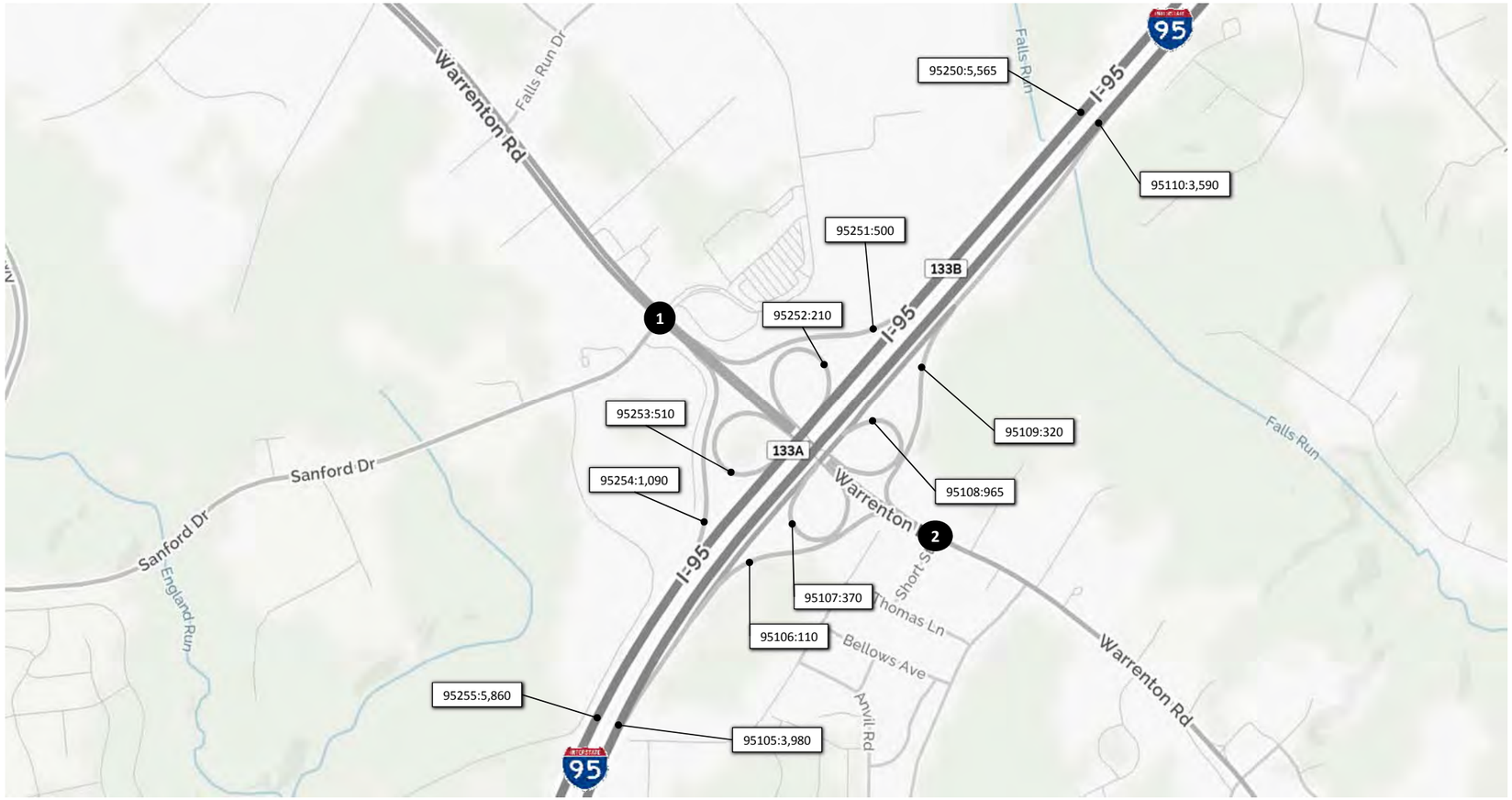
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 4-5 PM Volumes I-95 Corridor

August 2017

Figure A.5-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 89 | 23 | 428 | R | 360 |
| | | | | T | 1,760 |
| | R | T | L | L | 97 |
| | *US-17 (Warrenton Rd)* | | | L | T | R |
| | 80 | | L | | | |
| | 2,006 | | T | 31 | 21 | 383 |
| | 24 | | R | | | |

*S Gateway Dr*

*Sanford Dr*

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 7 | 0 | 9 | R | 6 |
| | | | | T | 1,187 |
| | R | T | L | L | 14 |
| | *US-17 BUS (Warrenton Rd)* | | | L | T | R |
| | 5 | | L | | | |
| | 1,878 | | T | 89 | 1 | 20 |
| | 94 | | R | | | |

*Parking Lot*

*Short St*

1338

**Legend**

x,xxx Weekday 4-5 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

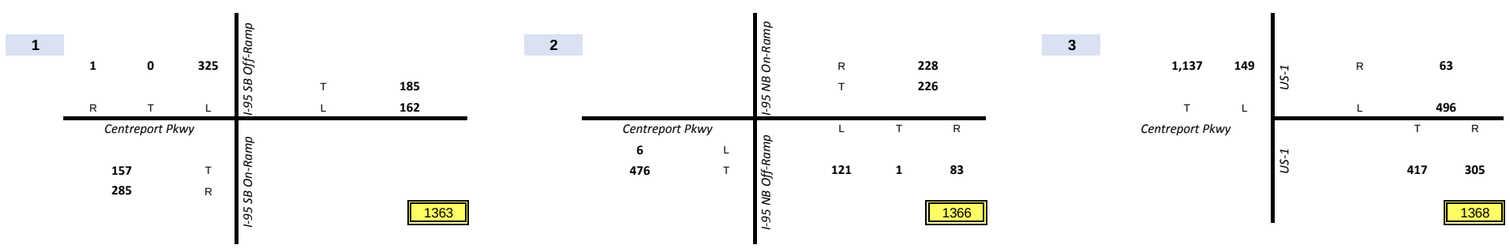
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 4-5 PM Volumes I-95 Corridor

August 2017

Figure A.5-2




**Legend**

x,xxx Weekday 4-5 PM Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

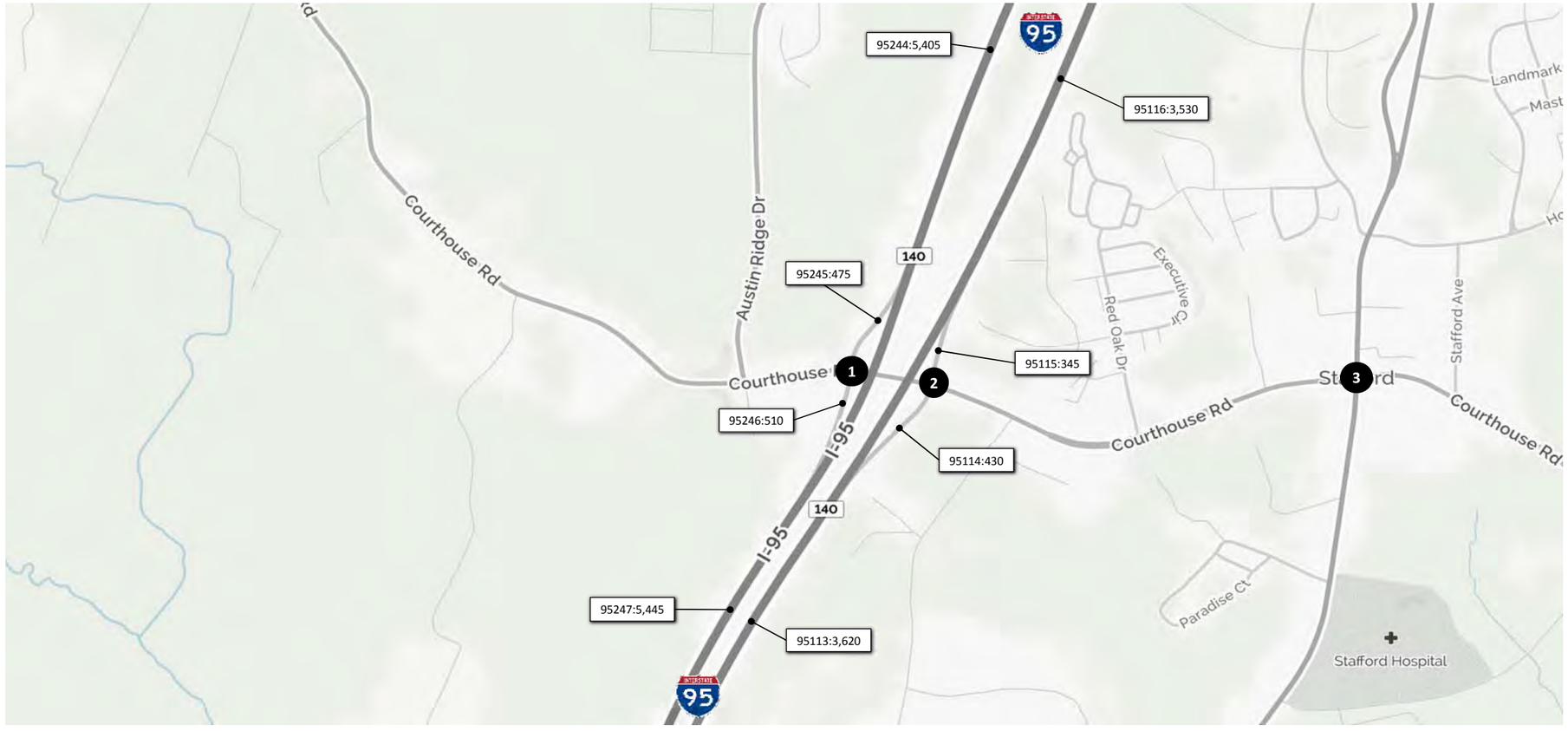
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 4-5 PM Volumes I-95 Corridor

August 2017

Figure A.5-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 188 | 1 | 285 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | I-95 SB Off-Ramp | |
| | | | | T | 646 |
| | | | | L | 188 |
| I-95 SB On-Ramp | | | | | |
| | 562 | | T | | |
| | 323 | | R | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | |
| | | | R | | 222 |
| | | | T | | 555 |
| Courthouse Road (630) | | | | | |
| 119 | L | | | | |
| 728 | T | | | I-95 NB Off-Ramp | |
| | | | L | T | R |
| | | | 279 | 2 | 150 |

1406

**3**

| | | | | | |
|---|---|---|---|---|---|
| | 265 | 639 | 144 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | US-1 | |
| | | | | R | 143 |
| | | | | T | 251 |
| | | | | L | 50 |
| | | | | L | T | R |
| | 176 | | L | | |
| | 190 | | T | US-1 | |
| | 512 | | R | | |
| | | | | 261 | 255 | 31 |

1408

**Legend**

x,xxx Weekday 4-5 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

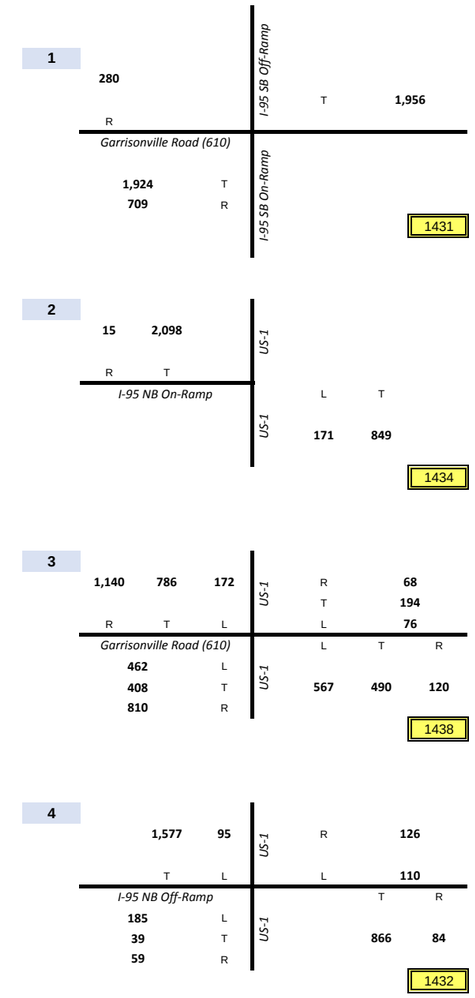
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 4-5 PM Volumes I-95 Corridor

August 2017

Figure A.5-4




**Legend**

x,xxx Weekday 4-5 PM Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 4-5 PM Volumes I-95 Corridor

August 2017

Figure A.5-5

**Legend**

x,xxx Weekday 4-5 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

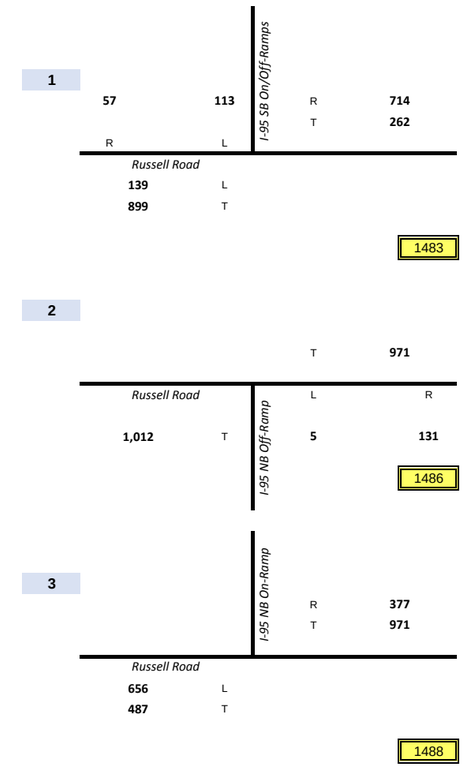
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 4-5 PM Volumes I-95 Corridor

August 2017

Figure A.5-6




**Legend**

x,xxx Weekday 4-5 PM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 4-5 PM Volumes
I-95 Corridor

August 2017

Figure A.5-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 276 | 7 | 752 | *Carl D Silver Pkwy* | R | 980 |
| | | | | T | 1,771 |
| R | T | L | | L | 16 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 245 | | L | *Mall Court* | | | |
| 2,129 | | T | | 11 | 8 | 6 |
| 6 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 21 | 4 | 14 | *Ramseur St* | R | 8 |
| | | | | T | 1,518 |
| R | T | L | | L | 214 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 36 | | L | *Gateway Blvd* | | | |
| 1,631 | | T | | 301 | 3 | 199 |
| 404 | | R | | | | |

1304

**Legend**

x,xxx Weekday 5-6 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

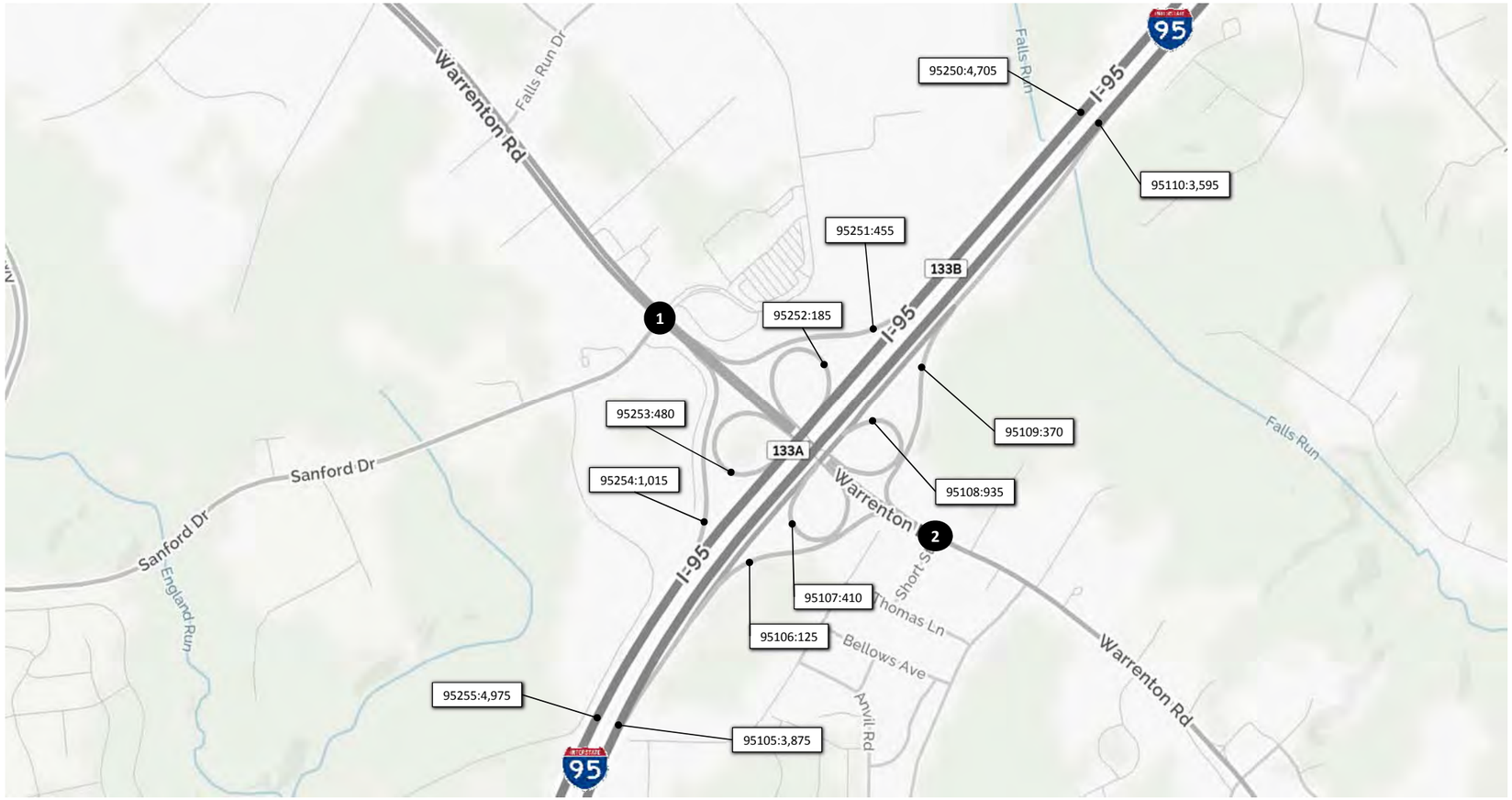
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 5-6 PM Volumes I-95 Corridor

August 2017

Figure A.6-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 100 | 16 | 471 | R | 358 |
| | | | | T | 1,709 |
| | R | T | L | L | 60 |
| | *US-17 (Warrenton Rd)* | | | L T R | |
| | 82 | | L | | |
| | 1,895 | | T | 30 14 | 317 |
| | 13 | | R | | |

*S Gateway Dr*

*Sanford Dr*

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 6 | 0 | 6 | R | 2 |
| | | | | T | 1,197 |
| | R | T | L | L | 21 |
| | *US-17 BUS (Warrenton Rd)* | | | L T R | |
| | 7 | | L | | |
| | 1,884 | | T | 89 1 | 18 |
| | 115 | | R | | |

*Parking Lot*

*Short St*

1338

**Legend**

x,xxx Weekday 5-6 PM Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

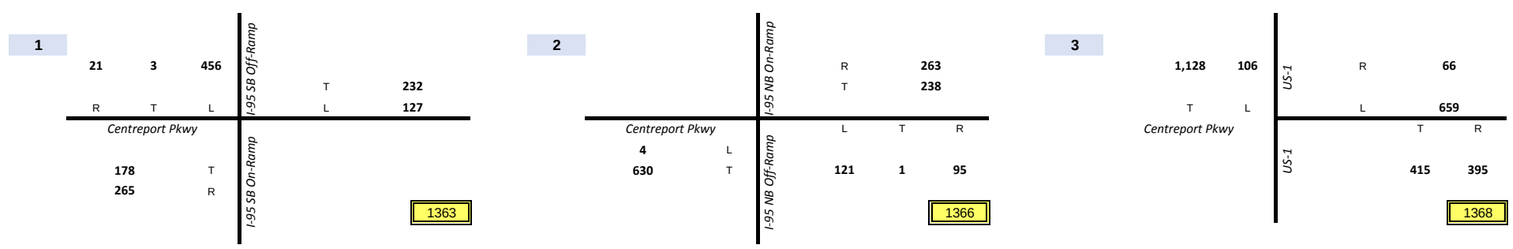
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 5-6 PM Volumes I-95 Corridor

August 2017

Figure A.6-2




**Legend**

x,xxx Weekday 5-6 PM Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

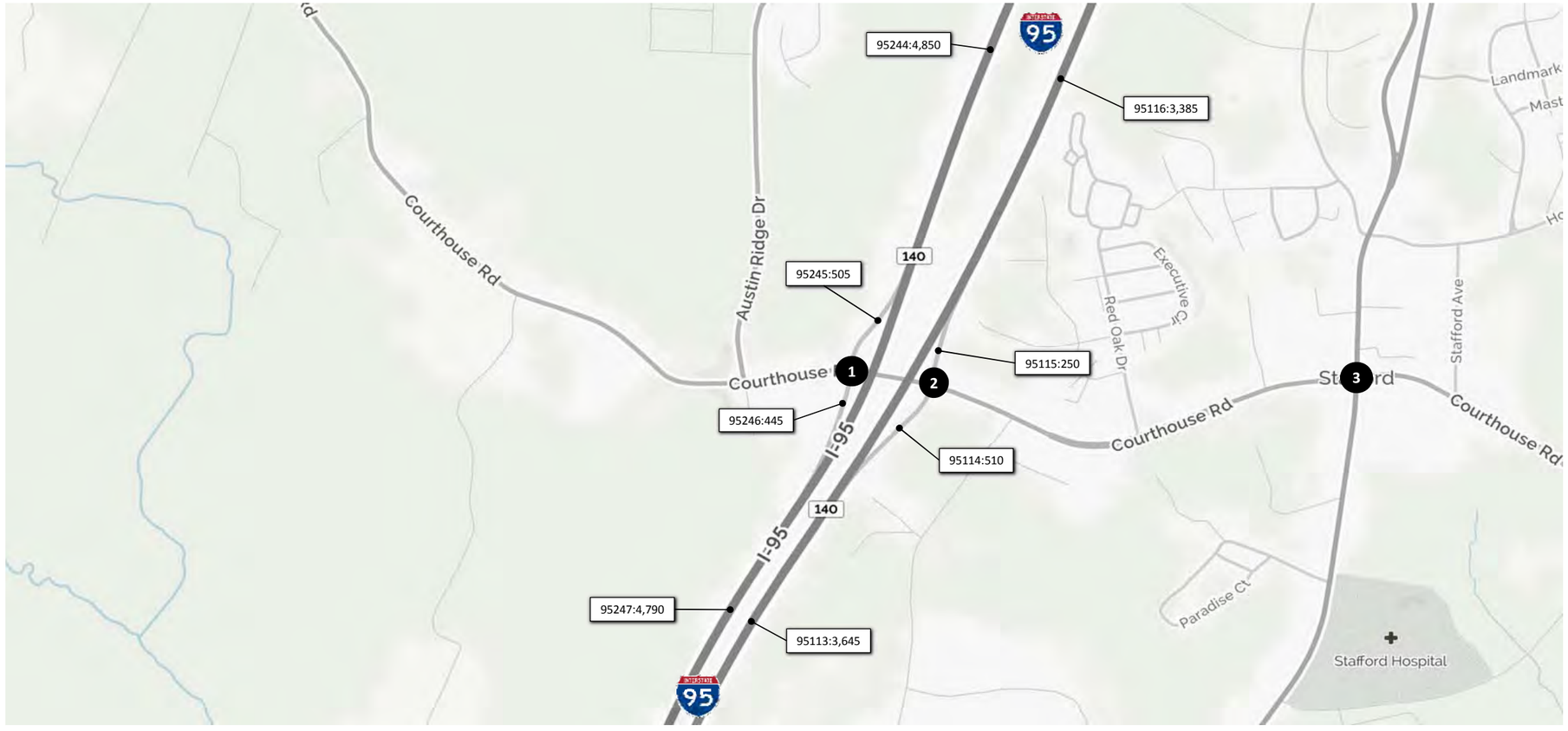
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 5-6 PM Volumes I-95 Corridor

August 2017

Figure A.6-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | T | L | 736 113 |
| 200 | 0 | 304 | | | | |
| R | T | L | | | | |
| Courthouse Road (630) | | | | | | |
| 592 | | T | I-95 SB On-Ramp | | | |
| 332 | | R | | | | |

1403

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | T | 146 509 |
| Courthouse Road (630) | | | | L | T | R |
| 103 | L | | I-95 NB Off-Ramp | 340 | 0 | 169 |
| 793 | T | | | | | |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | US-1 | R | T | 124 203 |
| 241 | 722 | 138 | | | | |
| R | T | L | | | | |
| Courthouse Road (630) | | | | L | T | R |
| 223 | | L | US-1 | | | |
| 186 | | T | | 211 | 258 | 19 |
| 553 | | R | | | | |

1408

**Legend**

x,xxx Weekday 5-6 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

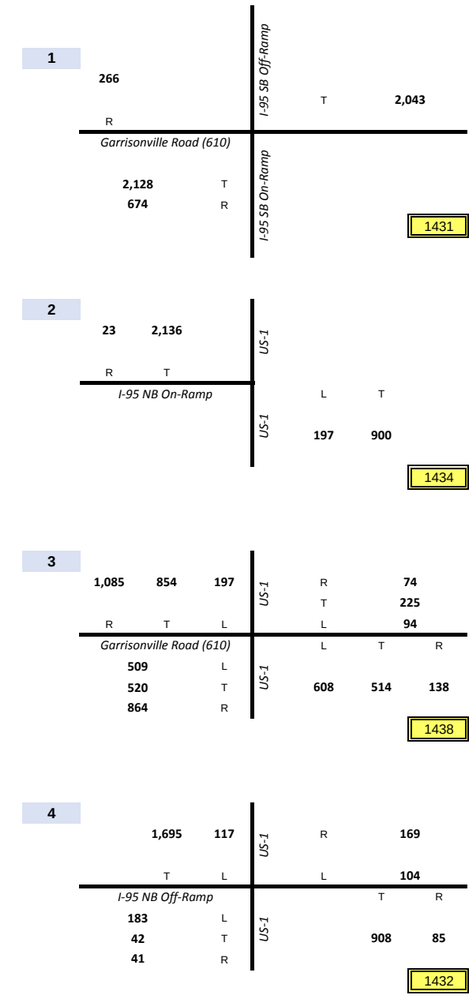
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 5-6 PM Volumes I-95 Corridor

August 2017

Figure A.6-4




**Legend**

x,xxx Weekday 5-6 PM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 5-6 PM Volumes I-95 Corridor

August 2017

Figure A.6-5

**Legend**

x,xxx Weekday 5-6 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

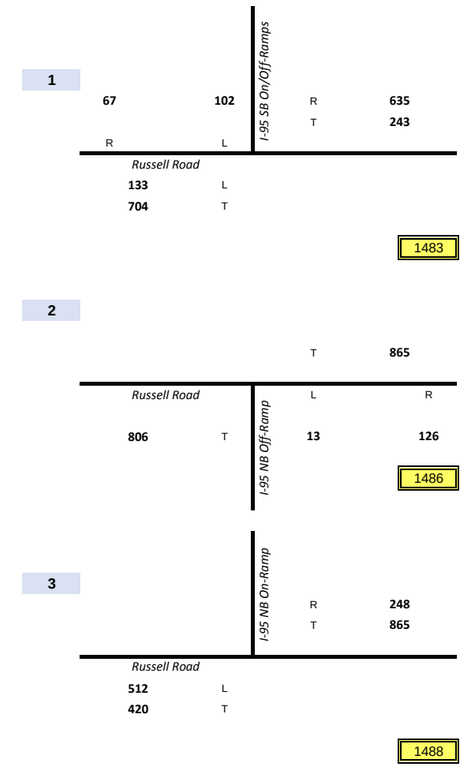
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 5-6 PM Volumes I-95 Corridor

August 2017

Figure A.6-6




**Legend**

x,xxx Weekday 5-6 PM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing
Weekday 5-6 PM Volumes
I-95 Corridor

August 2017

Figure A.6-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| | 277 | 8 | 722 | R | 746 |
| | | | | T | 1,910 |
| | R | T | L | L | 27 |
| | VA-3 (Plank Road) | | | L | T | R |
| | 230 | | L | | |
| | 1,634 | | T | 13 | 6 | 4 |
| | 8 | | R | | |

Carl D Silver Pkwy

Mall Court

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 8 | 4 | 8 | R | 0 |
| | | | | T | 1,536 |
| | R | T | L | L | 124 |
| | VA-3 (Plank Road) | | | L | T | R |
| | 17 | | L | | |
| | 1,148 | | T | 312 | 0 | 150 |
| | 331 | | R | | |

Ramseur St

Gateway Blvd

1304

**Legend**

x,xxx Weekday 6-7 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

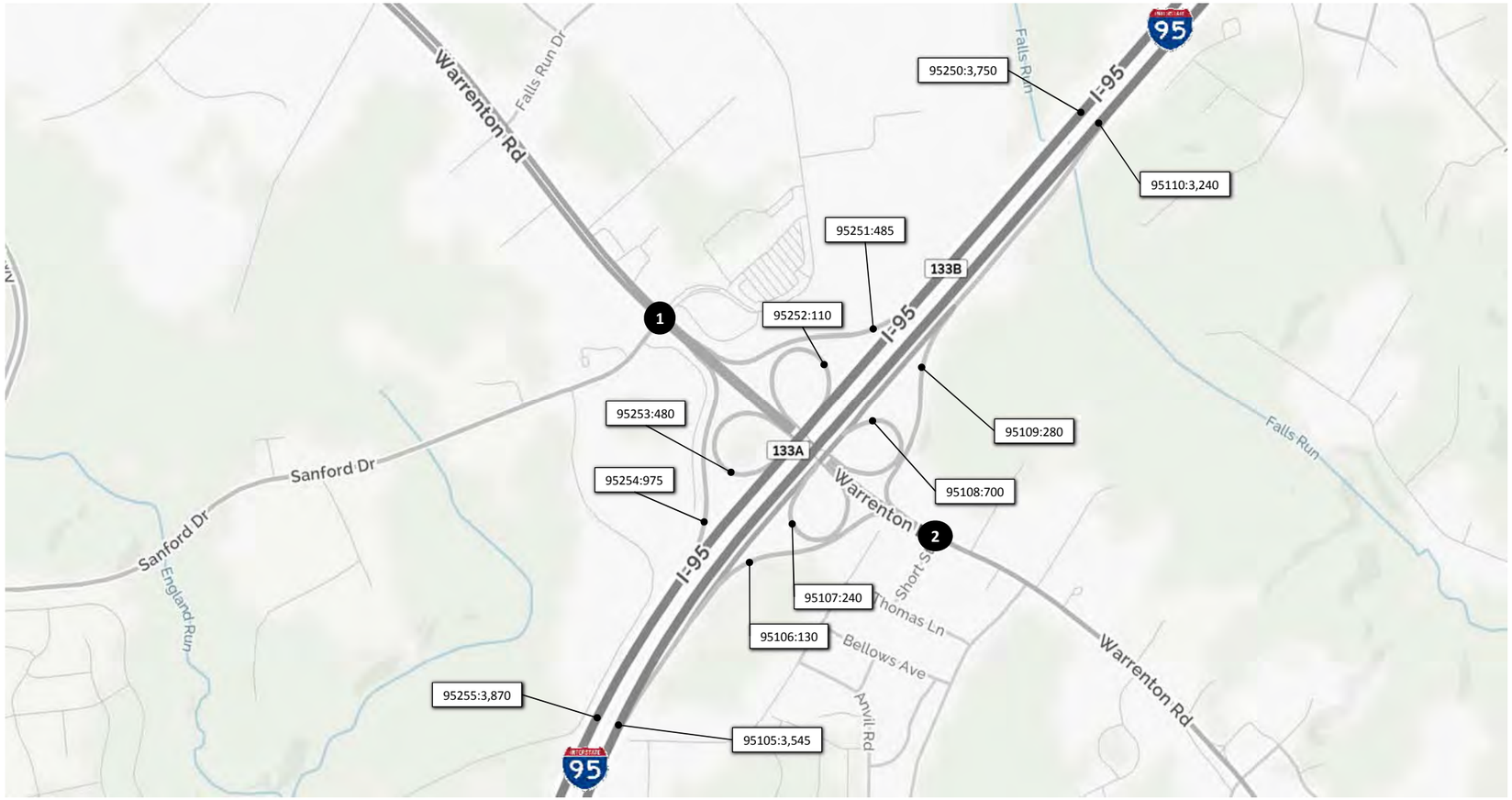
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 PM Volumes I-95 Corridor

August 2017

Figure A.7-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| 95 | 38 | 367 | S Gateway Dr | R | 333 |
| | | | | T | 1,528 |
| R | T | L | | L | 63 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 101 | | L | Sanford Dr | | | |
| 1,616 | | T | | 42 | 0 | 167 |
| 0 | | R | | | | |

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| 10 | 0 | 2 | Parking Lot | R | 2 |
| | | | | T | 1,039 |
| R | T | L | | L | 11 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 6 | | L | Short St | | | |
| 1,412 | | T | | 78 | 6 | 15 |
| 127 | | R | | | | |

1338

**Legend**

x,xxx Weekday 6-7 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

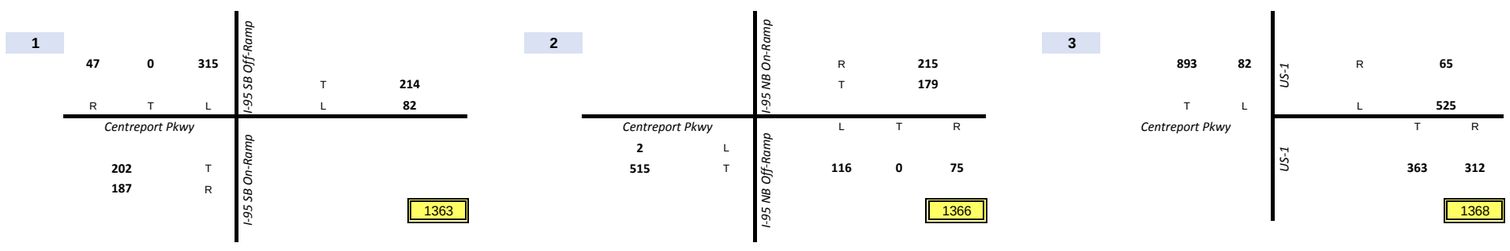
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 PM Volumes I-95 Corridor

August 2017

Figure A.7-2




**Legend**

x,xxx Weekday 6-7 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

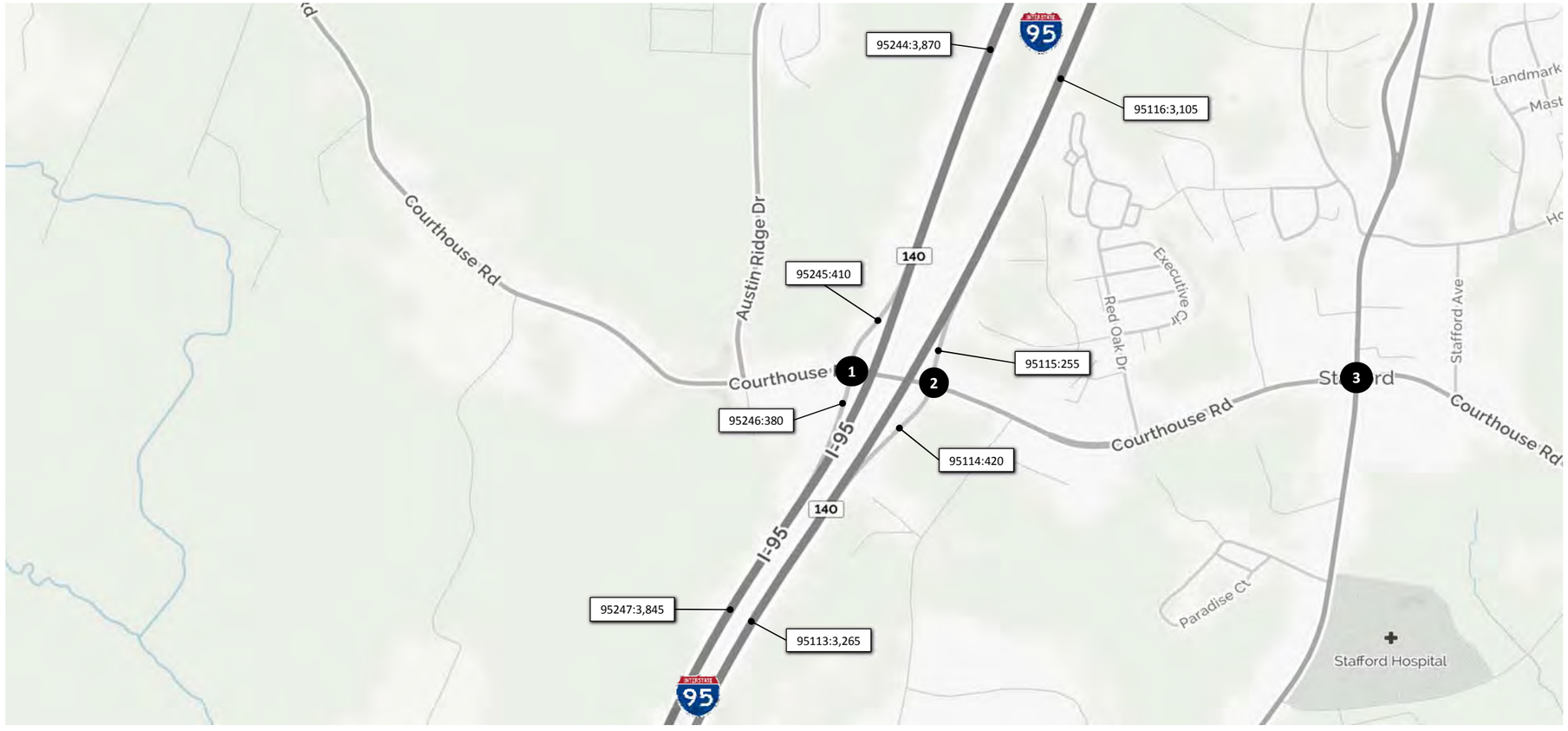
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 PM Volumes I-95 Corridor

August 2017

Figure A.7-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 146 | 0 | 262 | | | |
| R | T | L | | T | 640 |
| Courthouse Road (630) | | | | L | 114 |
| | | | I-95 SB On-Ramp | | |
| 458 | | T | | | |
| 268 | | R | | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | |
| | | | | R | 168 |
| | | | | T | 494 |
| Courthouse Road (630) | | | | | |
| 89 | L | | | L | T | R |
| 631 | T | | I-95 NB Off-Ramp | 260 | 0 | 158 |
| | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 230 | 536 | 84 | US-1 | | | |
| R | T | L | | R | | 127 |
| Courthouse Road (630) | | | | T | | 201 |
| | | | | L | | 30 |
| | | | | L | T | R |
| 205 | L | | US-1 | | | |
| 214 | T | | | 231 | 219 | 19 |
| 370 | R | | | | | |
| | | | | | | 1408 |

**Legend**

x,xxx Weekday 6-7 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

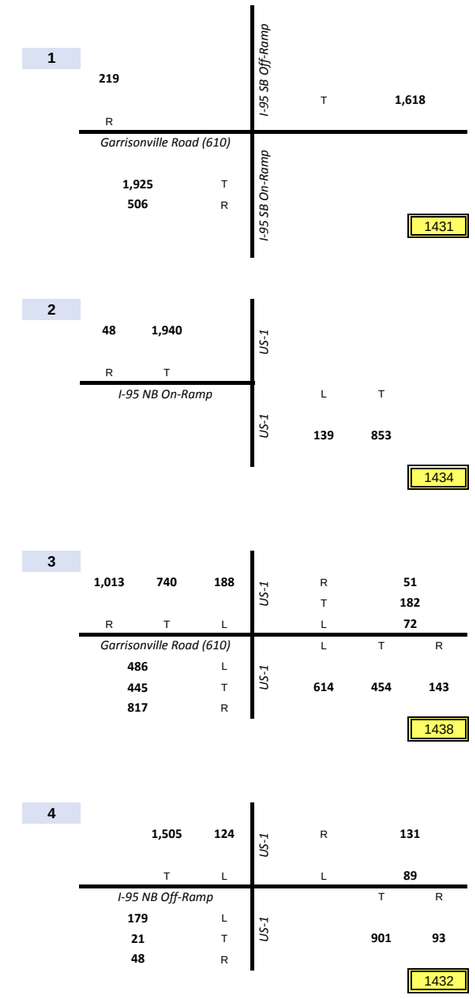
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 PM Volumes I-95 Corridor

August 2017

Figure A.7-4




**Legend**

x,xxx Weekday 6-7 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 PM Volumes I-95 Corridor

August 2017

Figure A.7-5

**Legend**

x,xxx Weekday 6-7 PM Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

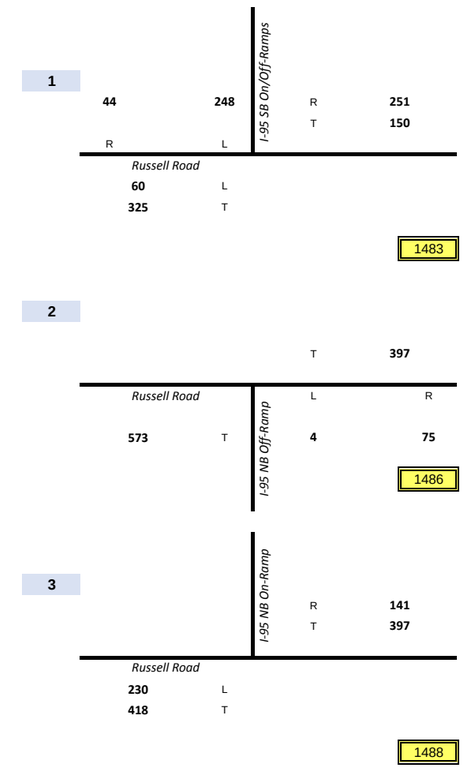
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 PM Volumes I-95 Corridor

August 2017

Figure A.7-6




**Legend**

x,xxx Weekday 6-7 PM Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2016 Existing Weekday 6-7 PM Volumes I-95 Corridor

August 2017

Figure A.7-7

# APPENDIX B:
# 2042 NO-BUILD
# TRAFFIC VOLUMES

**1**

| | | | | | |
|---|---|---|---|---|---|
| 61 | 5 | 277 | Carl D Silver Pkwy | R | 609 |
| | | | | T | 1,635 |
| R | T | L | | L | 15 |
| VA-3 (Plank Road) | | | | L | T | R |
| 226 | | L | Mall Court | | | |
| 2,681 | | T | | 5 | 3 | 10 |
| 3 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 3 | 5 | Ramseur St | R | 15 |
| | | | | T | 1,404 |
| R | T | L | | L | 183 |
| VA-3 (Plank Road) | | | | L | T | R |
| 68 | | L | Gateway Blvd | | | |
| 1,931 | | T | | 246 | 0 | 215 |
| 269 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

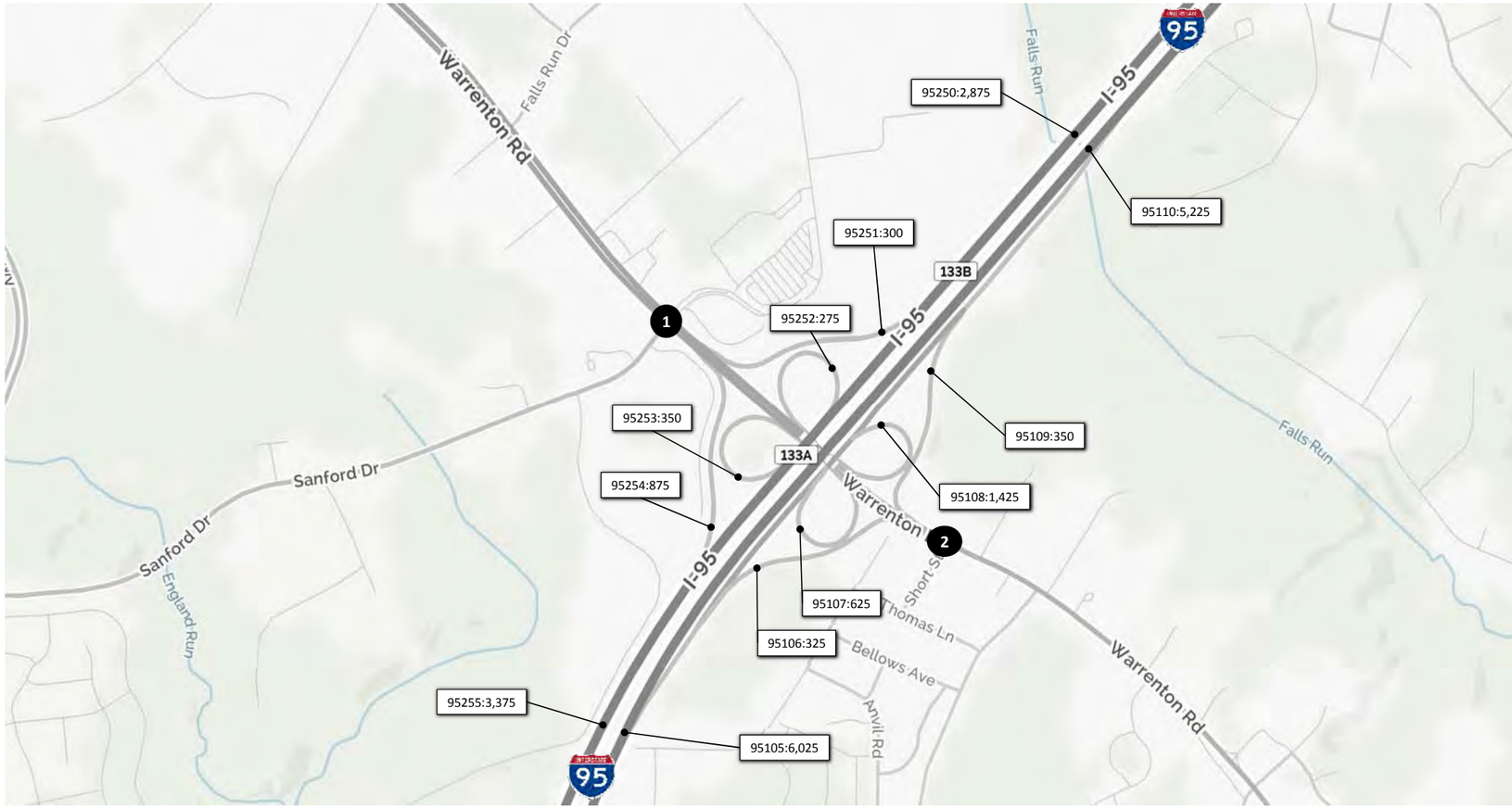
2042 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure B.1-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 38 | 25 | 261 | S Gateway Dr | R | 320 |
| | | | | | T | 2,628 |
| | R | T | L | | L | 231 |
| | US-17 (Warrenton Rd) | | | | L | T | R |
| | 45 | | L | Sanford Dr | | | |
| | 1,782 | | T | | 51 | 23 | 292 |
| | 26 | | R | | | | |
| | | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 3 | 2 | 3 | Parking Lot | R | 2 |
| | | | | | T | 1,942 |
| | R | T | L | | L | 18 |
| | US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 3 | | L | Short St | | | |
| | 1,403 | | T | | 125 | 2 | 28 |
| | 99 | | R | | | | |
| | | | | | | | 1338 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

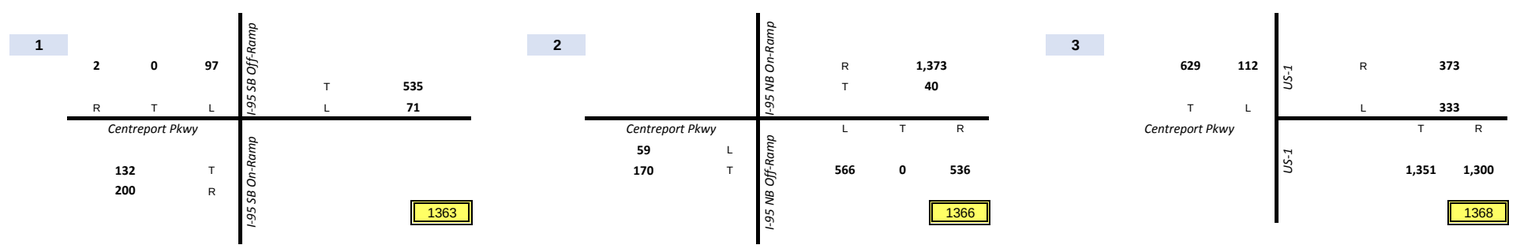
2042 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure B.1-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

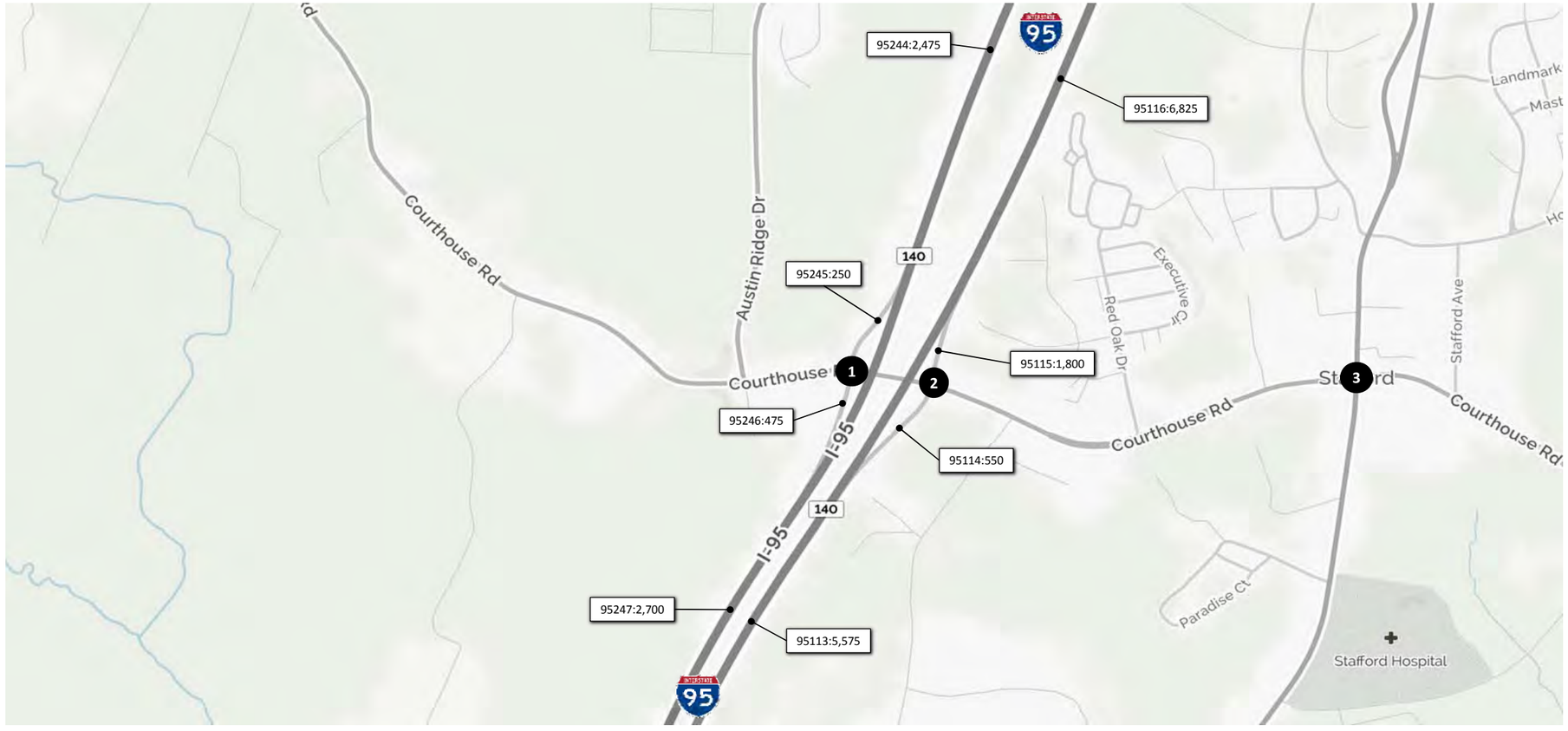
2042 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure B.1-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | 69 | 0 | 193 | | | |
| | R | T | L | | T | 759 |
| | | | | I-95 SB Off-Ramp | L | 91 |
| | Courthouse Road (630) | | | | | |
| | | 556 | T | I-95 SB On-Ramp | | |
| | | 393 | R | | | |
| | | | | | | 1403 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | R | 1,530 |
| | | | | | T | 408 |
| | Courthouse Road (630) | | | | | |
| | 261 | L | | | L | T | R |
| | 488 | T | | I-95 NB Off-Ramp | 442 | 0 | 97 |
| | | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 434 | 376 | 153 | US-1 | R | 327 |
| | | | | | T | 648 |
| | R | T | L | | L | 71 |
| | Courthouse Road (630) | | | | | |
| | | 99 | L | | L | T | R |
| | | 99 | T | US-1 | 855 | 450 | 41 |
| | | 388 | R | | | |
| | | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

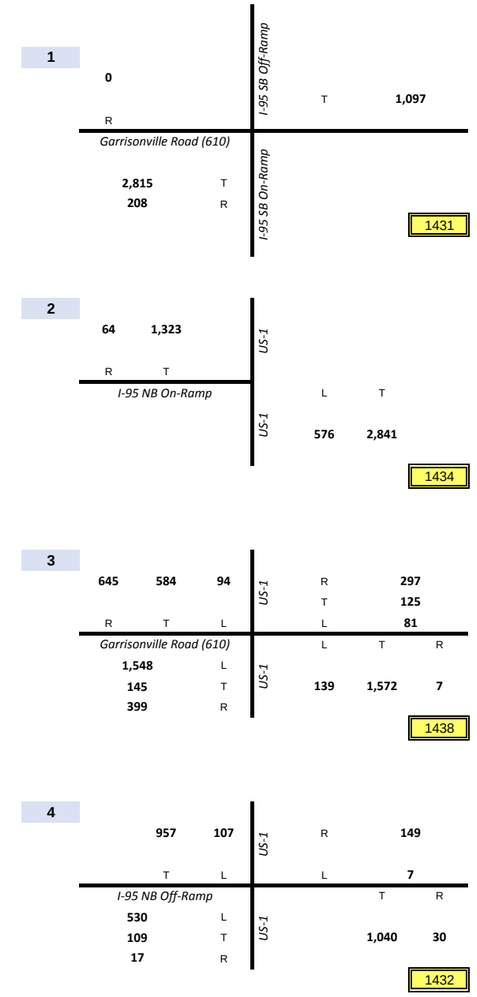
2042 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure B.1-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure B.1-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

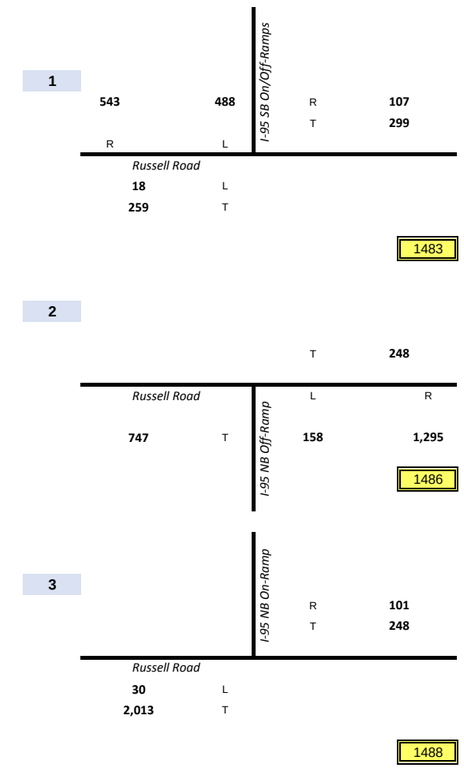
2042 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure B.1-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure B.1-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 63 | 5 | 286 | Carl D Silver Pkwy | R | 627 |
| | | | | T | 1,685 |
| R | T | L | | L | 15 |
| VA-3 (Plank Road) | | | | L | T | R |
| 233 | | L | Mall Court | | | |
| 2,763 | | T | | 5 | 3 | 10 |
| 3 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 3 | 5 | Ramseur St | R | 15 |
| | | | | T | 1,447 |
| R | T | L | | L | 189 |
| VA-3 (Plank Road) | | | | L | T | R |
| 70 | | L | Gateway Blvd | | | |
| 1,989 | | T | | 253 | 0 | 221 |
| 277 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

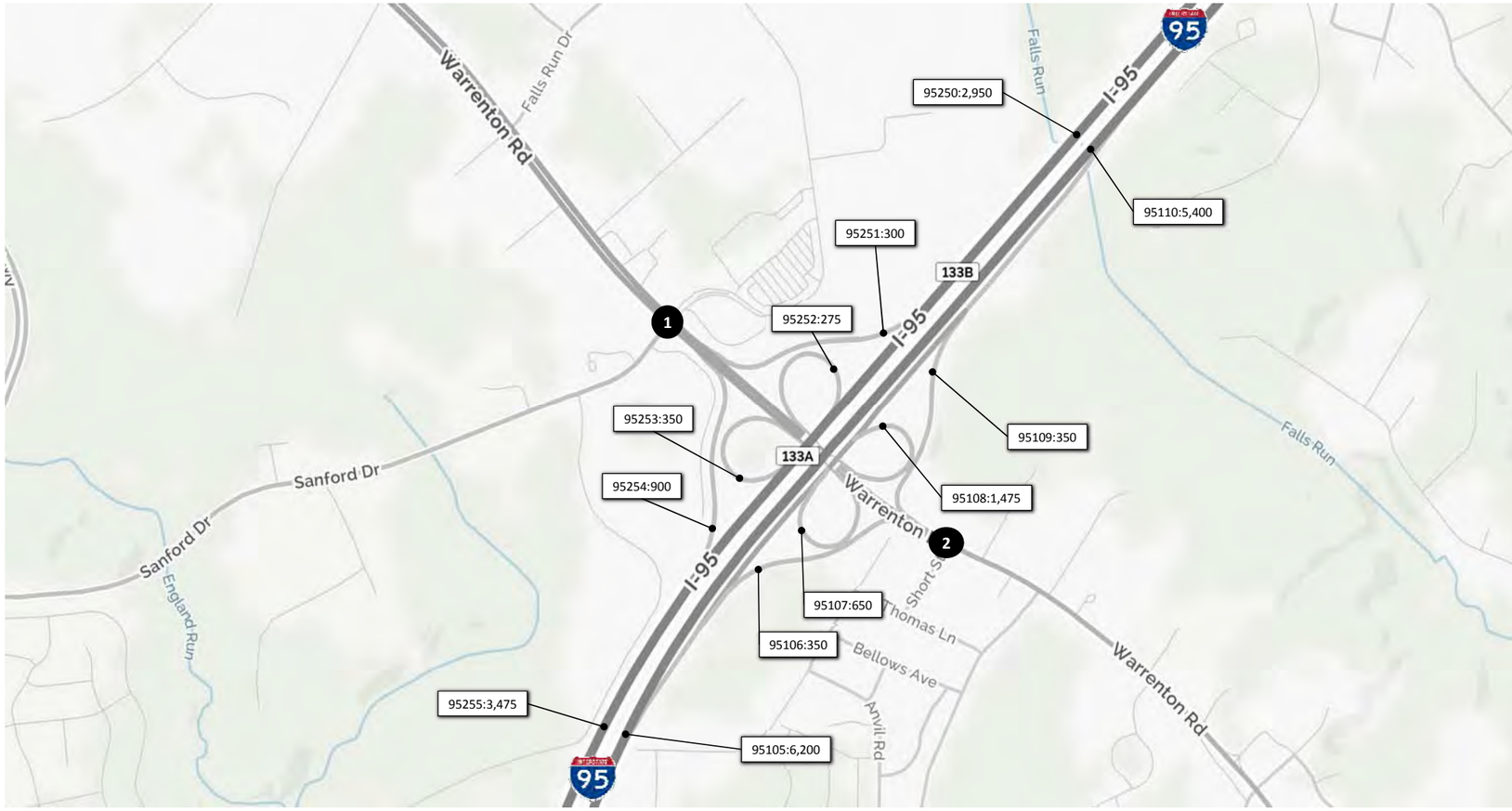
2042 No Build

Weekday 7- 8 AM Volumes

I-95 Corridor

August 2017

Figure B.2-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 39 | 26 | 269 | S Gateway Dr | R | 330 |
| | | | | | T | 2,708 |
| | R | T | L | | L | 238 |
| | US-17 (Warrenton Rd) | | | | L | T | R |
| | 46 | | L | Sanford Dr | | | |
| | 1,836 | | T | | 53 | 24 | 301 |
| | 27 | | R | | | | |
| | | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 3 | 2 | 3 | Parking Lot | R | 2 |
| | | | | | T | 2,001 |
| | R | T | L | | L | 19 |
| | US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 3 | | L | Short St | | | |
| | 1,445 | | T | | 129 | 2 | 29 |
| | 102 | | R | | | | |
| | | | | | | | 1338 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

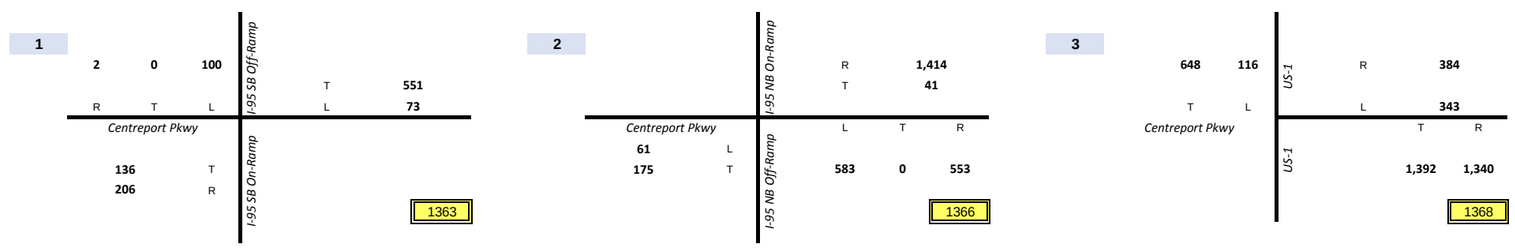
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build
Weekday 7- 8 AM Volumes
I-95 Corridor

August 2017

Figure B.2-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

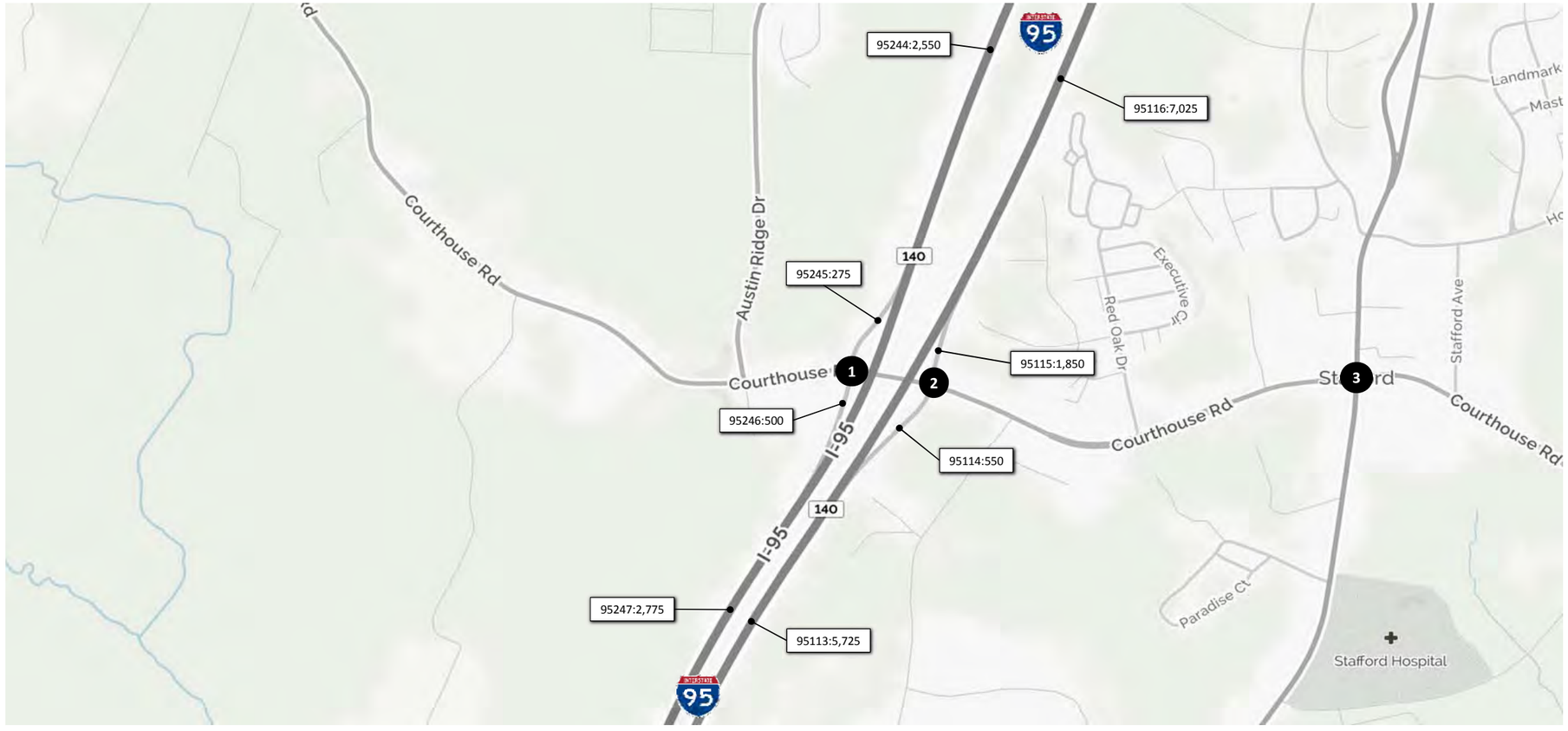
2042 No Build

Weekday 7- 8 AM Volumes

I-95 Corridor

August 2017

Figure B.2-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 71 | 0 | 199 | I-95 SB Off-Ramp | T | 782 |
| | R | T | L | | L | 94 |
| | Courthouse Road (630) | | | | | |
| | 573 | | T | I-95 SB On-Ramp | | |
| | 405 | | R | | | |
| | | | | | | 1403 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | R | 1,576 |
| | | | | | T | 420 |
| | Courthouse Road (630) | | | | | |
| | 269 | L | | | L | T | R |
| | 503 | T | | I-95 NB Off-Ramp | 456 | 0 | 100 |
| | | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 447 | 388 | 158 | US-1 | R | 337 |
| | | | | | T | 668 |
| | R | T | L | | L | 73 |
| | Courthouse Road (630) | | | | | |
| | 102 | | L | | L | T | R |
| | 102 | | T | US-1 | 881 | 464 | 43 |
| | 400 | | R | | | |
| | | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 7- 8 AM Volumes

I-95 Corridor

August 2017

Figure B.2-4

**1**

| | | | | | |
|---|---|---|---|---|---|
| | 16 | | I-95 SB Off-Ramp | T | 1,131 |
| | R | | | | |
| Garrisonville Road (610) | | | | | |
| | 2,900 | T | I-95 SB On-Ramp | | |
| | 214 | R | | | 1431 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 66 | 1,363 | | US-1 | | |
| R | T | | | | |
| I-95 NB On-Ramp | | | | L | T |
| | | | US-1 | 593 | 2,927 |
| | | | | | 1434 |

**3**

| | | | | | |
|---|---|---|---|---|---|
| 665 | 602 | 97 | US-1 | R | 306 |
| | | | | T | 129 |
| R | T | L | | L | 83 |
| Garrisonville Road (610) | | | | L | T | R |
| 1,595 | | L | US-1 | | | |
| 150 | | T | | 143 | 1,620 | 7 |
| 411 | | R | | | | |
| | | | | | | 1438 |

**4**

| | | | | | |
|---|---|---|---|---|---|
| 986 | 111 | US-1 | R | 153 | |
| T | L | | L | 7 | |
| I-95 NB Off-Ramp | | | | T | R |
| 546 | | L | US-1 | | |
| 112 | | T | | 1,071 | 31 |
| 17 | | R | | | |
| | | | | | 1432 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 7- 8 AM Volumes

I-95 Corridor

August 2017

Figure B.2-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

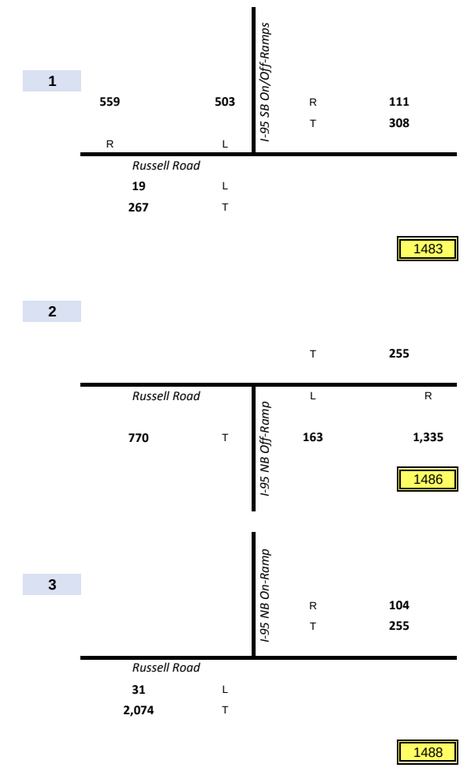
2042 No Build

Weekday 7- 8 AM Volumes

I-95 Corridor

August 2017

Figure B.2-6




**Legend**

xx,xxx Weekday Hourly Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 7- 8 AM Volumes

I-95 Corridor

August 2017

Figure B.2-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 61 | 5 | 277 | Carl D Silver Pkwy | R | 609 |
| | | | | T | 1,635 |
| R | T | L | | L | 15 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 226 | | L | | | |
| 2,681 | | T | | 5 | 3 | 10 |
| 3 | | R | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 3 | 5 | Ramseur St | R | 15 |
| | | | | T | 1,404 |
| R | T | L | | L | 183 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 68 | | L | | | |
| 1,931 | | T | | 246 | 0 | 215 |
| 269 | | R | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

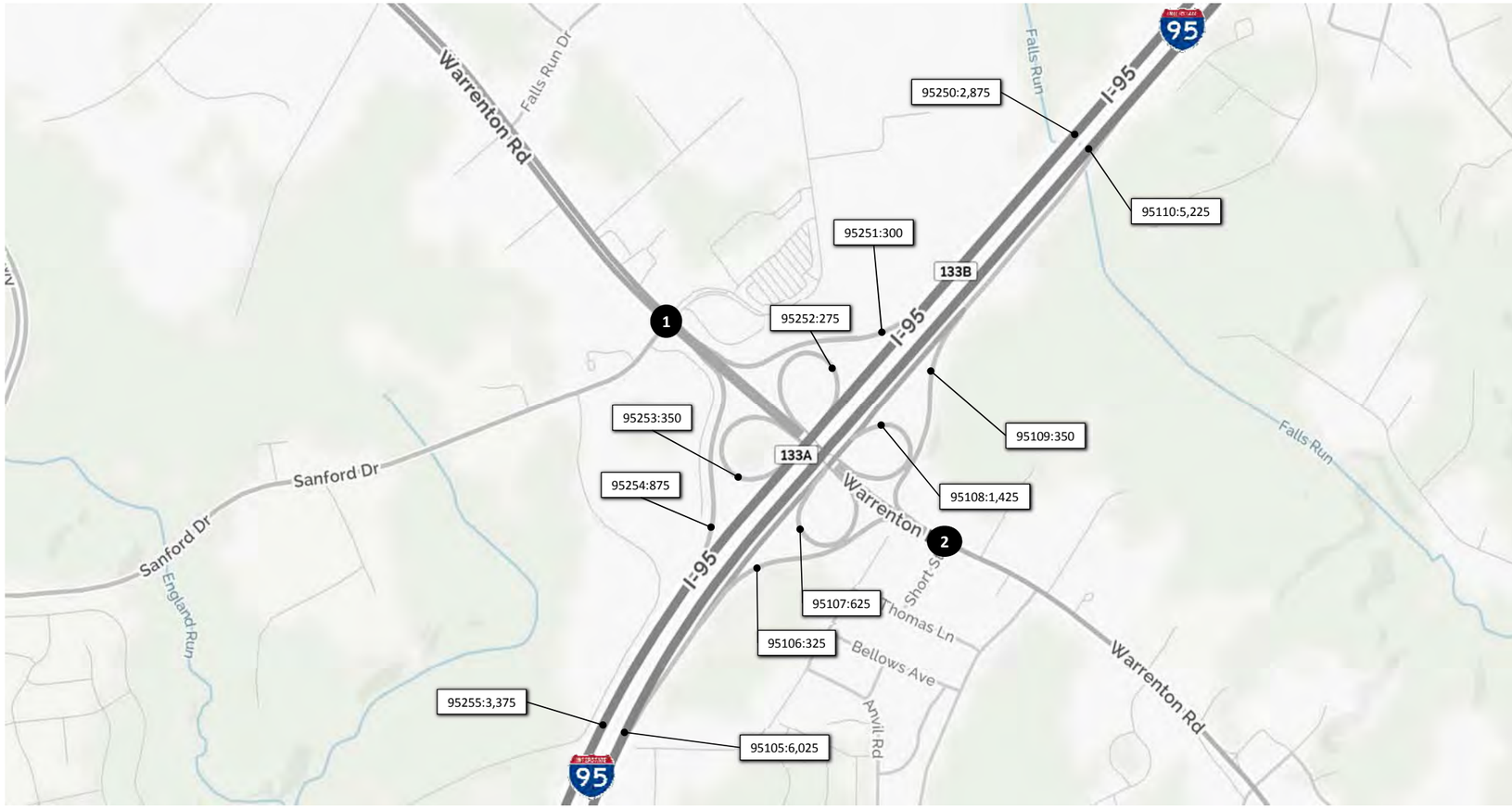
2042 No Build

Weekday 8 - 9 AM Volumes

I-95 Corridor

August 2017

Figure B.3-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 38 | 25 | 261 | S Gateway Dr | R | 320 |
| | | | | | T | 2,628 |
| | R | T | L | | L | 231 |
| | US-17 (Warrenton Rd) | | | | L | T | R |
| | 45 | | L | Sanford Dr | | | |
| | 1,782 | | T | | 51 | 23 | 292 |
| | 26 | | R | | | | |
| | | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 3 | 2 | 3 | Parking Lot | R | 2 |
| | | | | | T | 1,942 |
| | R | T | L | | L | 18 |
| | US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 3 | | L | Short St | | | |
| | 1,403 | | T | | 125 | 2 | 28 |
| | 99 | | R | | | | |
| | | | | | | | 1338 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

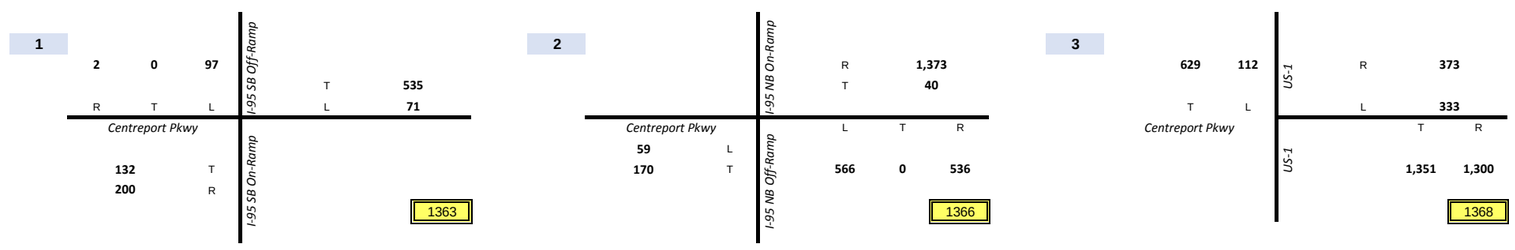
2042 No Build

Weekday 8 - 9 AM Volumes

I-95 Corridor

August 2017

Figure B.3-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

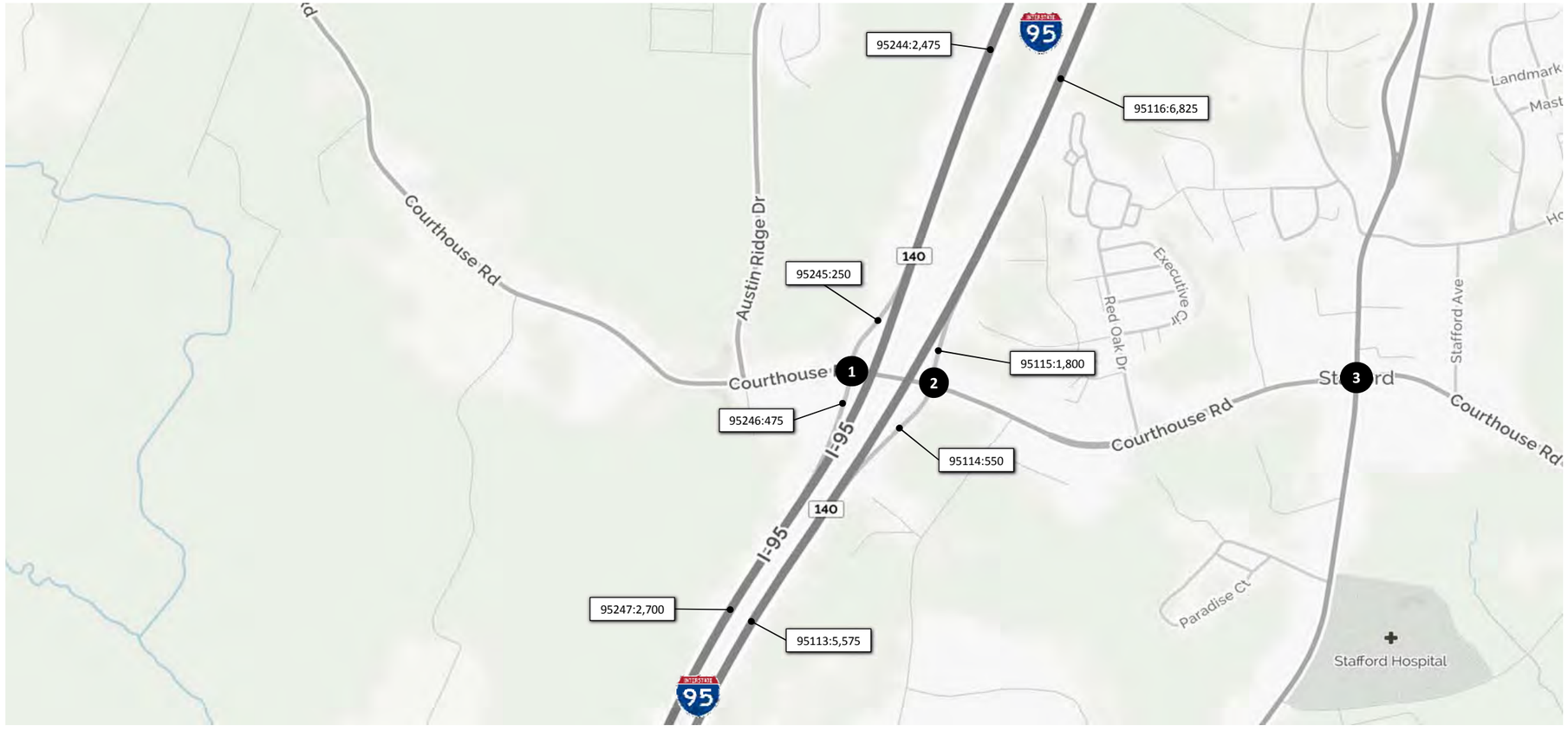
2042 No Build

Weekday 8 - 9 AM Volumes

I-95 Corridor

August 2017

Figure B.3-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 69 | 0 | 193 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | I-95 SB Off-Ramp | |
| | | | | T | 759 |
| | | | | L | 91 |
| I-95 SB On-Ramp | | | | | |
| | 556 | | T | | |
| | 393 | | R | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | |
| | | | | R | 1,530 |
| | | | | T | 408 |
| Courthouse Road (630) | | | | | |
| 261 | L | | | | |
| 488 | T | | | | |
| I-95 NB Off-Ramp | | | | | |
| | | | | L | T | R |
| | | | | 442 | 0 | 97 |
| | | | | | | 1406 |

**3**

| | | | | | |
|---|---|---|---|---|---|
| | 434 | 376 | 153 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | US-1 | |
| | | | | R | 327 |
| | | | | T | 648 |
| | | | | L | 71 |
| US-1 | | | | | |
| | 99 | | L | | |
| | 99 | | T | | |
| | 388 | | R | | |
| | | | | L | T | R |
| | | | | 855 | 450 | 41 |
| | | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

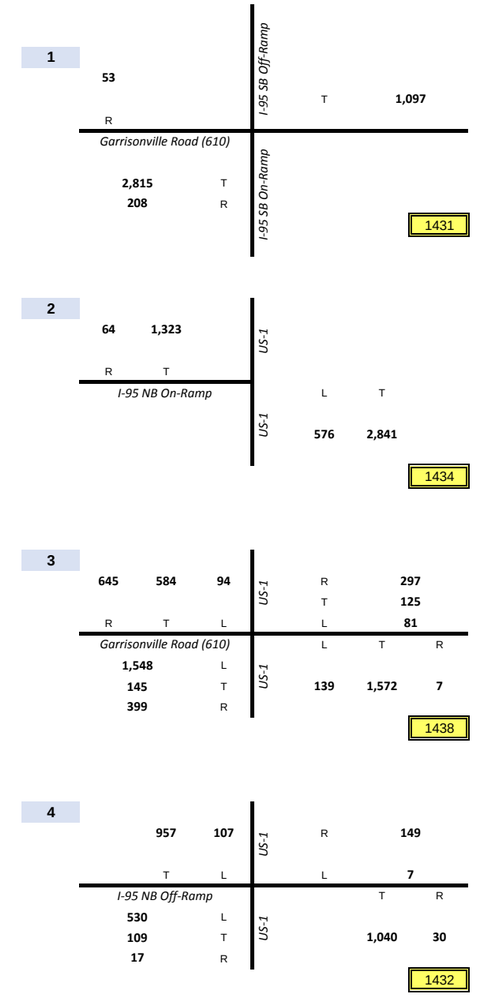
2042 No Build

Weekday 8 - 9 AM Volumes

I-95 Corridor

August 2017

Figure B.3-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 8 - 9 AM Volumes

I-95 Corridor

August 2017

Figure B.3-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

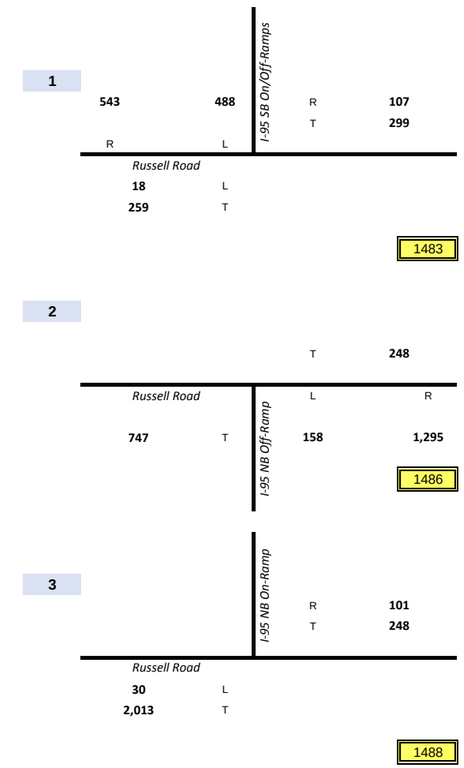
2042 No Build

Weekday 8 - 9 AM Volumes

I-95 Corridor

August 2017

Figure B.3-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 8 - 9 AM Volumes

I-95 Corridor

August 2017

Figure B.3-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 324 | 8 | 795 | Carl D Silver Pkwy | R | 927 |
| | | | | T | 2,078 |
| R | T | L | | L | 18 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 263 | | L | | | | |
| 1,815 | | T | | 11 | 8 | 8 |
| 6 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 15 | 5 | 14 | Ramseur St | R | 5 |
| | | | | T | 2,004 |
| R | T | L | | L | 224 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 33 | | L | | | | |
| 1,625 | | T | | 311 | 3 | 282 |
| 383 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

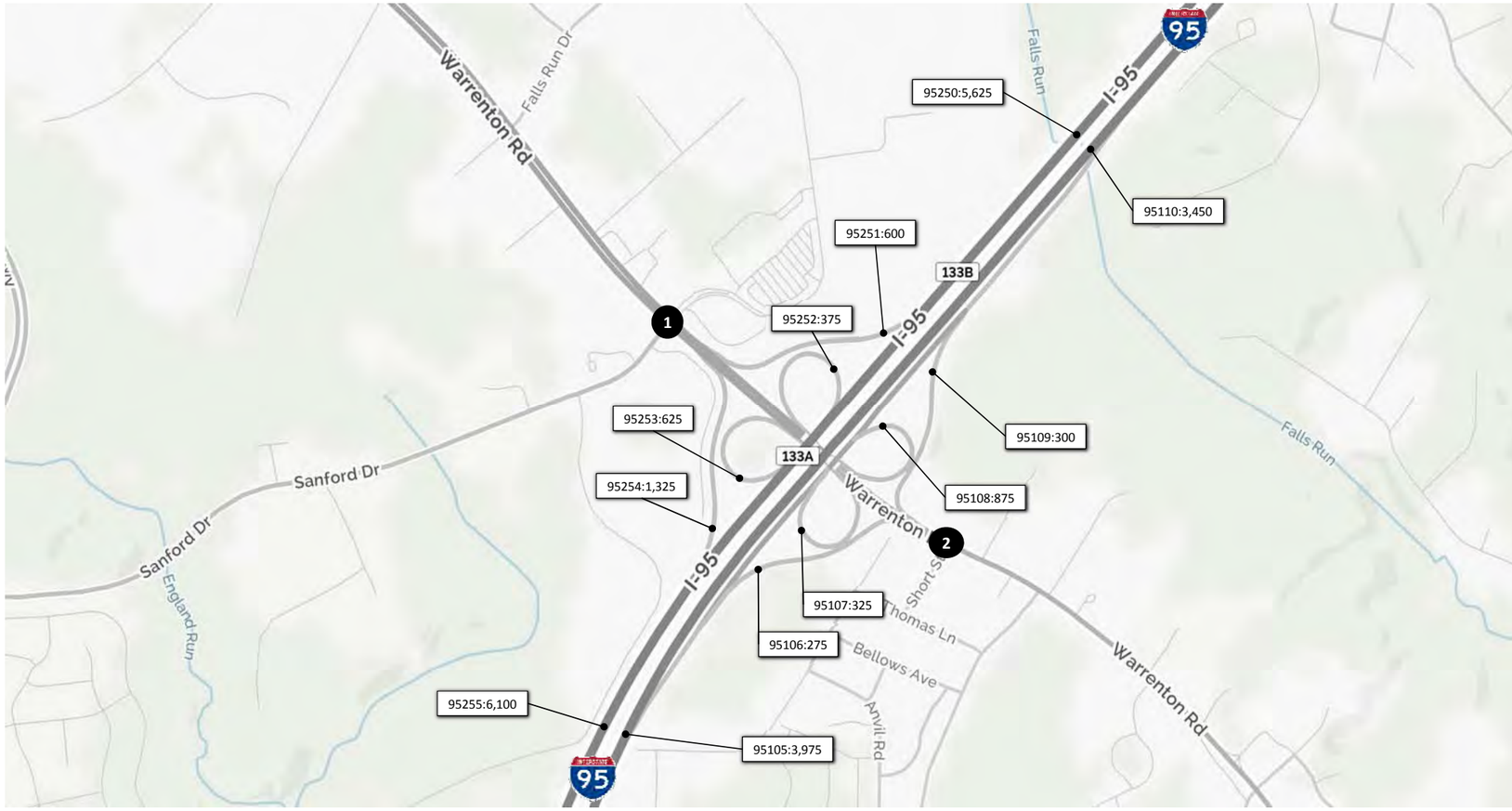
2042 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure B.4-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 72 | 54 | 378 | R | 393 |
| | | | | T | 2,247 |
| | R | T | L | L | 243 |
| | *US-17 (Warrenton Rd)* | | | L | T | R |
| | 72 | | L | | | |
| | 2,529 | | T | 41 | 9 | 404 |
| | 39 | | R | | | |

*S Gateway Dr*

*Sanford Dr*

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 6 | 0 | 5 | R | 3 |
| | | | | T | 1,938 |
| | R | T | L | L | 27 |
| | *US-17 BUS (Warrenton Rd)* | | | L | T | R |
| | 5 | | L | | | |
| | 2,391 | | T | 128 | 3 | 35 |
| | 153 | | R | | | |

*Parking Lot*

*Short St*

1338

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

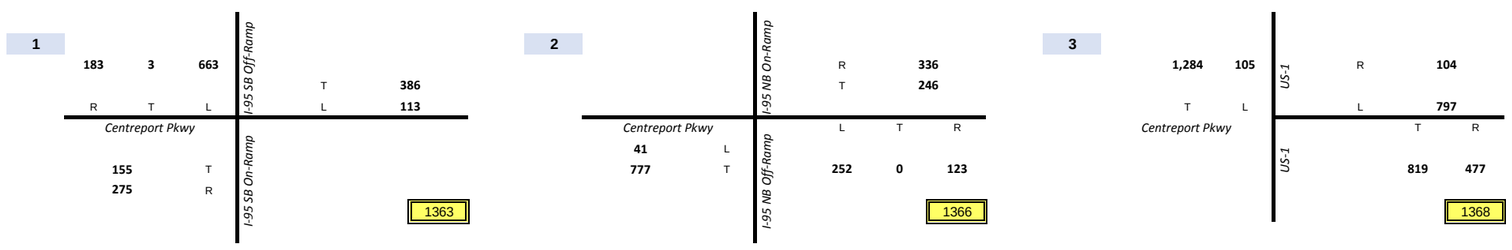
2042 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure B.4-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

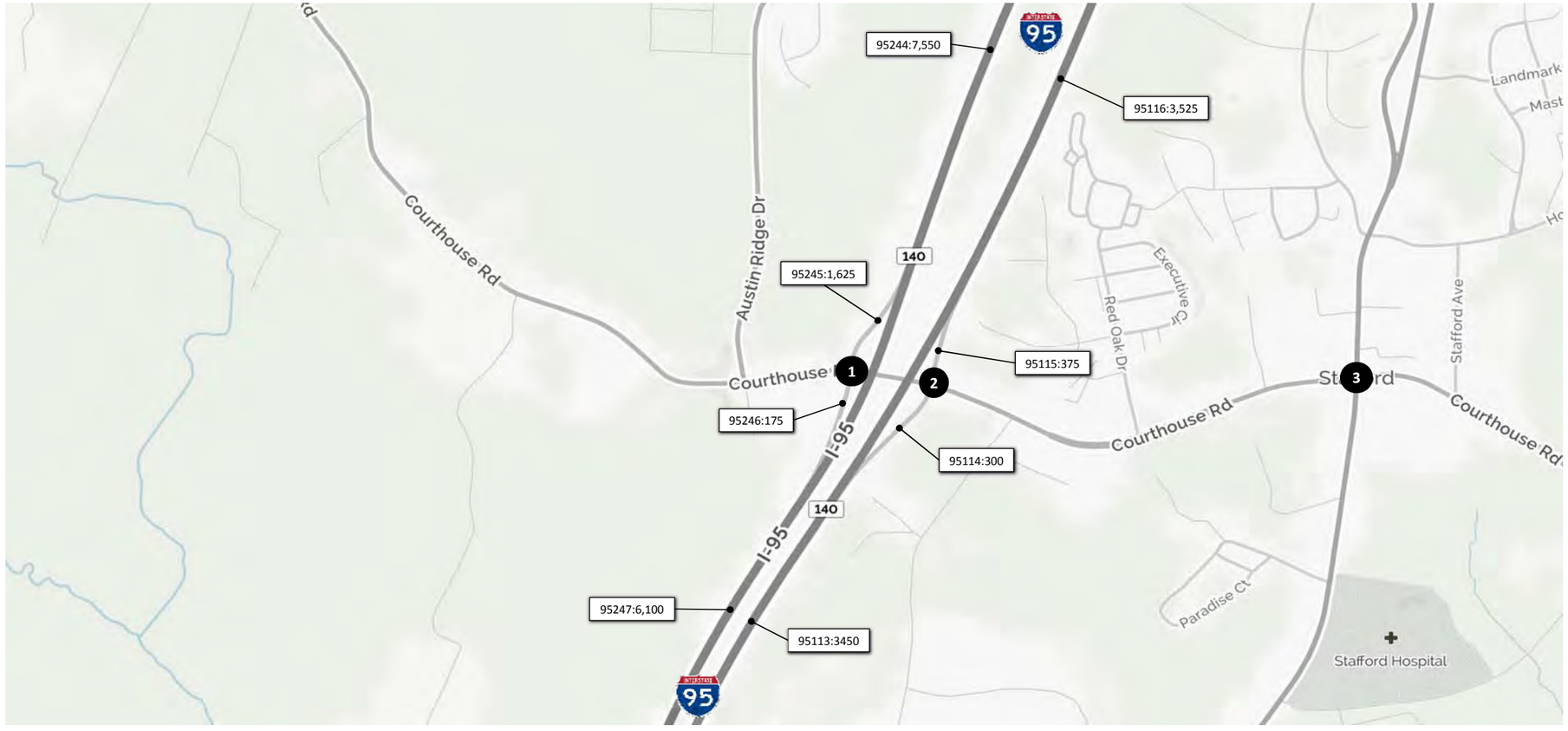
2042 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure B.4-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 752 | 0 | 873 | | T | 558 |
| R | T | L | | L | 39 |
| Courthouse Road (630) | | | | | |
| | 779 | T | I-95 SB On-Ramp | | |
| | 134 | R | | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | |
| | | | | R | 359 |
| | | | | T | 576 |
| Courthouse Road (630) | | | | | |
| 18 | L | | | L | T | R |
| 1,634 | T | | I-95 NB Off-Ramp | 21 | 0 | 272 |
| | | | | | 1406 |

**3**

| | | | | | |
|---|---|---|---|---|---|
| | | | US-1 | | |
| 206 | 654 | 206 | | R | 257 |
| R | T | L | | T | 308 |
| | | | | L | 65 |
| Courthouse Road (630) | | | | | |
| 420 | L | | | L | T | R |
| 597 | T | | US-1 | 422 | 606 | 84 |
| 888 | R | | | | |
| | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

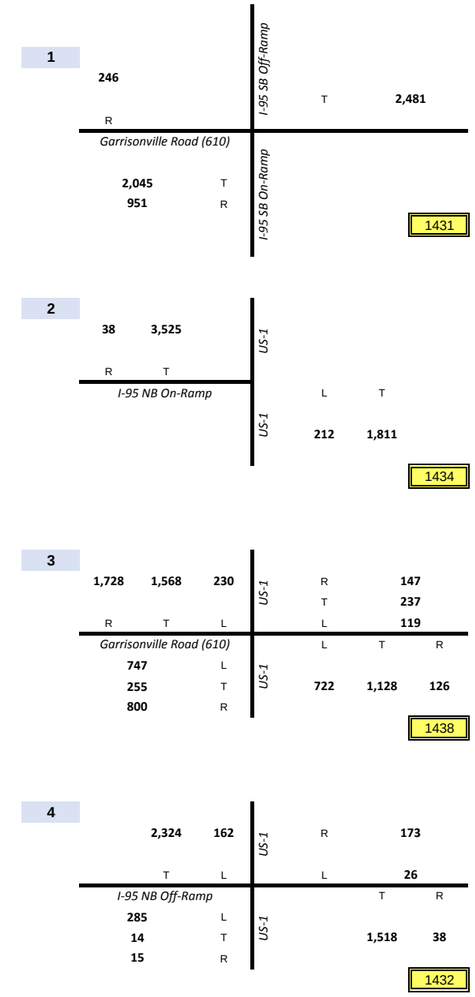
2042 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure B.4-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure B.4-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

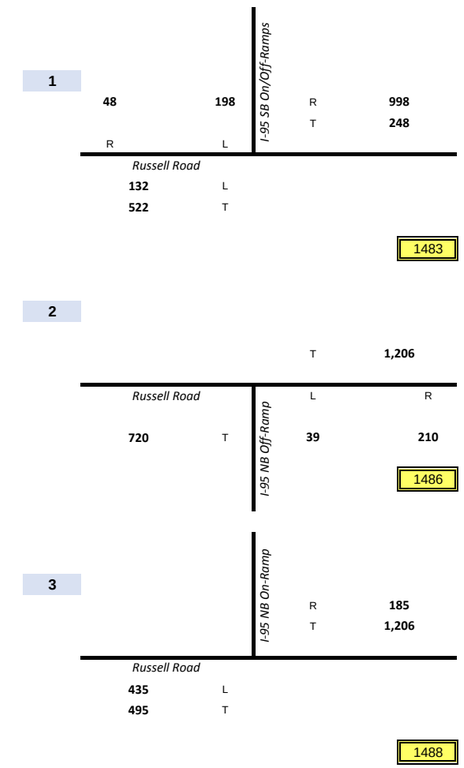
2042 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure B.4-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure B.4-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 356 | 8 | 875 | Carl D Silver Pkwy | R | 1,020 |
| | | | | T | 2,285 |
| R | T | L | | L | 20 |
| VA-3 (Plank Road) | | | | L | T | R |
| 289 | | L | Mall Court | | | |
| 1,997 | | T | | 12 | 8 | 8 |
| 7 | | R | | | | |
| | | | | | | 1303 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 5 | 15 | Ramseur St | R | 5 |
| | | | | T | 2,204 |
| R | T | L | | L | 246 |
| VA-3 (Plank Road) | | | | L | T | R |
| 36 | | L | Gateway Blvd | | | |
| 1,787 | | T | | 342 | 3 | 310 |
| 421 | | R | | | | |
| | | | | | | 1304 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

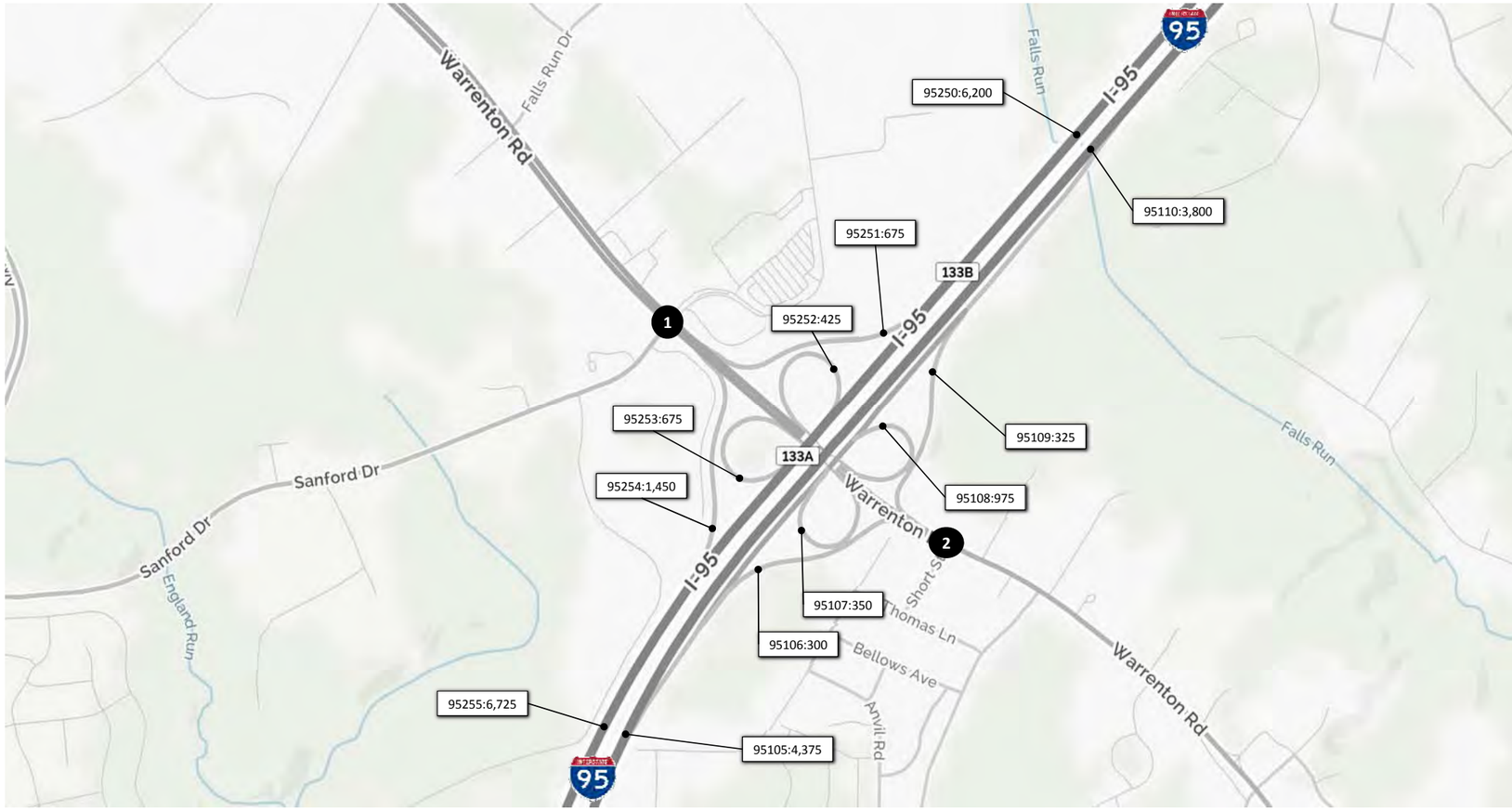
2042 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure B.5-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| 79 | 59 | 416 | S Gateway Dr | R | 432 |
| | | | | T | 2,472 |
| R | T | L | | L | 267 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 79 | | L | Sanford Dr | | | |
| 2,782 | | T | | 45 | 10 | 444 |
| 43 | | R | | | | |

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| 7 | 0 | 5 | Parking Lot | R | 3 |
| | | | | T | 2,132 |
| R | T | L | | L | 30 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 5 | | L | Short St | | | |
| 2,630 | | T | | 140 | 3 | 38 |
| 168 | | R | | | | |

1338

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure B.5-2

**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | | |
| 201 | 3 | 729 | | T | 424 | |
| R | T | L | | L | 124 | |
| Centreport Pkwy | | | | | | |
| 170 | | T | I-95 SB On-Ramp | | | |
| 302 | | R | | | | 1363 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | | |
| | | | R | | 370 | |
| | | | T | | 271 | |
| Centreport Pkwy | | | | | | |
| 45 | L | | | L | T | R |
| 855 | T | | I-95 NB Off-Ramp | 277 | 0 | 135 |
| | | | | | | 1366 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 1,412 | 116 | | US-1 | R | 114 | |
| T | L | | | L | 876 | |
| Centreport Pkwy | | | | | | |
| | | | US-1 | | T | R |
| | | | | | 901 | 525 |
| | | | | | | 1368 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

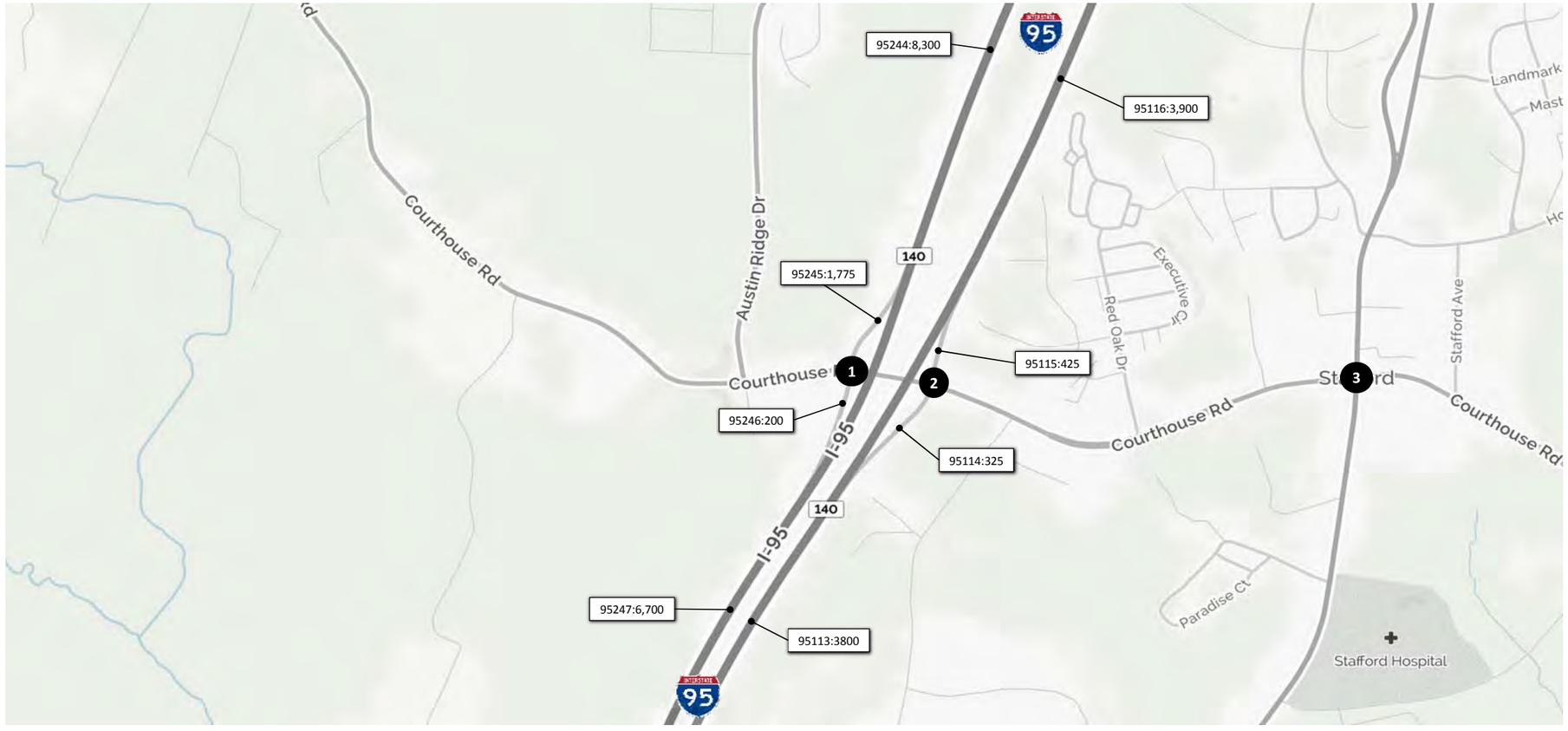
2042 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure B.5-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | | |
| | | | | T | | 614 |
| | | | | L | | 43 |
| R | T | L | | | | |
| Courthouse Road (630) | | | | | | |
| | | | I-95 SB On-Ramp | | | |
| 827 | 0 | 960 | | | | |
| | 856 | T | | | | |
| | 147 | R | | | | |
| | | | | | | 1403 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | | |
| | | | | R | | 394 |
| | | | | T | | 634 |
| Courthouse Road (630) | | | | | | |
| | | | | L | T | R |
| | | | I-95 NB Off-Ramp | | | |
| 20 | L | | | | | |
| 1,797 | T | | | 23 | 0 | 299 |
| | | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | US-1 | | | |
| | | | | R | | 282 |
| | | | | T | | 338 |
| | | | | L | | 71 |
| R | T | L | | | | |
| Courthouse Road (630) | | | | | | |
| | | | | L | T | R |
| | | | US-1 | | | |
| 462 | L | | | | | |
| 657 | T | | | 464 | 667 | 92 |
| 977 | R | | | | | |
| | | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

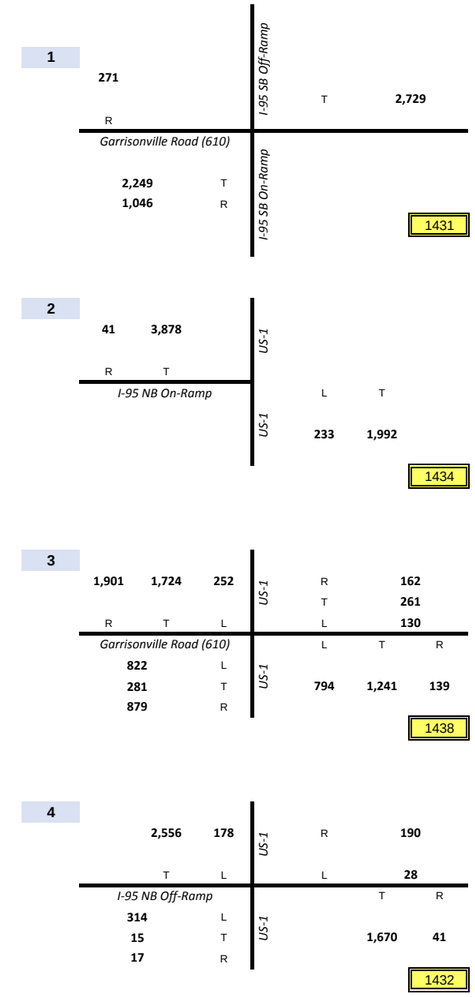
2042 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure B.5-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure B.5-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

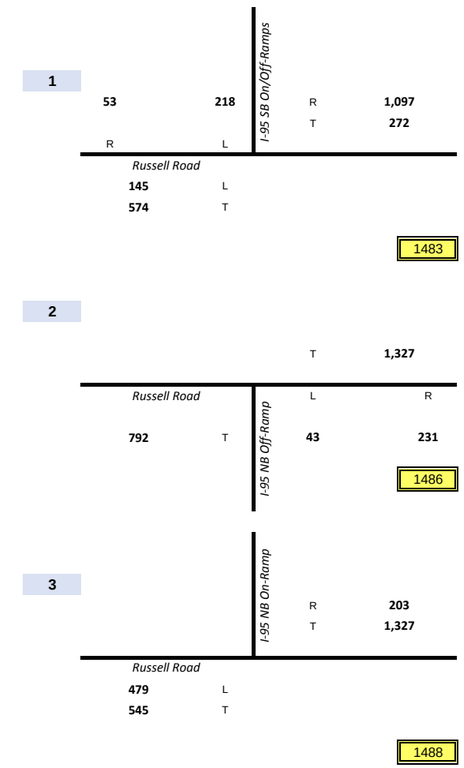
2042 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure B.5-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure B.5-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 367 | 9 | 901 | Carl D Silver Pkwy | R | 1,051 |
| | | | | T | 2,355 |
| R | T | L | | L | 20 |
| VA-3 (Plank Road) | | | | L | T | R |
| 298 | | L | Mall Court | | | |
| 2,057 | | T | | 12 | 9 | 9 |
| 7 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 5 | 15 | Ramseur St | R | 5 |
| | | | | T | 2,271 |
| R | T | L | | L | 253 |
| VA-3 (Plank Road) | | | | L | T | R |
| 37 | | L | Gateway Blvd | | | |
| 1,841 | | T | | 352 | 3 | 320 |
| 434 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

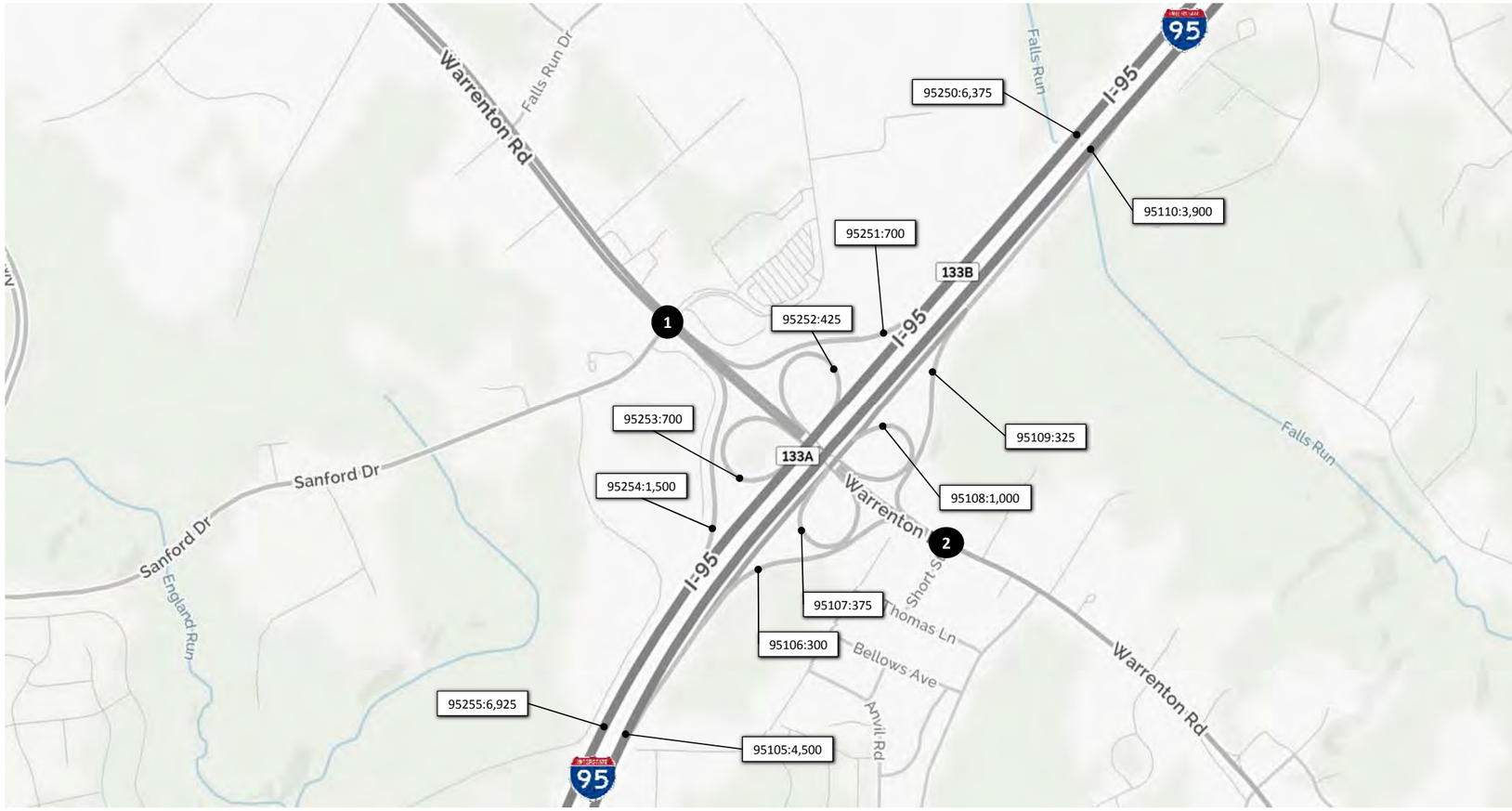
2042 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure B.6-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | S Gateway Dr | R | | 445 |
| | | | | T | | 2,547 |
| R | T | L | | L | | 275 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| | 82 | L | Sanford Dr | | | |
| | 2,866 | T | | 46 | 10 | 457 |
| | 44 | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Parking Lot | R | | 3 |
| | | | | T | | 2,196 |
| R | T | L | | L | | 31 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 5 | L | Short St | | | |
| | 2,710 | T | | 145 | 3 | 39 |
| | 173 | R | | | | |
| | | | | | | 1338 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

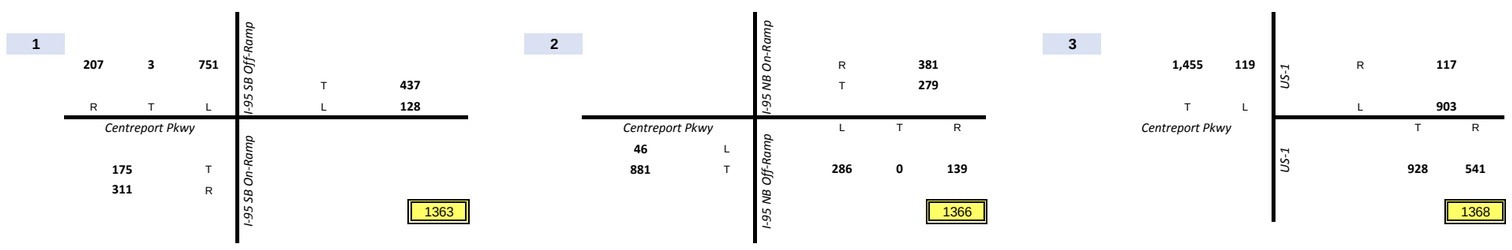
2042 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure B.6-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

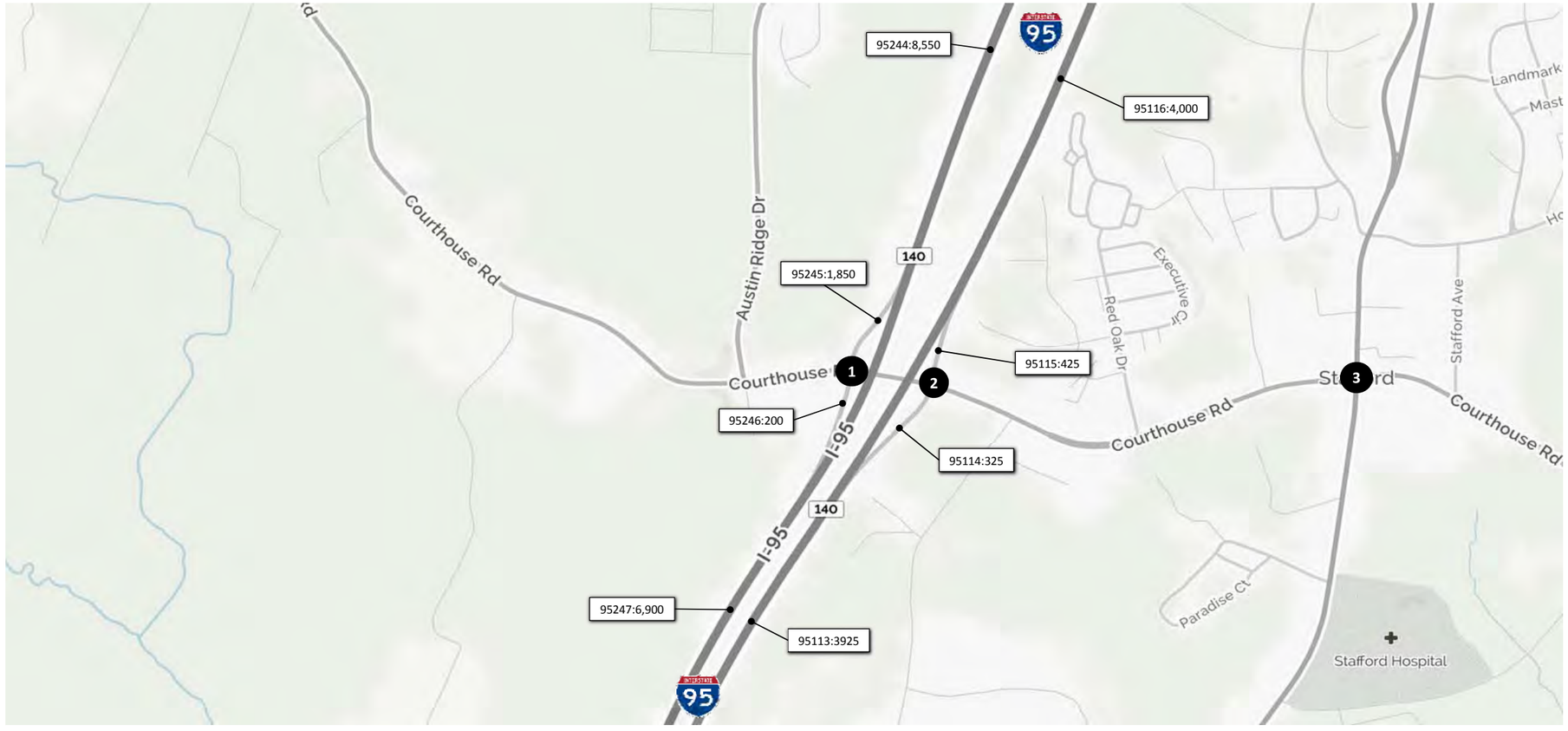
2042 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure B.6-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | | |
| 852 | 0 | 989 | | T | 632 | |
| R | T | L | | L | 44 | |
| Courthouse Road (630) | | | | | | |
| | 882 | T | I-95 SB On-Ramp | | | |
| | 151 | R | | | | |
| | | | | | | 1403 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 406 | |
| | | | | T | 653 | |
| Courthouse Road (630) | | | | L | T | R |
| 20 | L | | | | | |
| 1,851 | T | | I-95 NB Off-Ramp | 24 | 0 | 308 |
| | | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 233 | 741 | 233 | US-1 | R | 291 | |
| R | T | L | | T | 349 | |
| | | | | L | 73 | |
| Courthouse Road (630) | | | | L | T | R |
| 476 | L | | US-1 | | | |
| 677 | T | | | 478 | 687 | 95 |
| 1,006 | R | | | | | |
| | | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

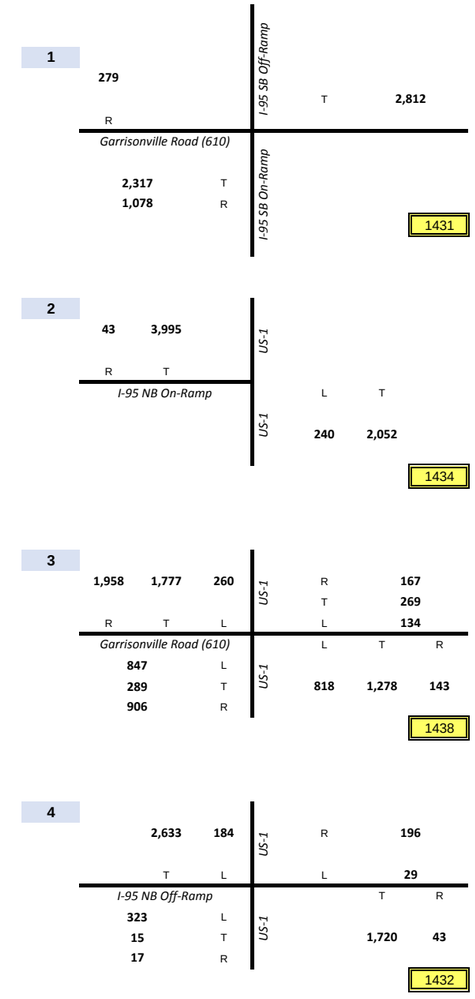
2042 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure B.6-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure B.6-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

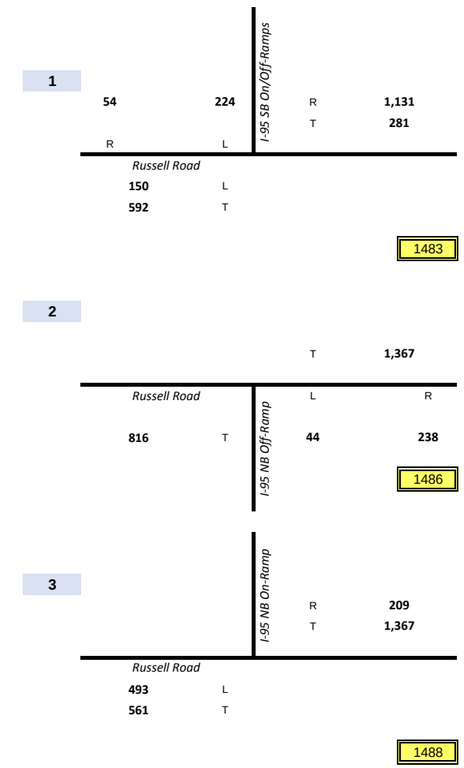
2042 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure B.6-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure B.6-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 356 | 8 | 875 | Carl D Silver Pkwy | R | 1,020 |
| | | | | T | 2,285 |
| R | T | L | | L | 20 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 289 | | L | | | | |
| 1,997 | | T | | 12 | 8 | 8 |
| 7 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 5 | 15 | Ramseur St | R | 5 |
| | | | | T | 2,204 |
| R | T | L | | L | 246 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 36 | | L | | | | |
| 1,787 | | T | | 342 | 3 | 310 |
| 421 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

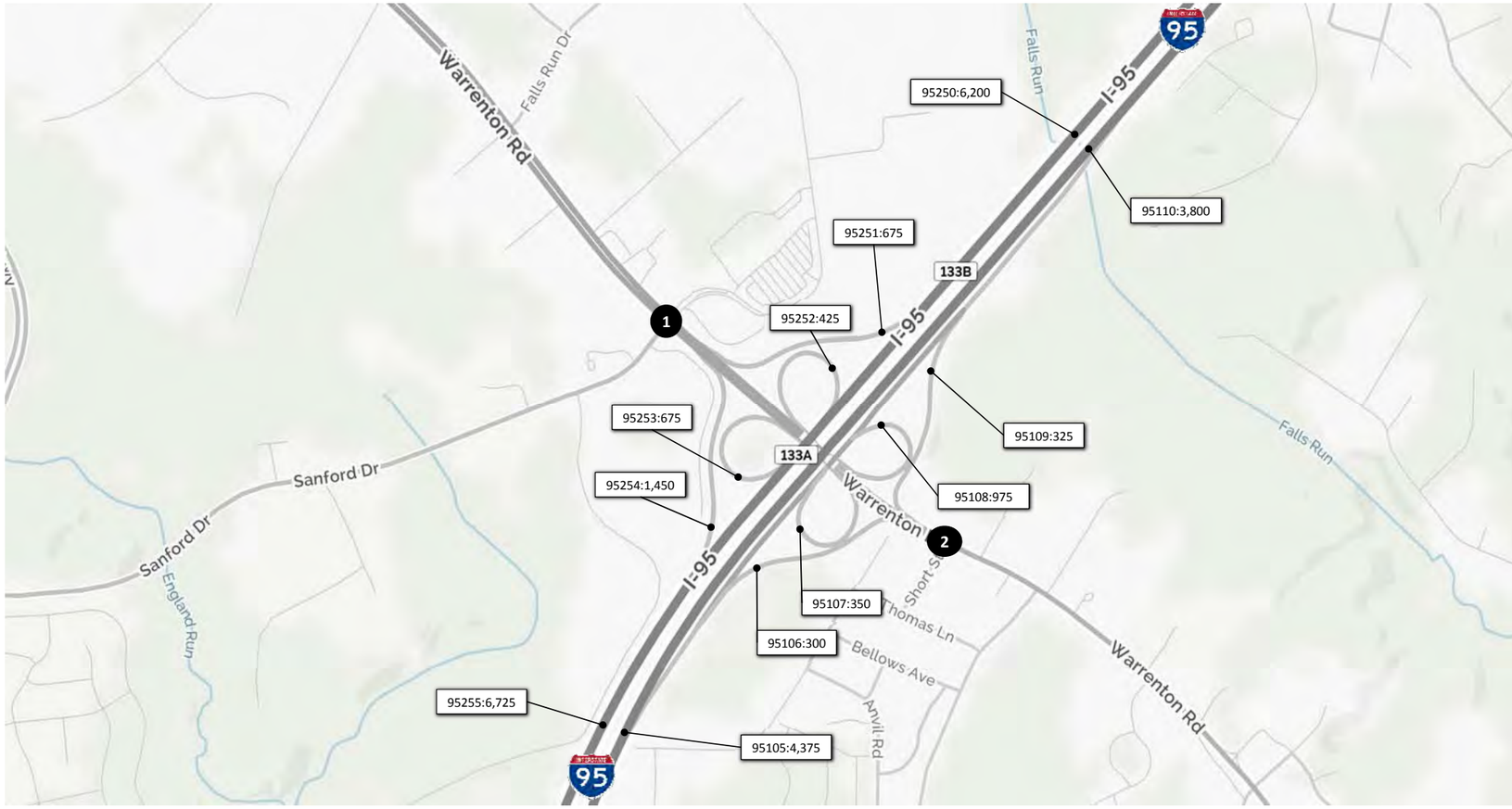
2042 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure B.7-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 79 | 59 | 416 | R | 432 |
| | | | | T | 2,472 |
| | R | T | L | L | 267 |
| | *US-17 (Warrenton Rd)* | | | L T R | |
| | 79 | | L | | |
| | 2,782 | | T | 45 10 | 444 |
| | 43 | | R | | |

*S Gateway Dr*

*Sanford Dr*

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 7 | 0 | 5 | R | 3 |
| | | | | T | 2,132 |
| | R | T | L | L | 30 |
| | *US-17 BUS (Warrenton Rd)* | | | L T R | |
| | 5 | | L | | |
| | 2,630 | | T | 140 3 | 38 |
| | 168 | | R | | |

*Parking Lot*

*Short St*

1338

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

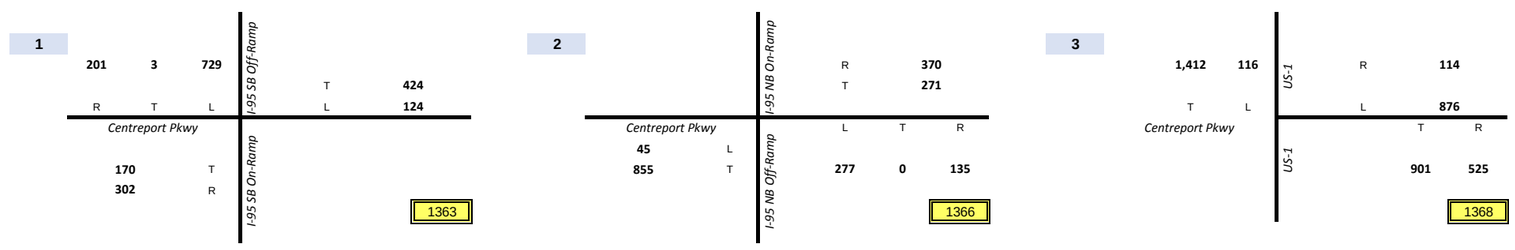
2042 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure B.7-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

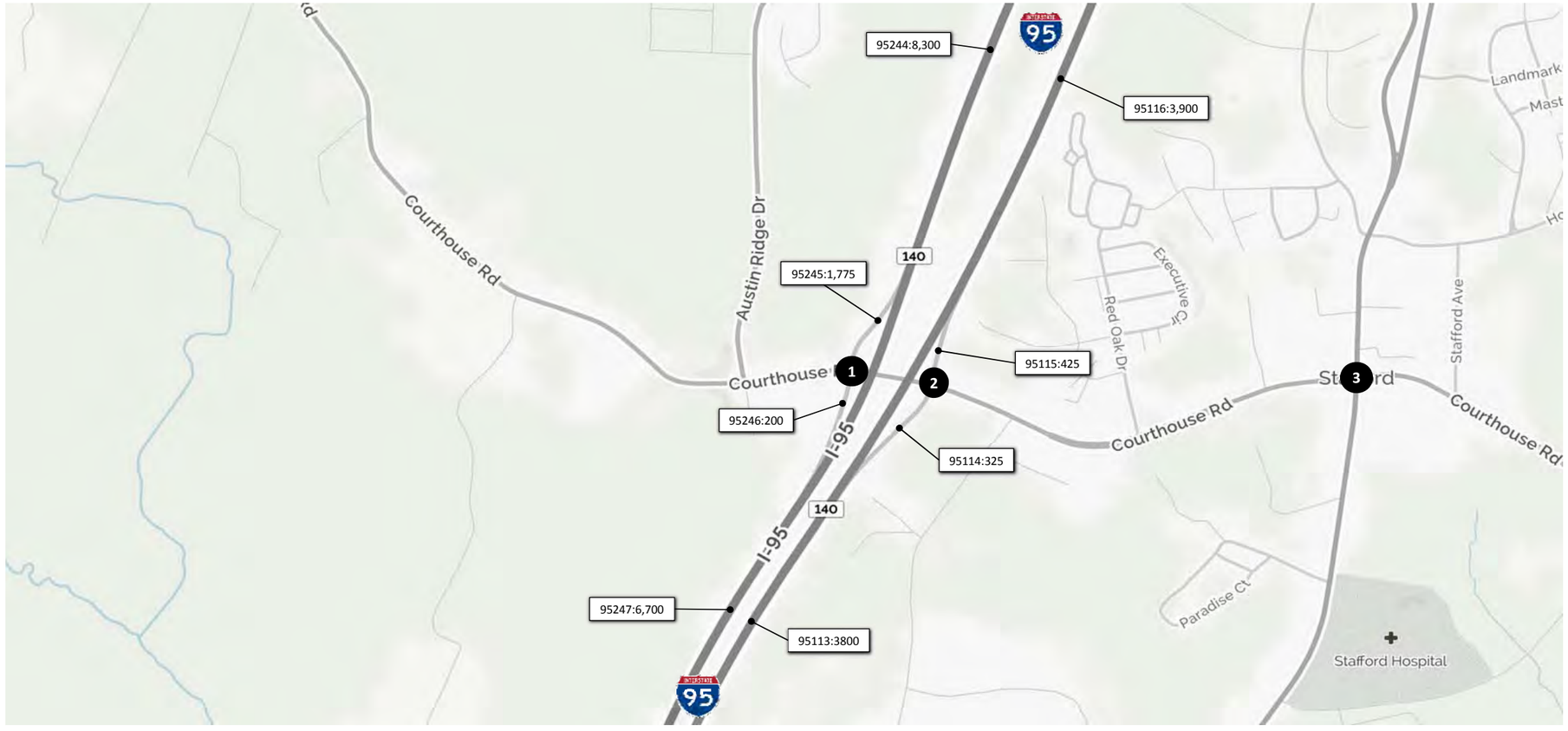
2042 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure B.7-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | | |
| | | | | T | L | 614 |
| | | | | L | T | 43 |
| R | T | L | | | | |
| 827 | 0 | 960 | | | | |
| Courthouse Road (630) | | | | | | |
| | | | I-95 SB On-Ramp | | | |
| 856 | T | | | | | |
| 147 | R | | | | | |

1403

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | | |
| | | | | R | T | 394 |
| | | | | T | L | 634 |
| Courthouse Road (630) | | | | | | |
| 20 | L | | | | | |
| 1,797 | T | | I-95 NB Off-Ramp | L | T | R |
| | | | | 23 | 0 | 299 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | US-1 | | | |
| | | | | R | T | 282 |
| | | | | T | L | 338 |
| | | | | L | T | 71 |
| R | T | L | | | | |
| 226 | 719 | 226 | | | | |
| Courthouse Road (630) | | | | | | |
| | | | US-1 | L | T | R |
| 462 | L | | | | | |
| 657 | T | | | 464 | 667 | 92 |
| 977 | R | | | | | |

1408

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

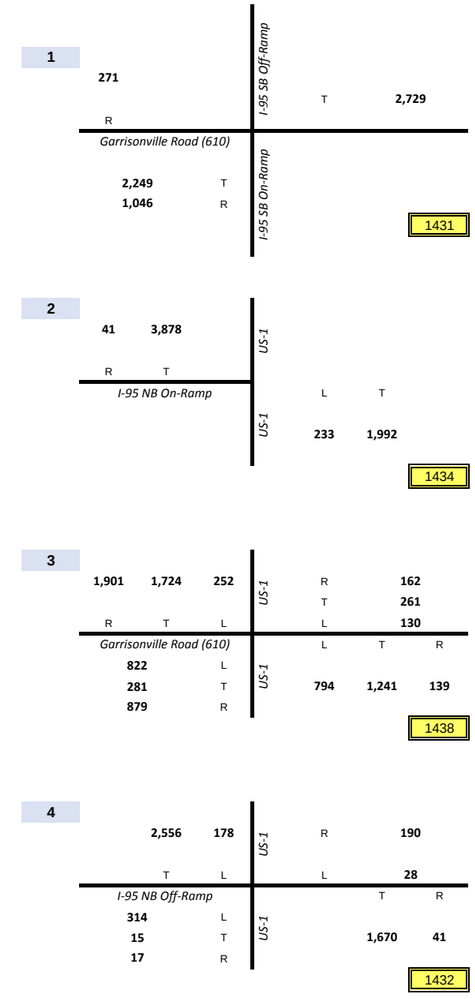
2042 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure B.7-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure B.7-5

**Legend**

xx,xxx Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

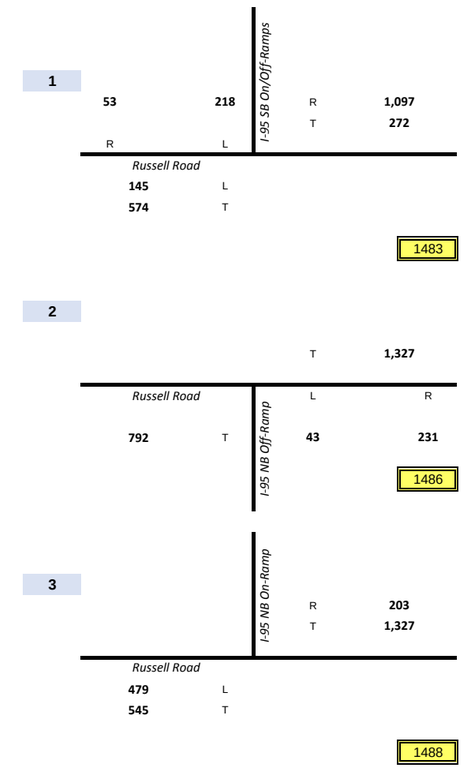
2042 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure B.7-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure B.7-7

# APPENDIX C:
# 2042 BUILD
# TRAFFIC VOLUMES

**1**

| | | | | | |
|---|---|---|---|---|---|
| 61 | 5 | 277 | Carl D Silver Pkwy | R | 573 |
| | | | | T | 1,551 |
| R | T | L | | L | 15 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 226 | | L | | | | |
| 2,699 | | T | | 5 | 3 | 10 |
| 3 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 3 | 5 | Ramseur St | R | 15 |
| | | | | T | 1,510 |
| R | T | L | | L | 183 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 68 | | L | | | | |
| 1,985 | | T | | 297 | 183 | 206 |
| 274 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure C.1-1

**1**

| | | | | | |
|---|---|---|---|---|---|
| 33 | 23 | 285 | S Gateway Dr | R | 322 |
| | | | | T | 2,364 |
| R | T | L | | L | 274 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 46 | | L | Sanford Dr | | | |
| 2,170 | | T | | 61 | 30 | 429 |
| 26 | | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 3 | 2 | 3 | Parking Lot | R | 2 |
| | | | | T | 1,945 |
| R | T | L | | L | 20 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 3 | | L | Short St | | | |
| 1,594 | | T | | 99 | 2 | 25 |
| 139 | | R | | | | |
| | | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

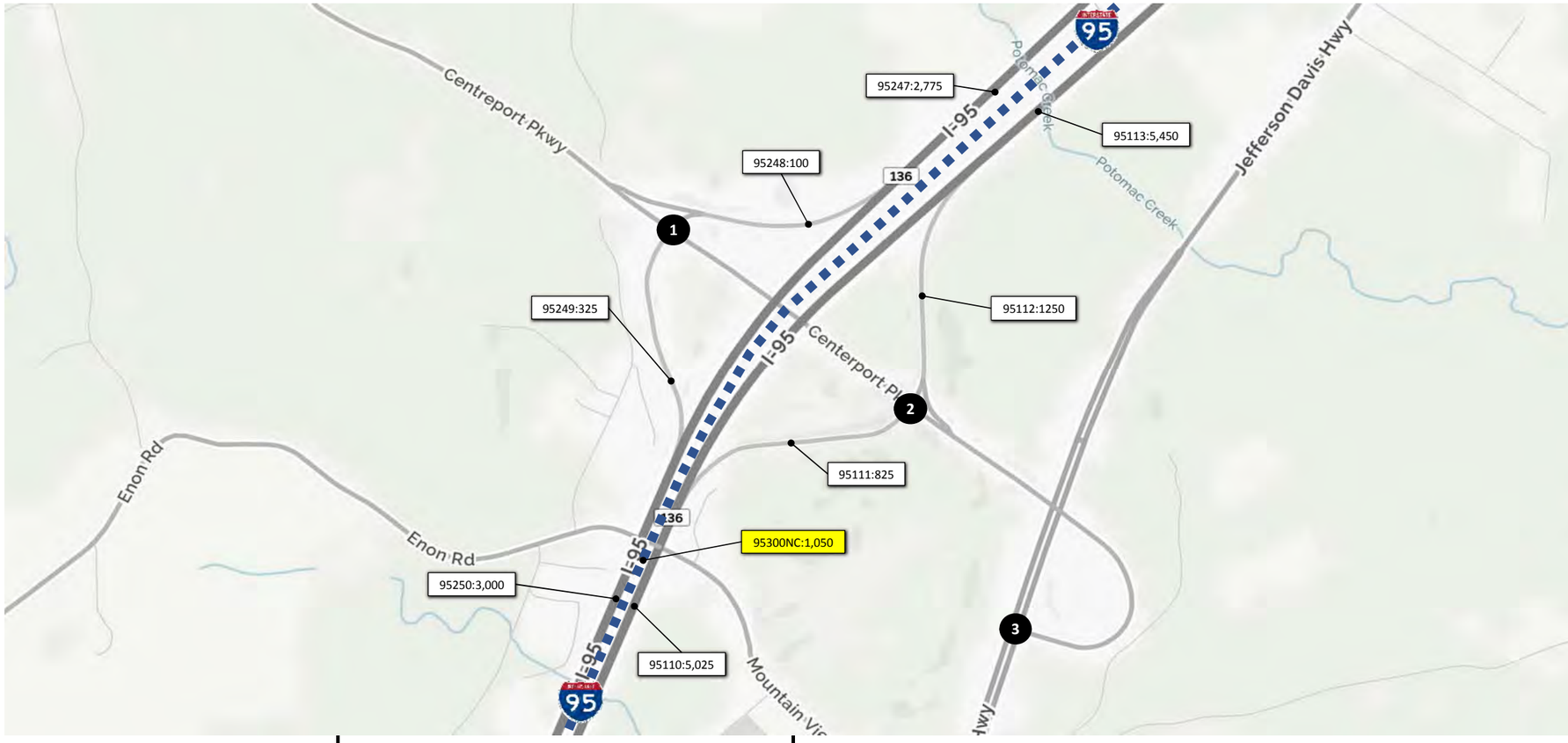
2042 Build

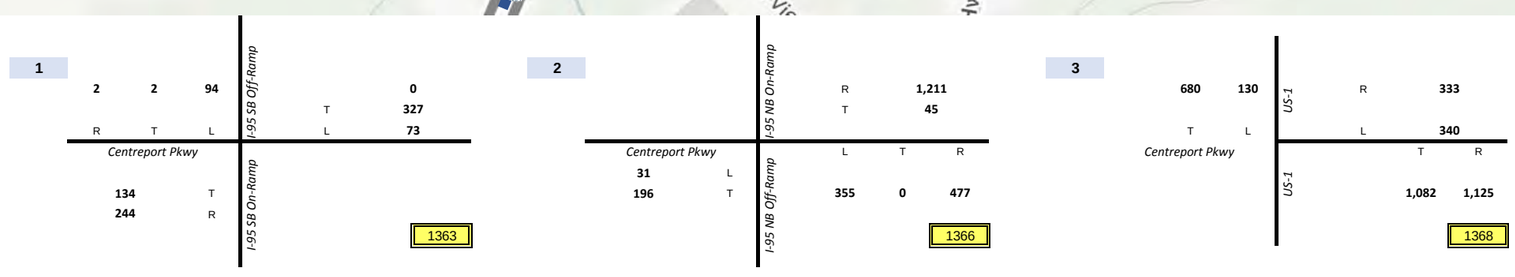
Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure C.1-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

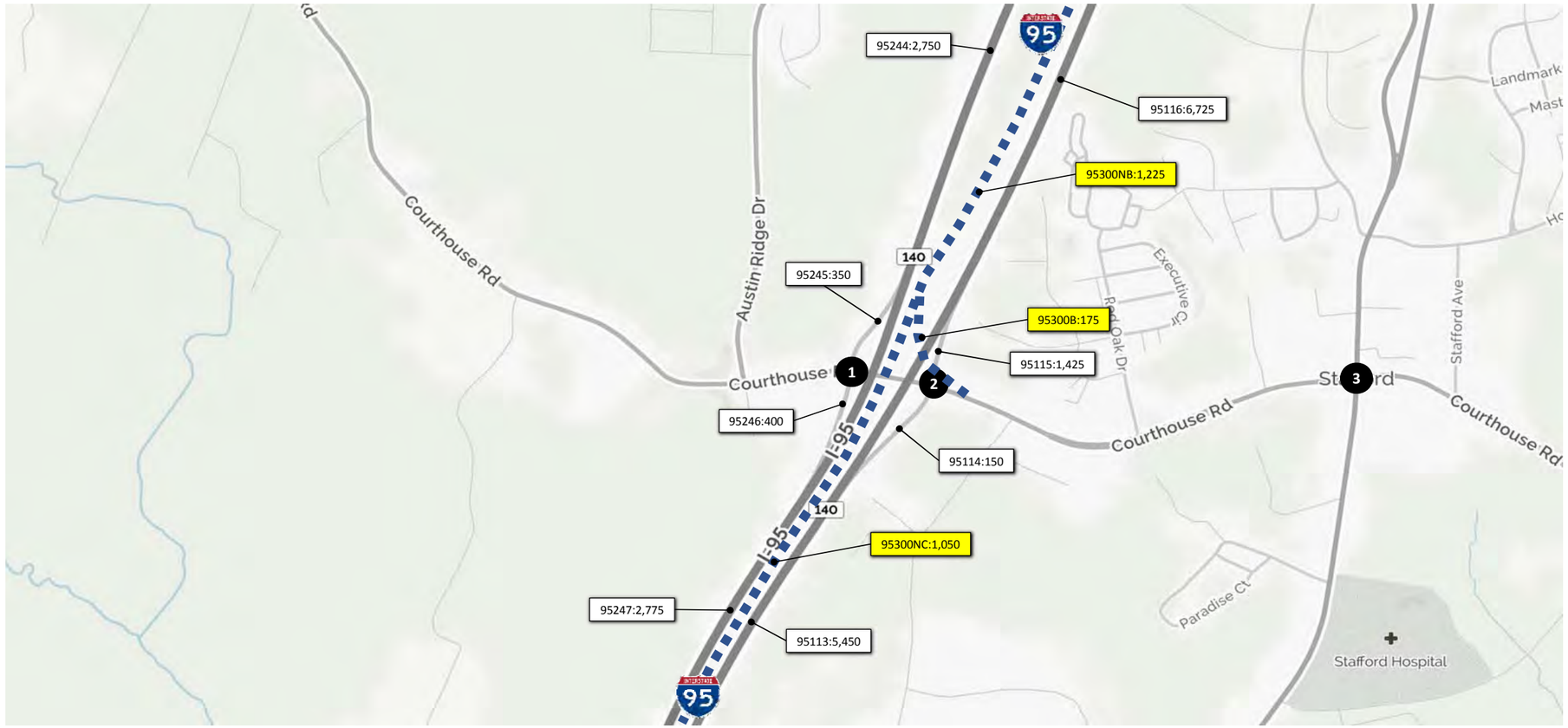
2042 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure C.1-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| 73 | 0 | 287 | I-95 SB Off-Ramp | | |
| | | | | T | 624 |
| R | T | L | | L | 84 |
| Courthouse Road (630) | | | | | |
| | 954 | T | I-95 SB On-Ramp | | |
| | 304 | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 774 |
| | | | | T | 607 |
| Courthouse Road (630) | | | | | |
| 658 | L | | I-95 NB Off-Ramp | L | T | R |
| 582 | T | | | 101 | 0 | 58 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 381 | 460 | 186 | US-1 | R | 294 |
| | | | | T | 513 |
| R | T | L | | L | 71 |
| Courthouse Road (630) | | | | | |
| 106 | L | | US-1 | L | T | R |
| 104 | T | | | 487 | 328 | 31 |
| 431 | R | | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

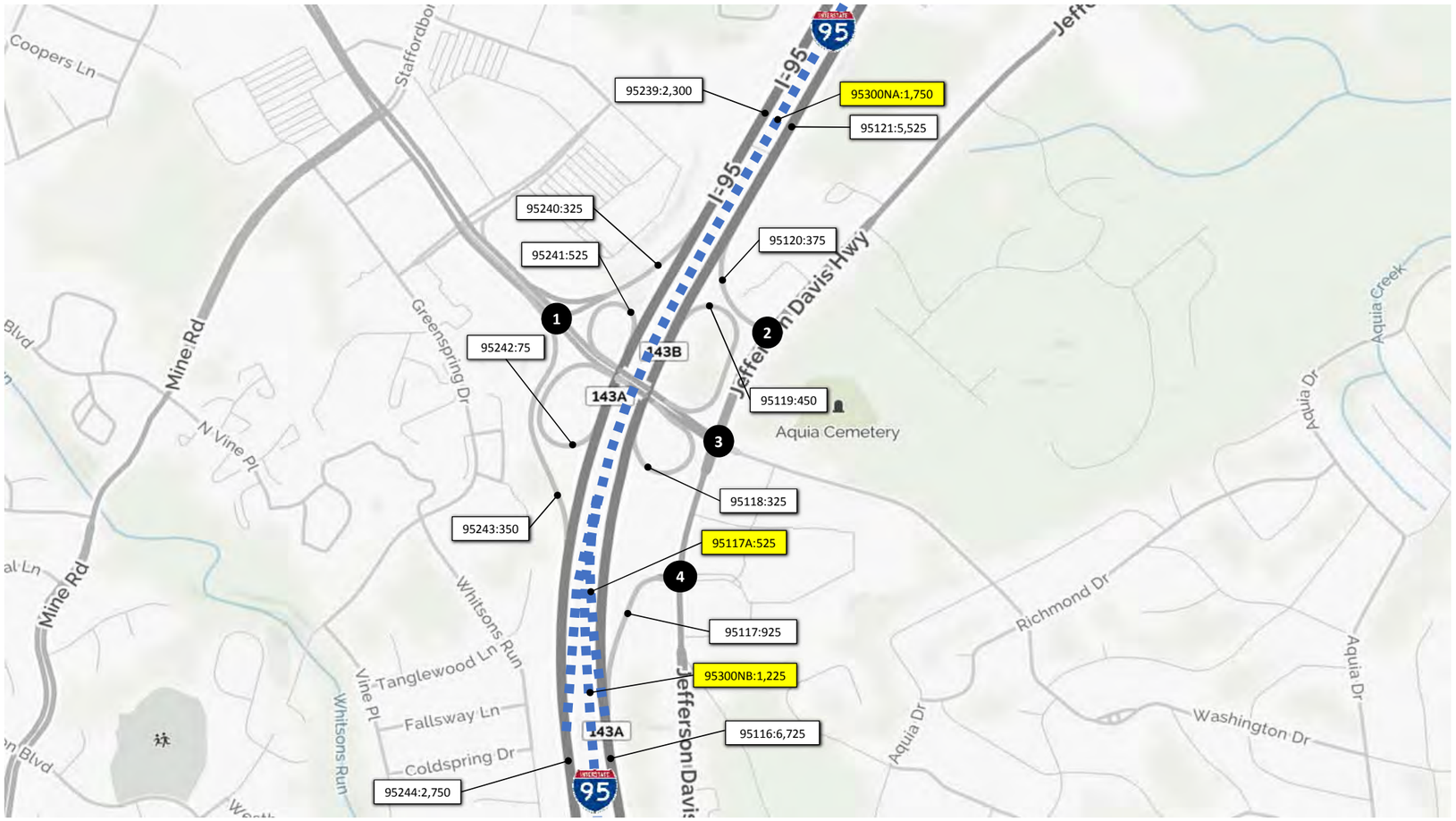
2042 Build

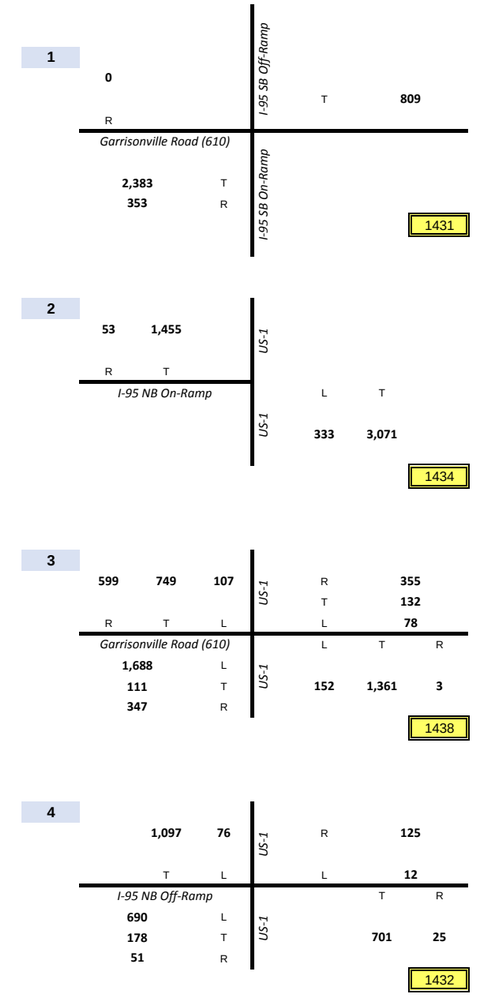
Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure C.1-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure C.1-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

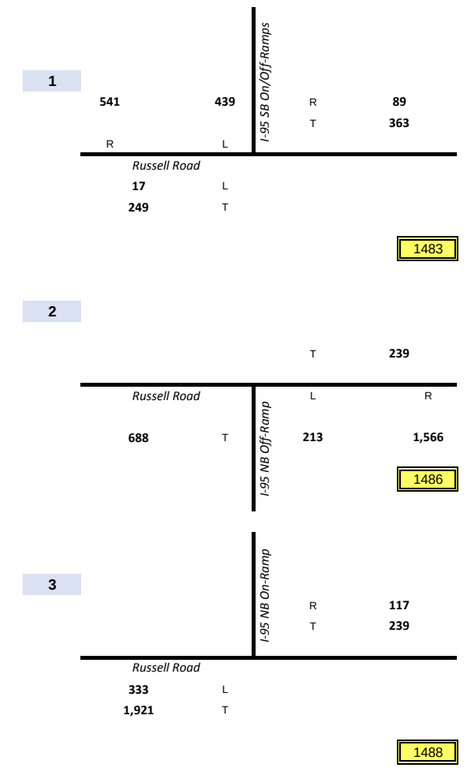
2042 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure C.1-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure C.1-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 63 | 5 | 286 | *Carl D Silver Pkwy* | R | 590 |
| | | | | T | 1,598 |
| R | T | L | | L | 15 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 233 | | L | *Mall Court* | | | |
| 2,781 | | T | | 5 | 3 | 10 |
| 3 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 3 | 5 | *Ramseur St* | R | 15 |
| | | | | T | 1,556 |
| R | T | L | | L | 189 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 70 | | L | *Gateway Blvd* | | | |
| 2,045 | | T | | 306 | 189 | 213 |
| 282 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure C.2-1

**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 34 | 24 | 294 | S Gateway Dr | R | 332 |
| | | | | | T | 2,436 |
| | R | T | L | | L | 282 |
| | US-17 (Warrenton Rd) | | | | L | T | R |
| | 48 | | L | Sanford Dr | | | |
| | 2,236 | | T | | 63 | 31 | 442 |
| | 27 | | R | | | | |
| | | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 3 | 2 | 3 | Parking Lot | R | 2 |
| | | | | | T | 2,004 |
| | R | T | L | | L | 20 |
| | US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 3 | | L | Short St | | | |
| | 1,642 | | T | | 102 | 2 | 26 |
| | 143 | | R | | | | |
| | | | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

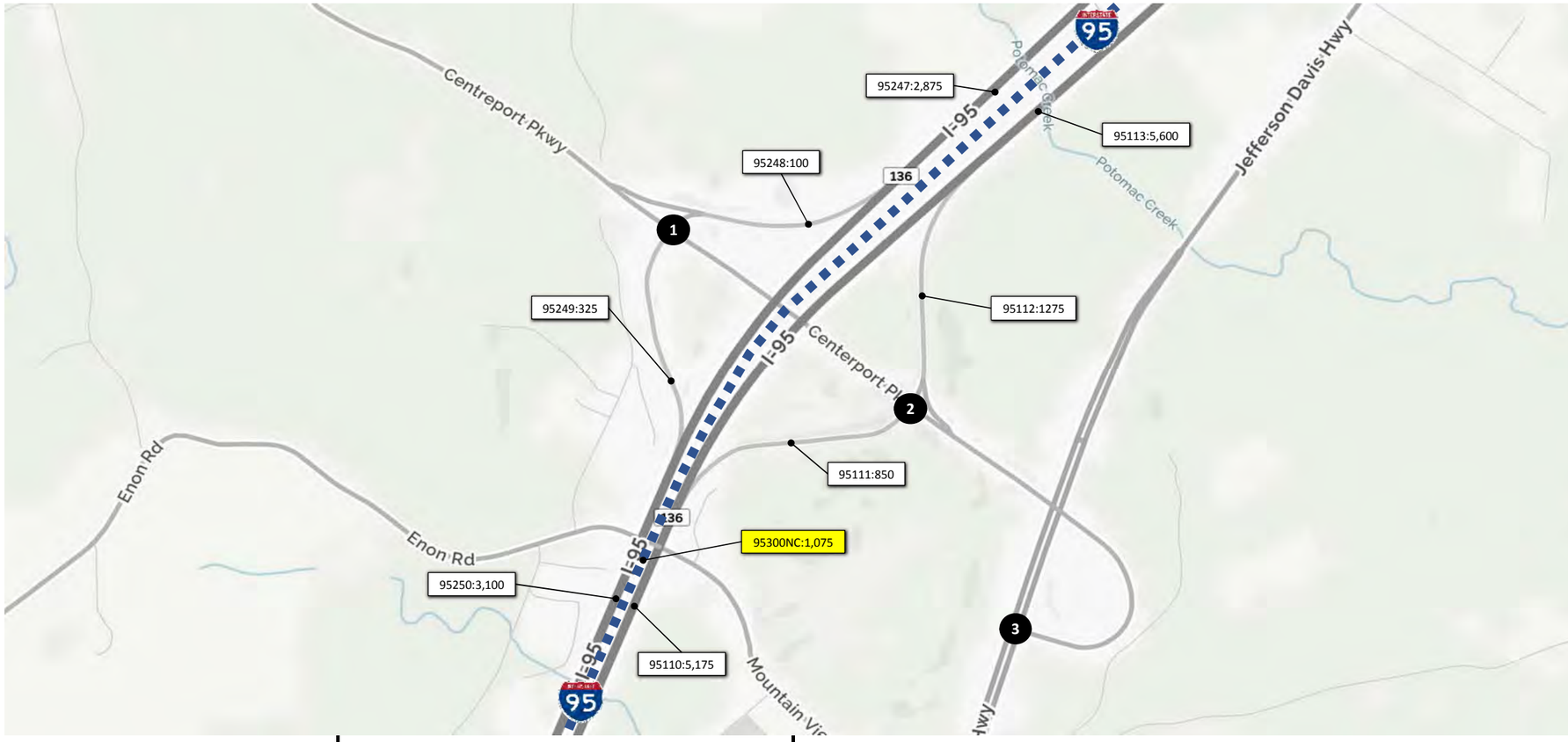
2042 Build

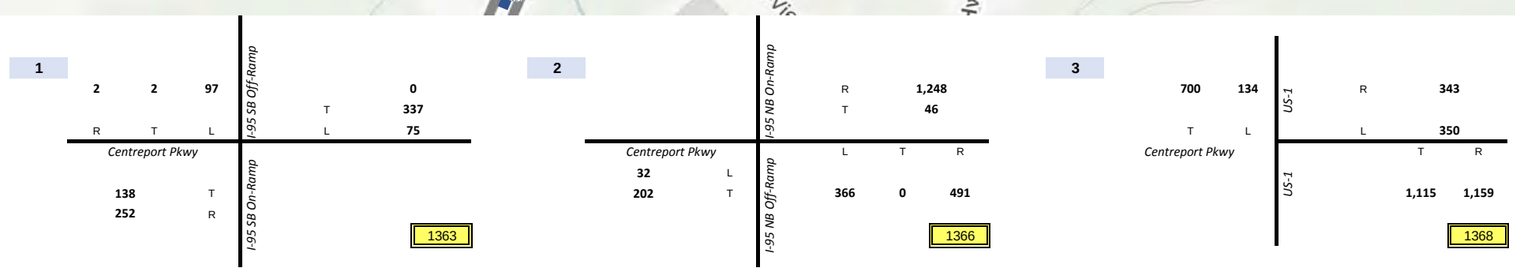
Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure C.2-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

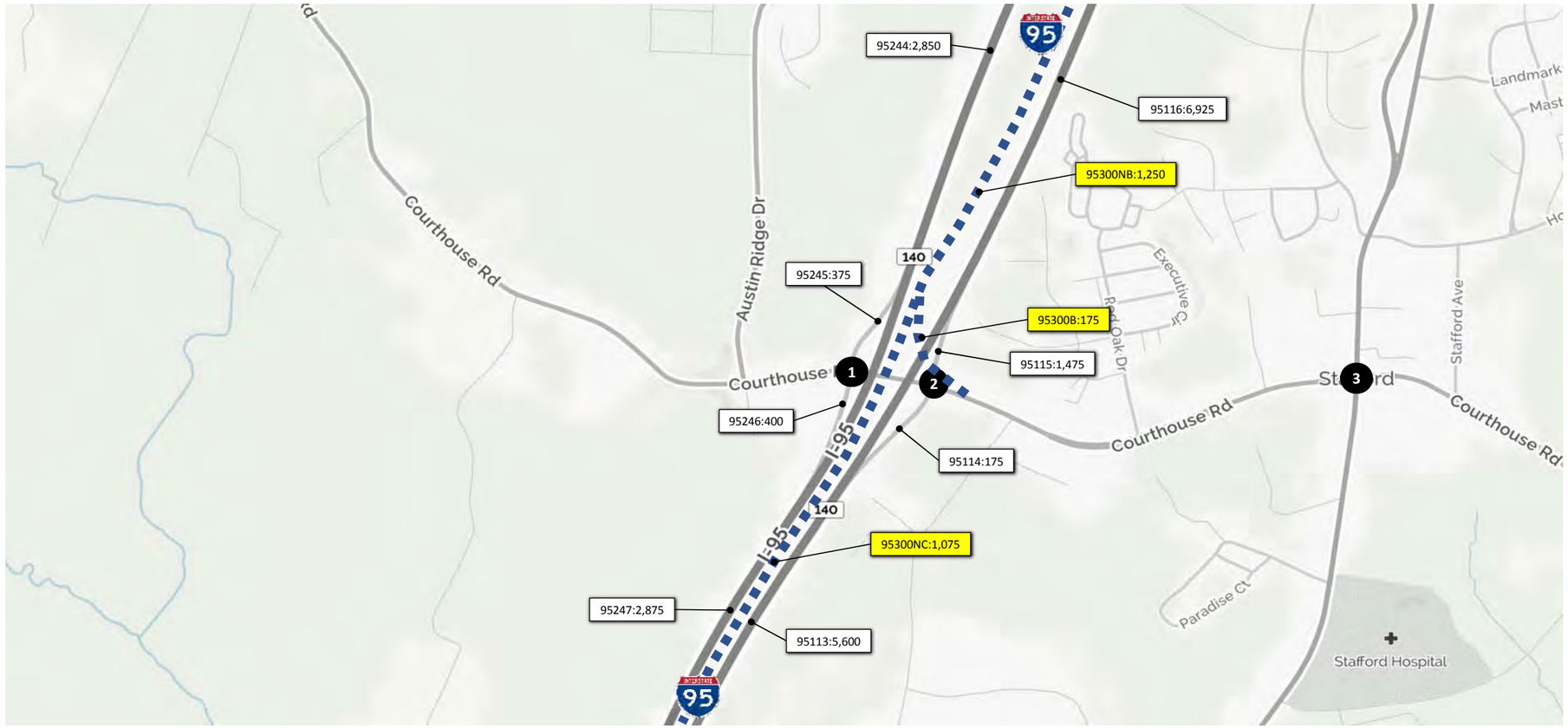
2042 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure C.2-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 75 | 0 | 296 | | | |
| | | | | T | 643 |
| R | T | L | | L | 87 |
| Courthouse Road (630) | | | | | |
| | 983 | | T | | |
| | 313 | | R | | |
| | | | I-95 SB On-Ramp | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | |
| | | | R | | 797 |
| | | | T | | 626 |
| Courthouse Road (630) | | | | | |
| 678 | L | | | | |
| 600 | T | | | | |
| | | | I-95 NB Off-Ramp | | |
| | | | L | T | R |
| | | 104 | | 0 | 60 |

1406

**3**

| | | | | | |
|---|---|---|---|---|---|
| | | | US-1 | | |
| 393 | 474 | 192 | | | |
| | | | R | | 303 |
| | | | T | | 529 |
| R | T | L | | | |
| | | | L | | 73 |
| Courthouse Road (630) | | | | | |
| | 109 | | L | | |
| | 107 | | T | | |
| | 444 | | R | | |
| | | | US-1 | | |
| | | | L | T | R |
| | | 502 | | 338 | 32 |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

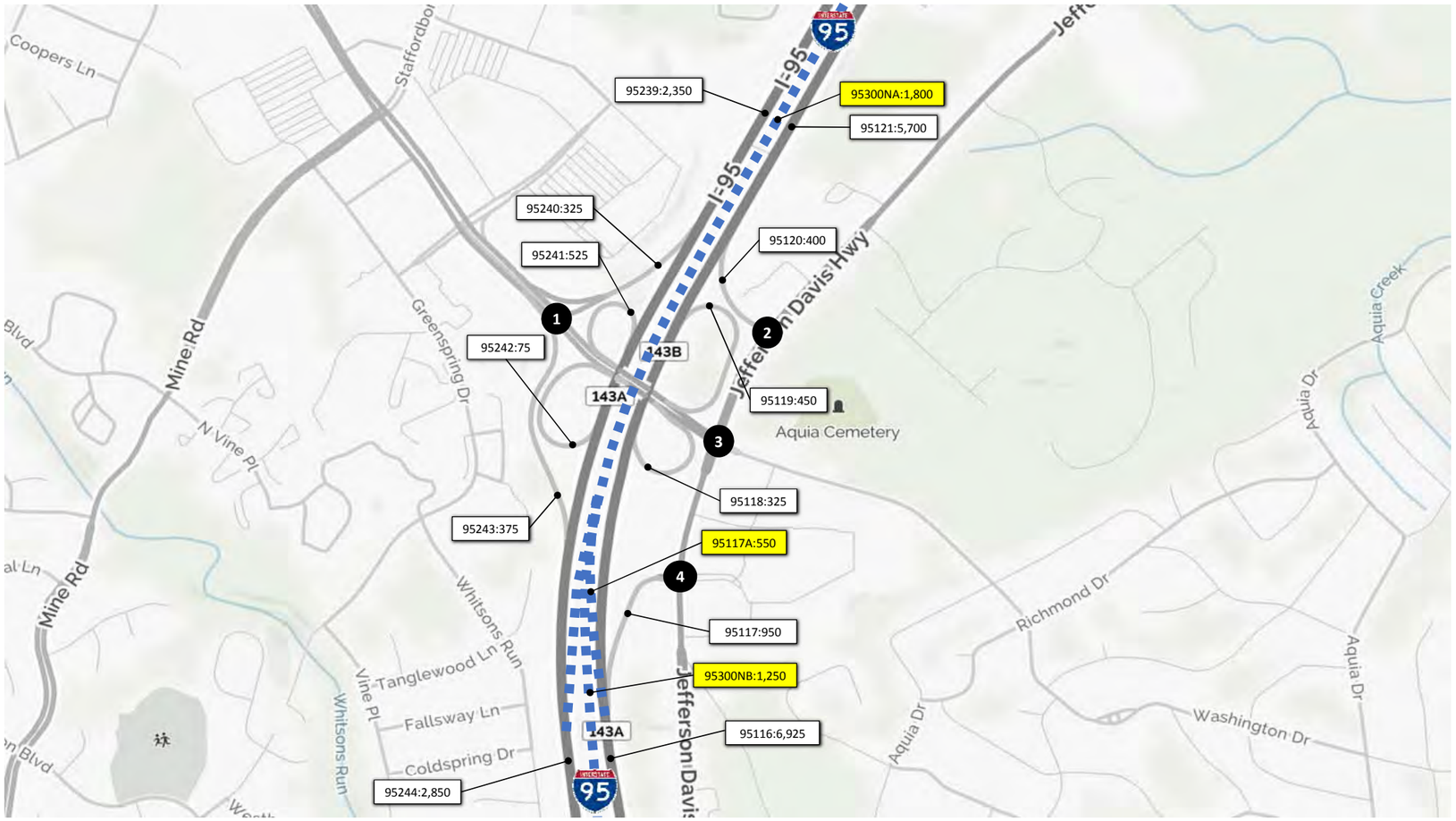
2042 Build

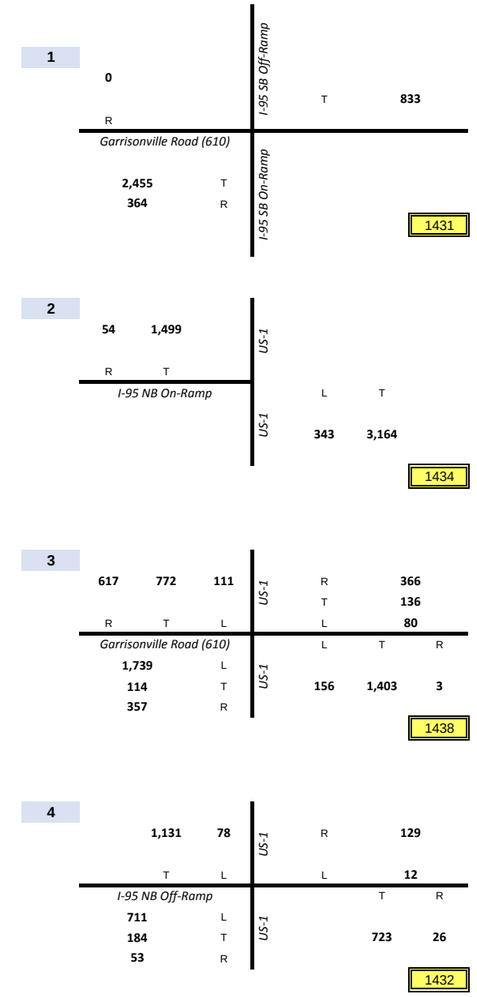
Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure C.2-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure C.2-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

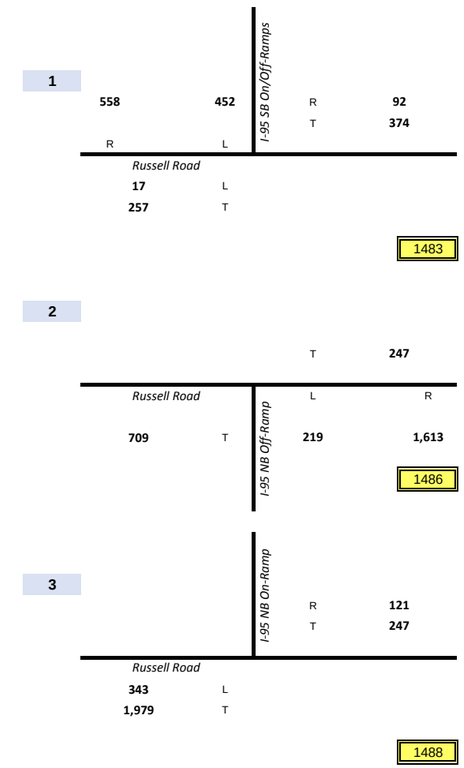
2042 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure C.2-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure C.2-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 61 | 5 | 277 | Carl D Silver Pkwy | R | 573 |
| | | | | T | 1,551 |
| R | T | L | | L | 15 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 226 | | L | | | |
| 2,699 | | T | | 5 | 3 | 10 |
| 3 | | R | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 3 | 5 | Ramseur St | R | 15 |
| | | | | T | 1,510 |
| R | T | L | | L | 183 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 68 | | L | | | |
| 1,985 | | T | | 297 | 183 | 206 |
| 274 | | R | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure C.3-1

**1**

| | | | | | |
|---|---|---|---|---|---|
| 33 | 23 | 285 | S Gateway Dr | R | 322 |
| | | | | T | 2,364 |
| R | T | L | | L | 274 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 46 | | L | Sanford Dr | | | |
| 2,170 | | T | | 61 | 30 | 429 |
| 26 | | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 3 | 2 | 3 | Parking Lot | R | 2 |
| | | | | T | 1,945 |
| R | T | L | | L | 20 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 3 | | L | Short St | | | |
| 1,594 | | T | | 99 | 2 | 25 |
| 139 | | R | | | | |
| | | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

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I-95 Express Lanes Fredericksburg Extension Study

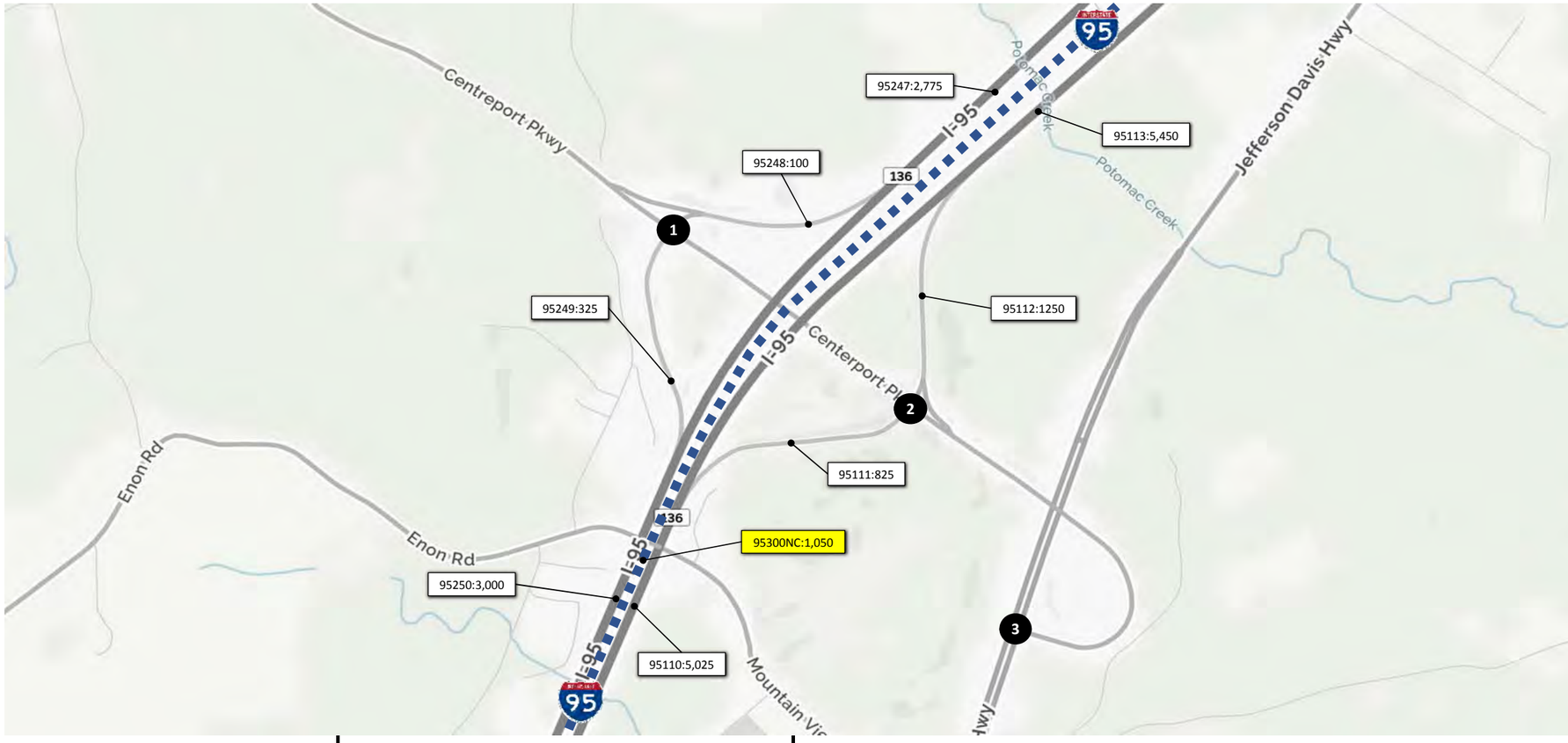
2042 Build

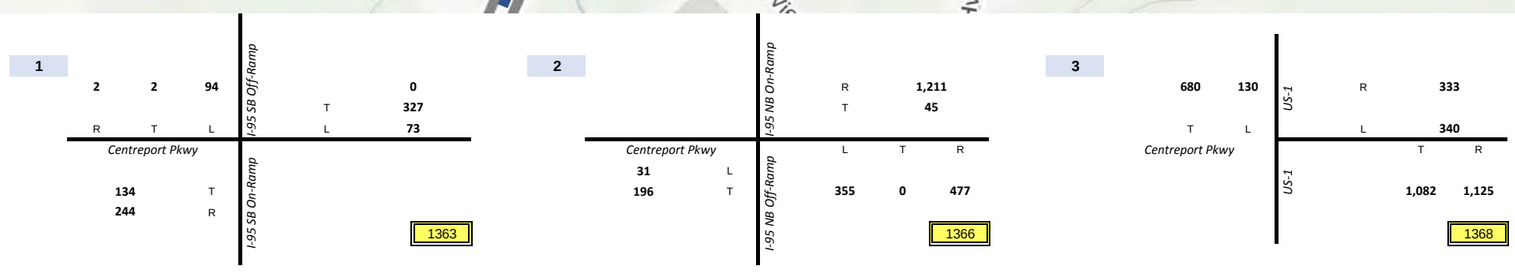
Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure C.3-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 8-9 AM Volumes

I-95 Corridor

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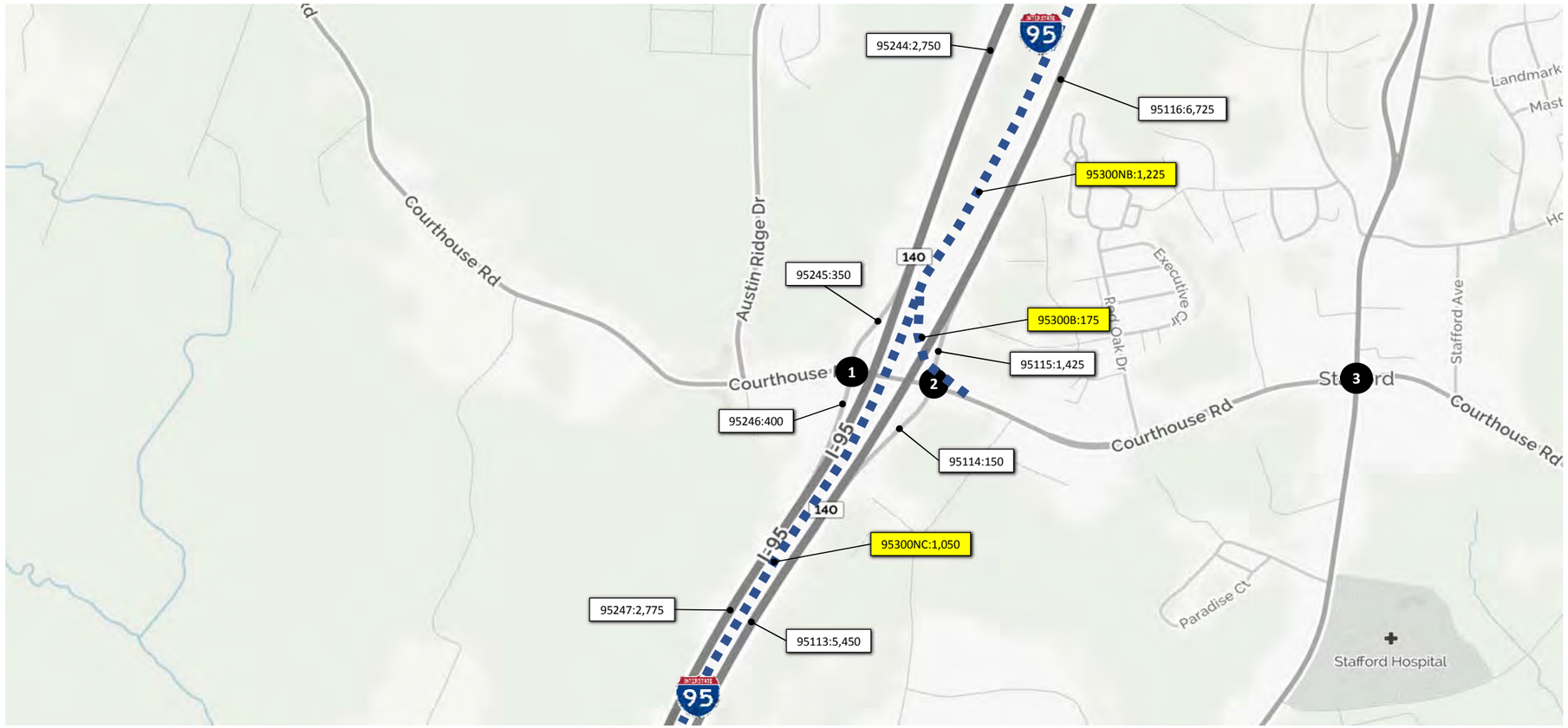
Figure C.3-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 73 | 0 | 287 | | T | 624 |
| R | T | L | | L | 84 |
| Courthouse Road (630) | | | | | |
| 954 | | T | I-95 SB On-Ramp | | |
| 304 | | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 774 |
| | | | | T | 607 |
| Courthouse Road (630) | | | | L | T | R |
| 658 | L | | I-95 NB Off-Ramp | | |
| 582 | T | | | 101 | 0 | 58 |

1406

**3**

| | | | | | |
|---|---|---|---|---|---|
| 381 | 460 | 186 | US-1 | R | 294 |
| | | | | T | 513 |
| R | T | L | | L | 71 |
| Courthouse Road (630) | | | | L | T | R |
| 106 | | L | US-1 | | |
| 104 | | T | | 487 | 328 | 31 |
| 431 | | R | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

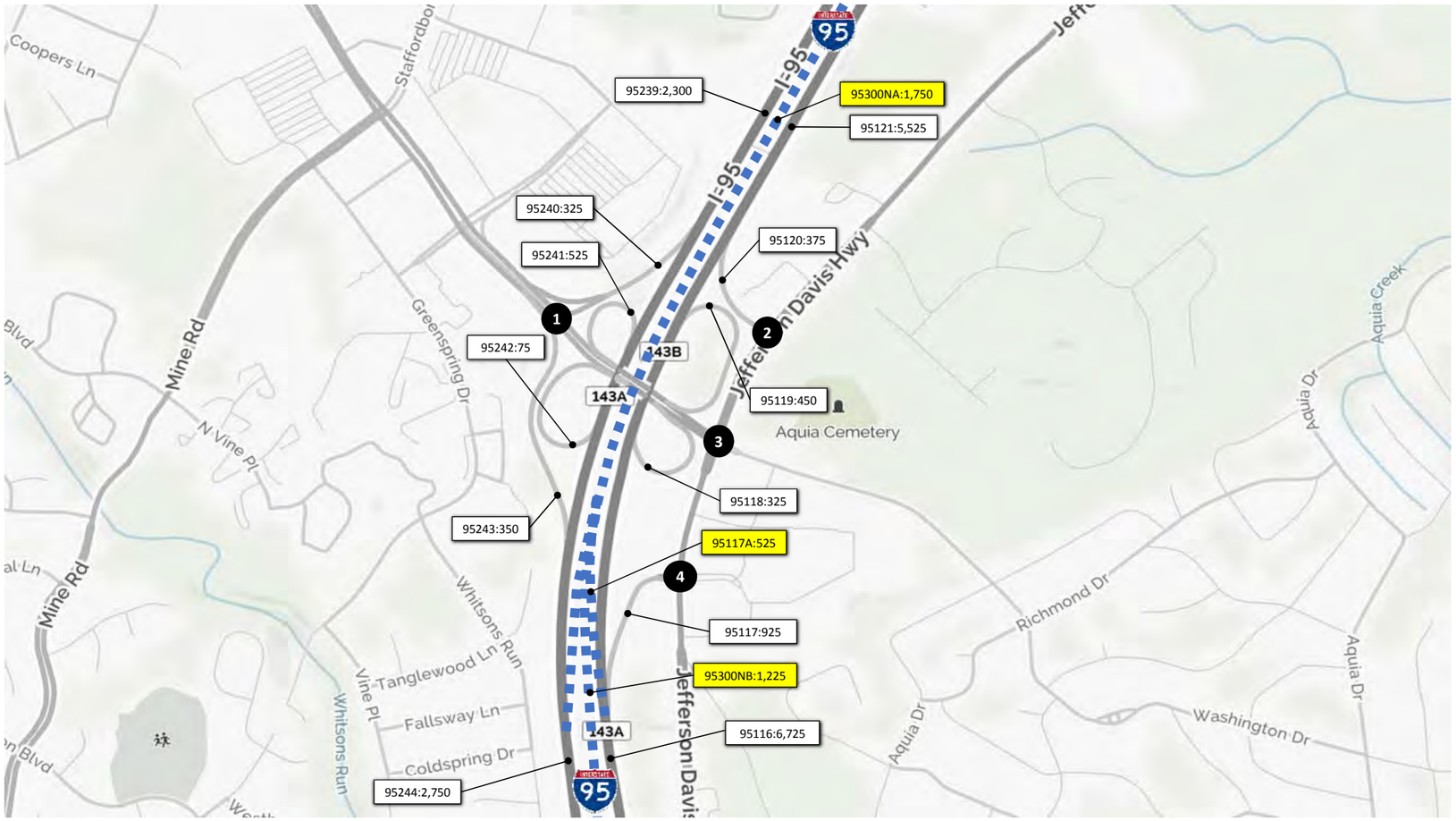
2042 Build

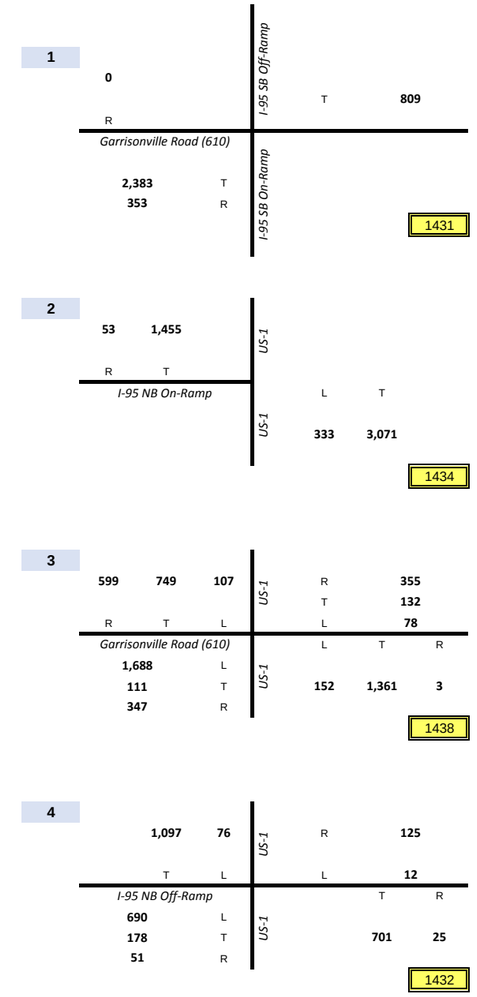
Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure C.3-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure C.3-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

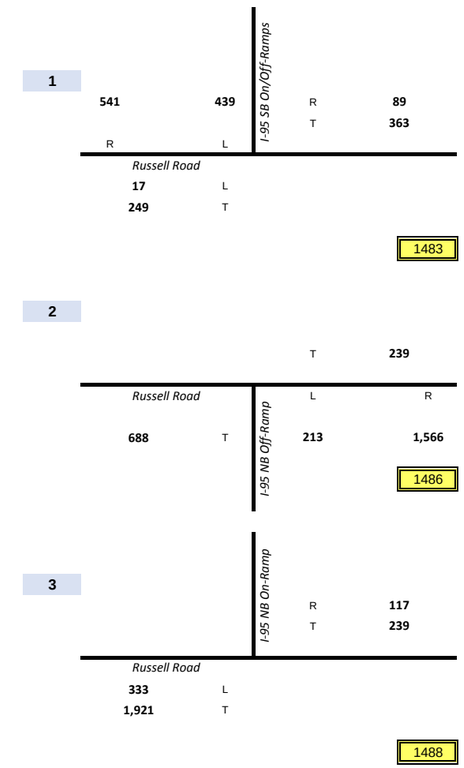
2042 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure C.3-6




**Legend**

xx,xxx Weekday Hourly Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure C.3-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 291 | 8 | 747 | *Carl D Silver Pkwy* | R | 1,184 |
| | | | | T | 2,594 |
| R | T | L | | L | 18 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 236 | | L | *Mall Court* | | | |
| 1,754 | | T | | 11 | 8 | 8 |
| 6 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 15 | 5 | 14 | *Ramseur St* | R | 5 |
| | | | | T | 1,778 |
| R | T | L | | L | 215 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 33 | | L | *Gateway Blvd* | | | |
| 1,973 | | T | | 287 | 3 | 275 |
| 455 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

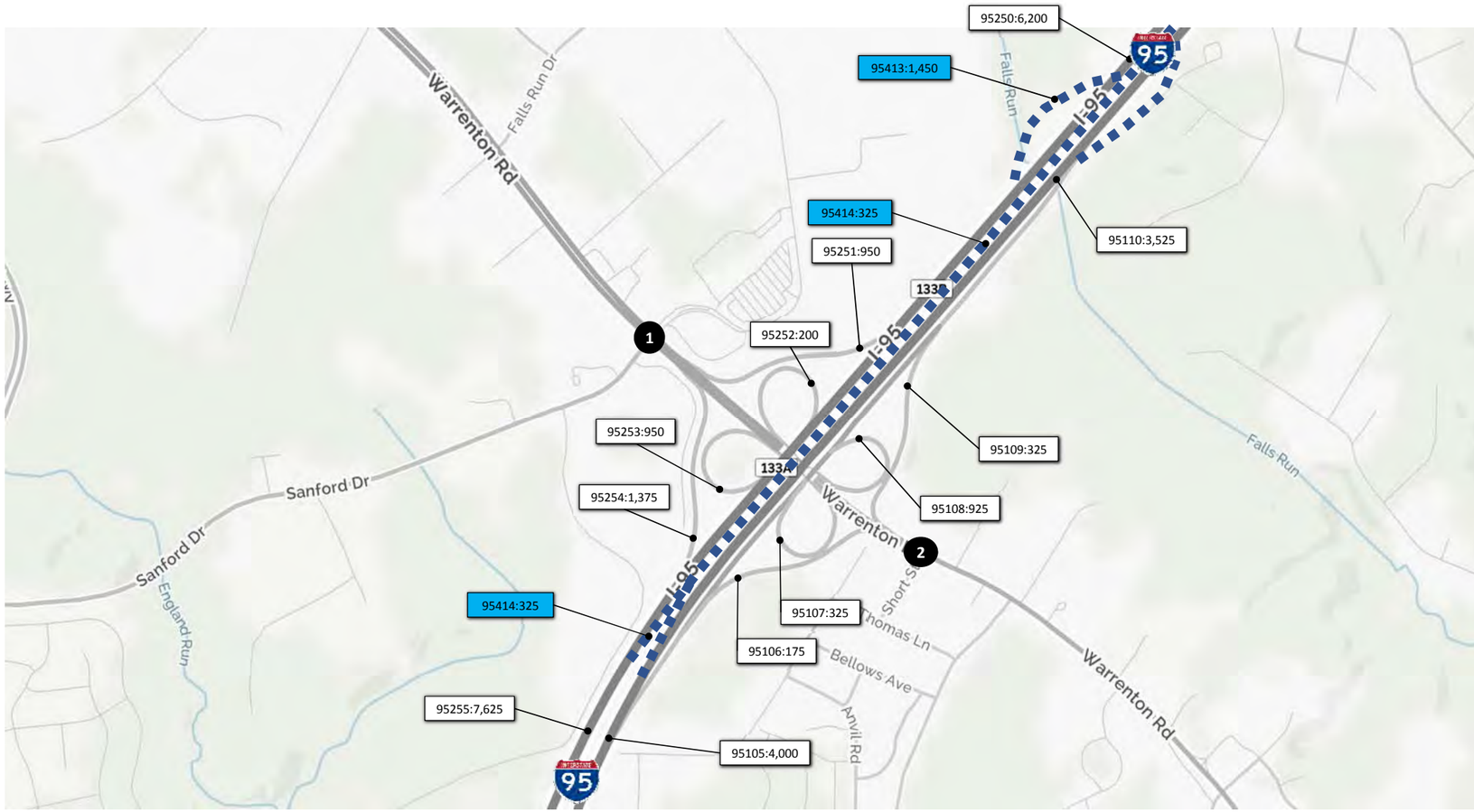
2042 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure C.4-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | S Gateway Dr | R | | 308 |
| | | | | T | | 2,150 |
| R | T | L | | L | | 438 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| | 57 | L | | | | |
| | 2,298 | T | Sanford Dr | 39 | 8 | 374 |
| | 56 | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Parking Lot | R | | 3 |
| | | | | T | | 1,389 |
| R | T | L | | L | | 21 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 6 | L | | | | |
| | 2,274 | T | Short St | 129 | 3 | 33 |
| | 158 | R | | | | |
| | | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

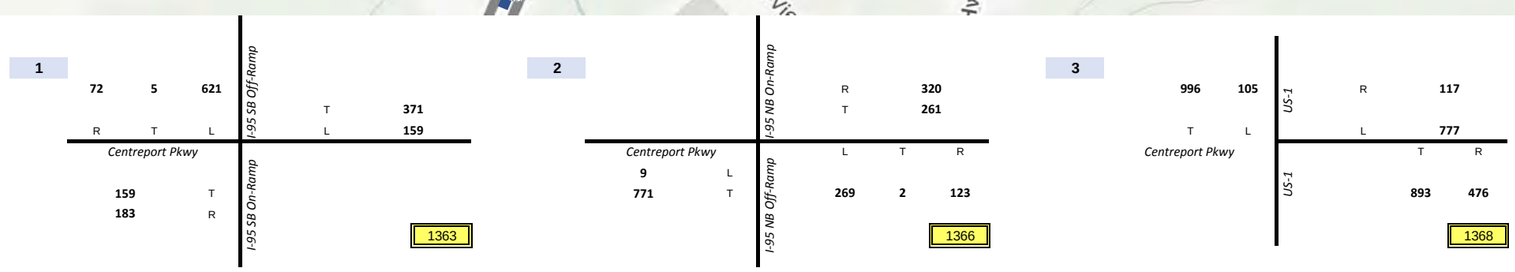
2042 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure C.4-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

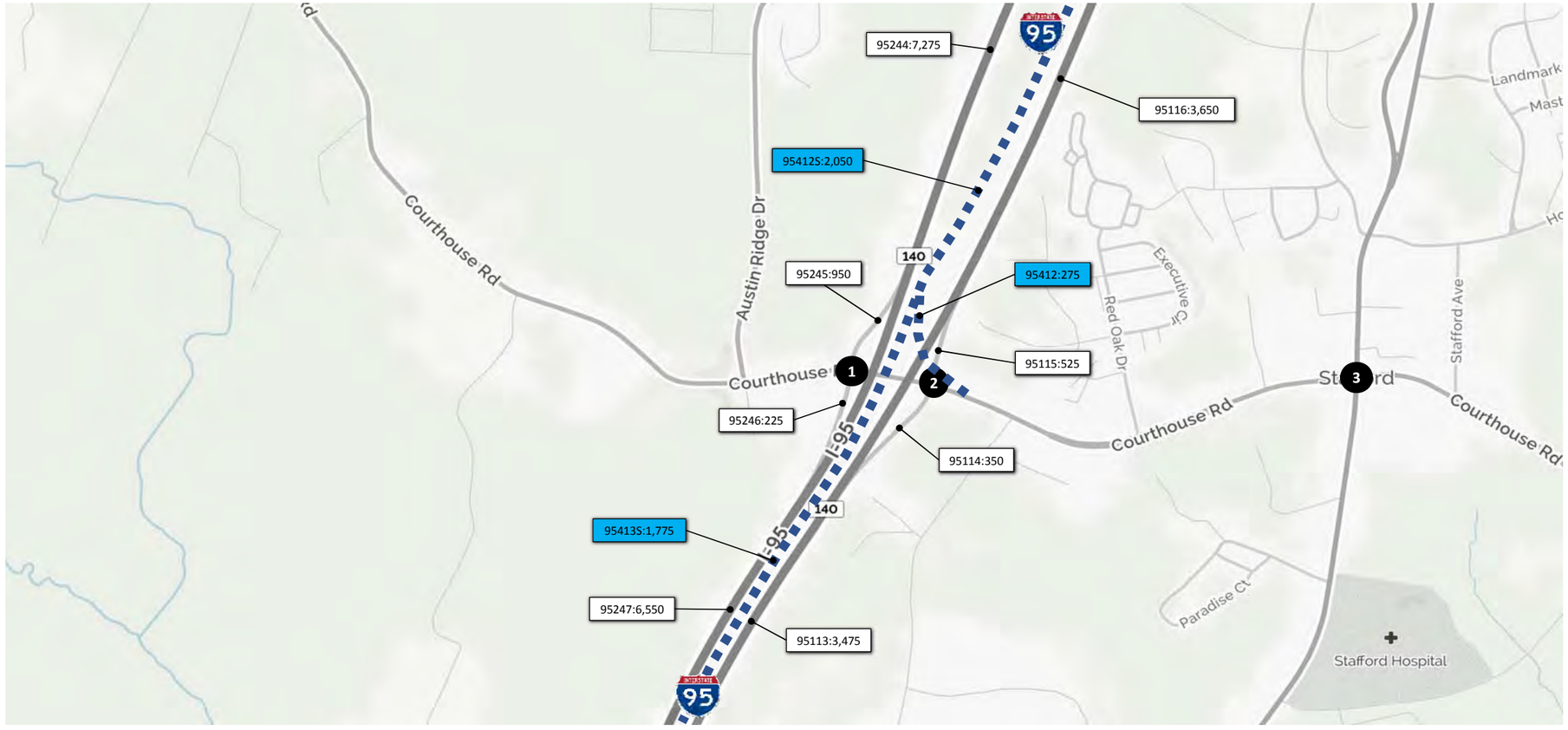
2042 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure C.4-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 492 | 0 | 464 | | T | 524 |
| R | T | L | | L | 65 |
| Courthouse Road (630) | | | | | |
| | 503 | T | I-95 SB On-Ramp | | |
| | 173 | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 479 |
| | | | | T | 519 |
| Courthouse Road (630) | | | | | |
| 35 | L | | I-95 NB Off-Ramp | L | T | R |
| 932 | T | | | 69 | 0 | 273 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 344 | 578 | 111 | US-1 | R | 120 |
| | | | | T | 320 |
| R | T | L | | L | 35 |
| Courthouse Road (630) | | | | | |
| 185 | L | | US-1 | L | T | R |
| 584 | T | | | 335 | 224 | 21 |
| 437 | R | | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

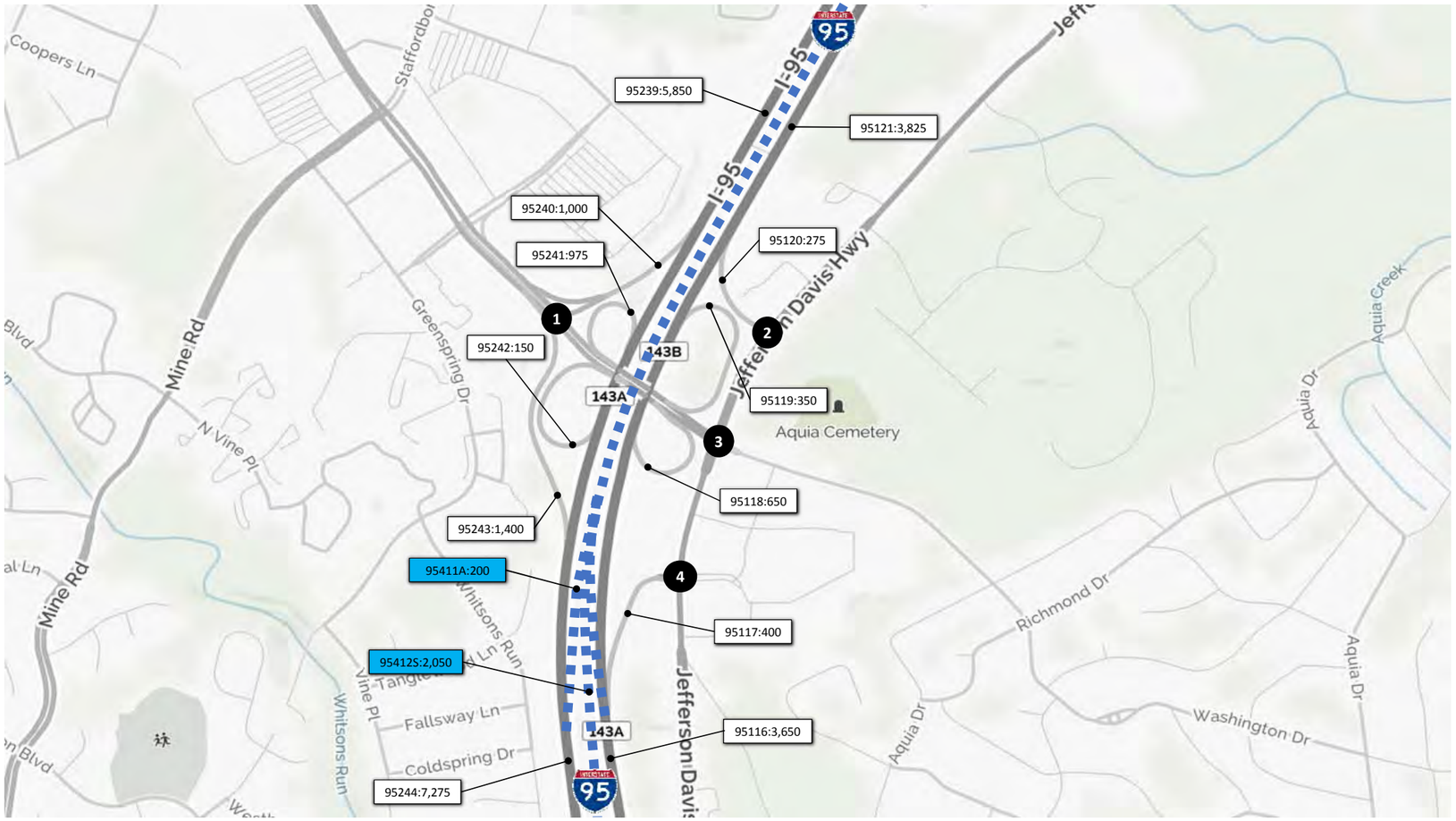
2042 Build

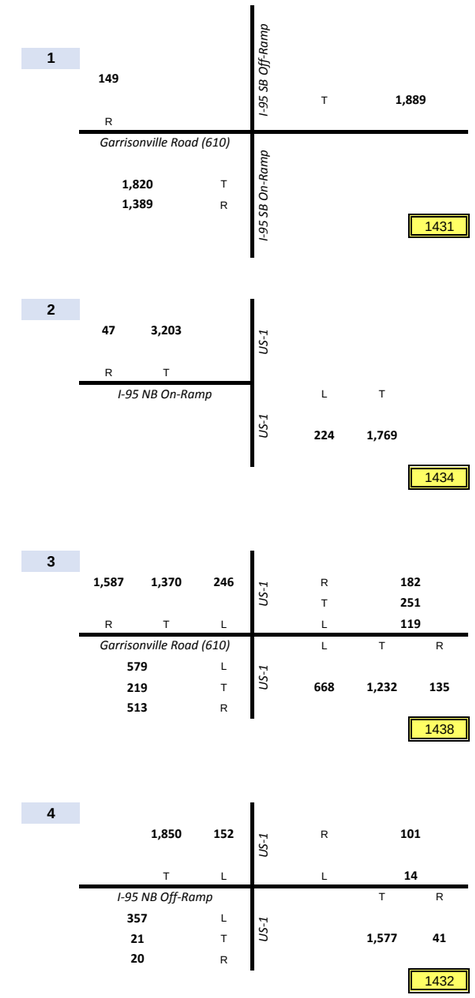
Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure C.4-4




**Legend**

| | |
|---|---|
| xx,xxx | Weekday Hourly Volume |
| ■ ■ ■ ■ ■ | Proposed Express Lane Extension |

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

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Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure C.4-5

**Legend**

| | |
|---|---|
| xx,xxx | **Weekday Hourly Volume** |
| ■ ■ ■ ■ ■ | **Proposed Express Lane Extension** |

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

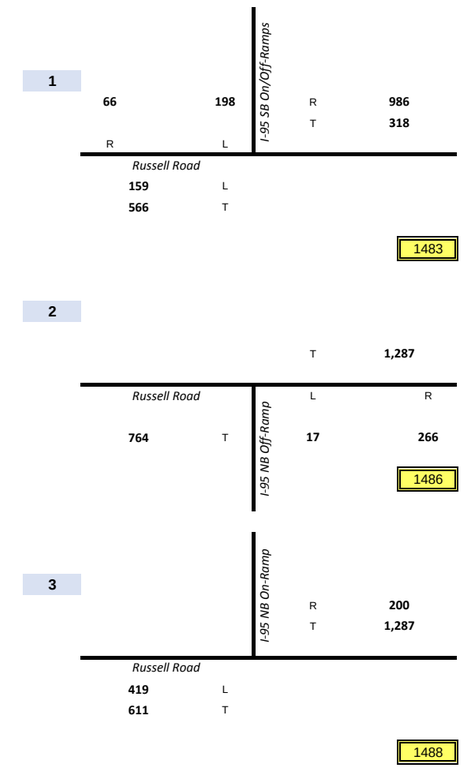
2042 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure C.4-6




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Access Point

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure C.4-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 320 | 8 | 822 | Carl D Silver Pkwy | R | 1,302 |
| | | | | T | 2,853 |
| R | T | L | | L | 20 |
| VA-3 (Plank Road) | | | | L | T | R |
| 259 | | L | Mall Court | | | |
| 1,929 | | T | | 12 | 8 | 8 |
| 7 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 5 | 15 | Ramseur St | R | 5 |
| | | | | T | 1,955 |
| R | T | L | | L | 236 |
| VA-3 (Plank Road) | | | | L | T | R |
| 36 | | L | Gateway Blvd | | | |
| 2,170 | | T | | 315 | 3 | 302 |
| 500 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

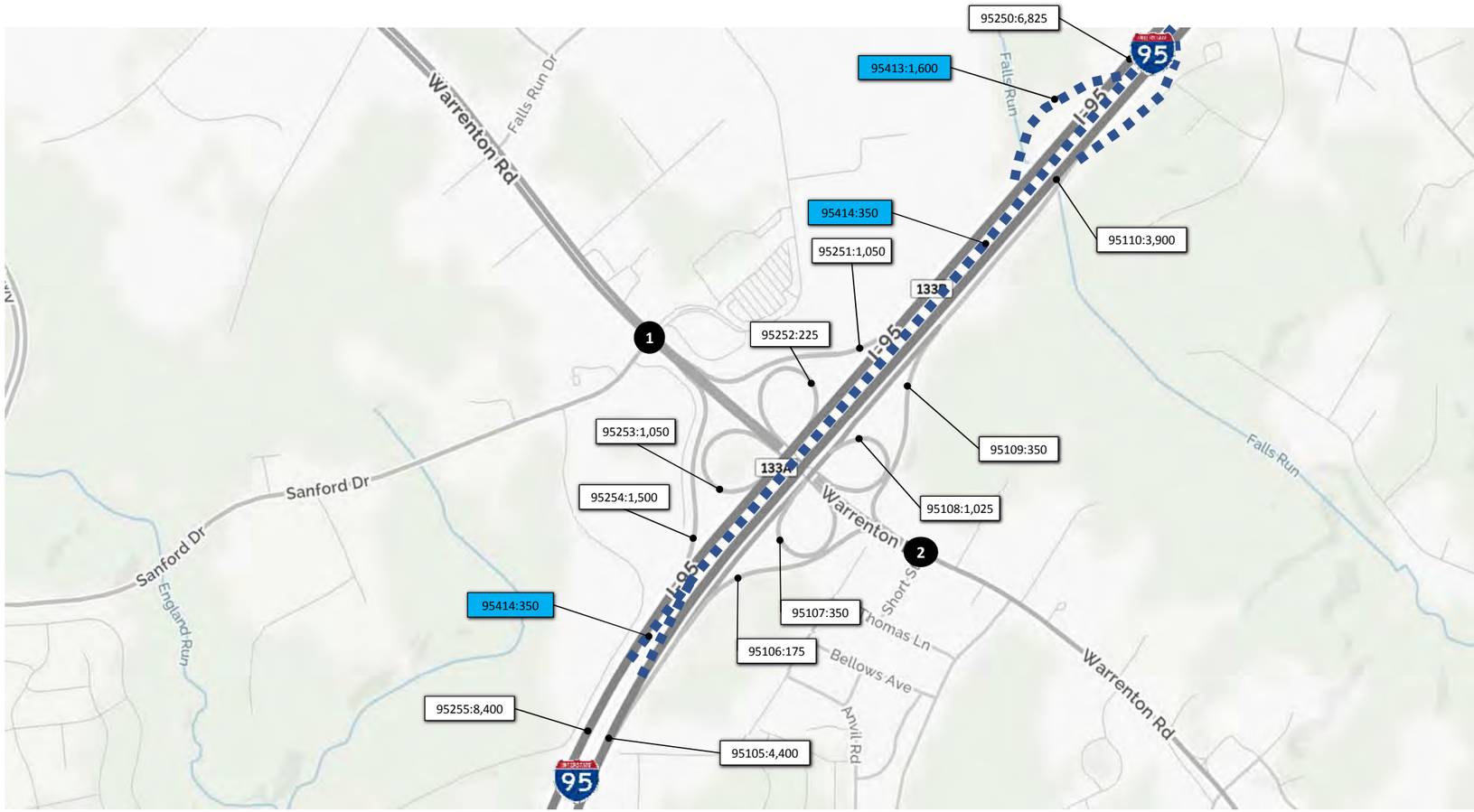
2042 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure C.5-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 71 | 91 | 360 | R | 338 |
| | | | | T | 2,364 |
| | R | T | L | L | 482 |
| | *US-17 (Warrenton Rd)* | | | L | T | R |
| | 63 | | L | | | |
| | 2,528 | | T | 43 | 8 | 411 |
| | 61 | | R | | | |

*S Gateway Dr*

*Sanford Dr*

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 7 | 0 | 5 | R | 3 |
| | | | | T | 1,528 |
| | R | T | L | L | 23 |
| | *US-17 BUS (Warrenton Rd)* | | | L | T | R |
| | 7 | | L | | | |
| | 2,501 | | T | 142 | 3 | 36 |
| | 173 | | R | | | |

*Parking Lot*

*Short St*

1338

**Legend**

xx,xxx — **Weekday Hourly Volume**

**Proposed Express Lane Extension**

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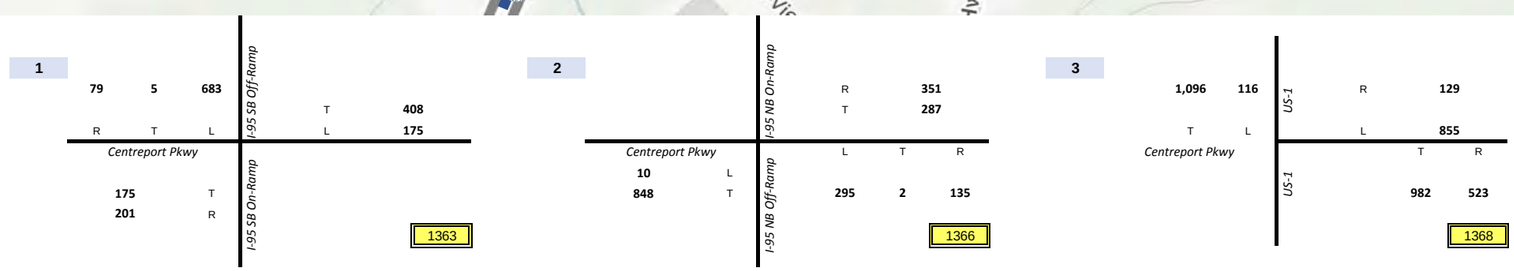
2042 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure C.5-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

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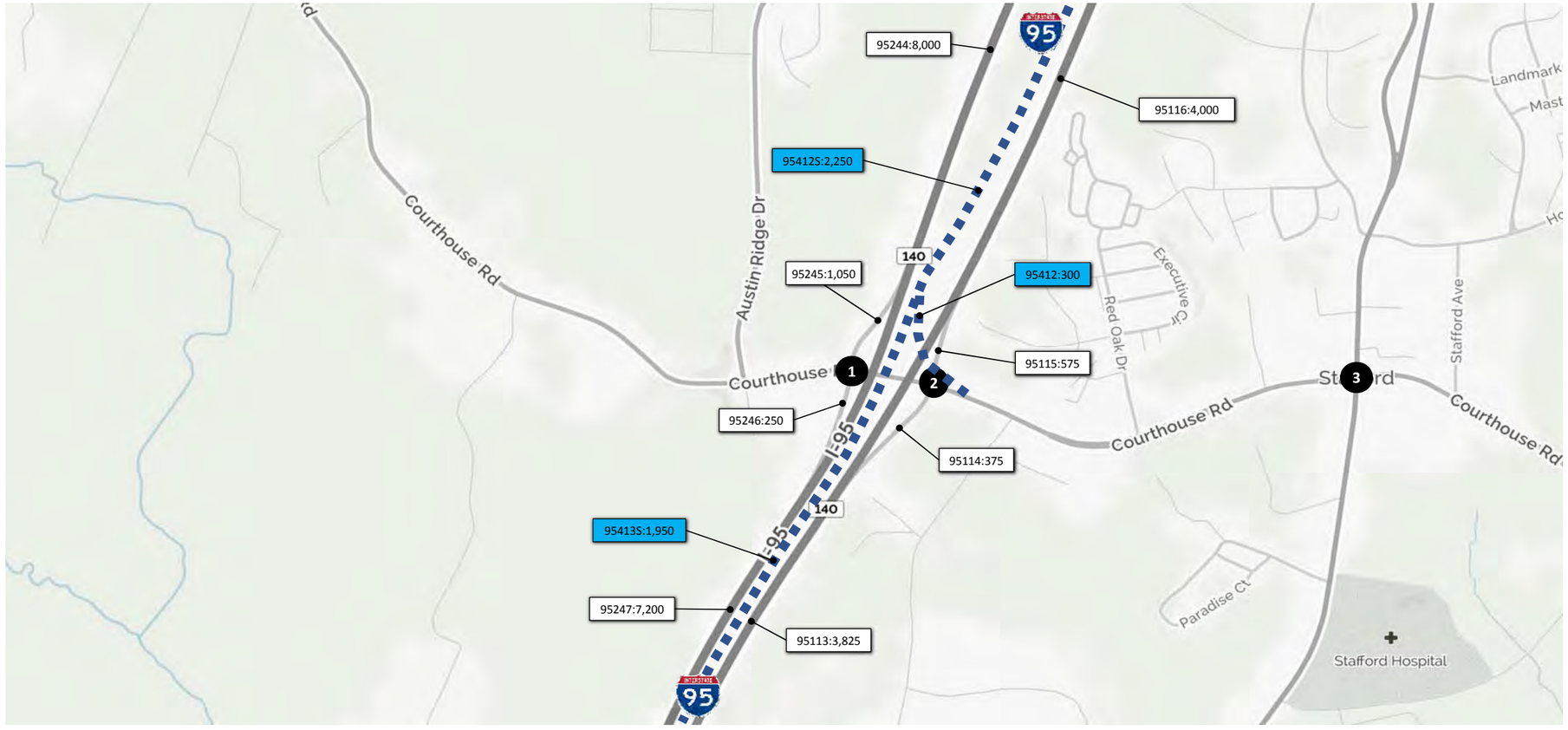
Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure C.5-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | | |
| 541 | 0 | 510 | | T | 576 | |
| R | T | L | | L | 71 | |
| Courthouse Road (630) | | | | | | |
| 553 | | T | I-95 SB On-Ramp | | | |
| 190 | | R | | | | 1403 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 526 | |
| | | | | T | 571 | |
| Courthouse Road (630) | | | | L | T | R |
| 38 | L | | I-95 NB Off-Ramp | | | |
| 1,025 | T | | | 76 | 0 | 300 |
| | | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 378 | 635 | 122 | US-1 | R | 132 | |
| | | | | T | 351 | |
| R | T | L | | L | 38 | |
| Courthouse Road (630) | | | | L | T | R |
| 203 | | L | US-1 | | | |
| 642 | | T | | 368 | 246 | 23 |
| 480 | | R | | | | |
| | | | | | | 1408 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

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Weekday 4-5 PM Volumes

I-95 Corridor

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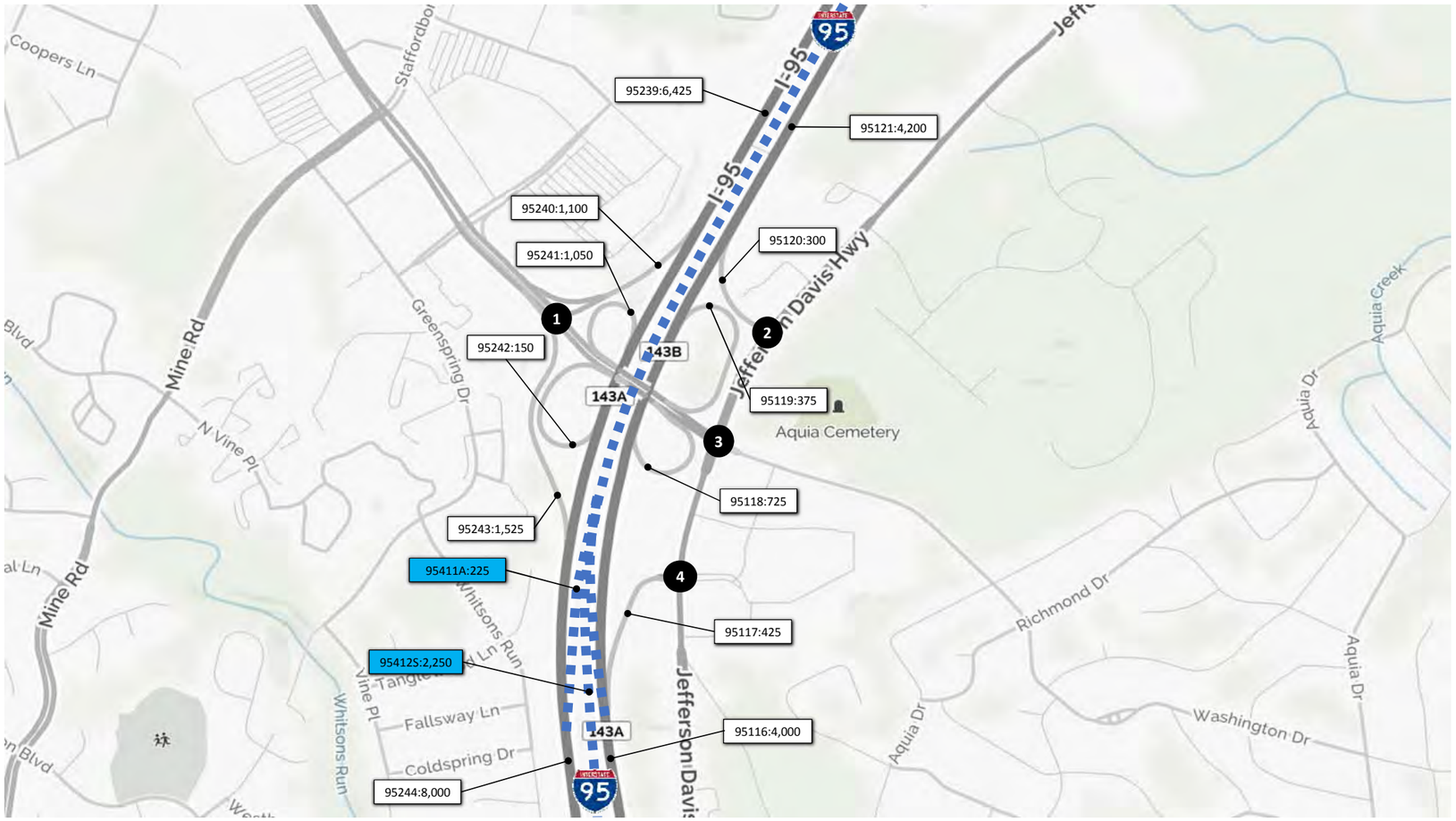
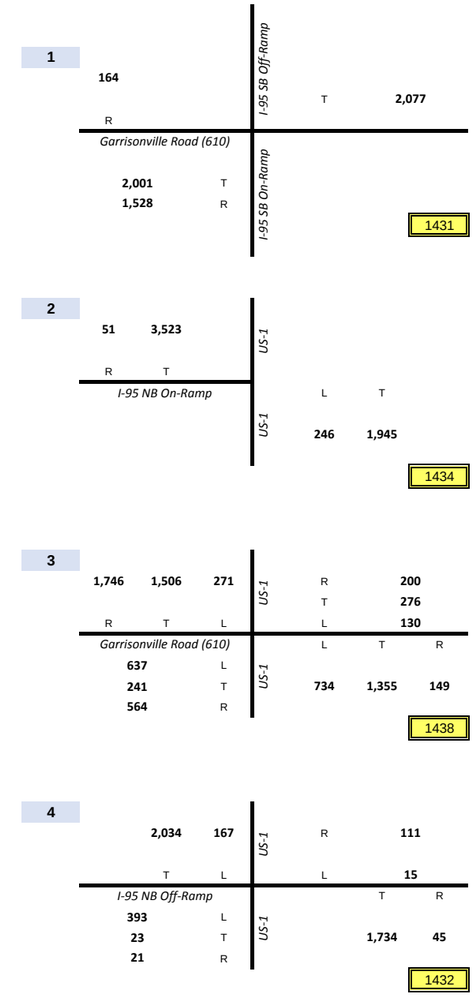
Figure C.5-4




**Legend**

| | |
|---|---|
| xx,xxx | Weekday Hourly Volume |
| ■ ■ ■ ■ ■ | Proposed Express Lane Extension |

VDOT Virginia Department of Transportation

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I-95 Corridor

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Figure C.5-5

**Legend**

xx,xxx — Weekday Hourly Volume

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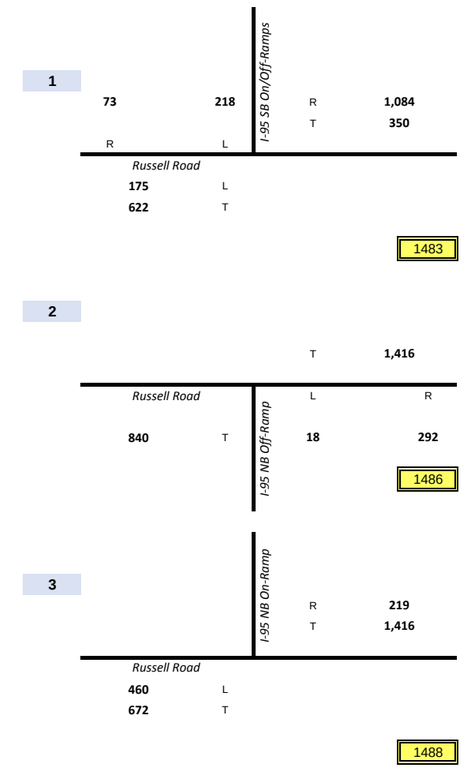
August 2017

Figure C.5-6




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Access Point

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure C.5-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 330 | 9 | 847 | Carl D Silver Pkwy | R | 1,341 |
| | | | | T | 2,939 |
| R | T | L | | L | 20 |
| VA-3 (Plank Road) | | | | L | T | R |
| 267 | | L | Mall Court | | | |
| 1,987 | | T | | 12 | 9 | 9 |
| 7 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 5 | 15 | Ramseur St | R | 5 |
| | | | | T | 2,015 |
| R | T | L | | L | 243 |
| VA-3 (Plank Road) | | | | L | T | R |
| 37 | | L | Gateway Blvd | | | |
| 2,236 | | T | | 325 | 3 | 311 |
| 515 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

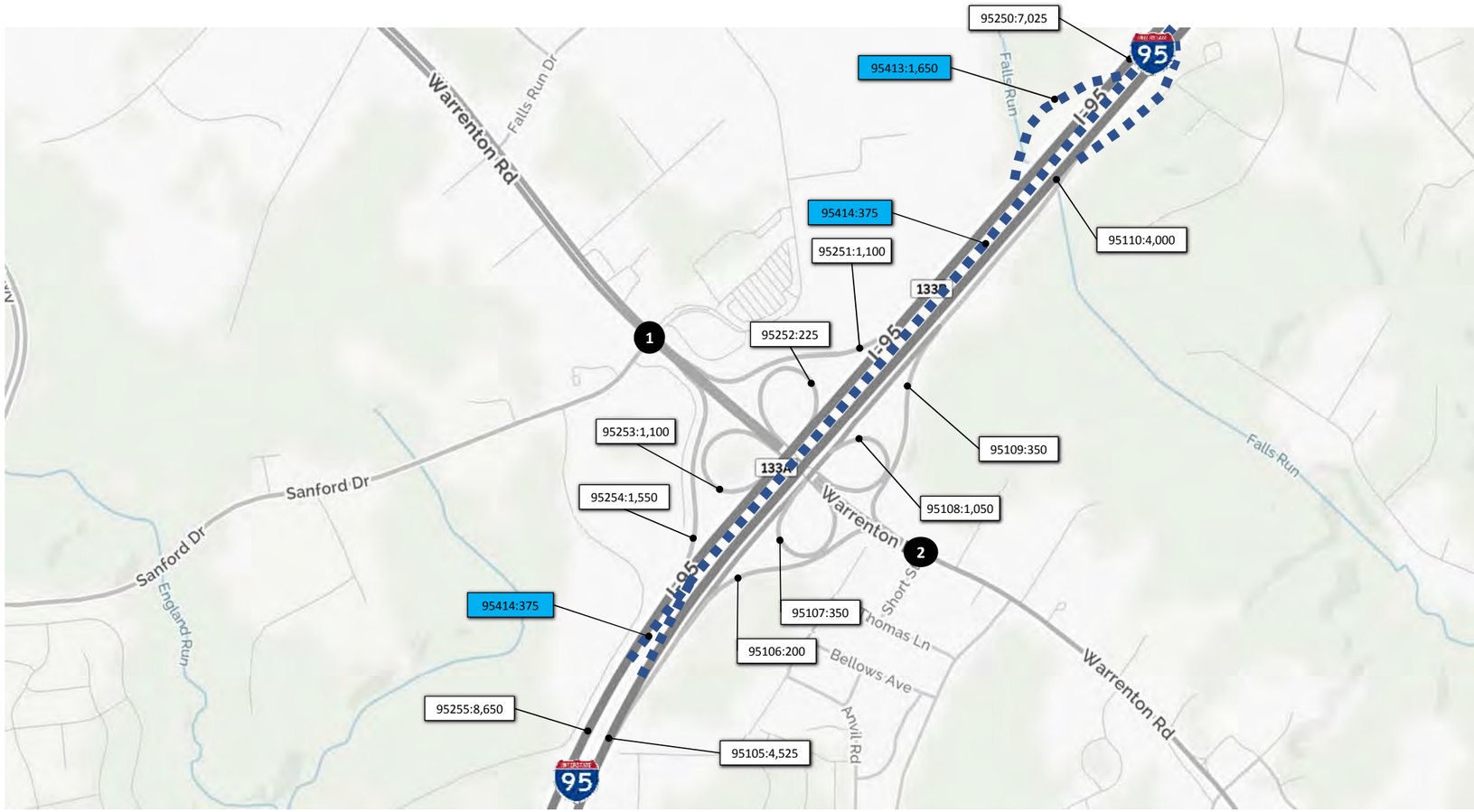
2042 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure C.6-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | S Gateway Dr | R | | 349 |
| 73 | 94 | 371 | | T | | 2,436 |
| R | T | L | | L | | 496 |
| *US-17 (Warrenton Rd)* | | | | L | T | R |
| 65 | | L | | | | |
| 2,604 | | T | Sanford Dr | 44 | 9 | 423 |
| 63 | | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Parking Lot | R | | 3 |
| 7 | 0 | 5 | | T | | 1,574 |
| R | T | L | | L | | 24 |
| *US-17 BUS (Warrenton Rd)* | | | | L | T | R |
| 7 | | L | | | | |
| 2,577 | | T | Short St | 146 | 3 | 37 |
| 179 | | R | | | | |
| | | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

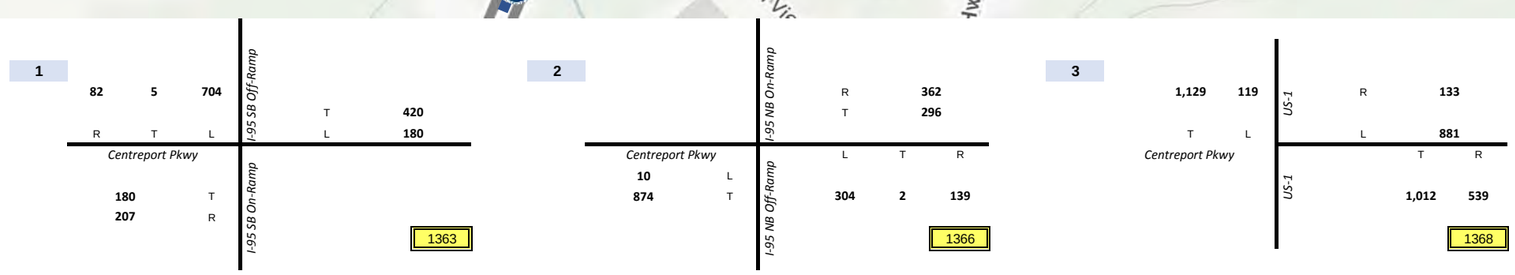
2042 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure C.6-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

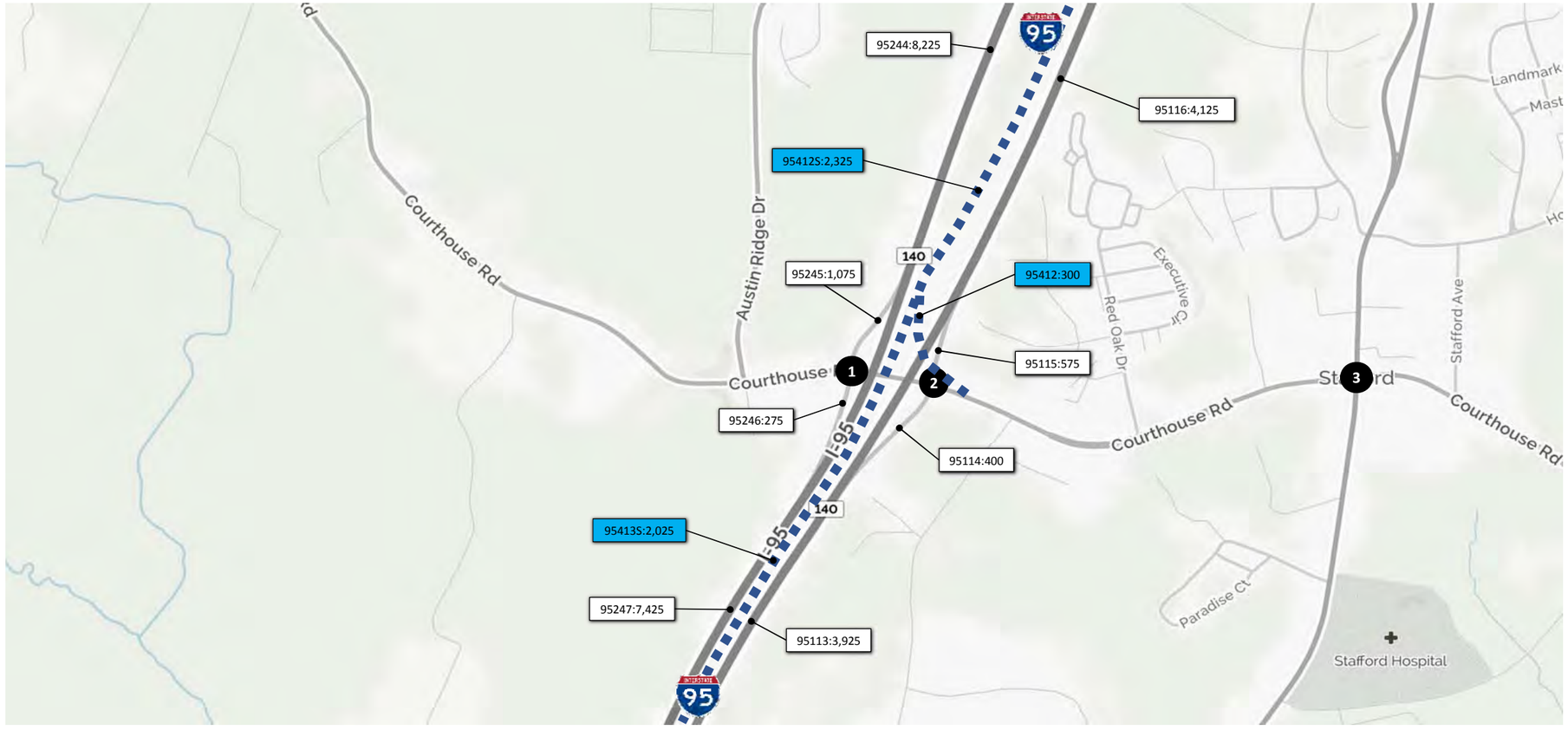
2042 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure C.6-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | I-95 SB Off-Ramp | | |
| 558 | 0 | 525 | | | T | 593 |
| R | T | L | | | L | 73 |
| Courthouse Road (630) | | | | | | |
| 570 | | T | | I-95 SB On-Ramp | | |
| 196 | | R | | | | |
| | | | | | | 1403 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | R | 542 |
| | | | | | T | 588 |
| Courthouse Road (630) | | | | | | |
| 39 | L | | | I-95 NB Off-Ramp | L | T | R |
| 1,056 | T | | | | 78 | 0 | 309 |
| | | | | | | 1406 |

**3**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 389 | 655 | 126 | | US-1 | R | 136 |
| | | | | | T | 362 |
| R | T | L | | | L | 39 |
| Courthouse Road (630) | | | | | | |
| 209 | | L | | | L | T | R |
| 661 | | T | | US-1 | 379 | 253 | 24 |
| 495 | | R | | | | |
| | | | | | | 1408 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

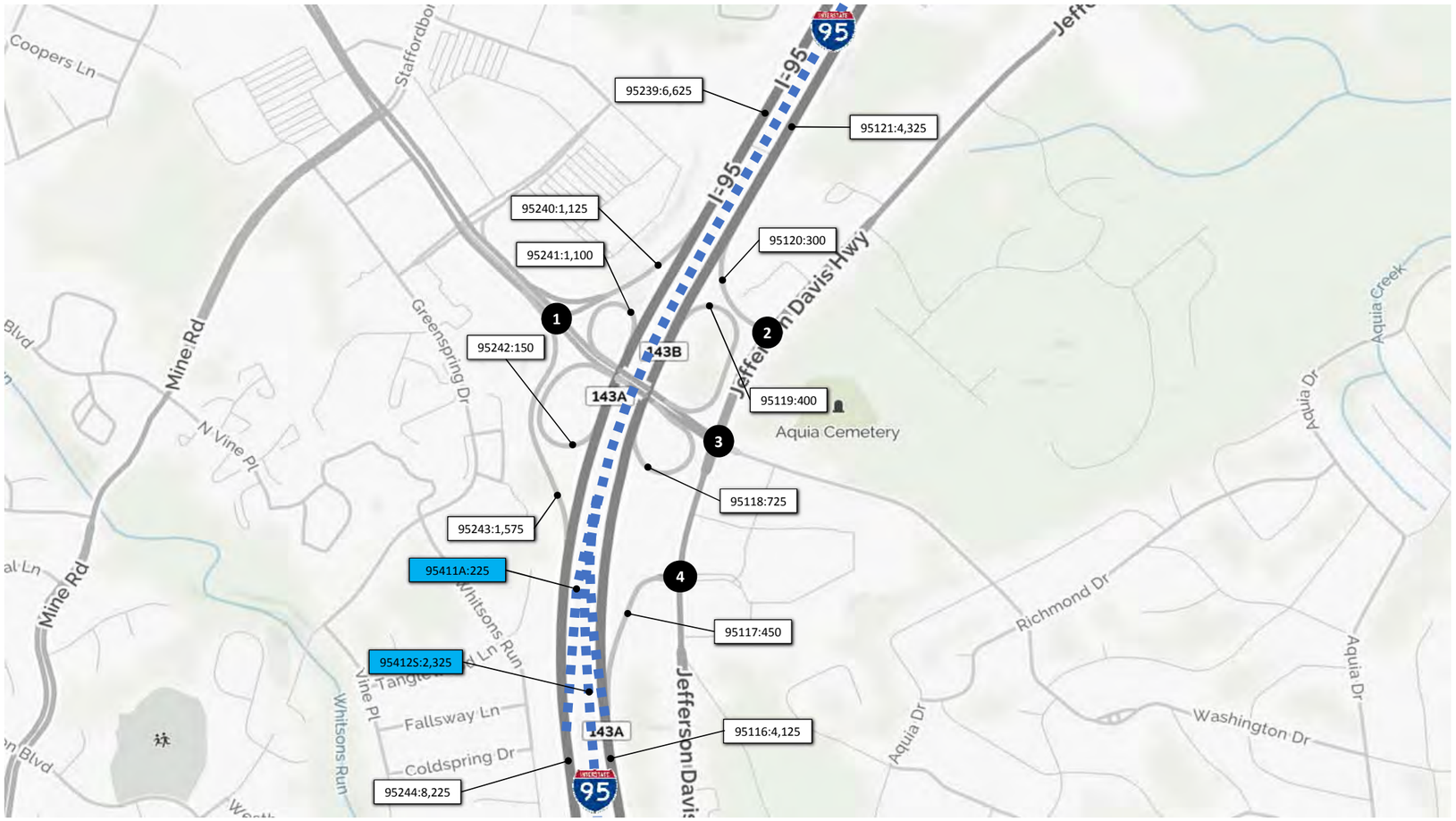
2042 Build

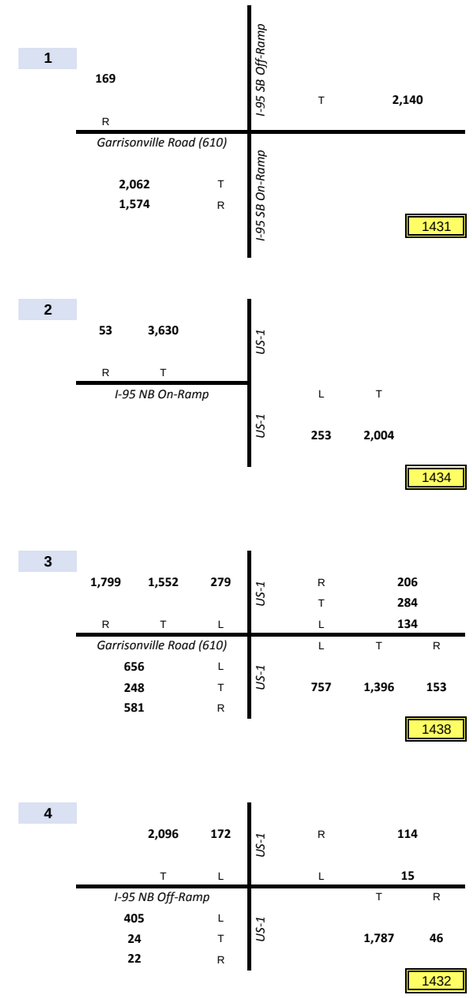
Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure C.6-4




**Legend**

| | |
|---|---|
| xx,xxx | Weekday Hourly Volume |
| ■ ■ ■ ■ ■ | Proposed Express Lane Extension |

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure C.6-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

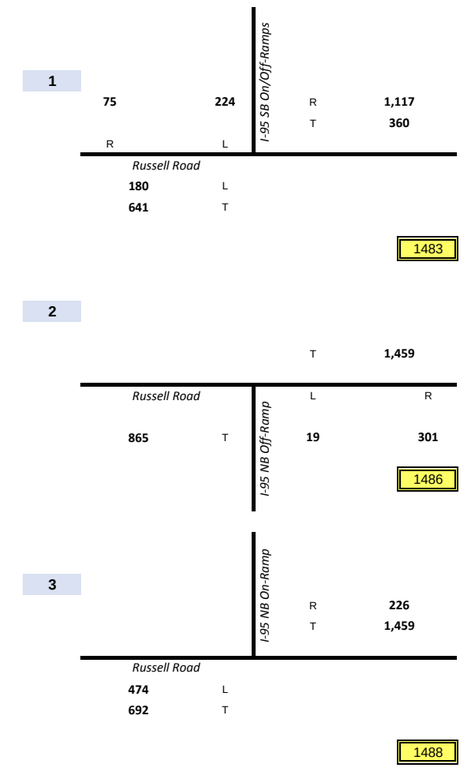
2042 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure C.6-6




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Access Point

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure C.6-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 320 | 8 | 822 | Carl D Silver Pkwy | R | 1,302 |
| | | | | T | 2,853 |
| R | T | L | | L | 20 |
| VA-3 (Plank Road) | | | | L | T | R |
| 259 | | L | Mall Court | | | |
| 1,929 | | T | | 12 | 8 | 8 |
| 7 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 17 | 5 | 15 | Ramseur St | R | 5 |
| | | | | T | 1,955 |
| R | T | L | | L | 236 |
| VA-3 (Plank Road) | | | | L | T | R |
| 36 | | L | Gateway Blvd | | | |
| 2,170 | | T | | 315 | 3 | 302 |
| 500 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

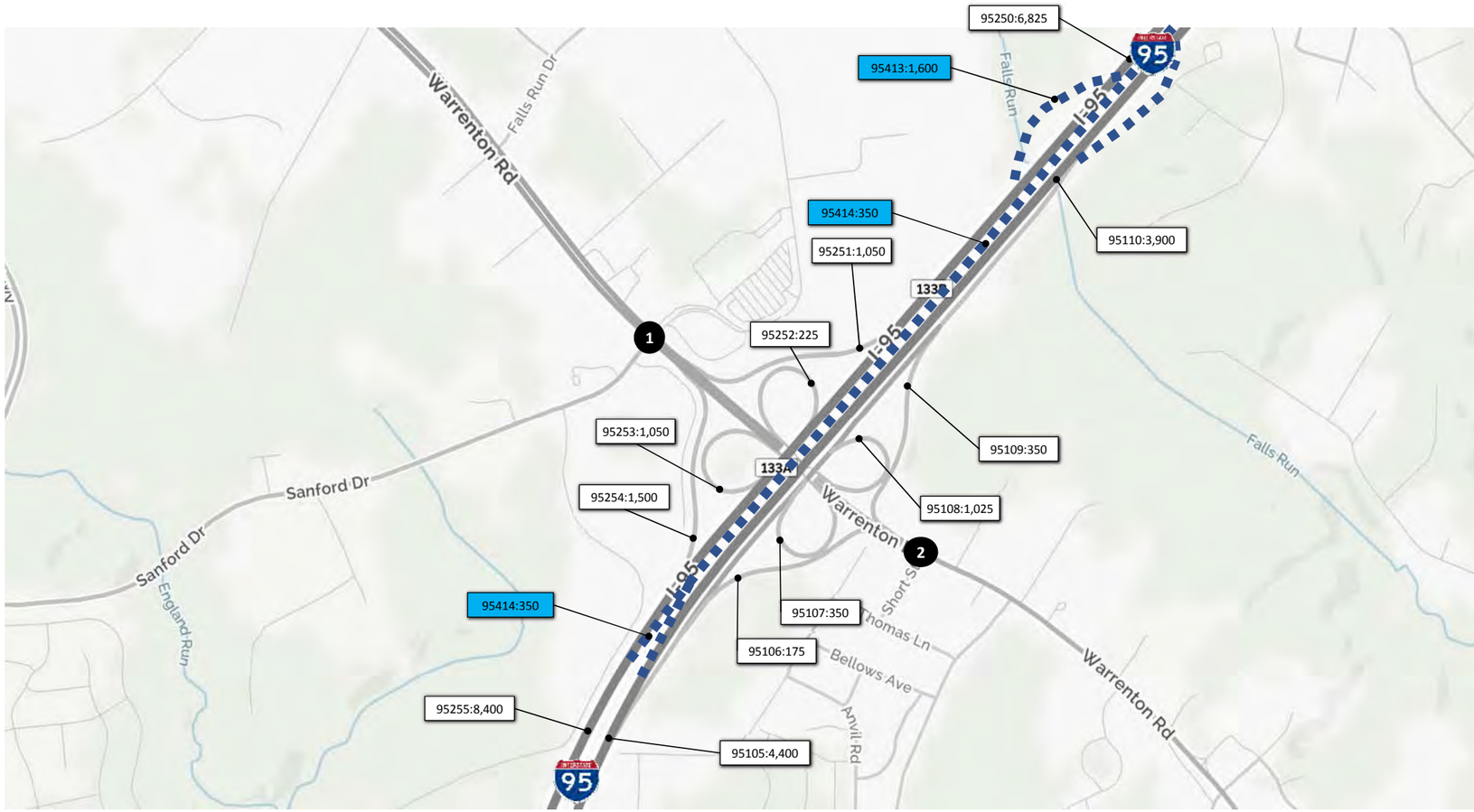
2042 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure C.7-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | S Gateway Dr | R | 338 |
| | | | | T | 2,364 |
| R | T | L | | L | 482 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 63 | | L | | | | |
| 2,528 | | T | Sanford Dr | 43 | 8 | 411 |
| 61 | | R | | | | |
| | | | | | 1333 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | Parking Lot | R | 3 |
| | | | | T | 1,528 |
| R | T | L | | L | 23 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 7 | | L | | | | |
| 2,501 | | T | Short St | 142 | 3 | 36 |
| 173 | | R | | | | |
| | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

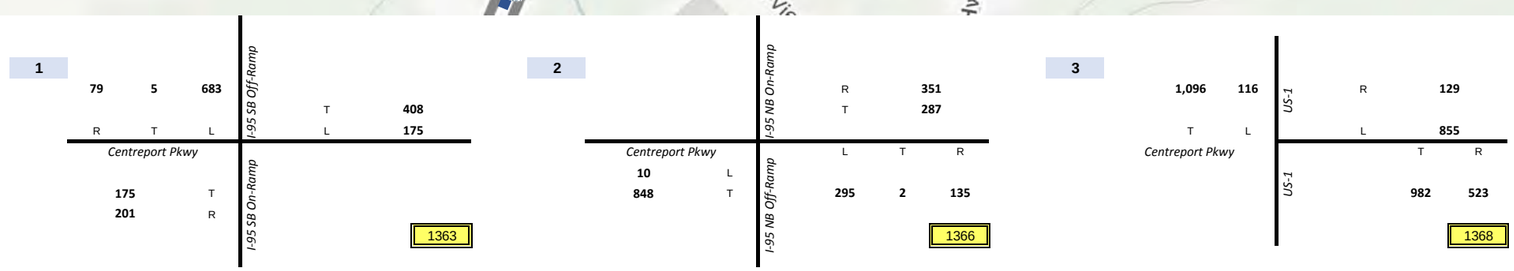
2042 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure C.7-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

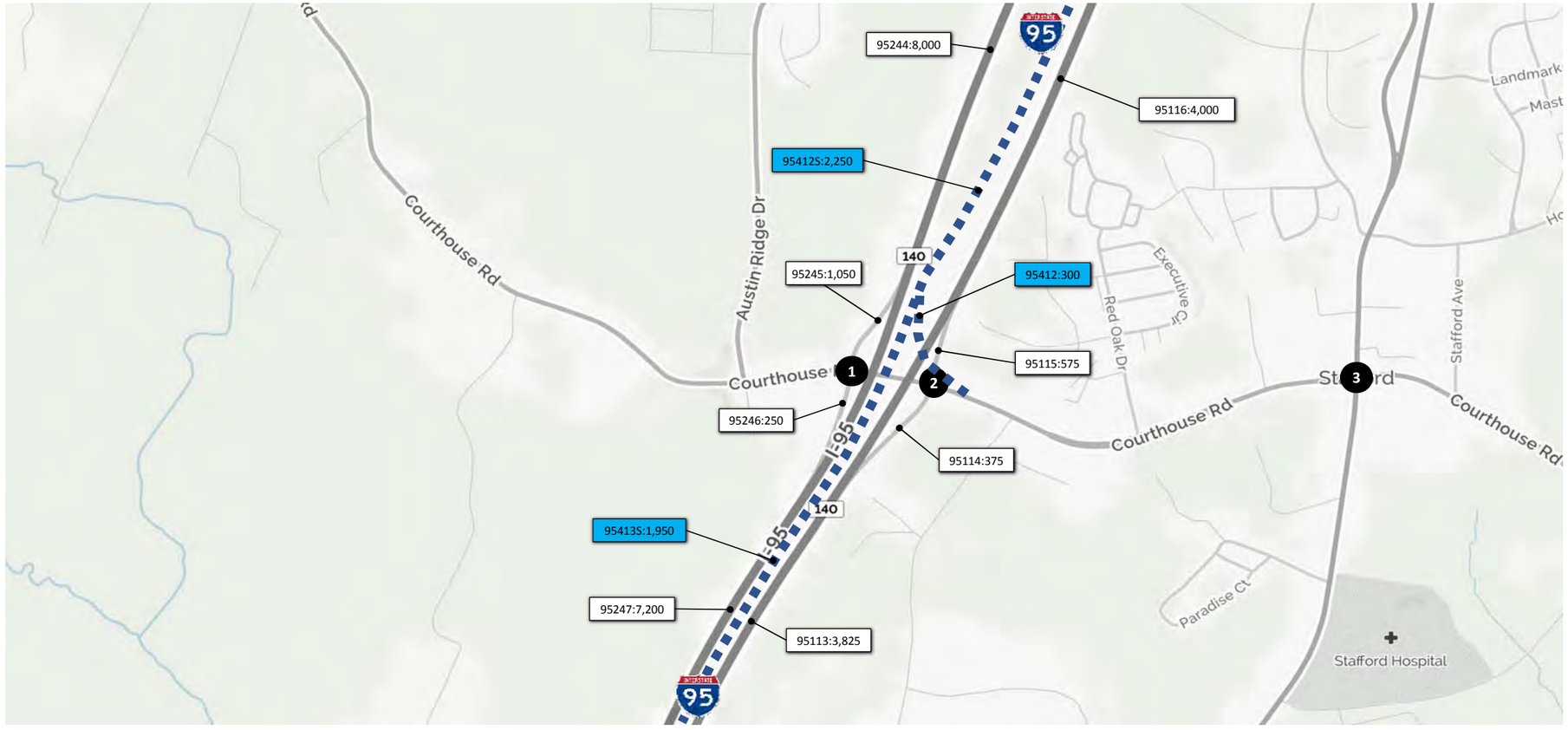
2042 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure C.7-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | I-95 SB Off-Ramp | | |
| | | | | | T | 576 |
| | | | | | L | 71 |
| R | T | L | | | | |
| Courthouse Road (630) | | | | | | |
| | | | | I-95 SB On-Ramp | | |
| 553 | | T | | | | |
| 190 | | R | | | | |
| | | | | | | 1403 |

541 0 510

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | | |
| | | | | | R | 526 |
| | | | | | T | 571 |
| Courthouse Road (630) | | | | | | |
| | | | | I-95 NB Off-Ramp | | |
| 38 | L | | | | L | T R |
| 1,025 | T | | | | 76 | 0 300 |
| | | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | US-1 | | |
| | | | | | R | 132 |
| | | | | | T | 351 |
| | | | | | L | 38 |
| R | T | L | | | | |
| Courthouse Road (630) | | | | | | |
| | | | | US-1 | | |
| 203 | L | | | | L | T R |
| 642 | T | | | | 368 | 246 23 |
| 480 | R | | | | | |
| | | | | | | 1408 |

378 635 122

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

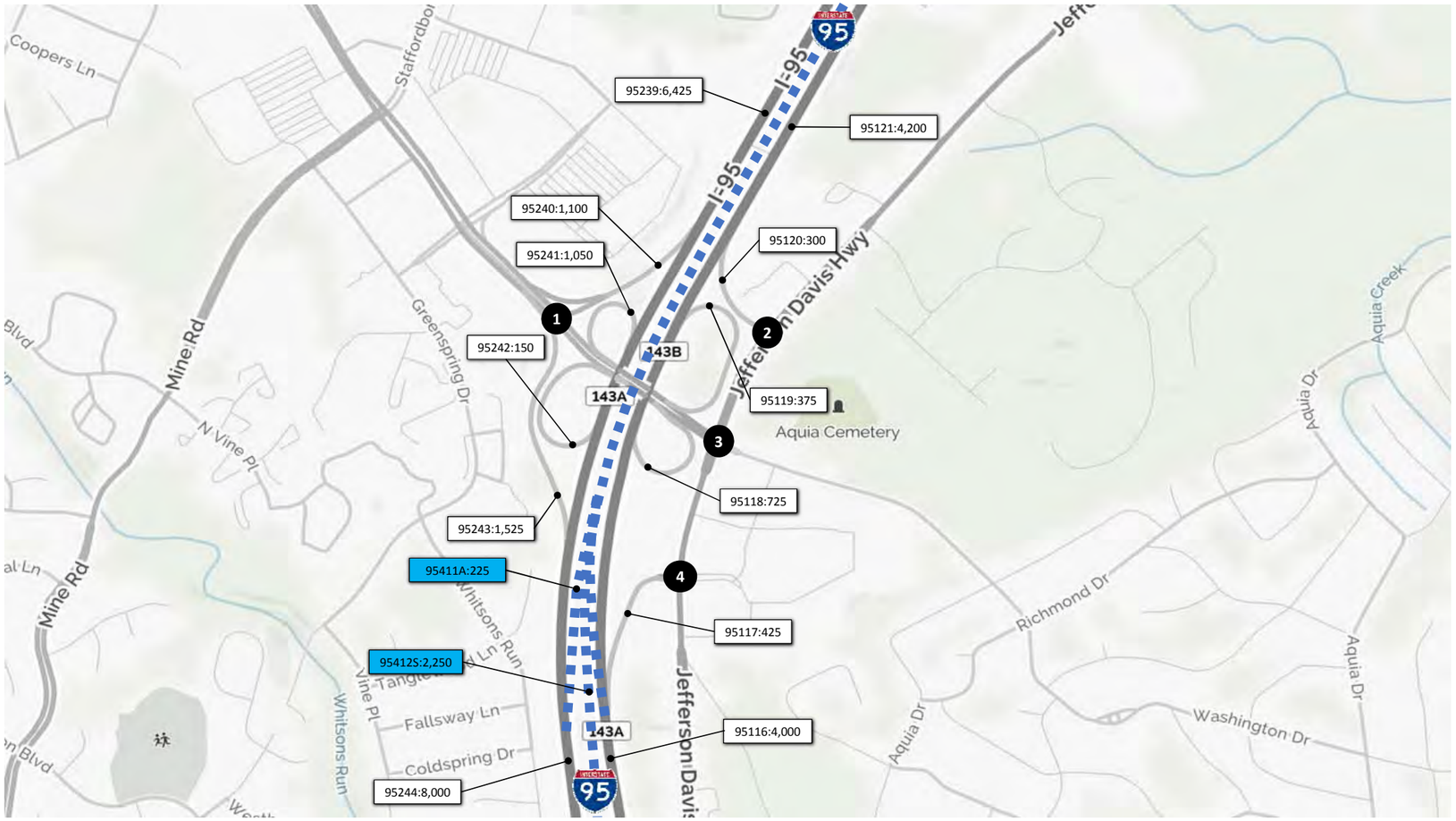
2042 Build

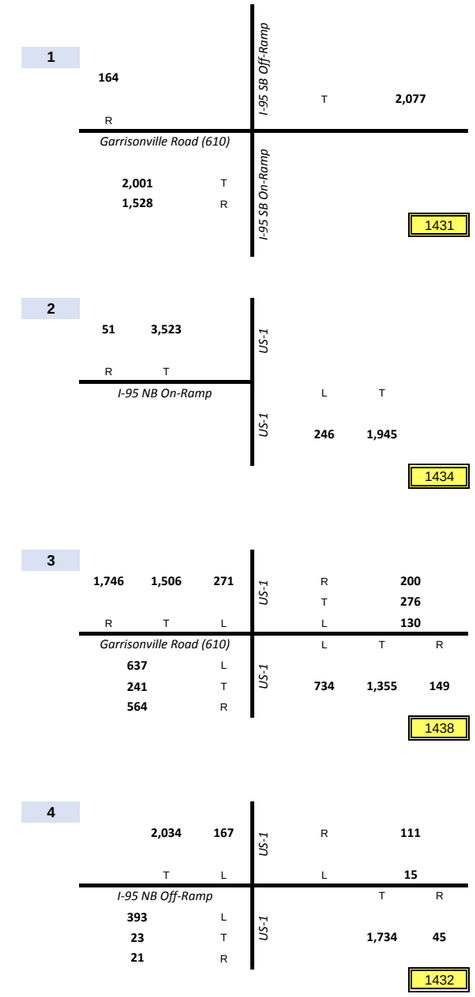
Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure C.7-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure C.7-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

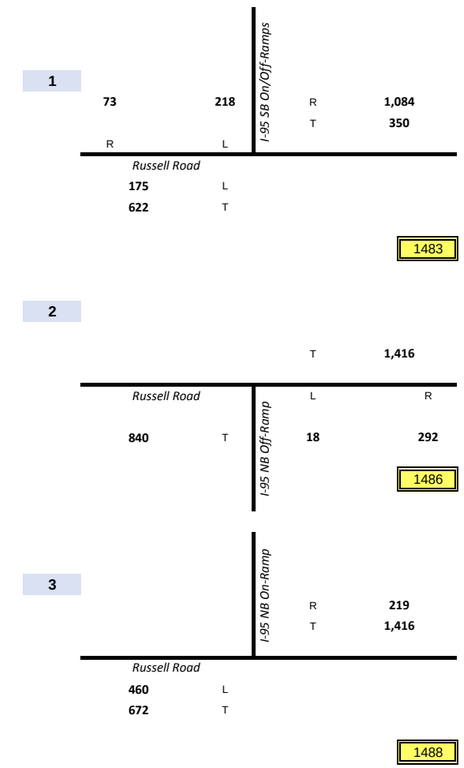
2042 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure C.7-6




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Access Point

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2042 Build

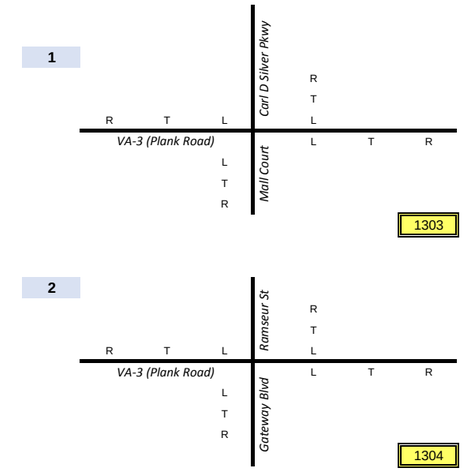
Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure C.7-7

# APPENDIX D:
# 2022 NO-BUILD
# TRAFFIC VOLUMES




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

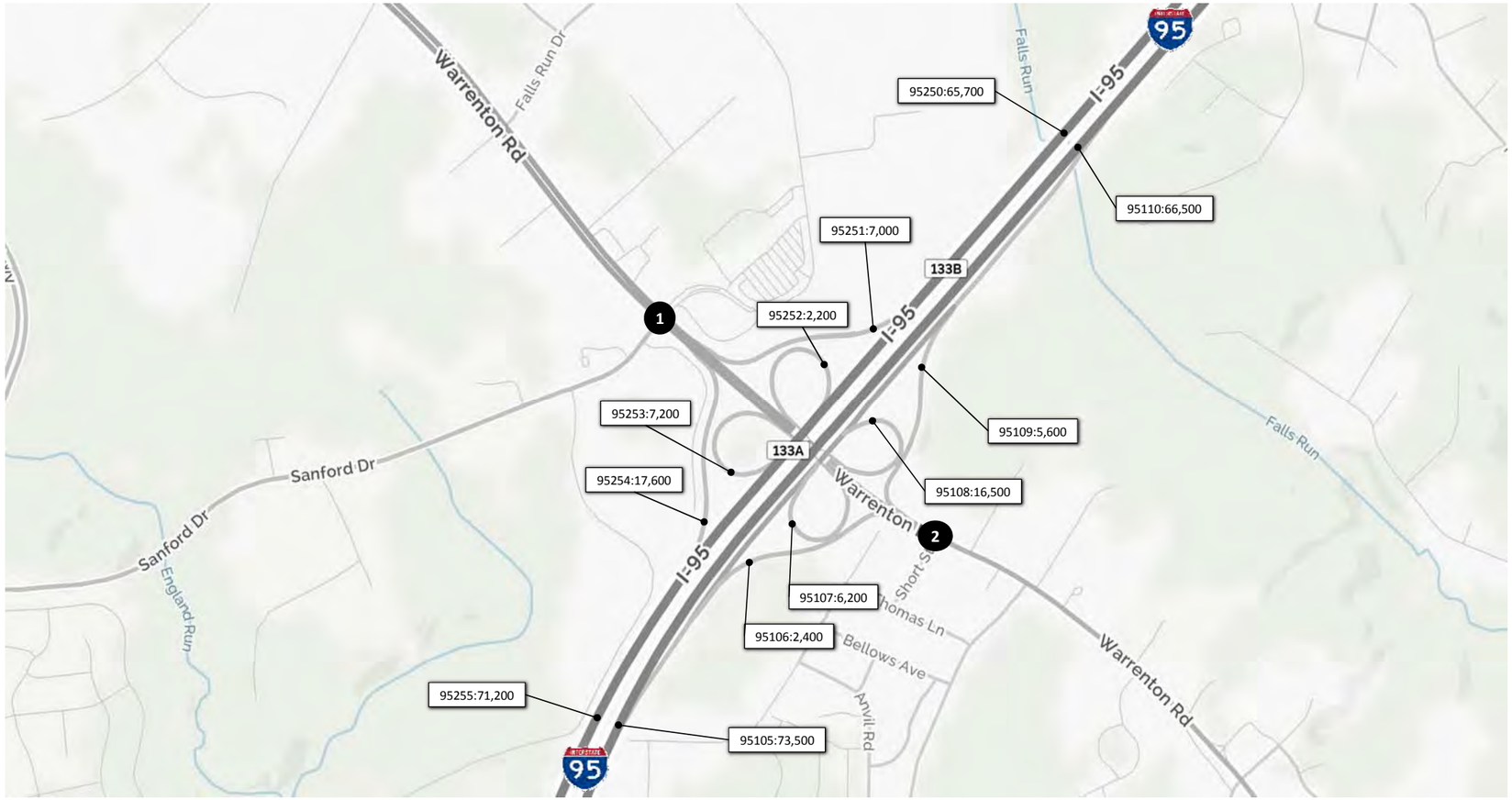
2022 No Build

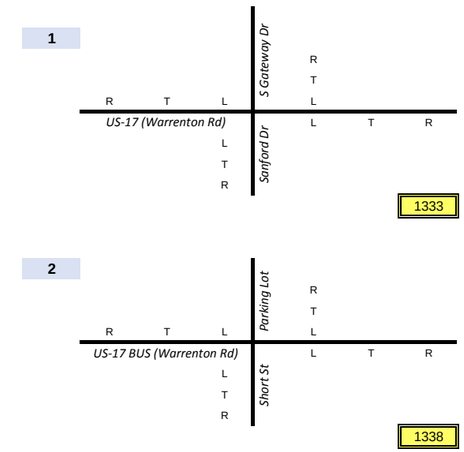
Weekday Daily Volumes

I-95 Corridor

August 2017

Figure D.1-1




**Legend**

xx,xxx Weekday Daily Volume

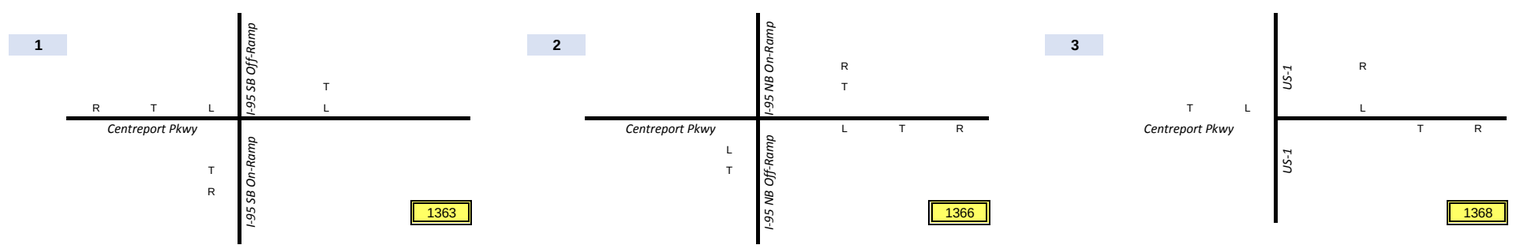
NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday Daily Volumes
I-95 Corridor

August 2017

Figure D.1-2




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

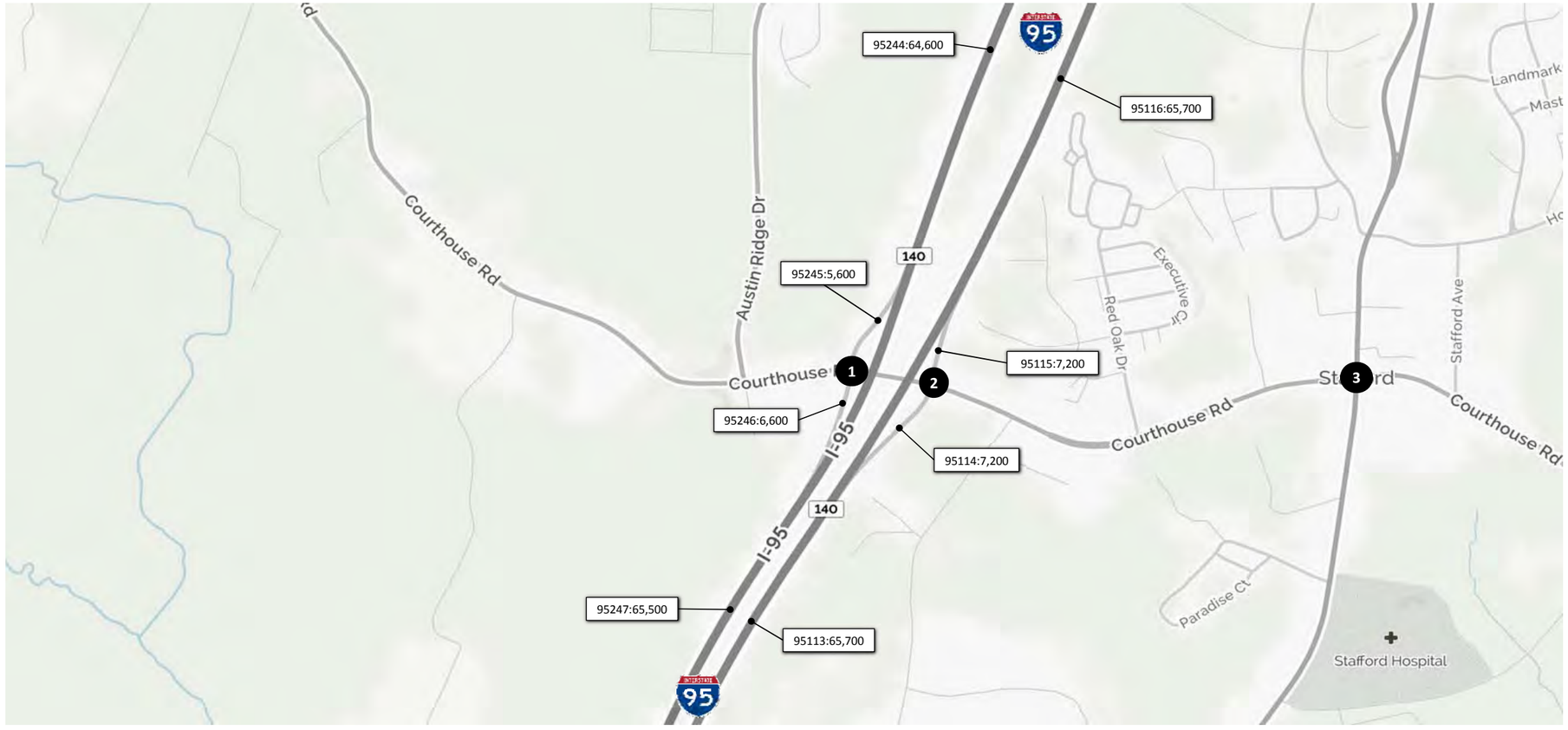
U.S. Department of Transportation Federal Highway Administration

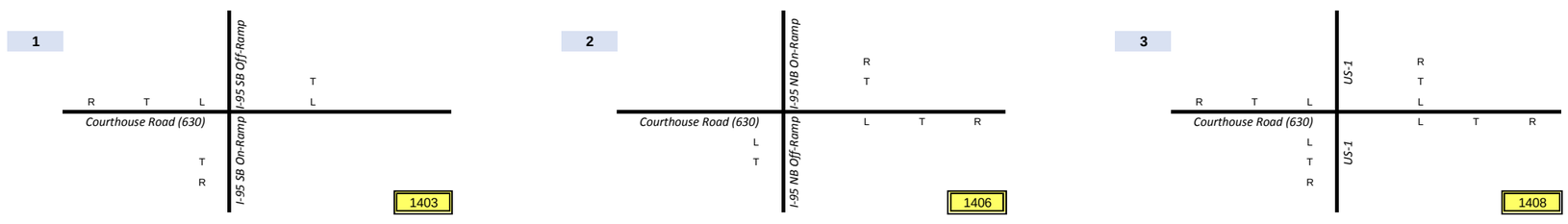
I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday Daily Volumes
I-95 Corridor

August 2017

Figure D.1-3




**Legend**

xx,xxx Weekday Daily Volume

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

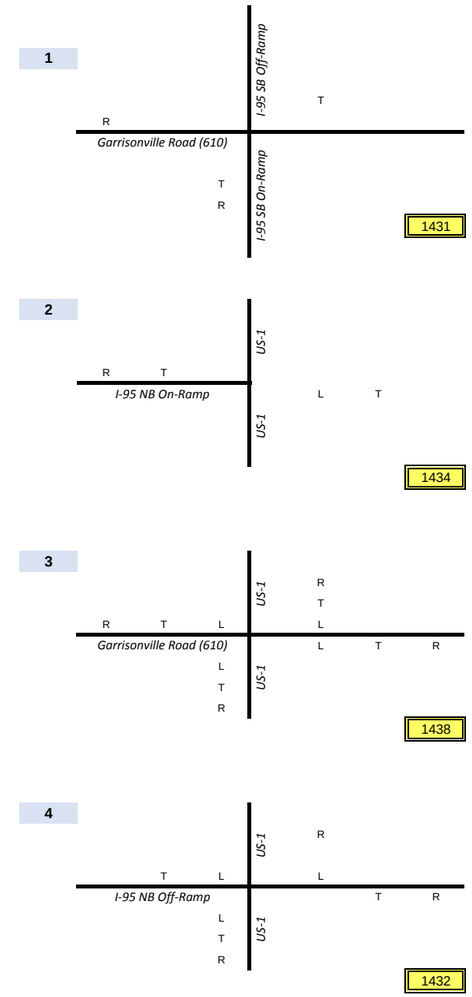
2022 No Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure D.1-4




**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build Weekday Daily Volumes I-95 Corridor

August 2017

Figure D.1-5

**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

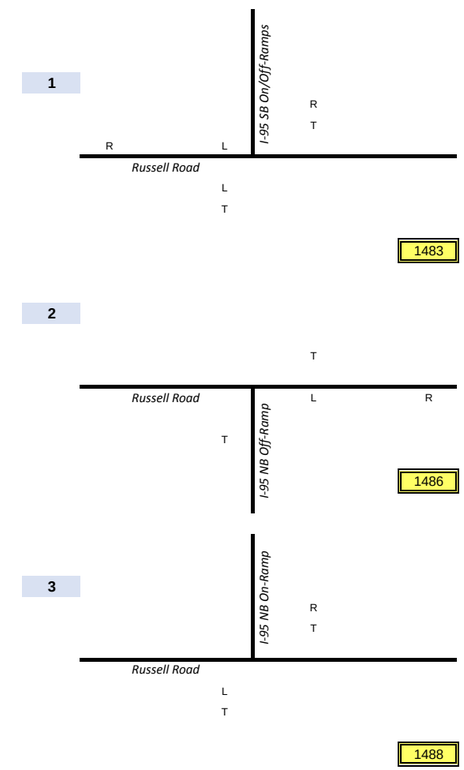
2022 No Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure D.1-6




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday Daily Volumes
I-95 Corridor

August 2017

Figure D.1-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 37 | 3 | 276 | Carl D Silver Pkwy | R | 407 |
| | | | | T | 1,190 |
| R | T | L | | L | 10 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 151 | | L | | | | |
| 2,797 | | T | | 7 | 1 | 10 |
| 4 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 13 | 1 | 1 | Ramseur St | R | 3 |
| | | | | T | 1,010 |
| R | T | L | | L | 108 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 71 | | L | | | | |
| 1,383 | | T | | 280 | 0 | 136 |
| 222 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

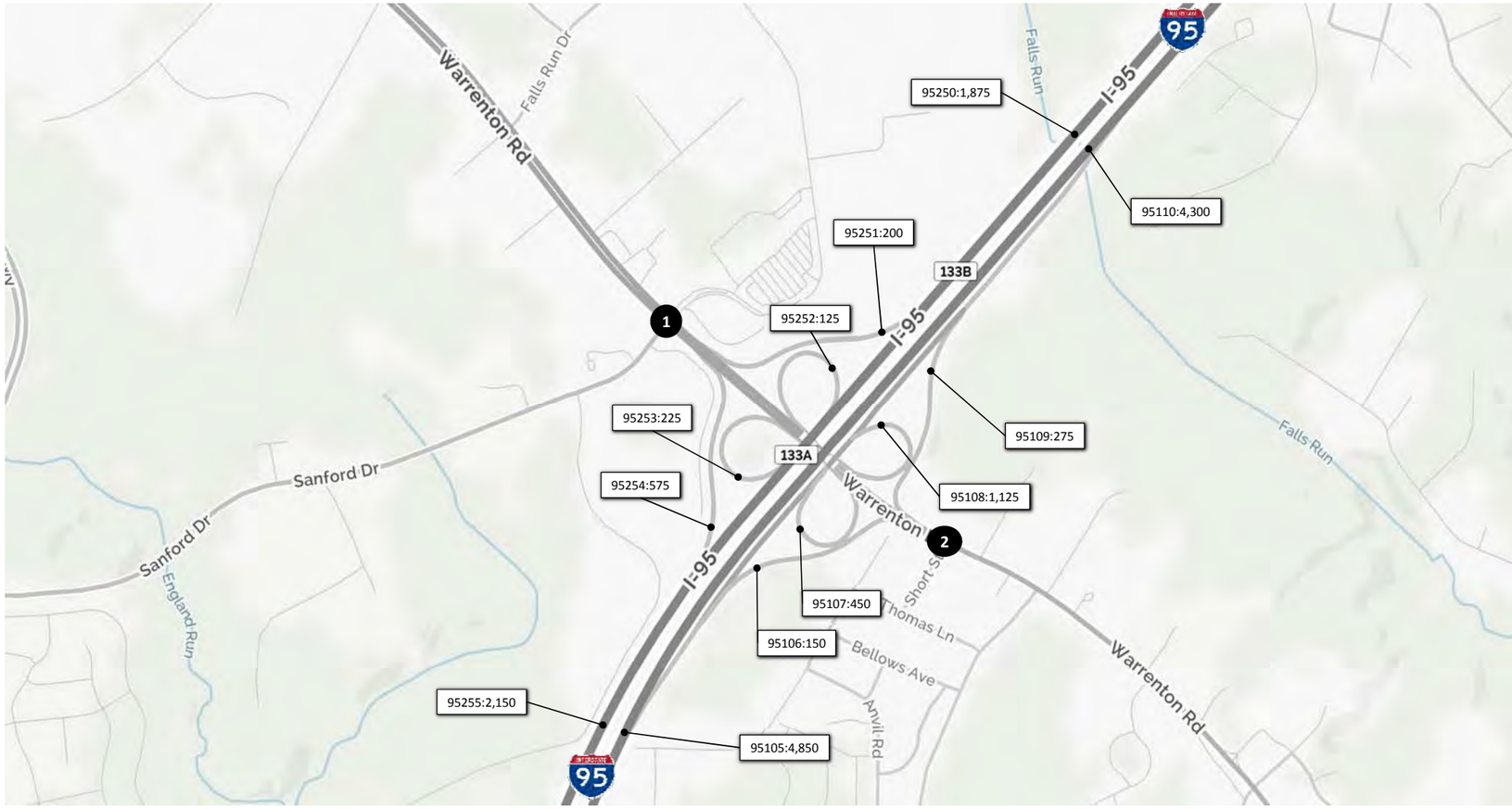
2022 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure D.2-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| 21 | 6 | 192 | S Gateway Dr | R | 201 |
| | | | | T | 1,798 |
| R | T | L | | L | 102 |
| US-17 (Warrenton Rd) | | | Sanford Dr | L | T | R |
| 26 | | L | | | | |
| 1,185 | | T | | 20 | 13 | 112 |
| 14 | | R | | | | |

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 2 | Parking Lot | R | 0 |
| | | | | T | 1,092 |
| R | T | L | | L | 7 |
| US-17 BUS (Warrenton Rd) | | | Short St | L | T | R |
| 1 | | L | | | | |
| 781 | | T | | 92 | 0 | 14 |
| 56 | | R | | | | |

1338

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

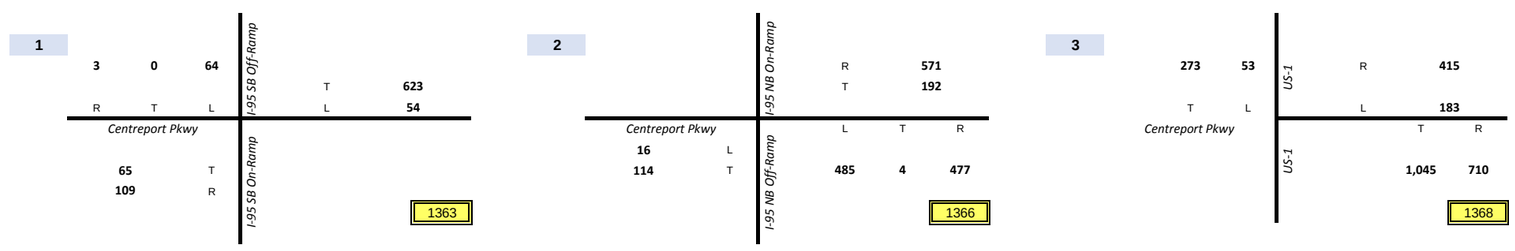
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday 6 -7 AM Volumes
I-95 Corridor

August 2017

Figure D.2-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

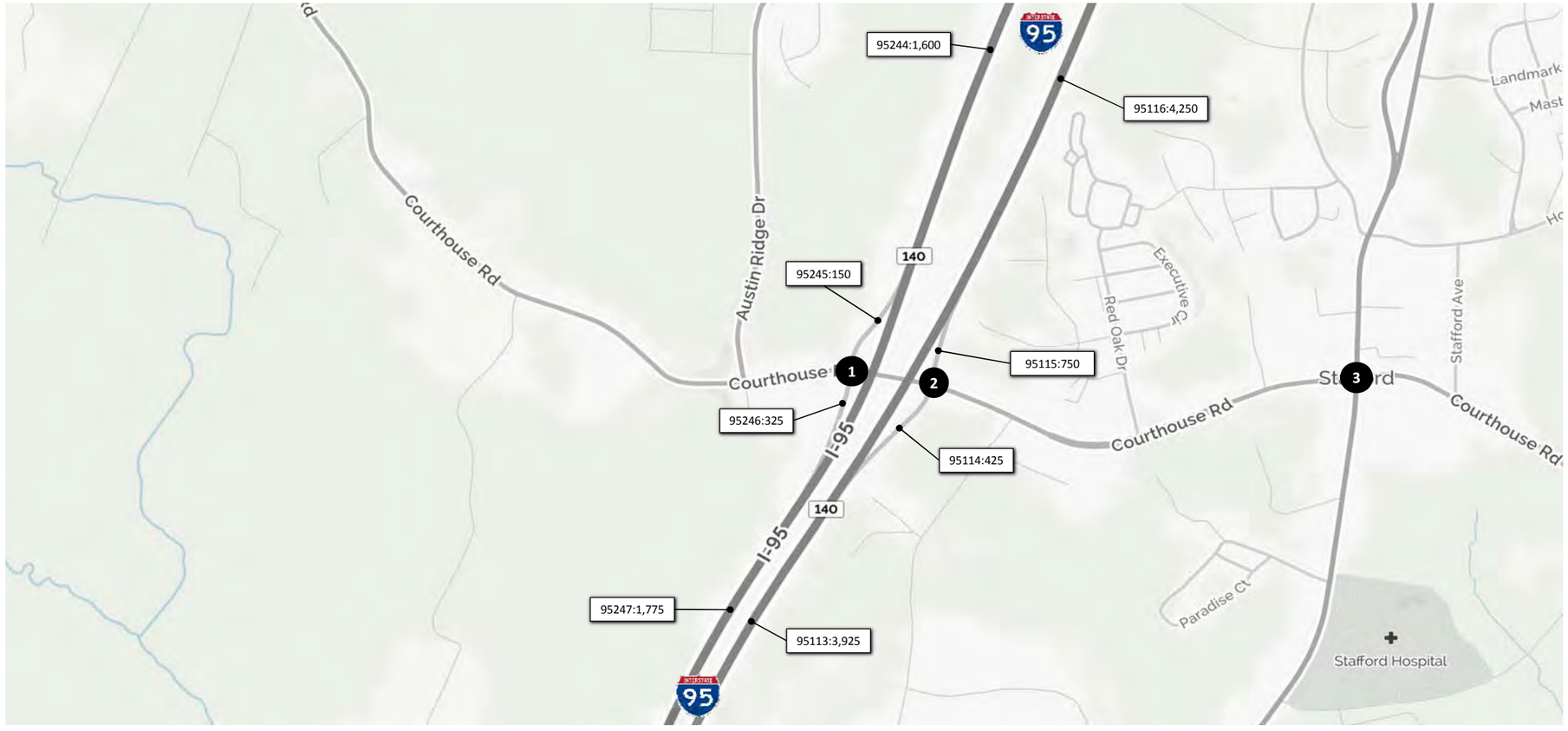
2022 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure D.2-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 43 | 0 | 97 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | I-95 SB Off-Ramp | |
| | | | | T | 719 |
| | | | | L | 97 |
| | 321 | | T | I-95 SB On-Ramp | |
| | 228 | | R | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | |
| | | | R | | 606 |
| | | | T | | 513 |
| Courthouse Road (630) | | | | | |
| 140 | L | | | | |
| 279 | T | | | I-95 NB Off-Ramp | |
| | | | L | T | R |
| | | | 304 | 12 | 111 |
| | | | | | 1406 |

**3**

| | | | | | |
|---|---|---|---|---|---|
| 334 | 168 | 85 | | | |
| R | T | L | | | |
| Courthouse Road (630) | | | | | |
| | | | US-1 | | |
| | | | R | | 194 |
| | | | T | | 310 |
| | | | L | | 28 |
| 115 | | L | | | |
| 104 | | T | US-1 | | |
| 171 | | R | | | |
| | | | L | T | R |
| | | | 473 | 432 | 19 |
| | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

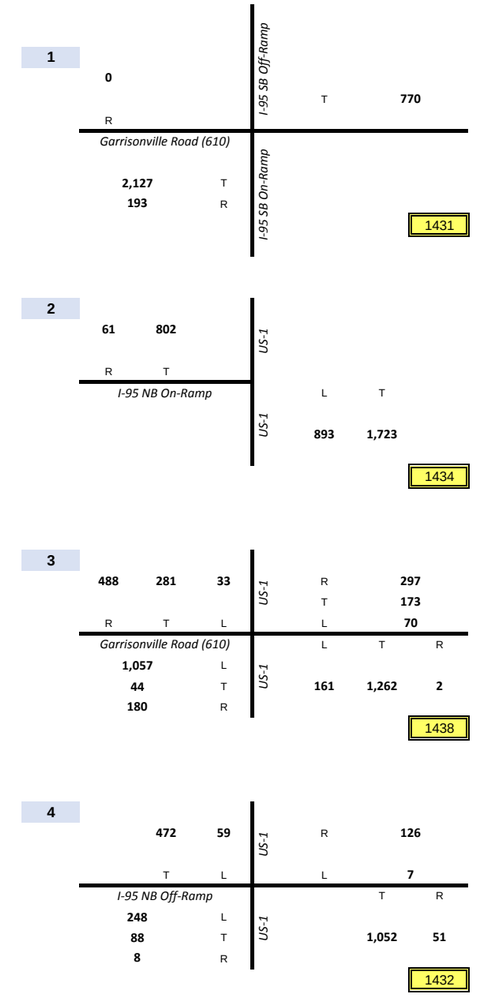
2022 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure D.2-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure D.2-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

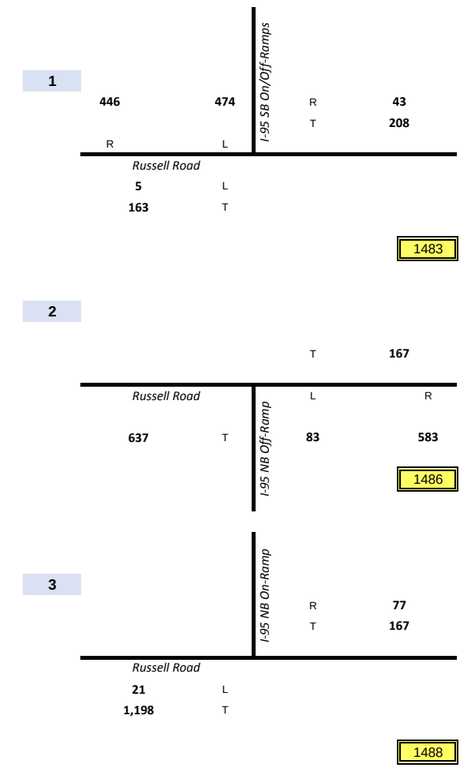
2022 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure D.2-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 6 -7 AM Volumes

I-95 Corridor

August 2017

Figure D.2-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 37 | 3 | 276 | Carl D Silver Pkwy | R | 407 |
| | | | | T | 1,190 |
| R | T | L | | L | 10 |
| VA-3 (Plank Road) | | | | L | T | R |
| 151 | | L | Mall Court | | | |
| 2,797 | | T | | 7 | 1 | 10 |
| 4 | | R | | | | |
| | | | | | | 1303 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 13 | 1 | 1 | Ramseur St | R | 3 |
| | | | | T | 1,010 |
| R | T | L | | L | 108 |
| VA-3 (Plank Road) | | | | L | T | R |
| 71 | | L | Gateway Blvd | | | |
| 1,383 | | T | | 280 | 0 | 136 |
| 222 | | R | | | | |
| | | | | | | 1304 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

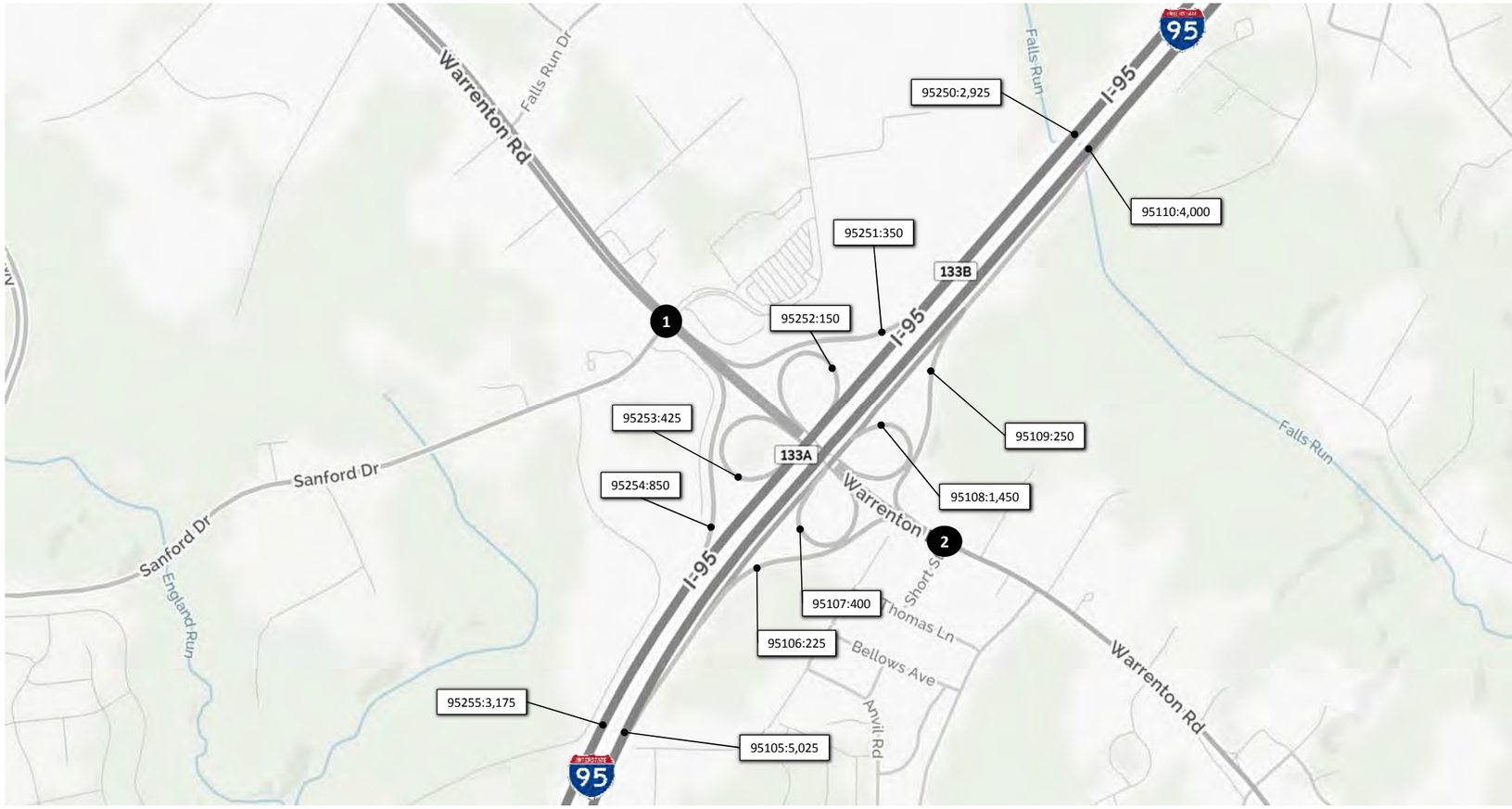
2022 No Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure D.3-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | S Gateway Dr | R | | 201 |
| | | | | T | | 1,798 |
| R | T | L | | L | | 102 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| | 26 | L | | | | |
| | 1,185 | T | Sanford Dr | 20 | 13 | 112 |
| | 14 | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Parking Lot | R | | 0 |
| | | | | T | | 1,092 |
| R | T | L | | L | | 7 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 1 | L | | | | |
| | 781 | T | Short St | 92 | 0 | 14 |
| | 56 | R | | | | |
| | | | | | | 1338 |

**Legend**

xx,xxx Weekday Hourly Volume

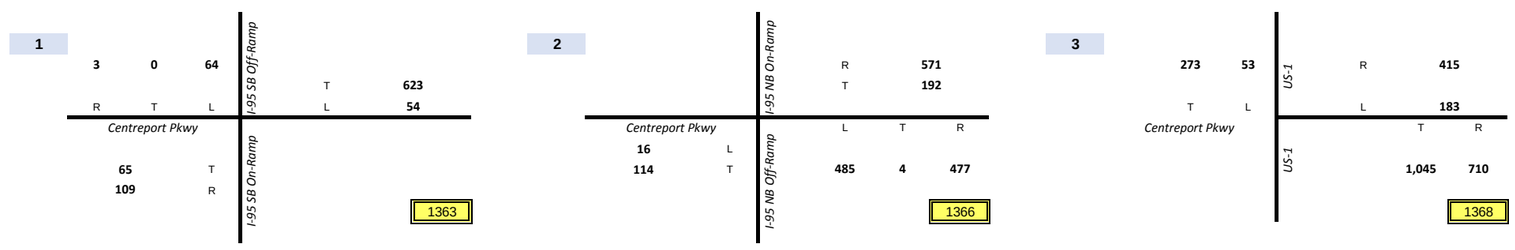
NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday 7-8 AM Volumes
I-95 Corridor

August 2017

Figure D.3-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

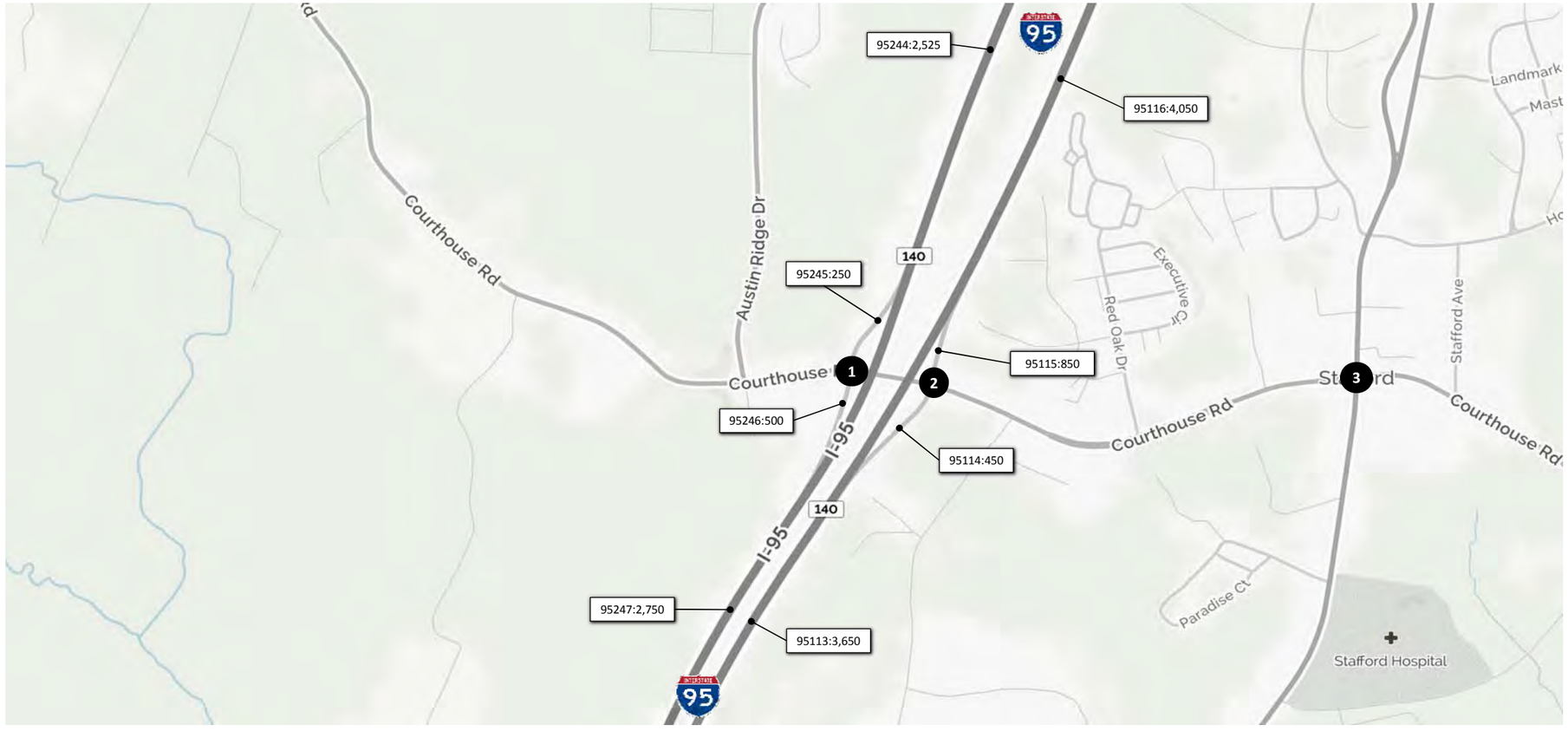
2022 No Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure D.3-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 43 | 0 | 97 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | I-95 SB Off-Ramp | |
| | | | | T | 719 |
| | | | | L | 97 |
| | 321 | | T | I-95 SB On-Ramp | |
| | 228 | | R | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | |
| | | | R | | 606 |
| | | | T | | 513 |
| Courthouse Road (630) | | | | | |
| 140 | L | | | | |
| 279 | T | | | I-95 NB Off-Ramp | |
| | | | L | T | R |
| | | | 304 | 12 | 111 |
| | | | | | 1406 |

**3**

| | | | | | |
|---|---|---|---|---|---|
| 334 | 168 | 85 | | | |
| R | T | L | | | |
| Courthouse Road (630) | | | | | |
| | | | US-1 | | |
| | | | R | | 194 |
| | | | T | | 310 |
| | | | L | | 28 |
| 115 | | L | | | |
| 104 | | T | US-1 | | |
| 171 | | R | | | |
| | | | L | T | R |
| | | | 473 | 432 | 19 |
| | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

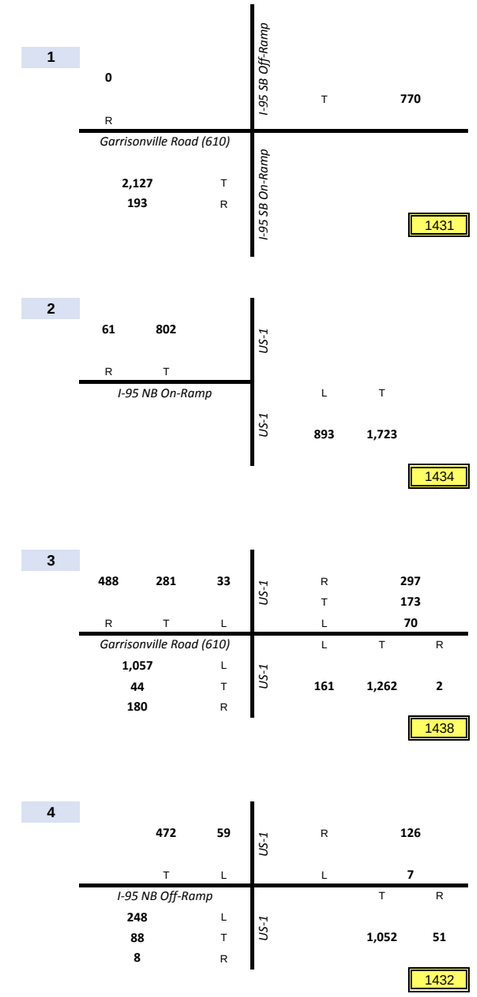
2022 No Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure D.3-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure D.3-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

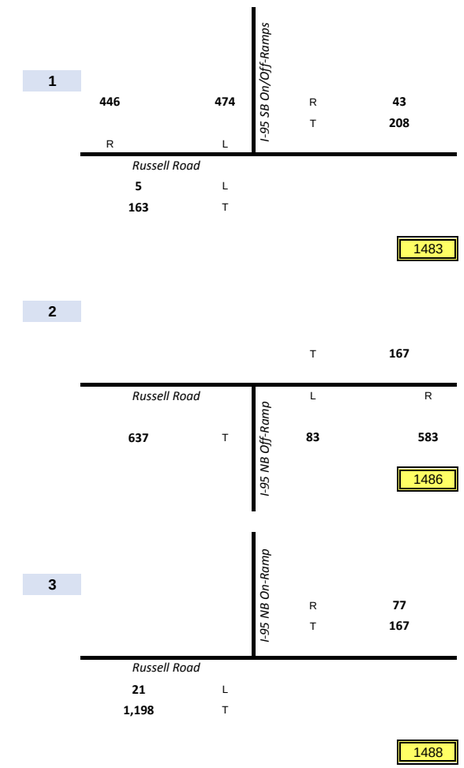
2022 No Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure D.3-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure D.3-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 77 | 9 | 301 | Carl D Silver Pkwy | R | 609 |
| | | | | T | 1,441 |
| R | T | L | | L | 18 |
| VA-3 (Plank Road) | | | | L | T | R |
| 214 | | L | Mall Court | | | |
| 2,390 | | T | | 7 | 5 | 12 |
| 2 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 16 | 6 | 4 | Ramseur St | R | 15 |
| | | | | T | 1,118 |
| R | T | L | | L | 144 |
| VA-3 (Plank Road) | | | | L | T | R |
| 36 | | L | Gateway Blvd | | | |
| 1,543 | | T | | 251 | 1 | 183 |
| 292 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

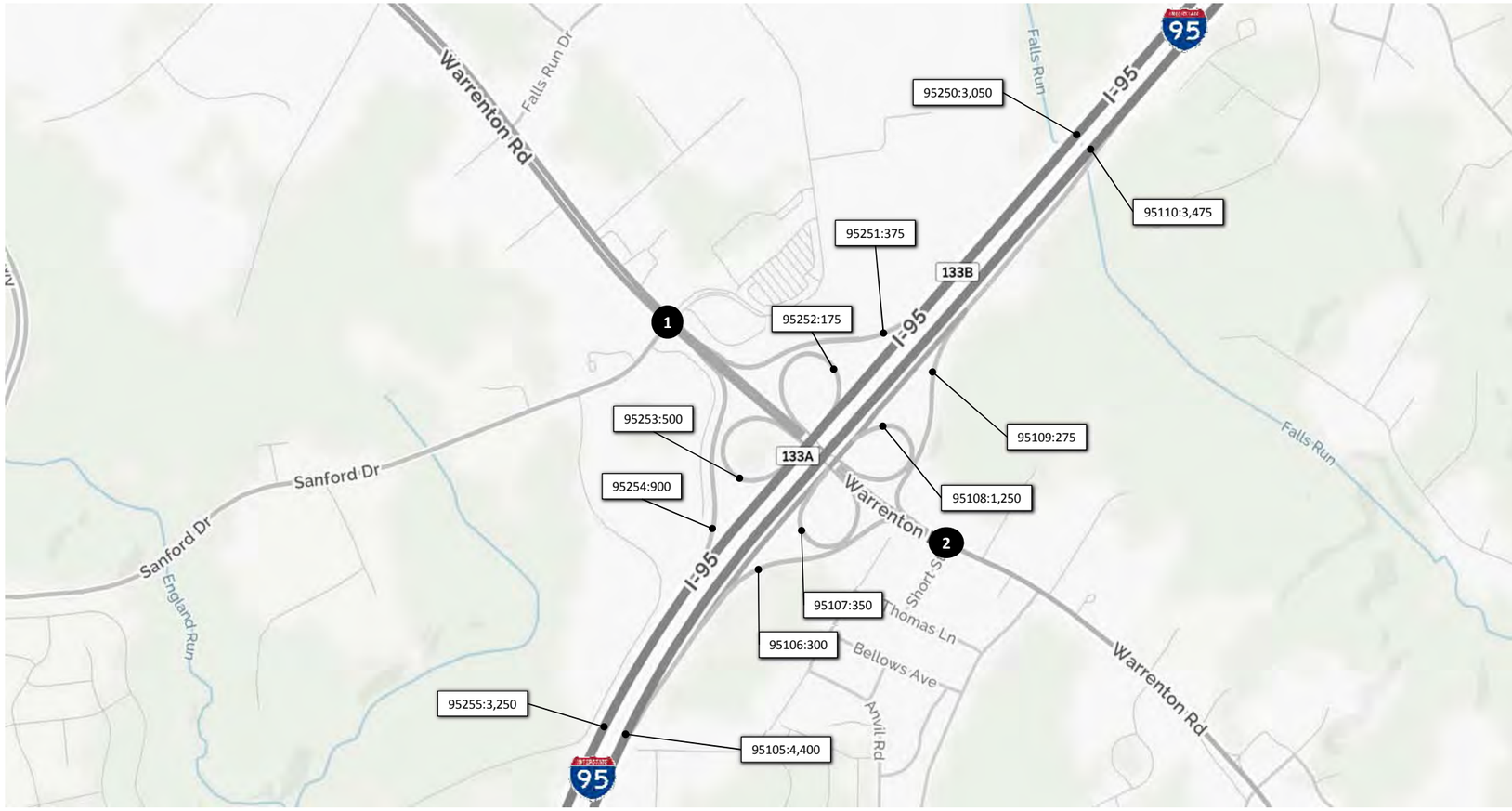
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday 8-9 AM Volumes
I-95 Corridor

August 2017

Figure D.4-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| 73 | 51 | 270 | S Gateway Dr | R | 346 |
| | | | | T | 2,078 |
| R | T | L | | L | 183 |
| US-17 (Warrenton Rd) | | | Sanford Dr | L | T | R |
| 70 | | L | | | |
| 1,525 | | T | | 33 | 15 | 173 |
| 28 | | R | | | |
| | | | | | 1333 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 6 | 0 | 5 | Parking Lot | R | 2 |
| | | | | T | 1,300 |
| R | T | L | | L | 14 |
| US-17 BUS (Warrenton Rd) | | | Short St | L | T | R |
| 5 | | L | | | |
| 1,430 | | T | | 109 | 2 | 26 |
| 77 | | R | | | |
| | | | | | 1338 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

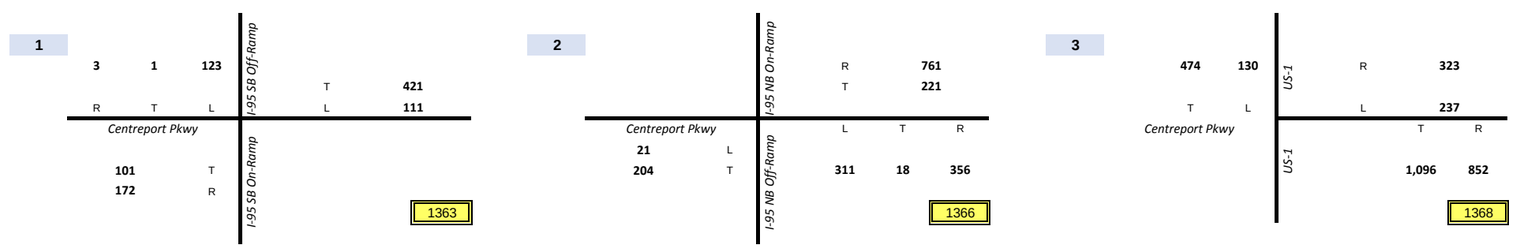
U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday 8-9 AM Volumes
I-95 Corridor

August 2017

Figure D.4-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

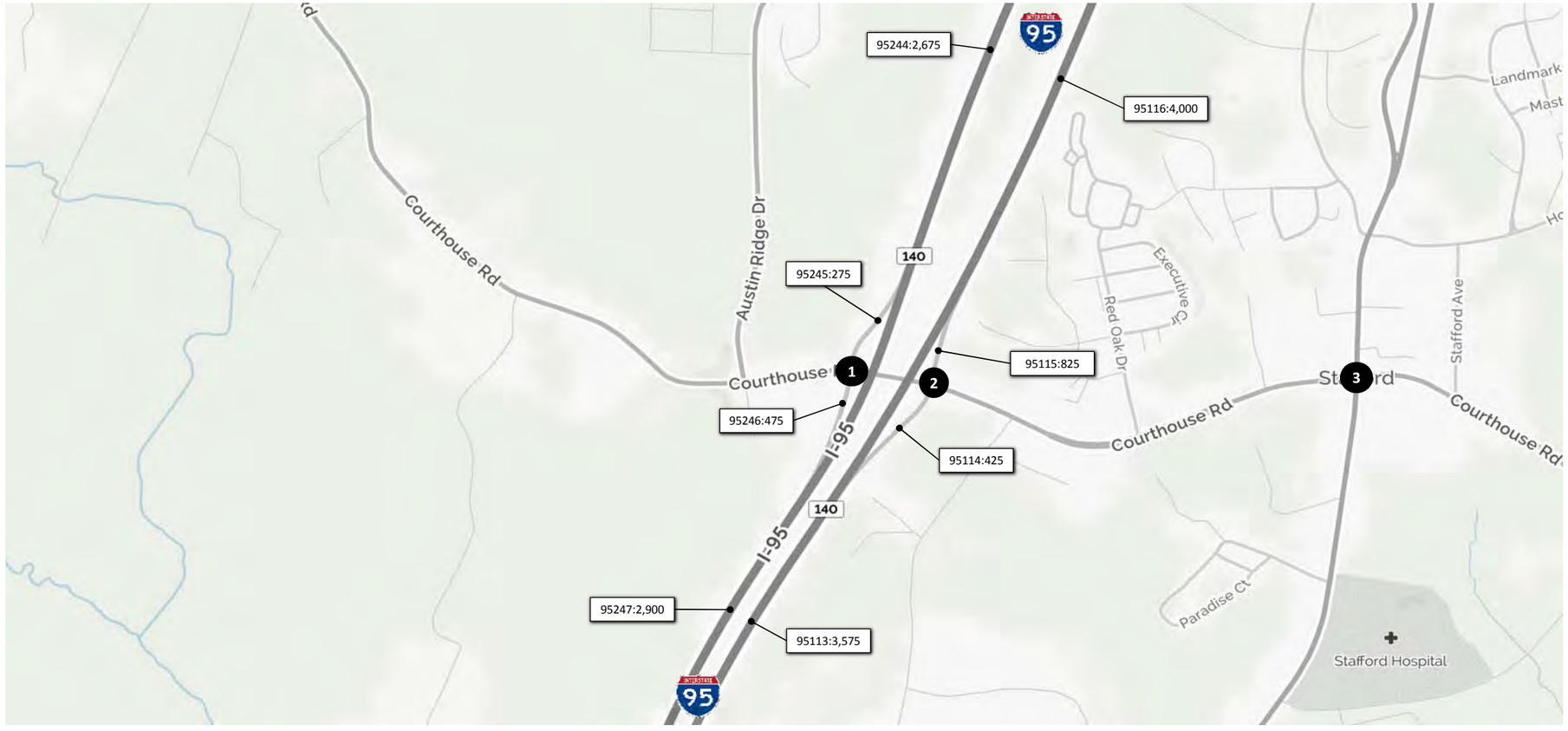
2022 No Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure D.4-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | | |
| | | | | T | | 685 |
| | | | | L | | 110 |
| R | T | L | | | | |
| Courthouse Road (630) | | | | | | |
| | | | I-95 SB On-Ramp | | | |
| 85 | 2 | 183 | | | | |
| | 542 | T | | | | |
| | 368 | R | | | | |

1403

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | | |
| | | | | R | | 628 |
| | | | | T | | 549 |
| Courthouse Road (630) | | | | | | |
| | | | | L | T | R |
| 199 | L | | | | | |
| 526 | T | | I-95 NB Off-Ramp | 247 | 8 | 159 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | US-1 | | | |
| | | | | R | | 316 |
| | | | | T | | 370 |
| | | | | L | | 40 |
| R | T | L | | | | |
| Courthouse Road (630) | | | | | | |
| | | | | L | T | R |
| 220 | L | | | | | |
| 74 | T | | US-1 | 463 | 344 | 22 |
| 391 | R | | | | | |
| 343 | 285 | 88 | | | | |

1408

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

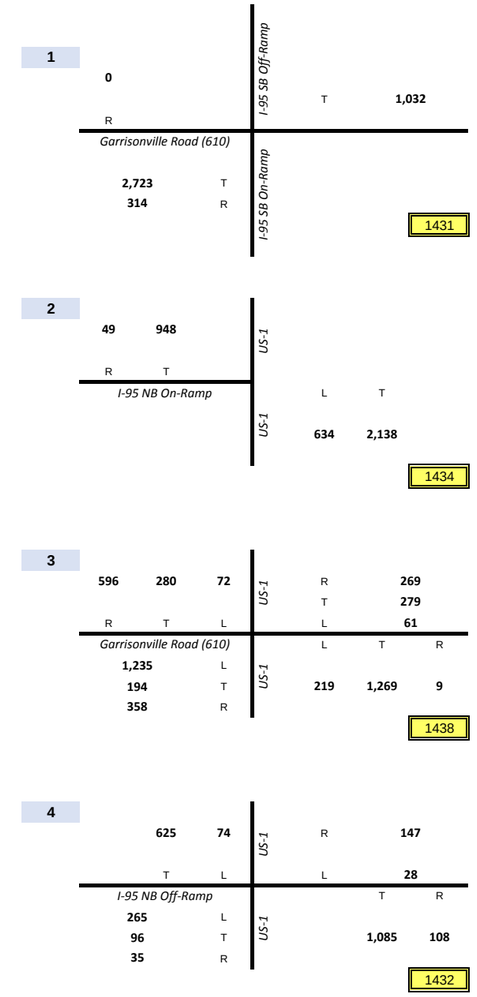
2022 No Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure D.4-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure D.4-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

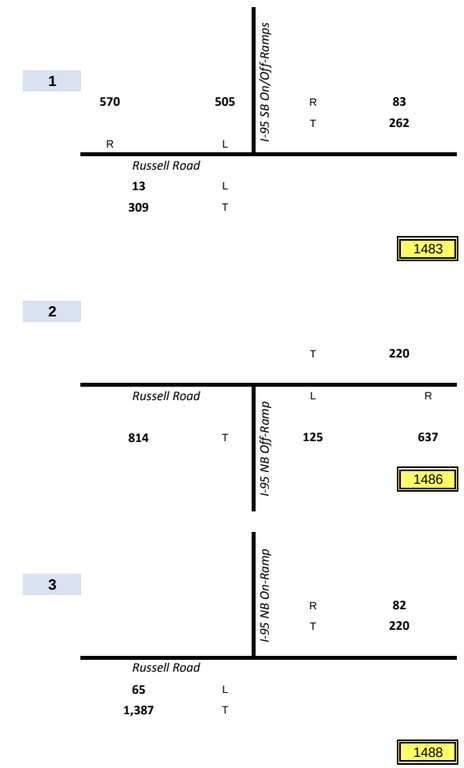
2022 No Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure D.4-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure D.4-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 324 | 8 | 795 | *Carl D Silver Pkwy* | R | 927 |
| | | | | T | 2,078 |
| R | T | L | | L | 18 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 263 | | L | *Mall Court* | | | |
| 1,815 | | T | | 11 | 8 | 8 |
| 6 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 15 | 5 | 14 | *Ramseur St* | R | 5 |
| | | | | T | 2,004 |
| R | T | L | | L | 224 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 33 | | L | *Gateway Blvd* | | | |
| 1,625 | | T | | 311 | 3 | 282 |
| 383 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

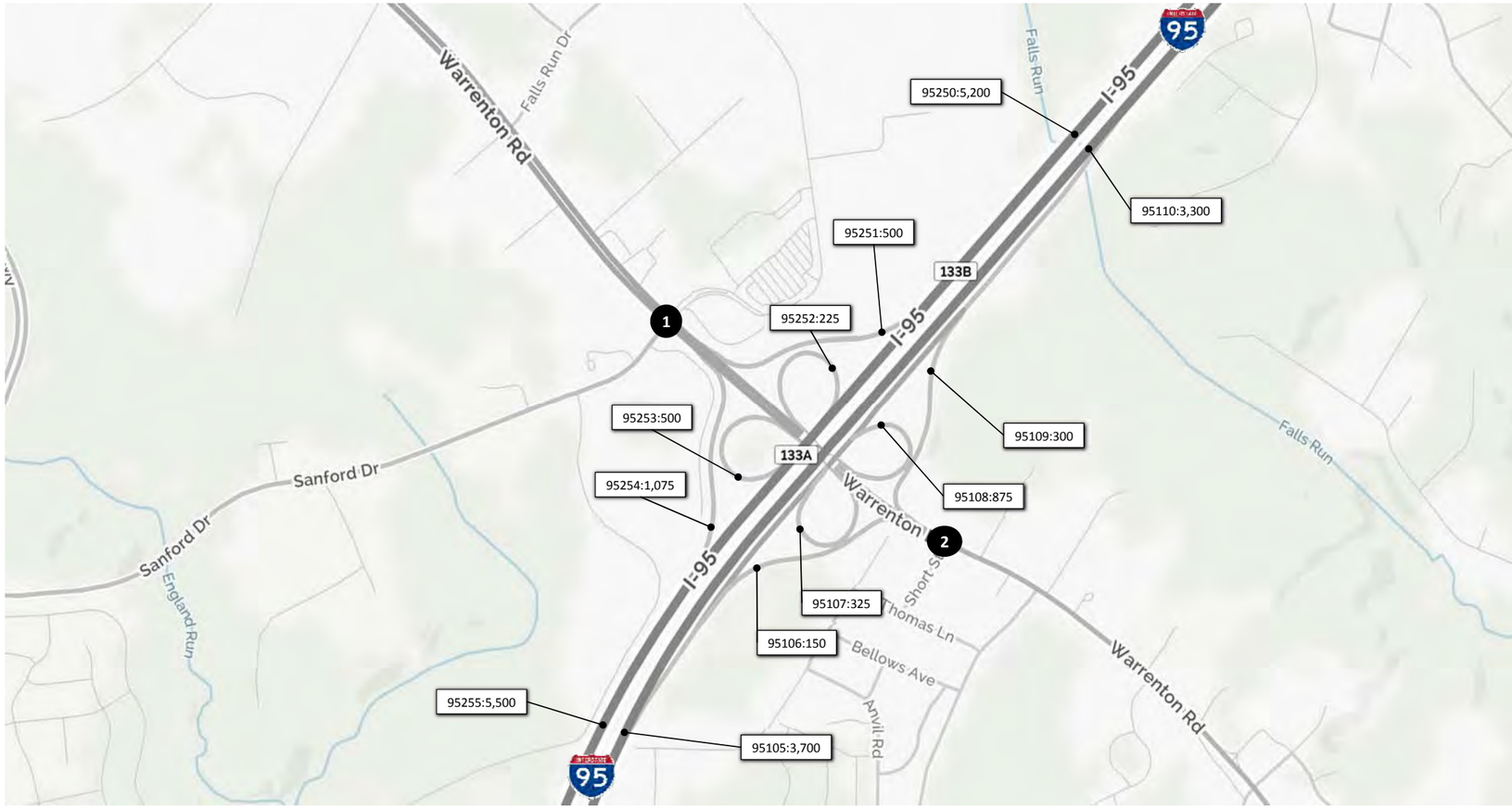
2022 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure D.5-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| 72 | 54 | 378 | S Gateway Dr | R | 393 |
| | | | | T | 2,247 |
| R | T | L | | L | 243 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 72 | | L | Sanford Dr | | | |
| 2,529 | | T | | 41 | 9 | 404 |
| 39 | | R | | | | |

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| 6 | 0 | 5 | Parking Lot | R | 3 |
| | | | | T | 1,938 |
| R | T | L | | L | 27 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 5 | | L | Short St | | | |
| 2,391 | | T | | 128 | 3 | 35 |
| 153 | | R | | | | |

1338

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

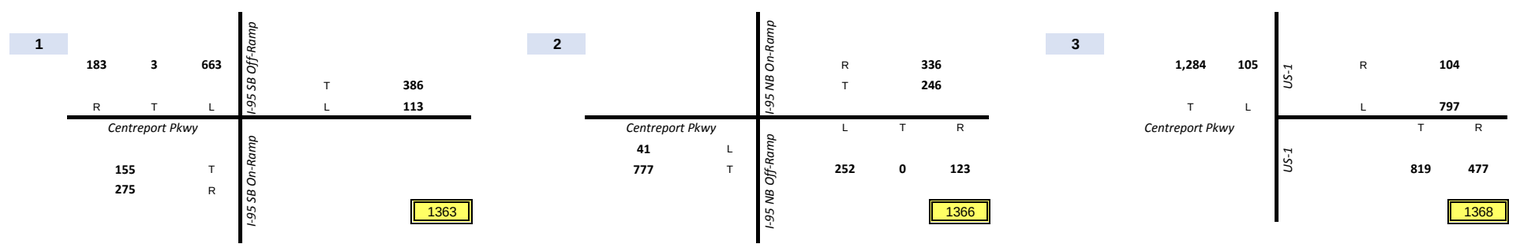
2022 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure D.5-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

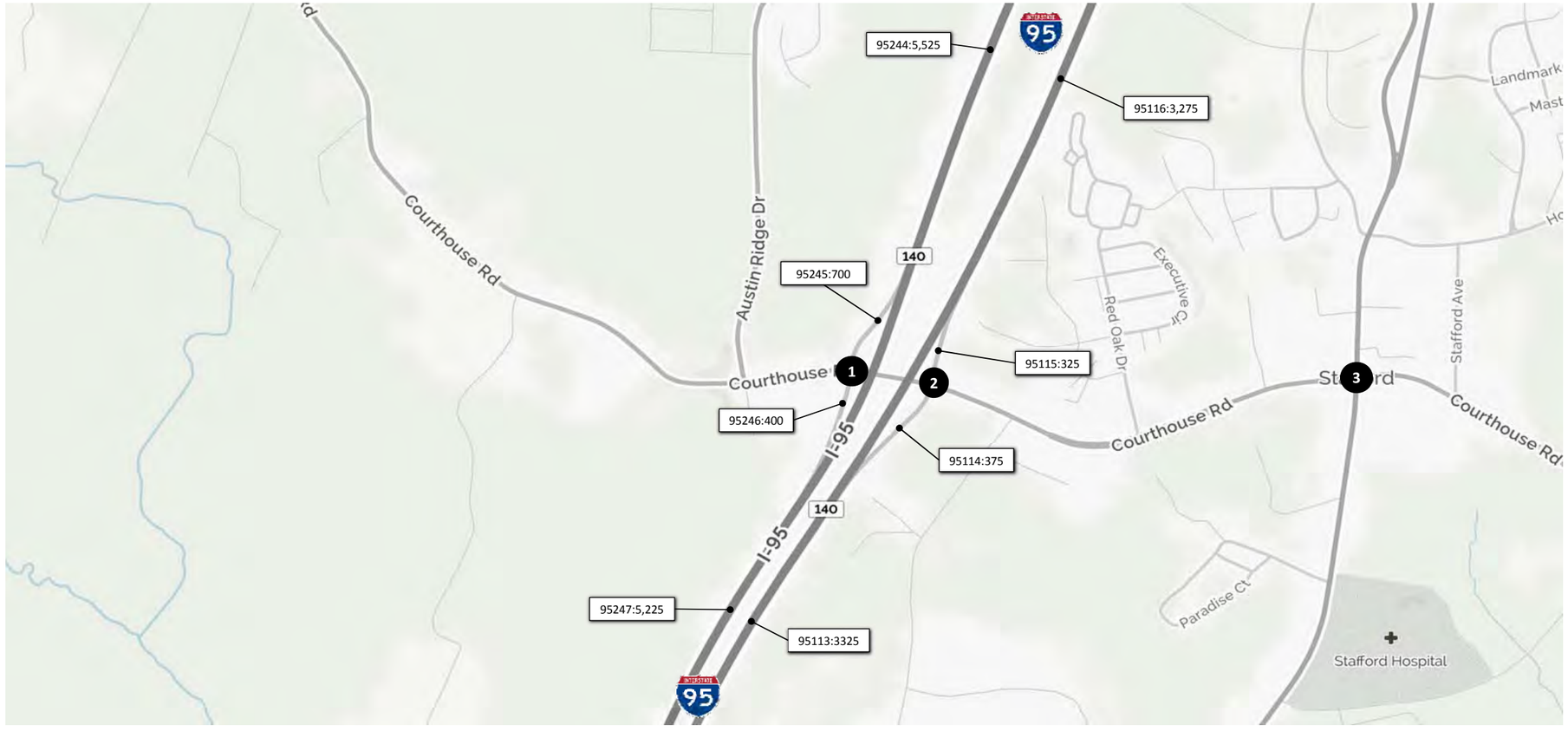
2022 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure D.5-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 752 | 0 | 873 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | I-95 SB Off-Ramp | |
| | | | | T | 558 |
| | | | | L | 39 |
| I-95 SB On-Ramp | | | | | |
| | 779 | | T | | |
| | 134 | | R | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | |
| | | | | R | 359 |
| | | | | T | 576 |
| Courthouse Road (630) | | | | | |
| 18 | L | | | L | T | R |
| 1,634 | T | | | 21 | 0 | 272 |
| | | | | I-95 NB Off-Ramp | |
| | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 206 | 654 | 206 | | | | |
| R | T | L | | | | |
| Courthouse Road (630) | | | | US-1 | | |
| | | | | R | | 257 |
| | | | | T | | 308 |
| | | | | L | | 65 |
| | | | | L | T | R |
| 420 | | L | | | | |
| 597 | | T | US-1 | 422 | 606 | 84 |
| 888 | | R | | | | |
| | | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

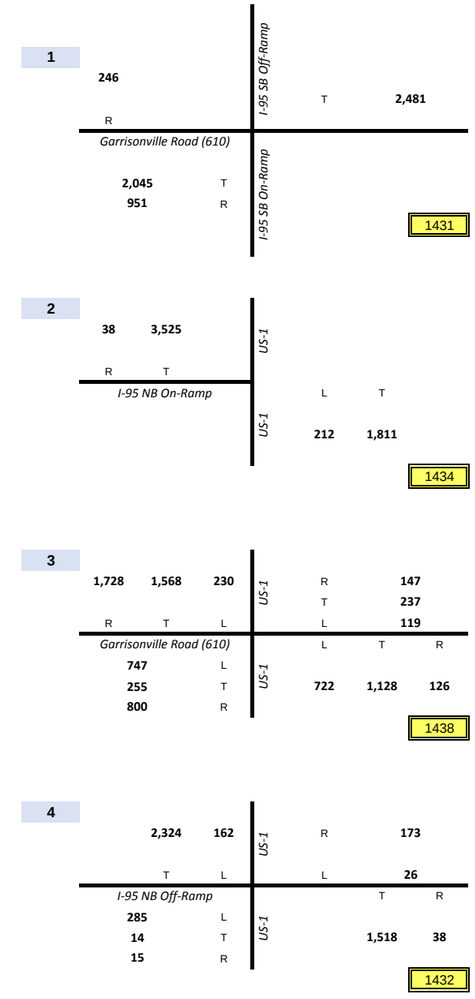
2022 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure D.5-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure D.5-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

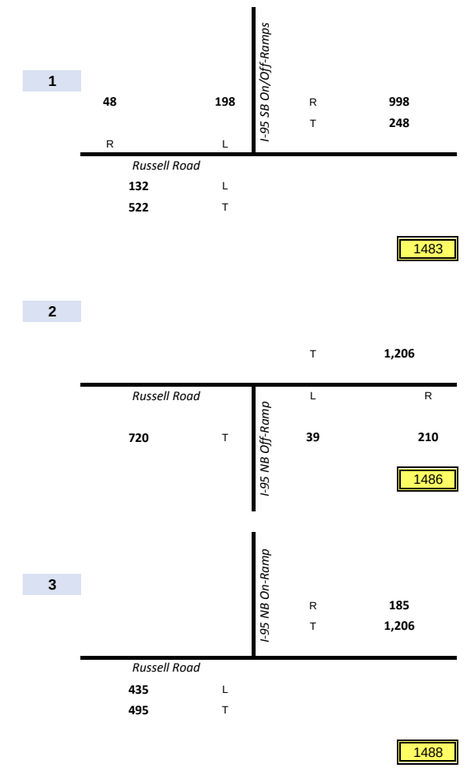
2022 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure D.5-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 3 - 4 PM Volumes

I-95 Corridor

August 2017

Figure D.5-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 305 | 9 | 831 | Carl D Silver Pkwy | R | 947 |
| | | | | T | 2,097 |
| R | T | L | | L | 18 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 260 | | L | | | | |
| 1,996 | | T | | 10 | 11 | 13 |
| 5 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 21 | 7 | 9 | Ramseur St | R | 3 |
| | | | | T | 1,724 |
| R | T | L | | L | 180 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 34 | | L | | | | |
| 1,514 | | T | | 306 | 2 | 230 |
| 393 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

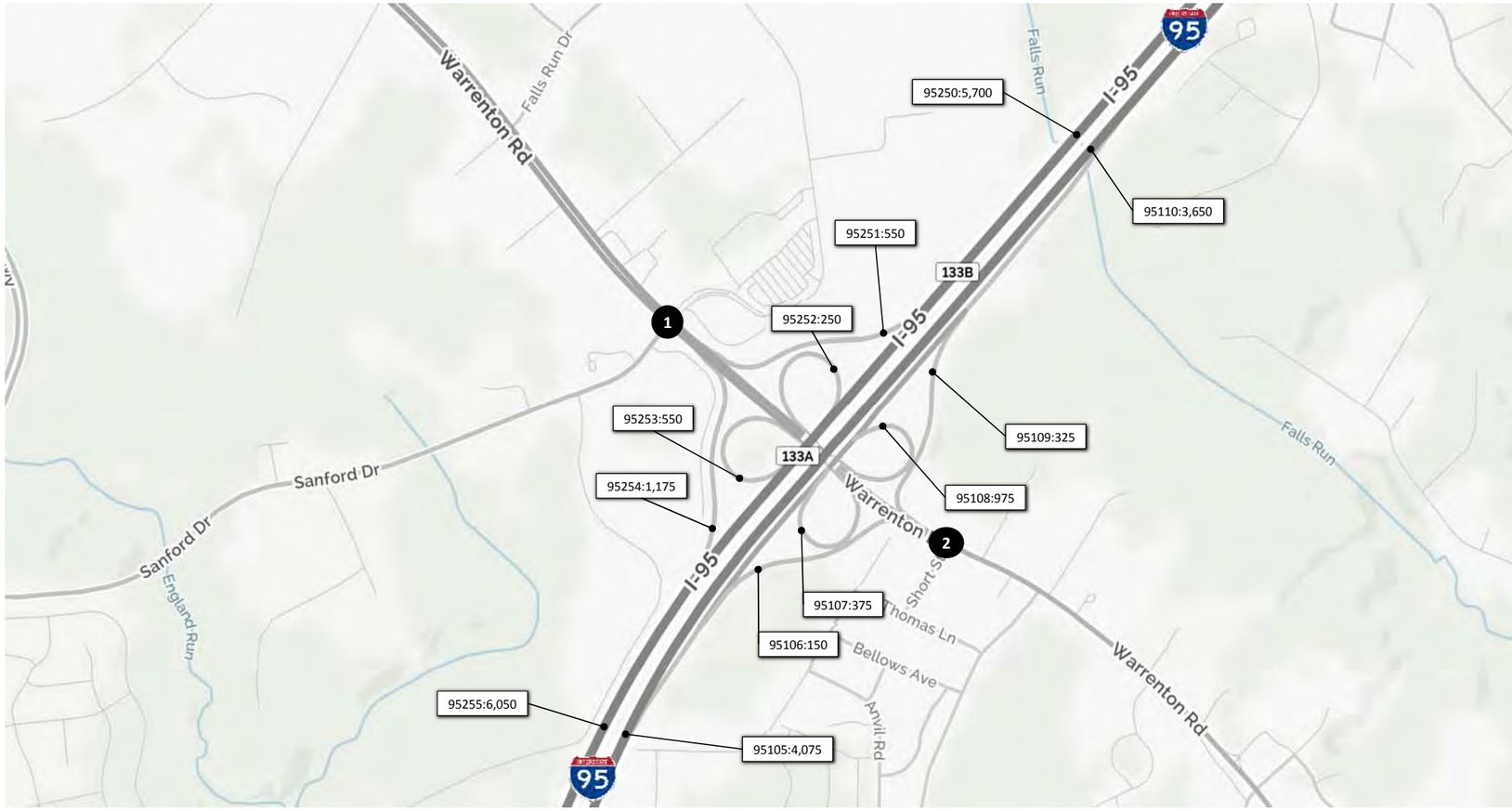
2022 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure D.6-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 87 | 31 | 425 | S Gateway Dr | R 377 |
| | | | | | T 1,924 |
| | R | T | L | | L 136 |
| | US-17 (Warrenton Rd) | | | | L T R |
| | 80 | L | | Sanford Dr | |
| | 2,185 | T | | | 34 18 397 |
| | 28 | R | | | |
| | | | | | 1333 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 7 | 0 | 8 | Parking Lot | R 5 |
| | | | | | T 1,405 |
| | R | T | L | | L 18 |
| | US-17 BUS (Warrenton Rd) | | | | L T R |
| | 5 | L | | Short St | |
| | 2,052 | T | | | 101 2 24 |
| | 111 | R | | | |
| | | | | | 1338 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

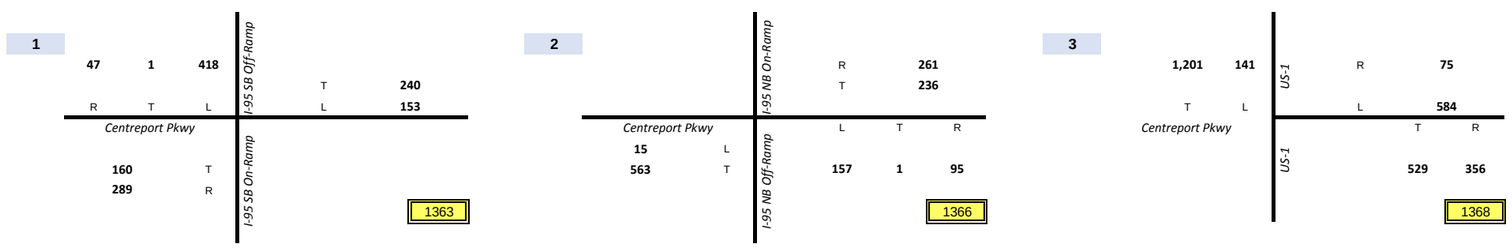
2022 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure D.6-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

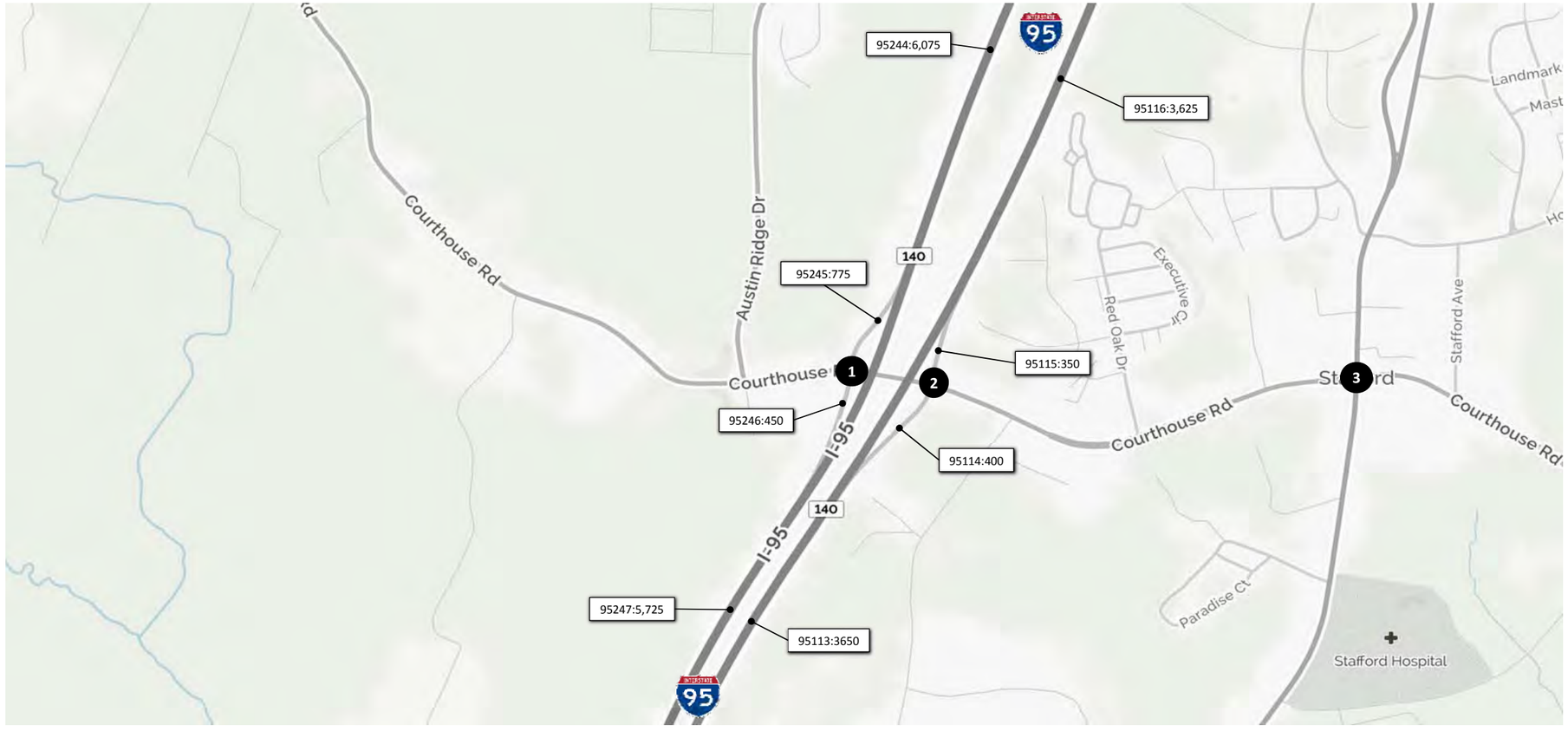
2022 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure D.6-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 335 | 1 | 441 | | |
| | R | T | L | | |
| Courthouse Road (630) | | | | I-95 SB Off-Ramp | |
| | | | | T | 639 |
| | | | | L | 155 |
| | 630 | | T | I-95 SB On-Ramp | |
| | 282 | | R | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | |
| | | | R | | 262 |
| | | | T | | 573 |
| Courthouse Road (630) | | | | | |
| 96 | L | | | | |
| 975 | T | | | I-95 NB Off-Ramp | |
| | | | L | T | R |
| | | | 220 | 2 | 184 |
| | | | | | 1406 |

**3**

| | | | | | |
|---|---|---|---|---|---|
| 256 | 658 | 163 | | | |
| R | T | L | US-1 | | |
| | | | R | | 175 |
| | | | T | | 271 |
| | | | L | | 55 |
| Courthouse Road (630) | | | | | |
| 242 | | L | | | |
| 298 | | T | US-1 | | |
| 619 | | R | | | |
| | | | L | T | R |
| | | | 308 | 350 | 45 |
| | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

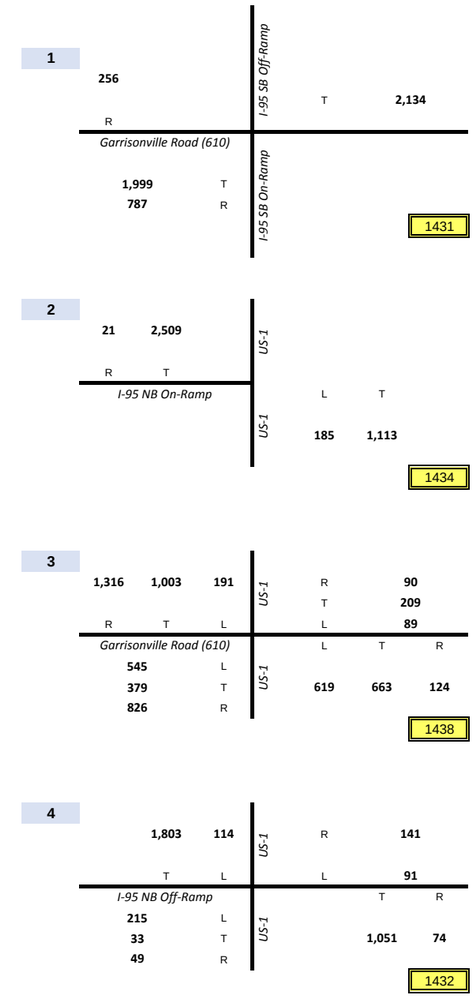
2022 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure D.6-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure D.6-5

**Legend**

xx,xxx — **Weekday Hourly Volume**

**Proposed Express Lane Extension (Done by Others)**

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

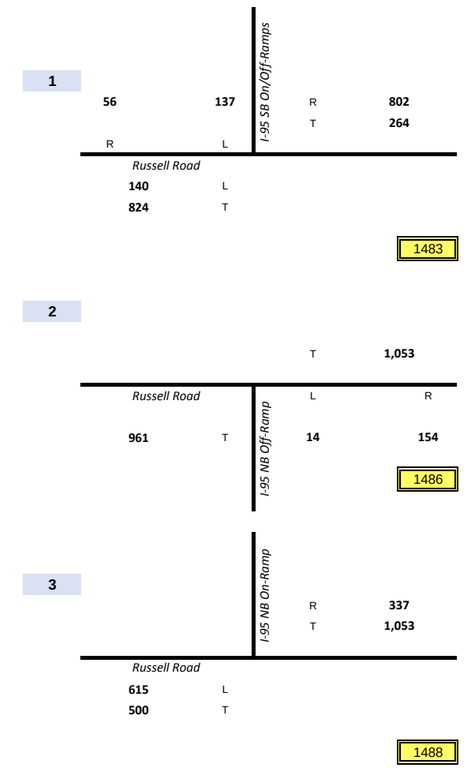
2022 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure D.6-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 4 - 5 PM Volumes

I-95 Corridor

August 2017

Figure D.6-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 297 | 7 | 786 | Carl D Silver Pkwy | R | 996 |
| | | | | T | 1,906 |
| R | T | L | | L | 17 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 257 | | L | | | |
| 2,112 | | T | | 11 | 8 | 7 |
| 6 | | R | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 20 | 4 | 14 | Ramseur St | R | 7 |
| | | | | T | 1,692 |
| R | T | L | | L | 223 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 36 | | L | | | |
| 1,679 | | T | | 313 | 3 | 227 |
| 411 | | R | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

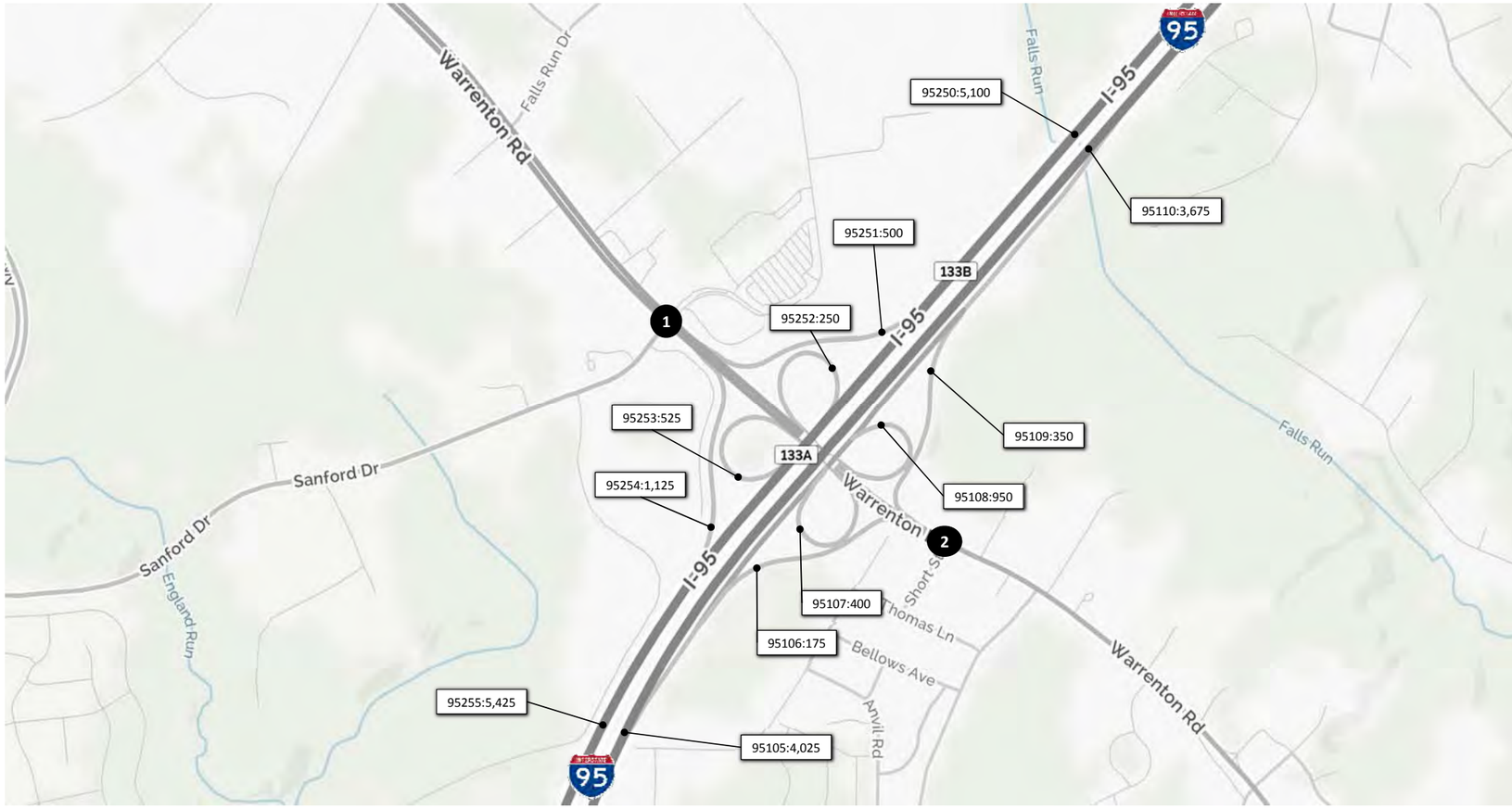
2022 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure D.7-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| 96 | 26 | 461 | S Gateway Dr | R | 378 |
| | | | | T | 1,902 |
| R | T | L | | L | 110 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 82 | | L | Sanford Dr | | | |
| 2,119 | | T | | 34 | 13 | 349 |
| 20 | | R | | | | |

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| 6 | 0 | 6 | Parking Lot | R | 2 |
| | | | | T | 1,428 |
| R | T | L | | L | 23 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 7 | | L | Short St | | | |
| 2,075 | | T | | 102 | 2 | 23 |
| 128 | | R | | | | |

1338

**Legend**

xx,xxx Weekday Hourly Volume

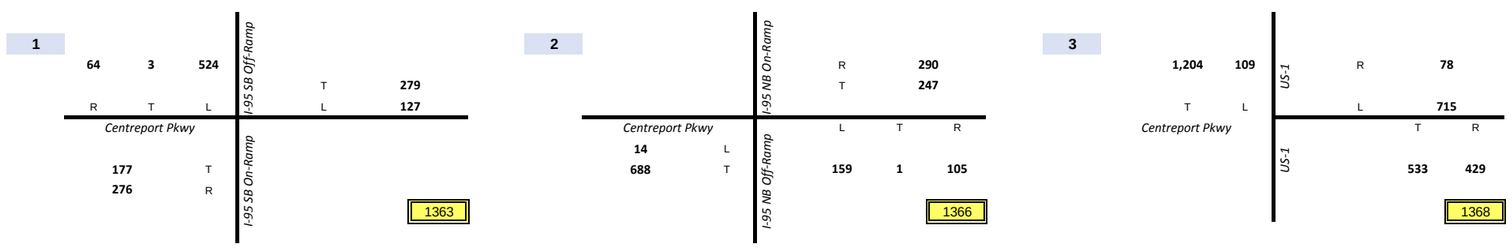
NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday 5 - 6 PM Volumes
I-95 Corridor

August 2017

Figure D.7-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

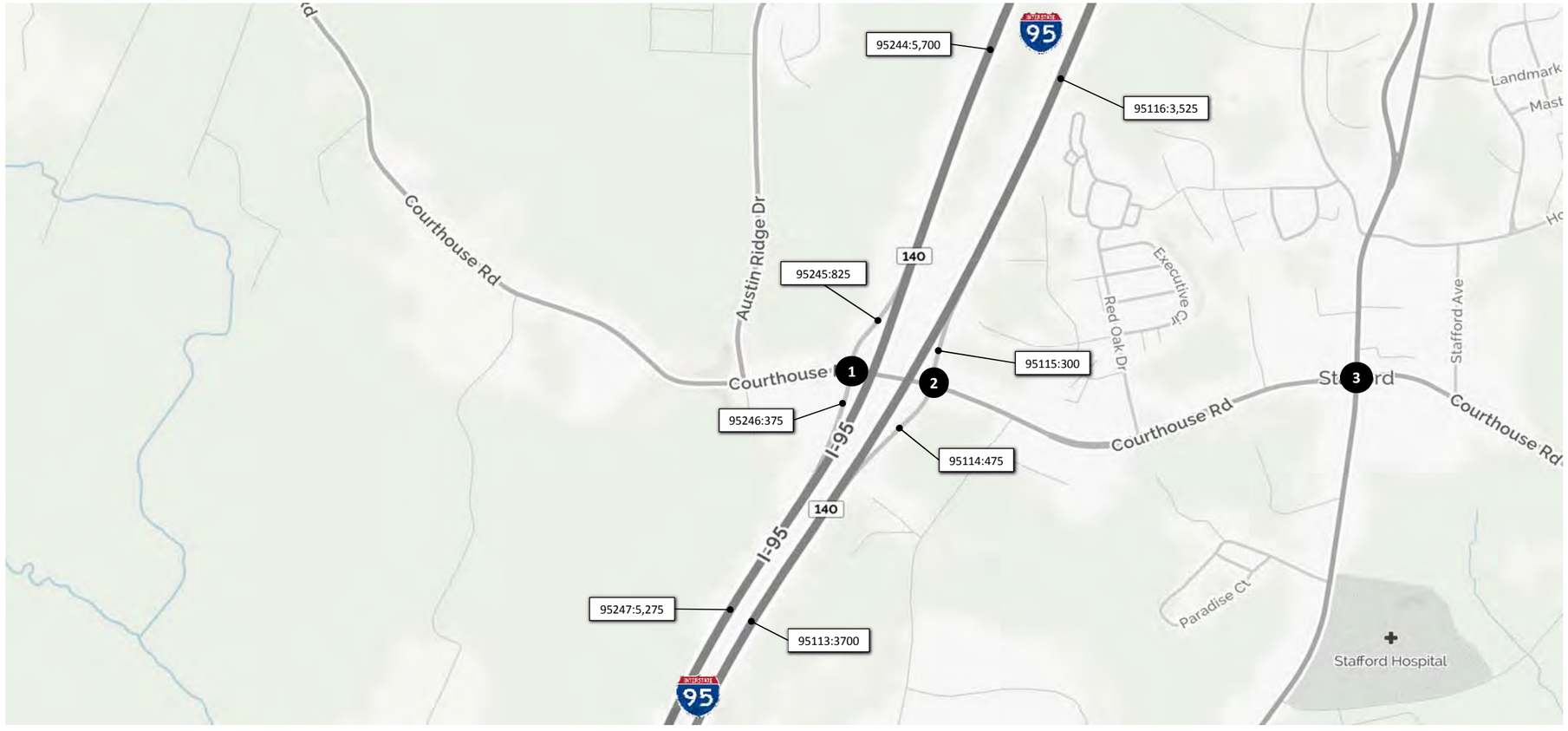
2022 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure D.7-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | T | L | 712 |
| | | | | L | R | 97 |
| R | T | L | | | | |
| Courthouse Road (630) | | | | | | |
| | | | I-95 SB On-Ramp | | | |
| 659 | T | | | | | |
| 290 | R | | | | | |
| 350 | 0 | 462 | | | | 1403 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | T | 206 |
| | | | | T | R | 542 |
| Courthouse Road (630) | | | | | | |
| 84 | L | | | L | T | R |
| 1,037 | T | | I-95 NB Off-Ramp | 267 | 0 | 201 |
| | | | | | | 1406 |

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 239 | 726 | 160 | US-1 | R | T | 162 |
| | | | | T | R | 237 |
| R | T | L | | L | | 41 |
| Courthouse Road (630) | | | | | | |
| 281 | L | | | L | T | R |
| 299 | T | | US-1 | 273 | 357 | 37 |
| 658 | R | | | | | |
| | | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

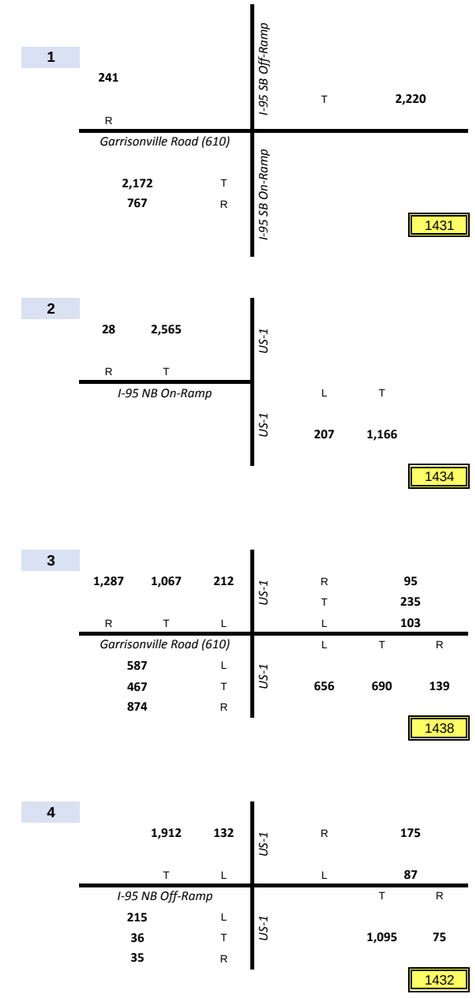
2022 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure D.7-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure D.7-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

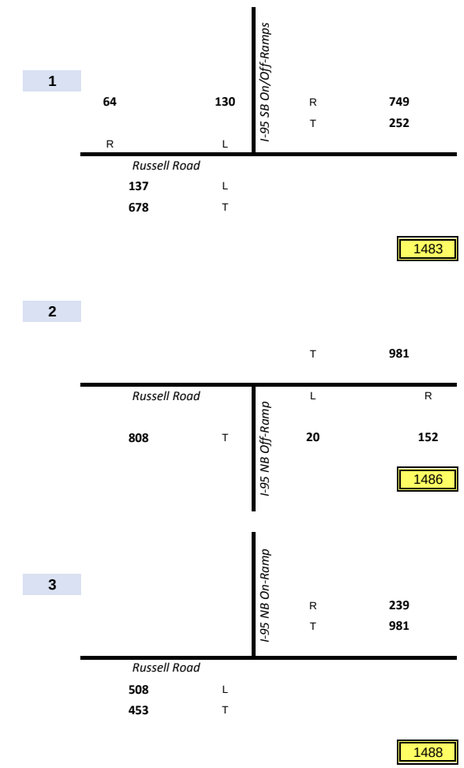
2022 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure D.7-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 5 - 6 PM Volumes

I-95 Corridor

August 2017

Figure D.7-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 296 | 8 | 757 | Carl D Silver Pkwy | R | 809 |
| | | | | T | 1,997 |
| R | T | L | | L | 25 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 243 | | L | | | |
| 1,718 | | T | | 13 | 6 | 5 |
| 7 | | R | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 10 | 4 | 9 | Ramseur St | R | 1 |
| | | | | T | 1,690 |
| R | T | L | | L | 152 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 22 | | L | | | |
| 1,295 | | T | | 319 | 1 | 187 |
| 351 | | R | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

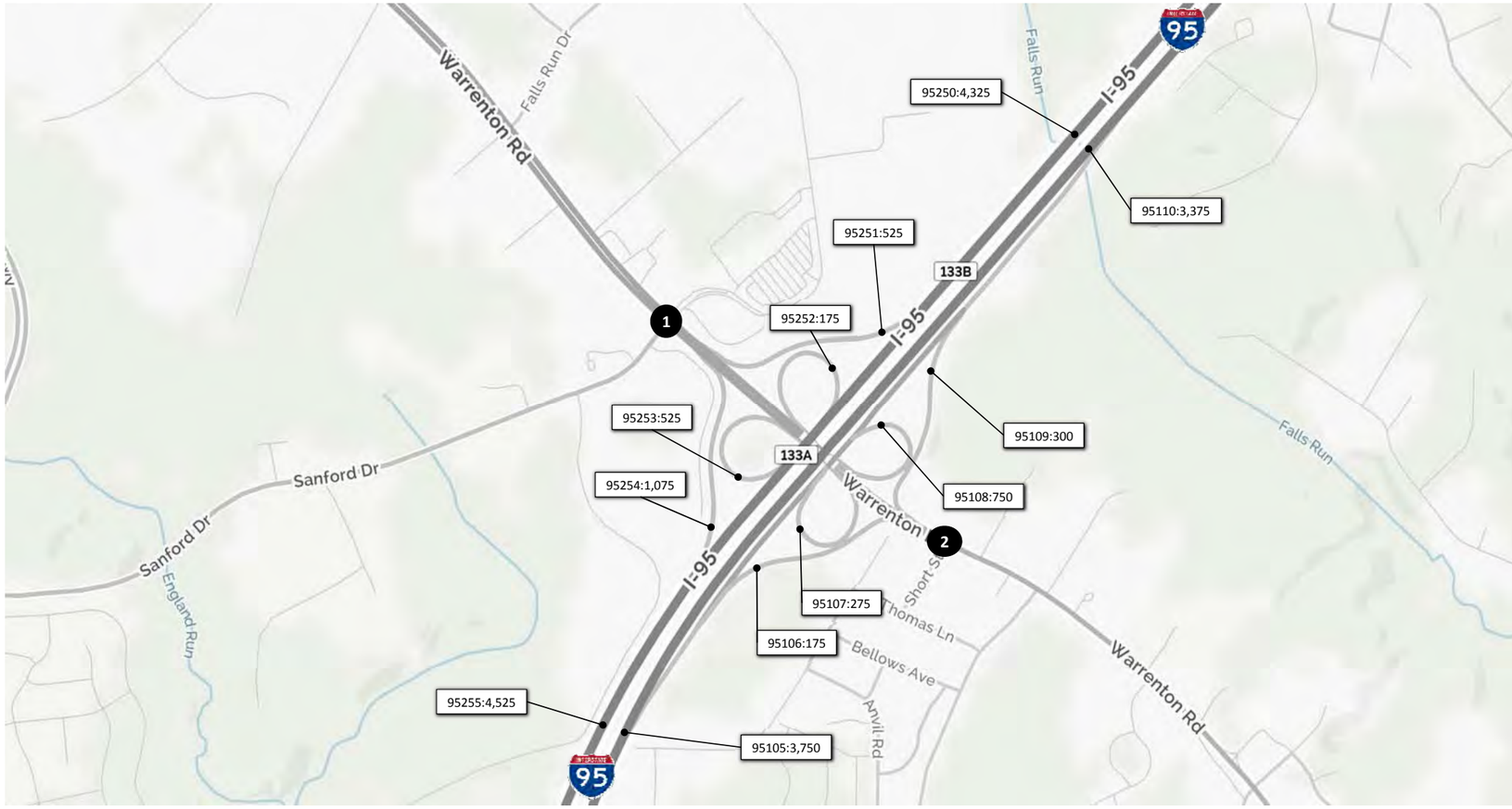
2022 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure D.8-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| 91 | 43 | 378 | S Gateway Dr | R | 356 |
| | | | | T | 1,746 |
| R | T | L | | L | 110 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 96 | | L | Sanford Dr | | |
| 1,885 | | T | | 42 | 2 | 231 |
| 10 | | R | | | |
| | | | | | 1333 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| 9 | 0 | 3 | Parking Lot | R | 2 |
| | | | | T | 1,291 |
| R | T | L | | L | 16 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 6 | | L | Short St | | |
| 1,693 | | T | | 92 | 5 | 20 |
| 137 | | R | | | |
| | | | | | 1338 |

**Legend**

xx,xxx Weekday Hourly Volume

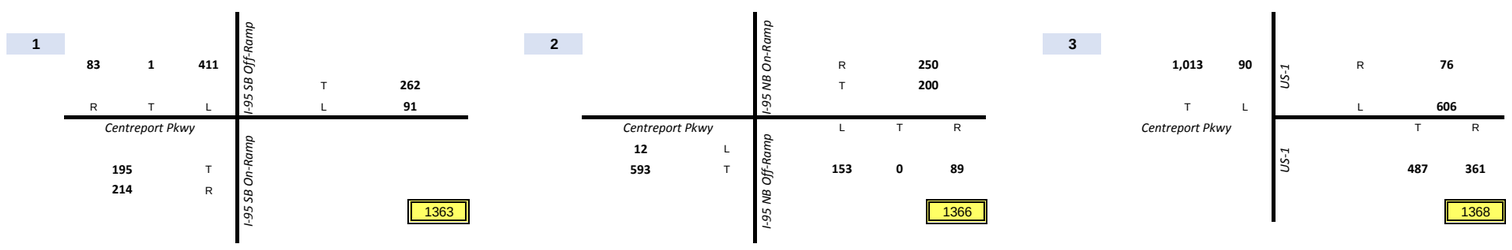
NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build
Weekday 6 - 7 PM Volumes
I-95 Corridor

August 2017

Figure D.8-2




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

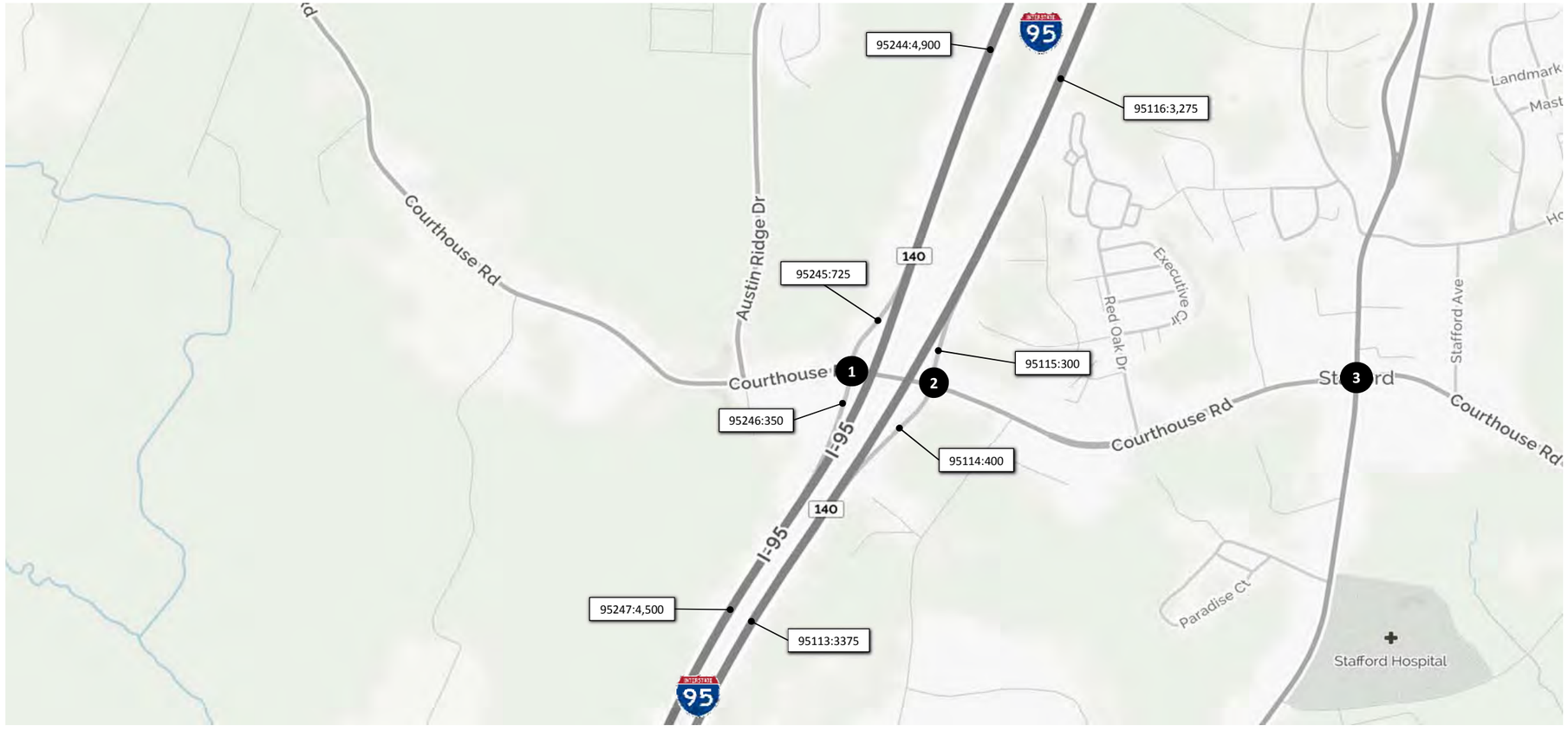
2022 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure D.8-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 303 | 0 | 423 | | T | 634 |
| R | T | L | | L | 98 |
| Courthouse Road (630) | | | | | |
| 550 | | T | I-95 SB On-Ramp | | |
| 240 | | R | | | |
| | | | | | 1403 |

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | | |
| | | | R | | 220 |
| | | | T | | 526 |
| Courthouse Road (630) | | | | | |
| 73 | L | | L | T | R |
| 900 | T | | 206 | 0 | 190 |
| | | | I-95 NB Off-Ramp | | |
| | | | | | 1406 |

**3**

| | | | | | |
|---|---|---|---|---|---|
| 229 | 578 | 116 | US-1 | | |
| R | T | L | | R | 163 |
| | | | | T | 233 |
| | | | | L | 40 |
| Courthouse Road (630) | | | | | |
| 264 | | L | | L | T R |
| 316 | | T | US-1 | | |
| 510 | | R | | 284 | 322 36 |
| | | | | | 1408 |

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

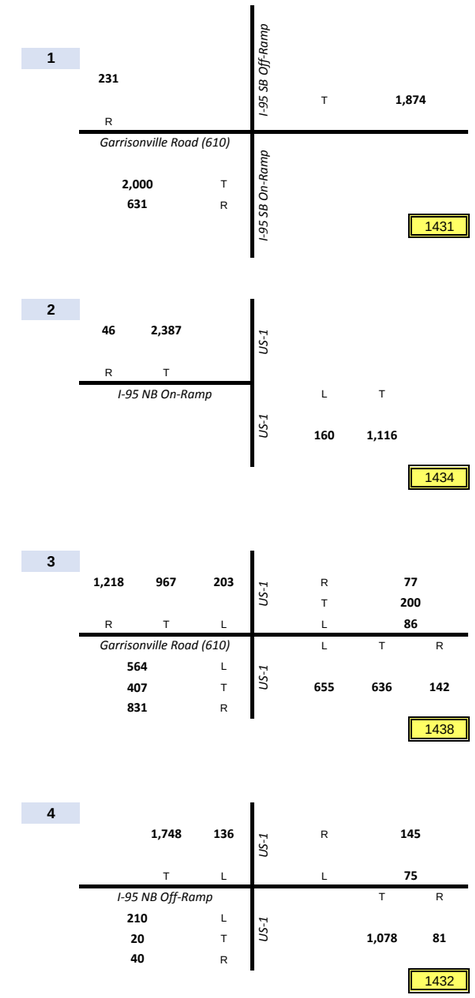
2022 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure D.8-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure D.8-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension (Done by Others)

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

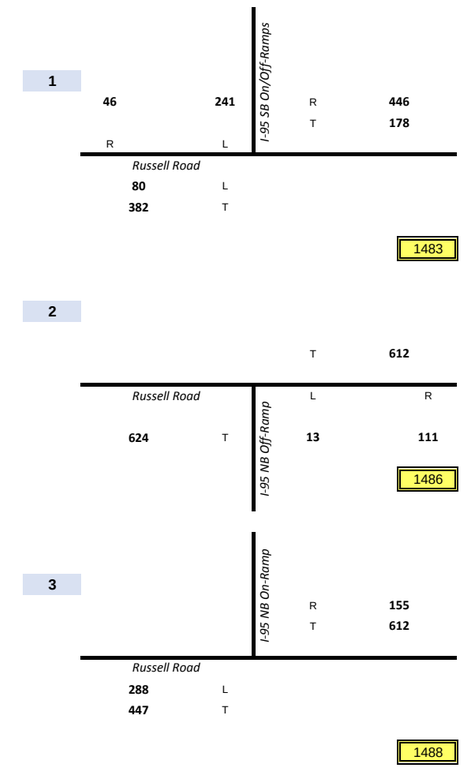
2022 No Build

Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure D.8-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 No Build

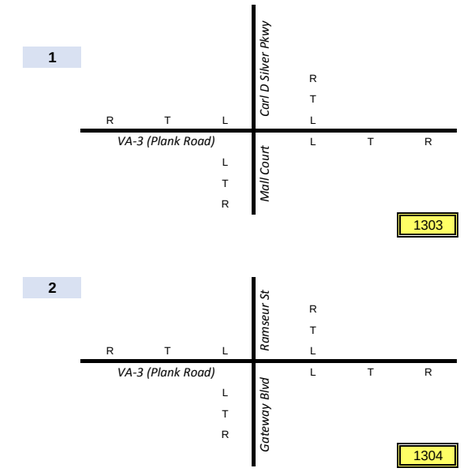
Weekday 6 - 7 PM Volumes

I-95 Corridor

August 2017

Figure D.8-7

# APPENDIX E:
# 2022 BUILD
# TRAFFIC VOLUMES




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

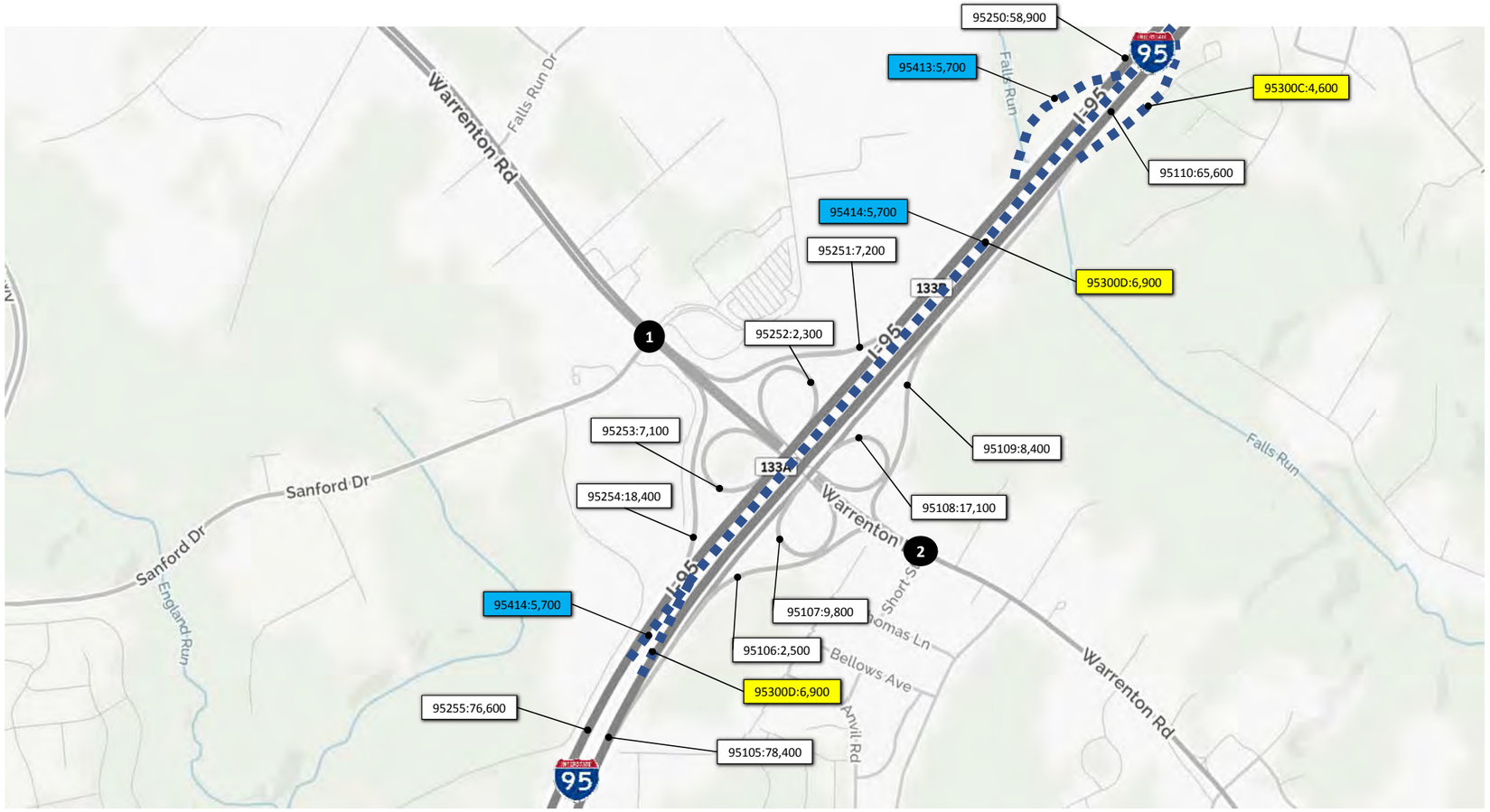
2022 Build

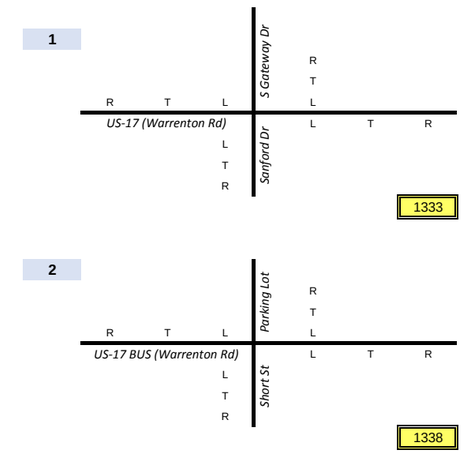
Weekday Daily Volumes

I-95 Corridor

August 2017

Figure E.1-1




**Legend**

xx,xxx Weekday Daily Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

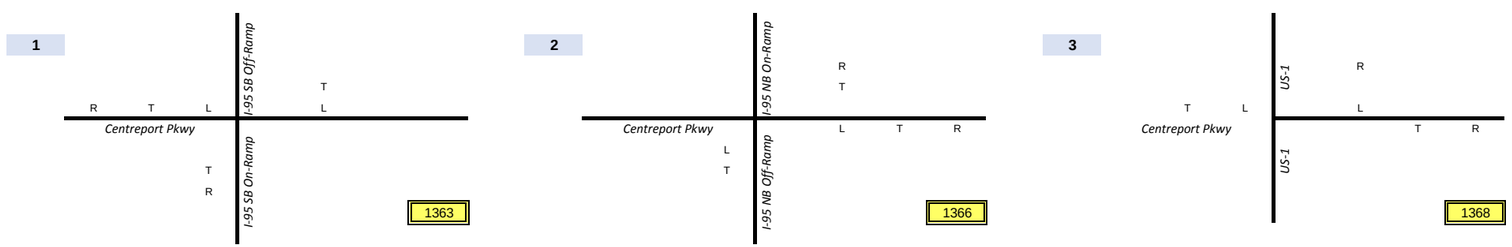
2022 Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure E.1-2




**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

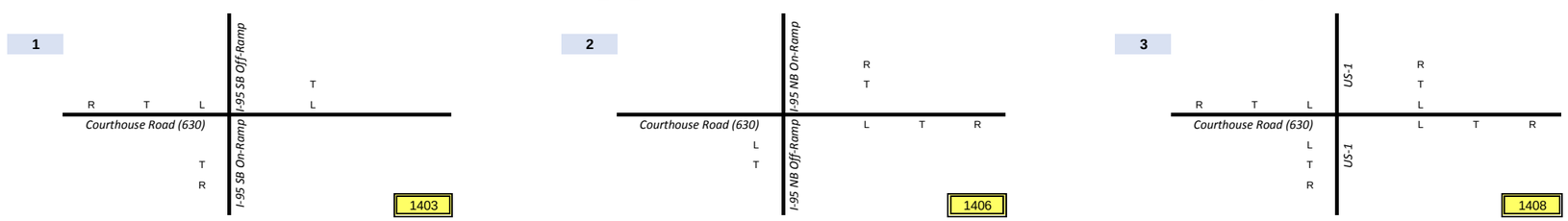
2022 Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure E.1-3




**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension

**NOT TO SCALE**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

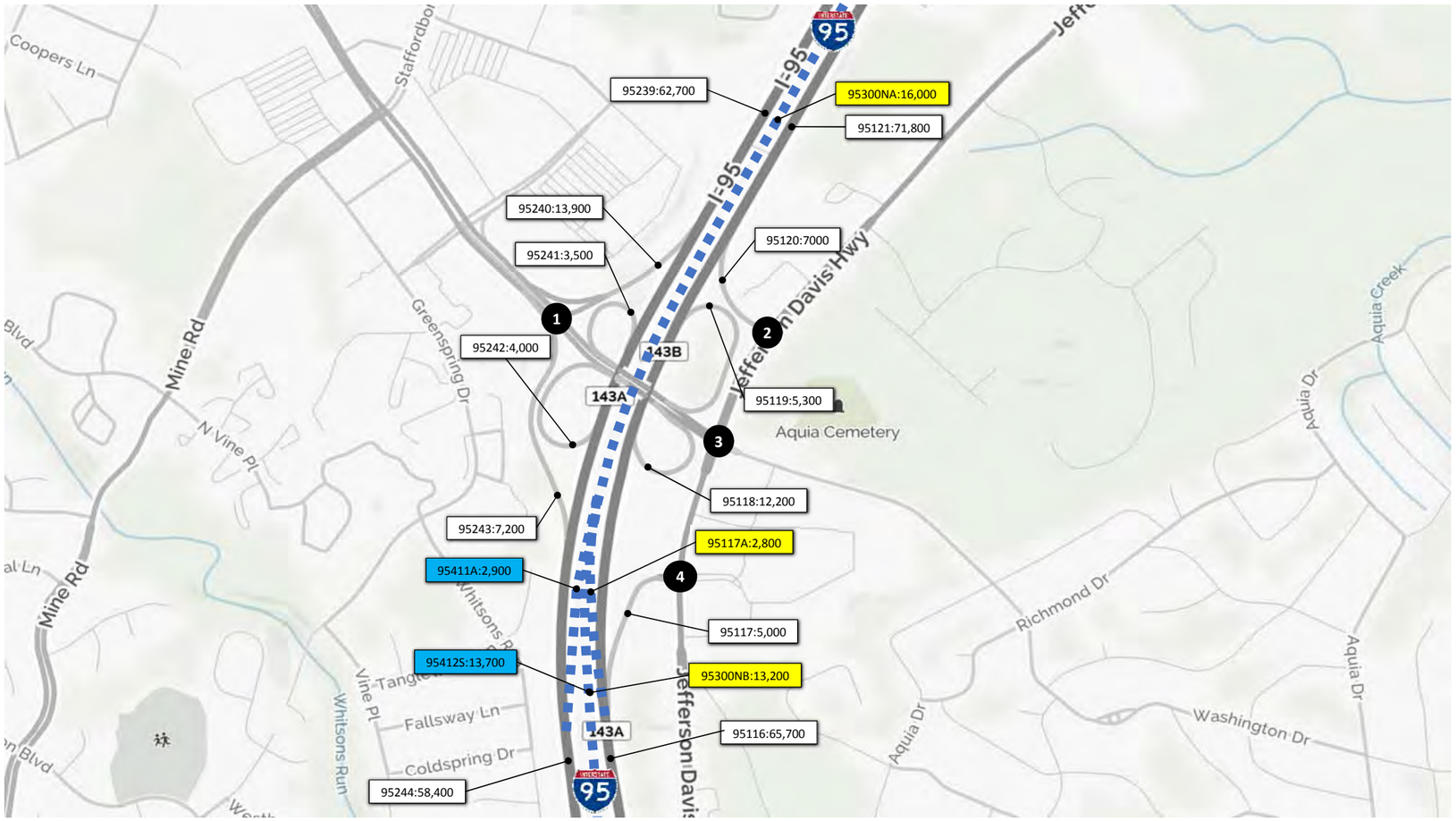
2022 Build

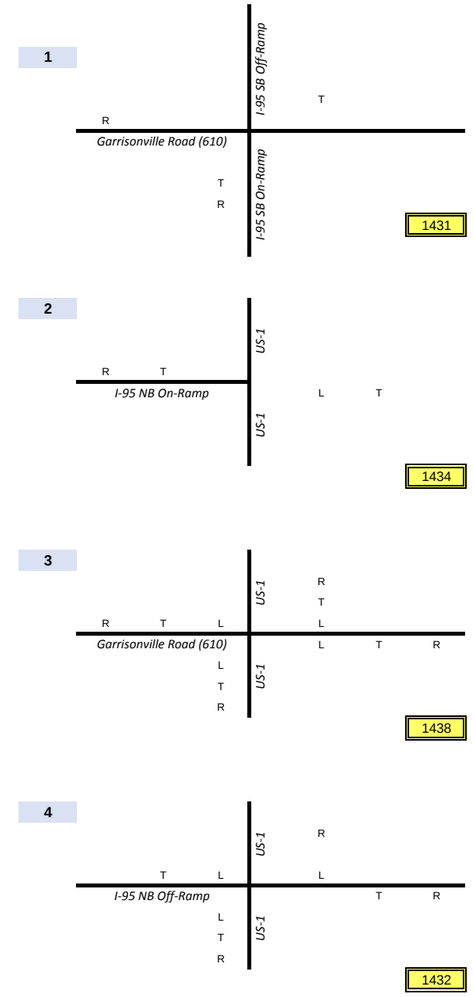
Weekday Daily Volumes

I-95 Corridor

August 2017

Figure E.1-4




**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday Daily Volumes

I-95 Corridor

August 2017

Figure E.1-5

**Legend**

xx,xxx — Weekday Daily Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

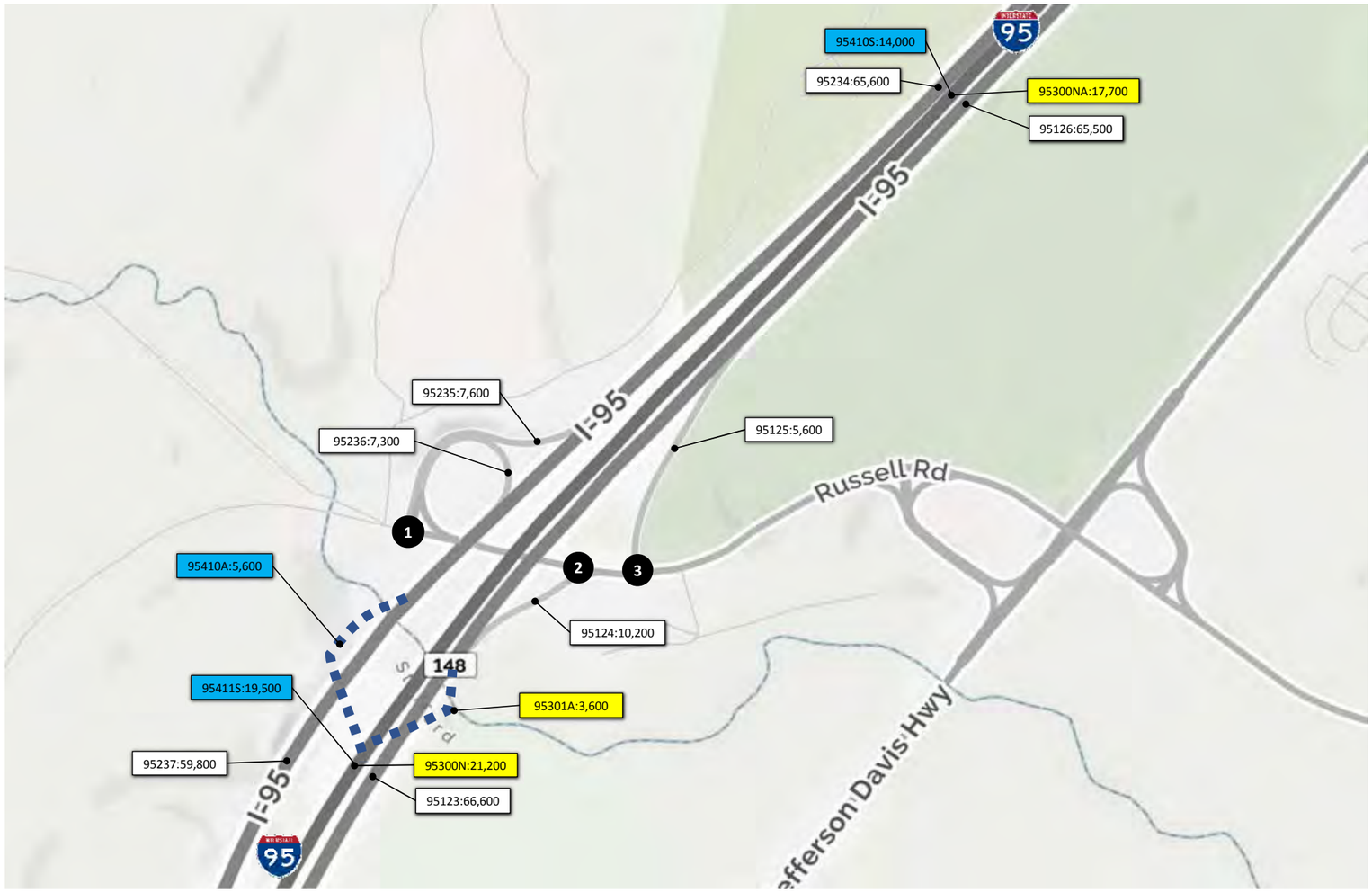
2022 Build

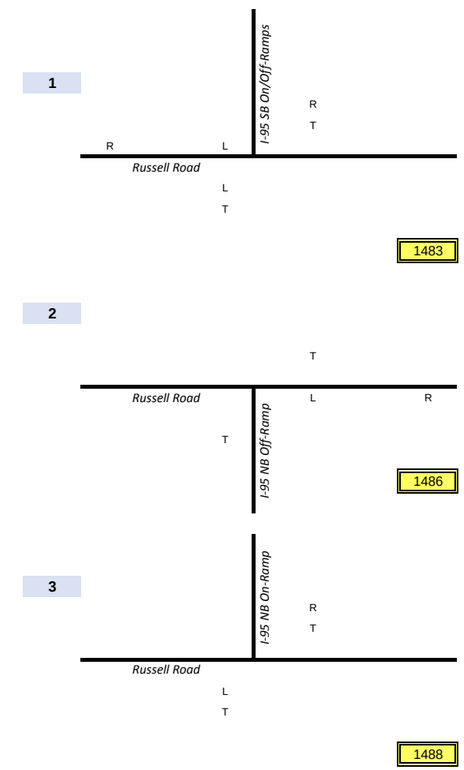
Weekday Daily Volumes

I-95 Corridor

August 2017

Figure E.1-6




**Legend**

xx,xxx Weekday Daily Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build
Weekday Daily Volumes
I-95 Corridor

August 2017

Figure E.1-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 53 | 4 | 238 | Carl D Silver Pkwy | R | 493 |
| | | | | T | 1,334 |
| R | T | L | | L | 13 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 194 | | L | | | |
| 2,322 | | T | | 4 | 3 | 9 |
| 3 | | R | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 14 | 3 | 4 | Ramseur St | R | 13 |
| | | | | T | 1,299 |
| R | T | L | | L | 158 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 58 | | L | | | |
| 1,707 | | T | | 255 | 158 | 177 |
| 236 | | R | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure E.2-1

**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | S Gateway Dr | R | | 277 |
| | | | | T | | 2,034 |
| R | T | L | | L | | 236 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 40 | | L | | | | |
| 1,866 | | T | Sanford Dr | 53 | 26 | 369 |
| 23 | | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Parking Lot | R | | 1 |
| | | | | T | | 1,673 |
| R | T | L | | L | | 17 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 3 | | L | | | | |
| 1,371 | | T | Short St | 85 | 1 | 21 |
| 119 | | R | | | | |
| | | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

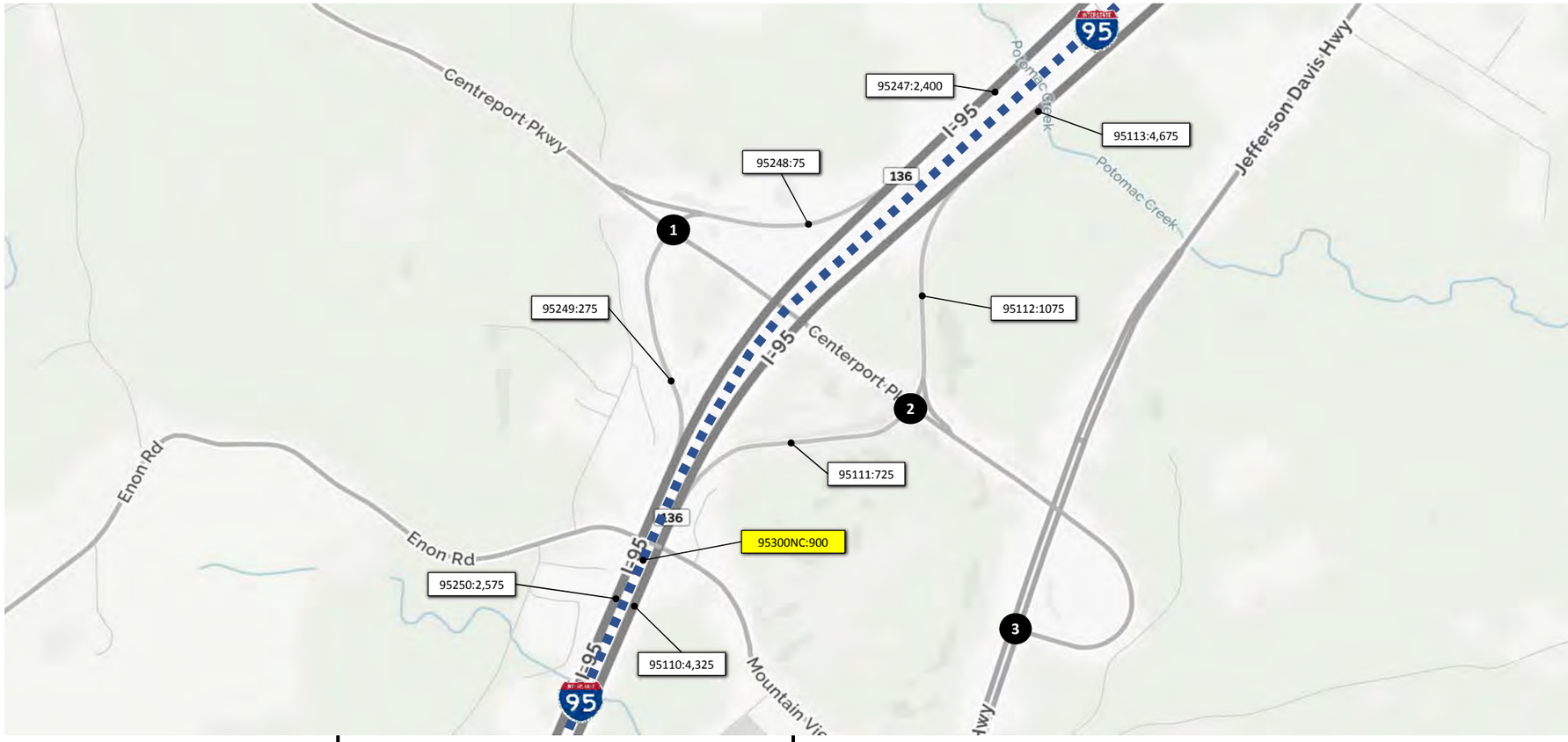
2022 Build

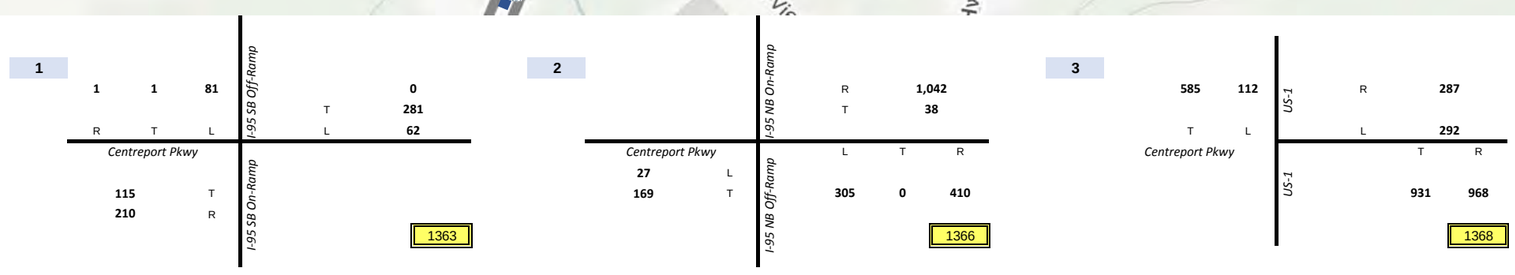
Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure E.2-2




**Legend**

xx,xxx Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

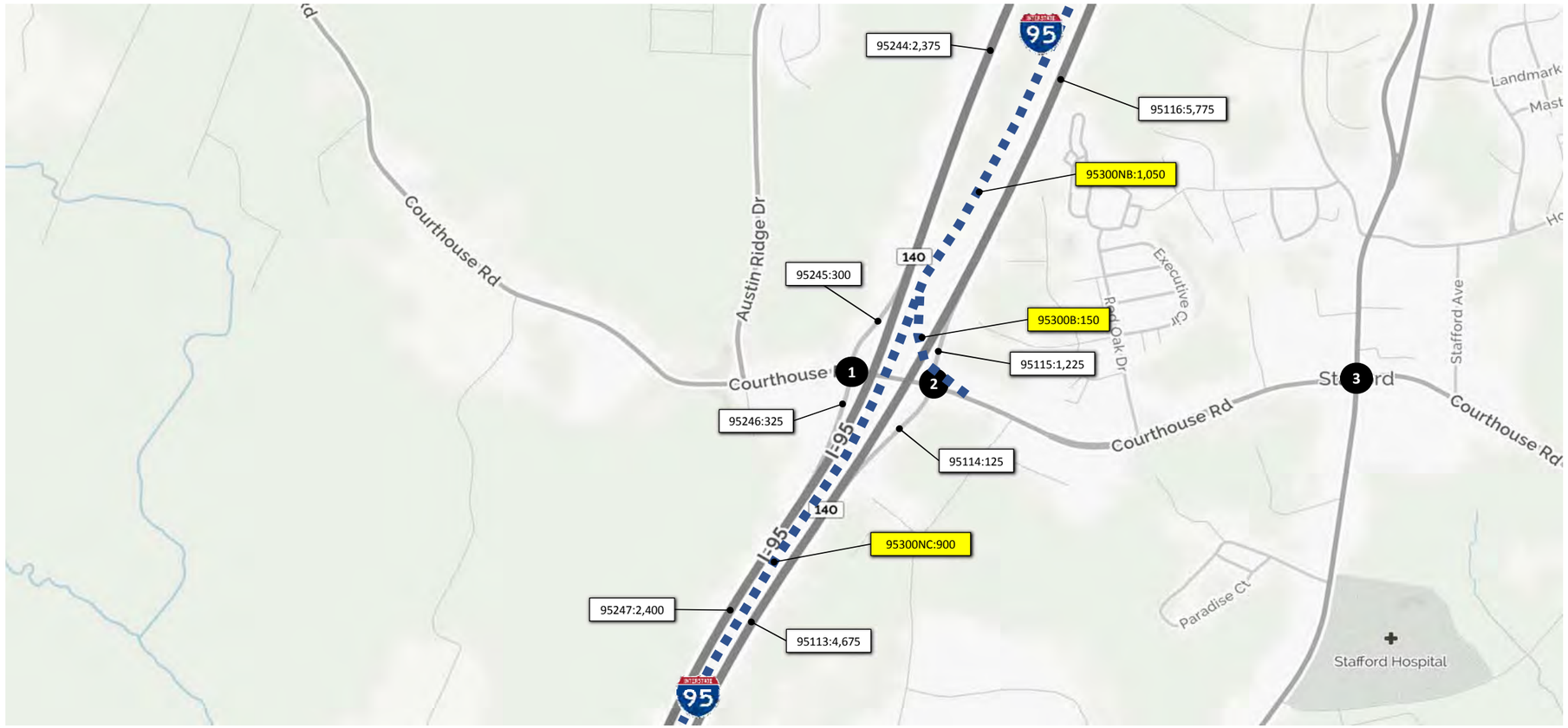
2022 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure E.2-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| 62 | 0 | 247 | I-95 SB Off-Ramp | | |
| | | | | T | 537 |
| R | T | L | | L | 72 |
| Courthouse Road (630) | | | | | |
| | 820 | T | I-95 SB On-Ramp | | |
| | 261 | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 666 |
| | | | | T | 522 |
| Courthouse Road (630) | | | | | |
| 566 | L | | I-95 NB Off-Ramp | L | T | R |
| 501 | T | | | 87 | 0 | 50 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 328 | 396 | 160 | US-1 | R | 253 |
| | | | | T | 441 |
| R | T | L | | L | 61 |
| Courthouse Road (630) | | | | | | |
| 91 | L | | US-1 | L | T | R |
| 89 | T | | | 419 | 282 | 27 |
| 370 | R | | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

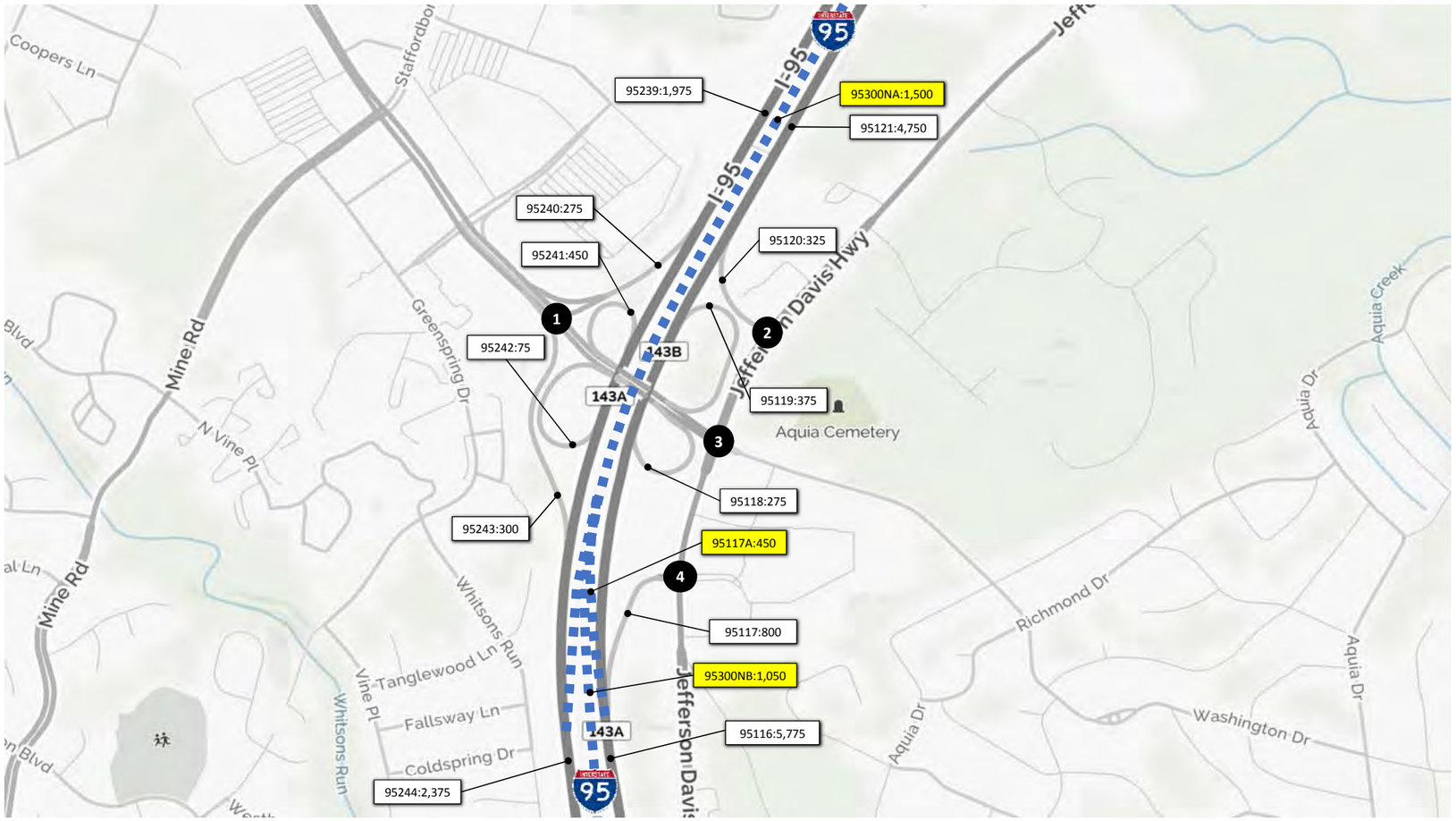
2022 Build

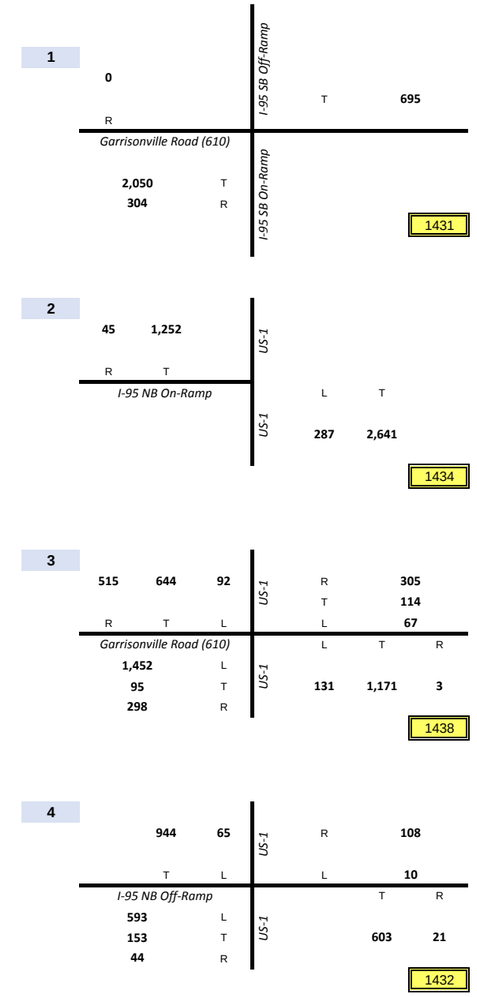
Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure E.2-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure E.2-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

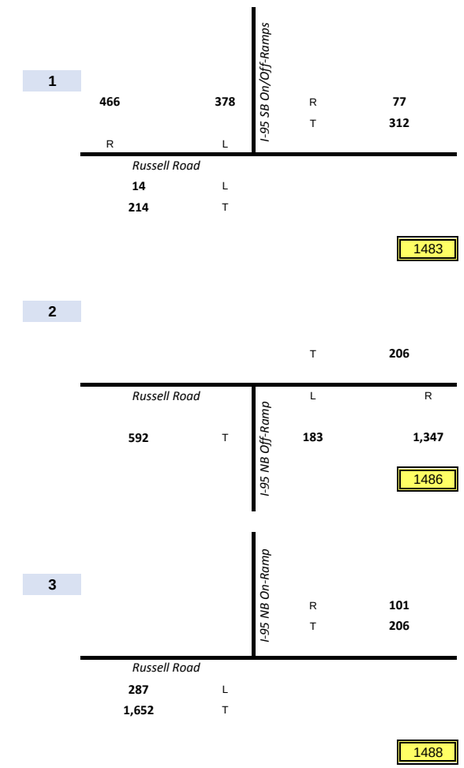
2022 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure E.2-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 6-7 AM Volumes

I-95 Corridor

August 2017

Figure E.2-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 54 | 4 | 246 | Carl D Silver Pkwy | R | 507 |
| | | | | T | 1,375 |
| R | T | L | | L | 13 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 200 | | L | | | | |
| 2,392 | | T | | 4 | 3 | 9 |
| 3 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 15 | 3 | 4 | Ramseur St | R | 13 |
| | | | | T | 1,338 |
| R | T | L | | L | 162 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 60 | | L | | | | |
| 1,759 | | T | | 263 | 162 | 183 |
| 243 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure E.3-1

**1**

| | | | | | |
|---|---|---|---|---|---|
| 29 | 20 | 253 | S Gateway Dr | R | 285 |
| | | | | T | 2,096 |
| R | T | L | | L | 243 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 41 | | L | Sanford Dr | | | |
| 1,923 | | T | | 54 | 26 | 380 |
| 23 | | R | | | | |

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| 3 | 1 | 3 | Parking Lot | R | 1 |
| | | | | T | 1,724 |
| R | T | L | | L | 18 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 3 | | L | Short St | | | |
| 1,413 | | T | | 88 | 1 | 22 |
| 123 | | R | | | | |

1338

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

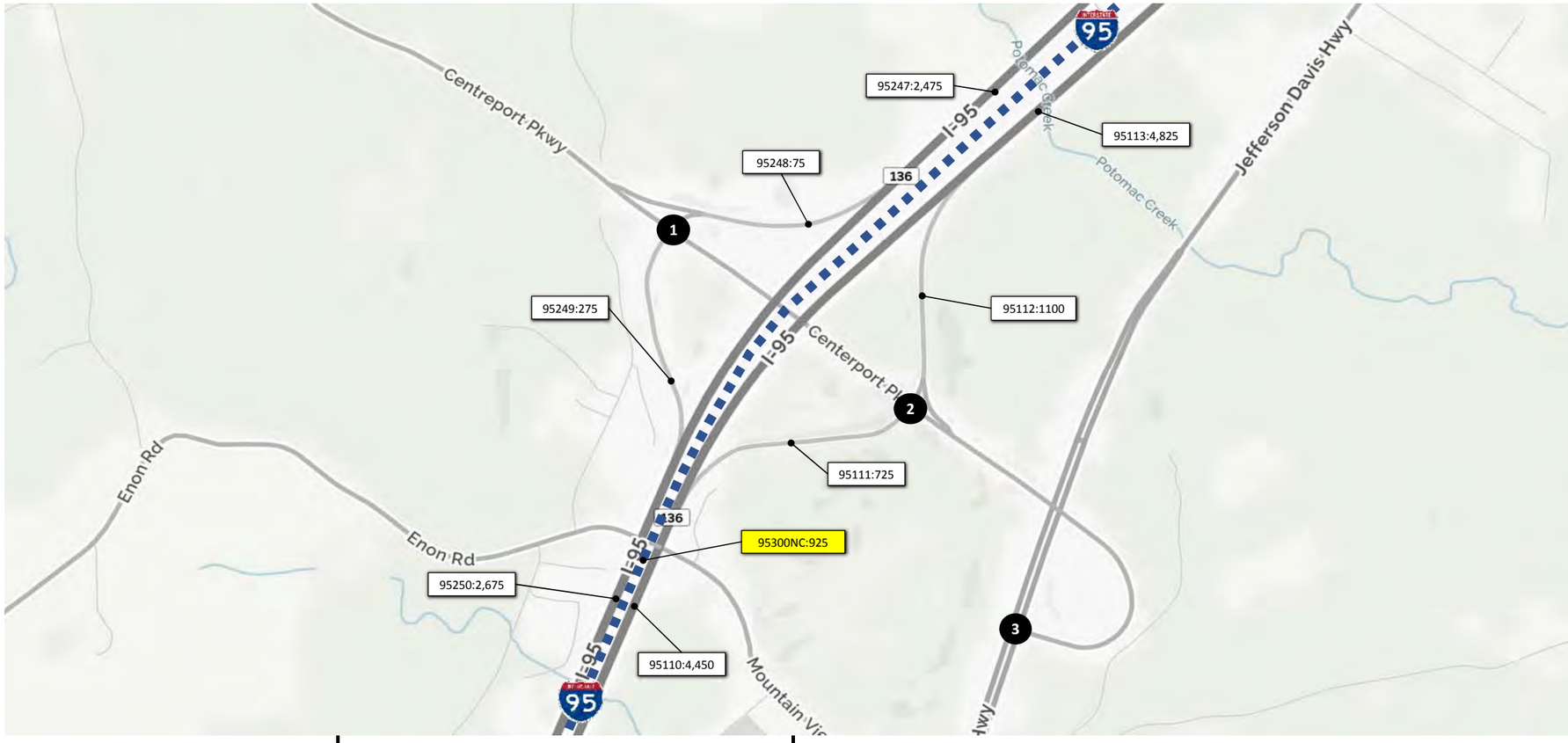
2022 Build

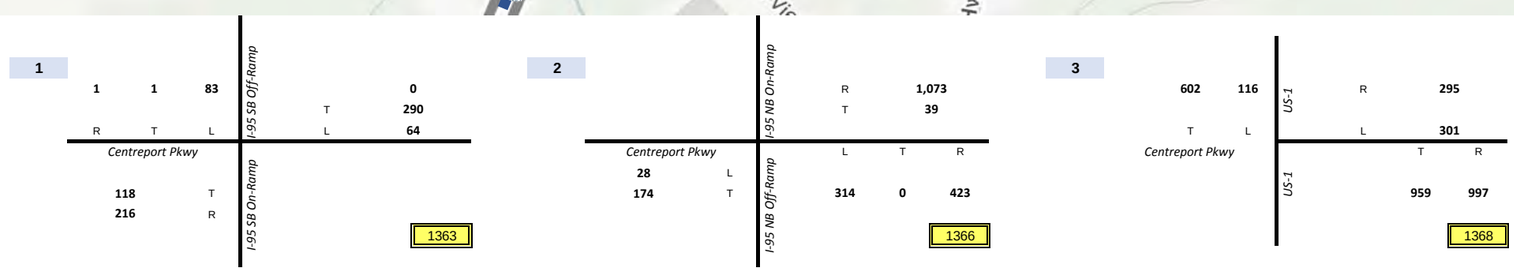
Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure E.3-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

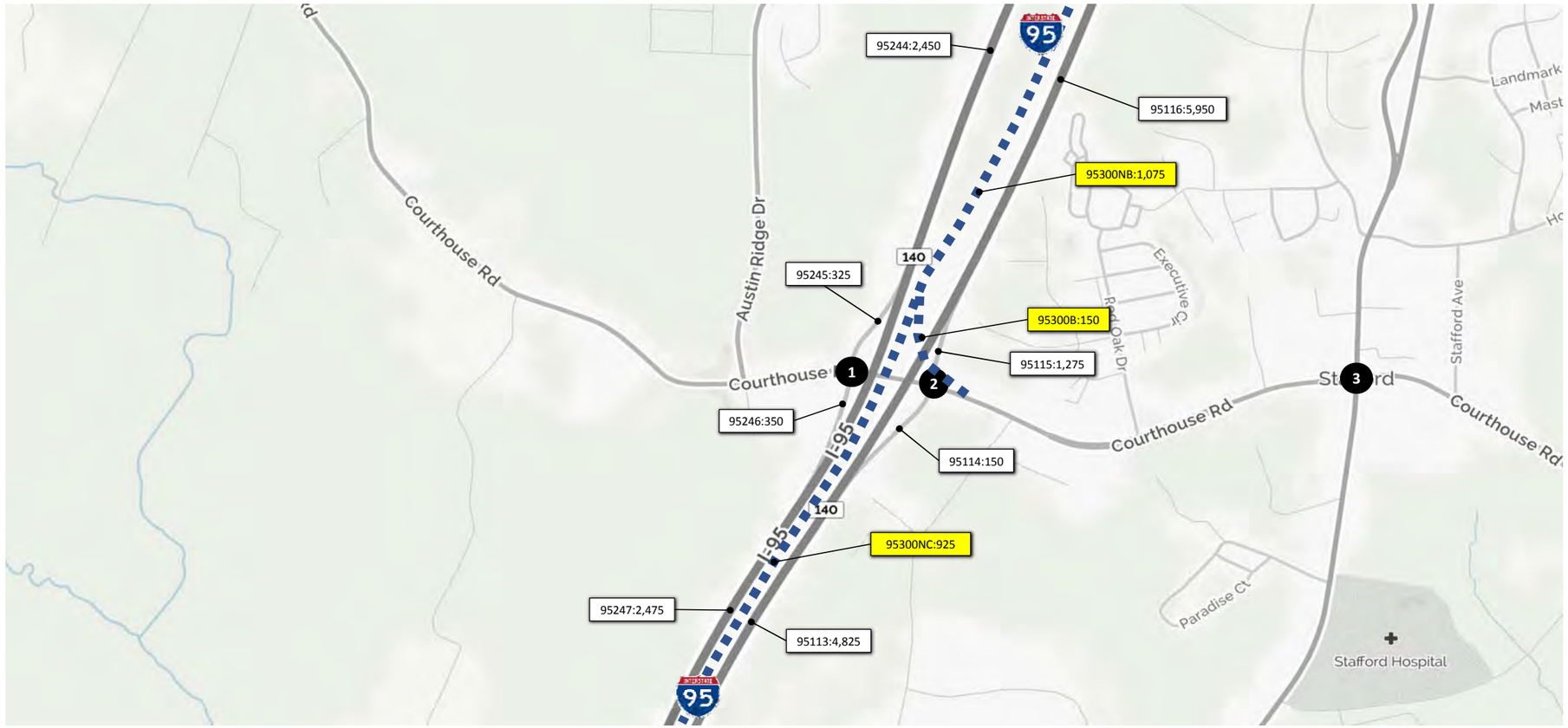
2022 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure E.3-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| 64 | 0 | 254 | I-95 SB Off-Ramp | | |
| | | | | T | 553 |
| R | T | L | | L | 75 |
| Courthouse Road (630) | | | | | |
| | 845 | T | I-95 SB On-Ramp | | |
| | 269 | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 686 |
| | | | | T | 538 |
| Courthouse Road (630) | | | | | |
| 583 | L | | I-95 NB Off-Ramp | L | T | R |
| 516 | T | | | 89 | 0 | 51 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 338 | 408 | 165 | US-1 | R | 260 |
| | | | | T | 455 |
| R | T | L | | L | 63 |
| Courthouse Road (630) | | | | | | |
| 94 | L | | US-1 | L | T | R |
| 92 | T | | | 431 | 291 | 28 |
| 382 | R | | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

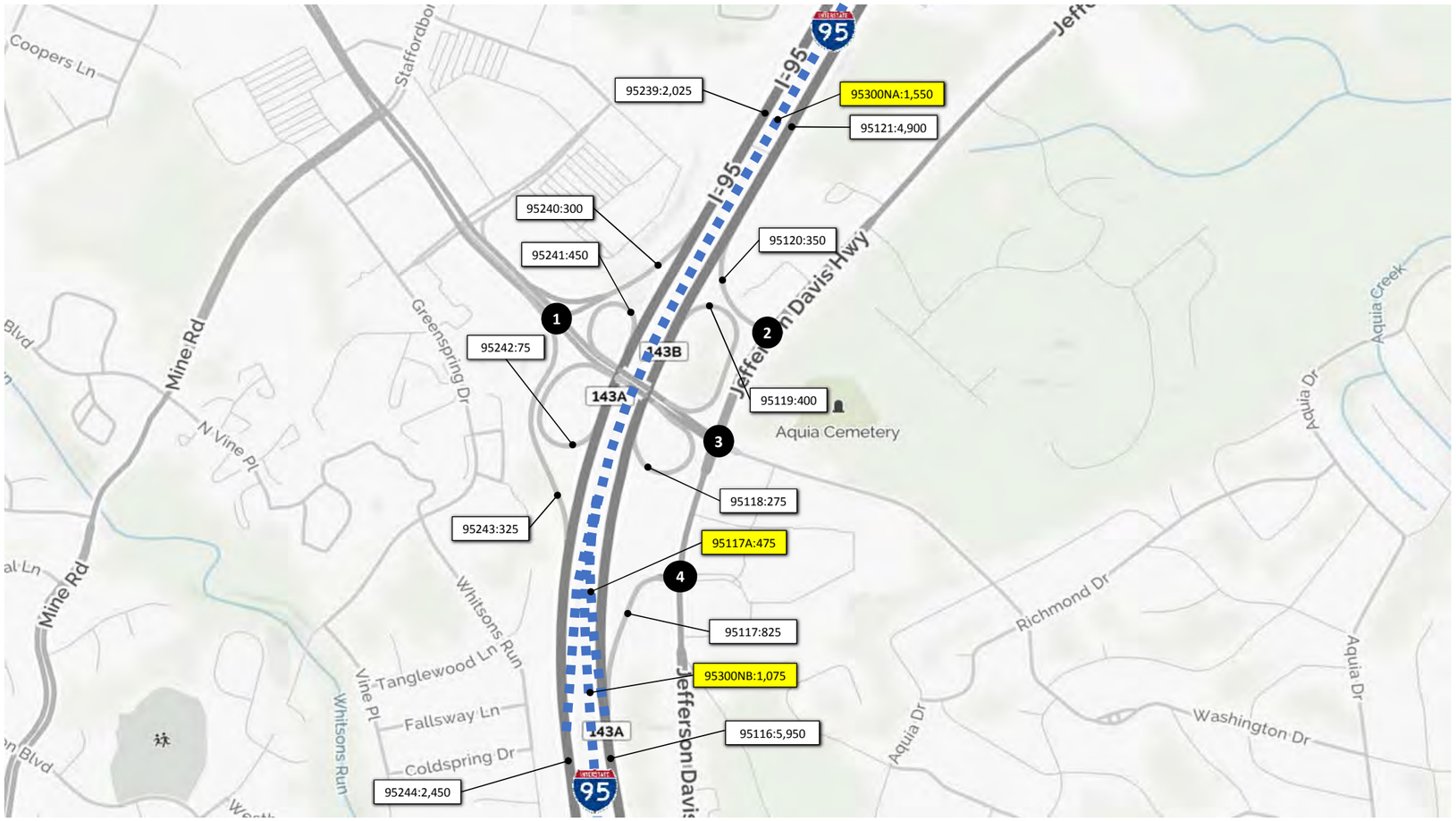
2022 Build

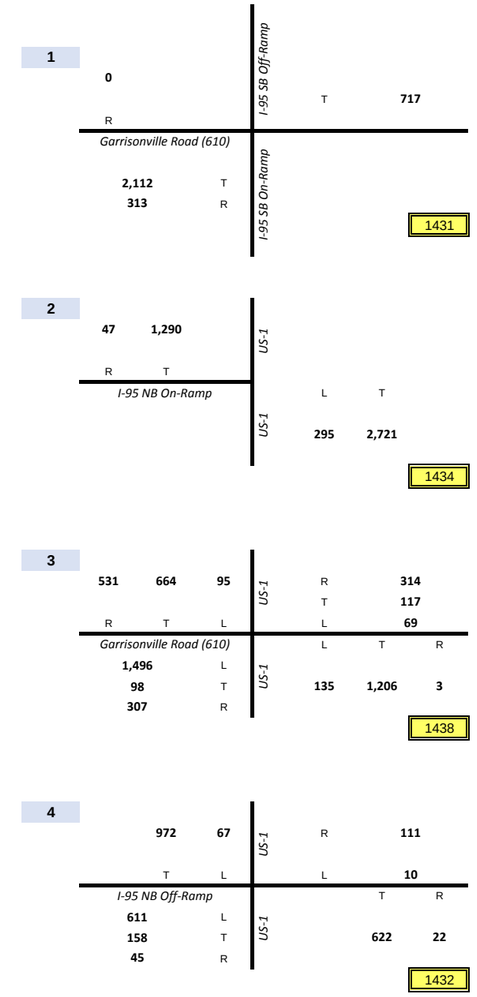
Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure E.3-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure E.3-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

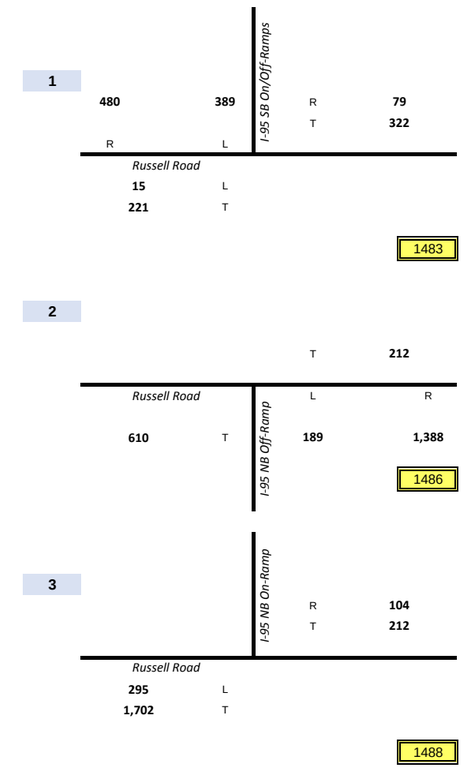
2022 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure E.3-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 7-8 AM Volumes

I-95 Corridor

August 2017

Figure E.3-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 53 | 4 | 238 | *Carl D Silver Pkwy* | R | 493 |
| | | | | T | 1,334 |
| R | T | L | | L | 13 |
| *VA-3 (Plank Road)* | | | *Mall Court* | L | T | R |
| 194 | | L | | | | |
| 2,322 | | T | | 4 | 3 | 9 |
| 3 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 14 | 3 | 4 | *Ramseur St* | R | 13 |
| | | | | T | 1,299 |
| R | T | L | | L | 158 |
| *VA-3 (Plank Road)* | | | *Gateway Blvd* | L | T | R |
| 58 | | L | | | | |
| 1,707 | | T | | 255 | 158 | 177 |
| 236 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure E.4-1

**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | S Gateway Dr | R | | 277 |
| | | | | T | | 2,034 |
| R | T | L | | L | | 236 |
| US-17 (Warrenton Rd) | | | | L | T | R |
| 40 | | L | | | | |
| 1,866 | | T | Sanford Dr | 53 | 26 | 369 |
| 23 | | R | | | | |
| | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Parking Lot | R | | 1 |
| | | | | T | | 1,673 |
| R | T | L | | L | | 17 |
| US-17 BUS (Warrenton Rd) | | | | L | T | R |
| 3 | | L | | | | |
| 1,371 | | T | Short St | 85 | 1 | 21 |
| 119 | | R | | | | |
| | | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

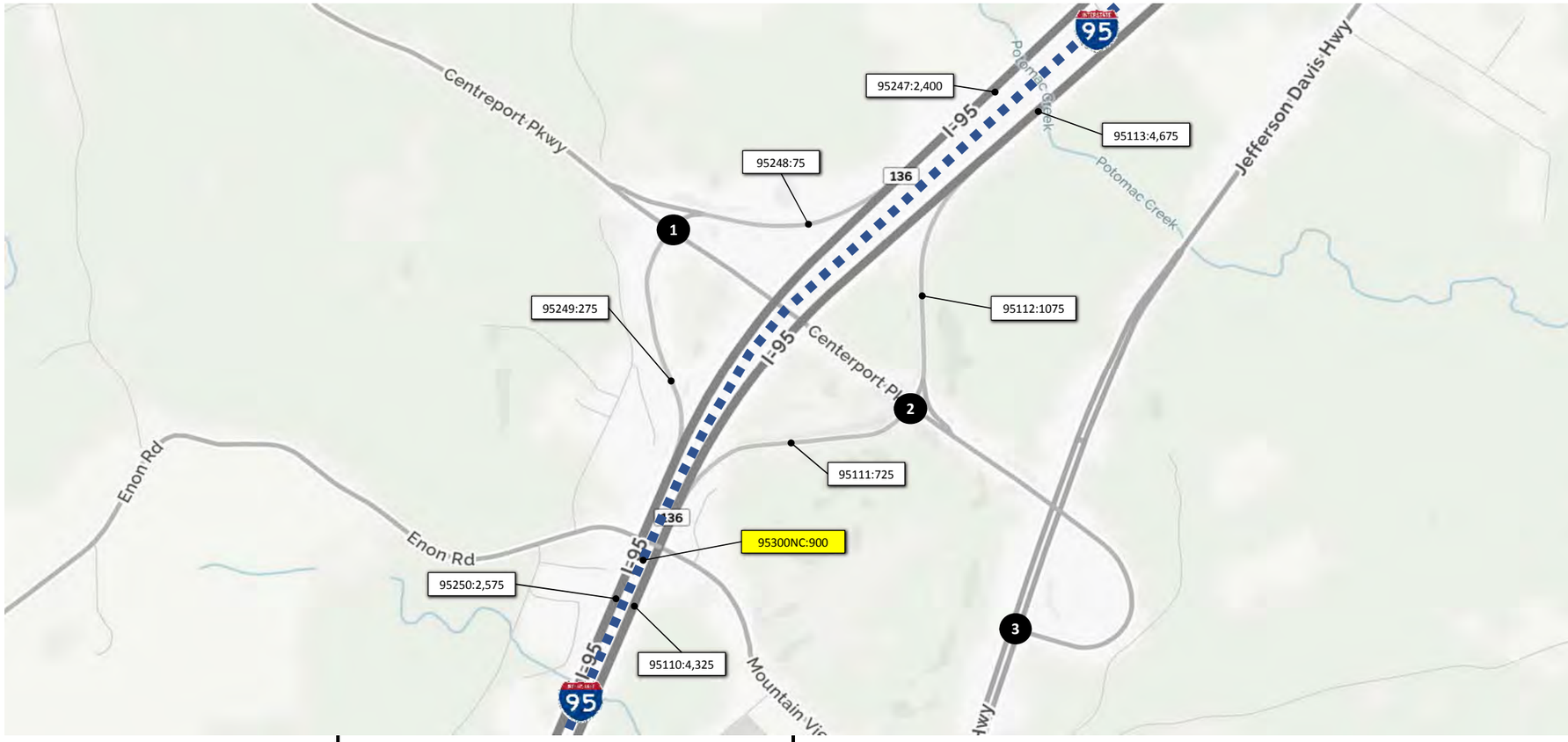
2022 Build

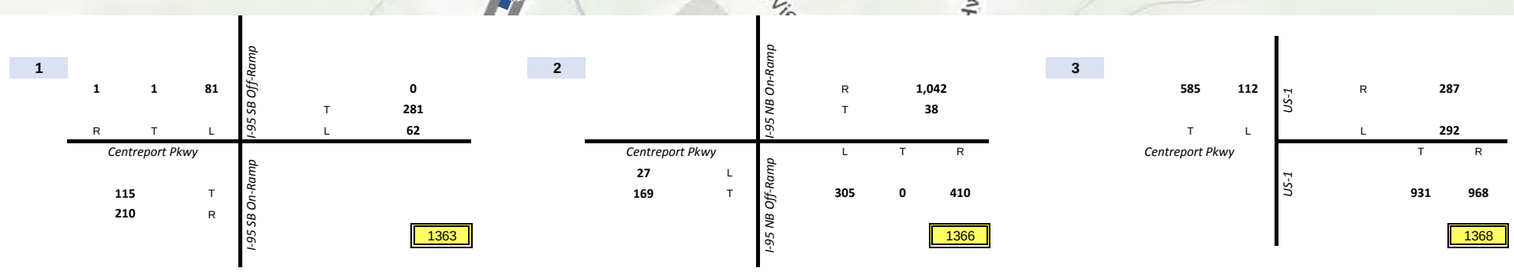
Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure E.4-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

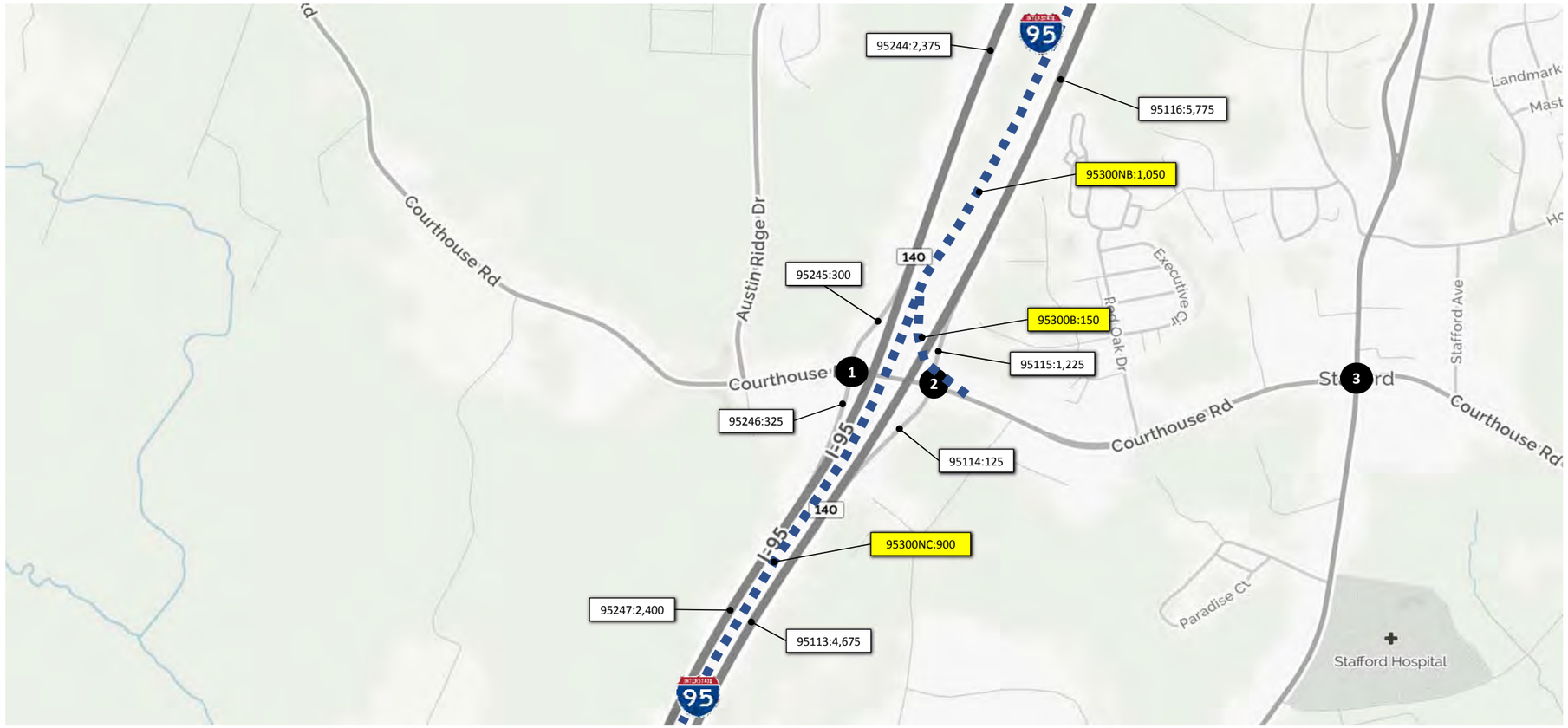
2022 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure E.4-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| 62 | 0 | 247 | I-95 SB Off-Ramp | | |
| | | | | T | 537 |
| R | T | L | | L | 72 |
| Courthouse Road (630) | | | | | |
| | 820 | T | I-95 SB On-Ramp | | |
| | 261 | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 666 |
| | | | | T | 522 |
| Courthouse Road (630) | | | | | |
| 566 | L | | I-95 NB Off-Ramp | L | T | R |
| 501 | T | | | 87 | 0 | 50 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 328 | 396 | 160 | US-1 | R | 253 |
| | | | | T | 441 |
| R | T | L | | L | 61 |
| Courthouse Road (630) | | | | | |
| 91 | L | | US-1 | L | T | R |
| 89 | T | | | 419 | 282 | 27 |
| 370 | R | | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

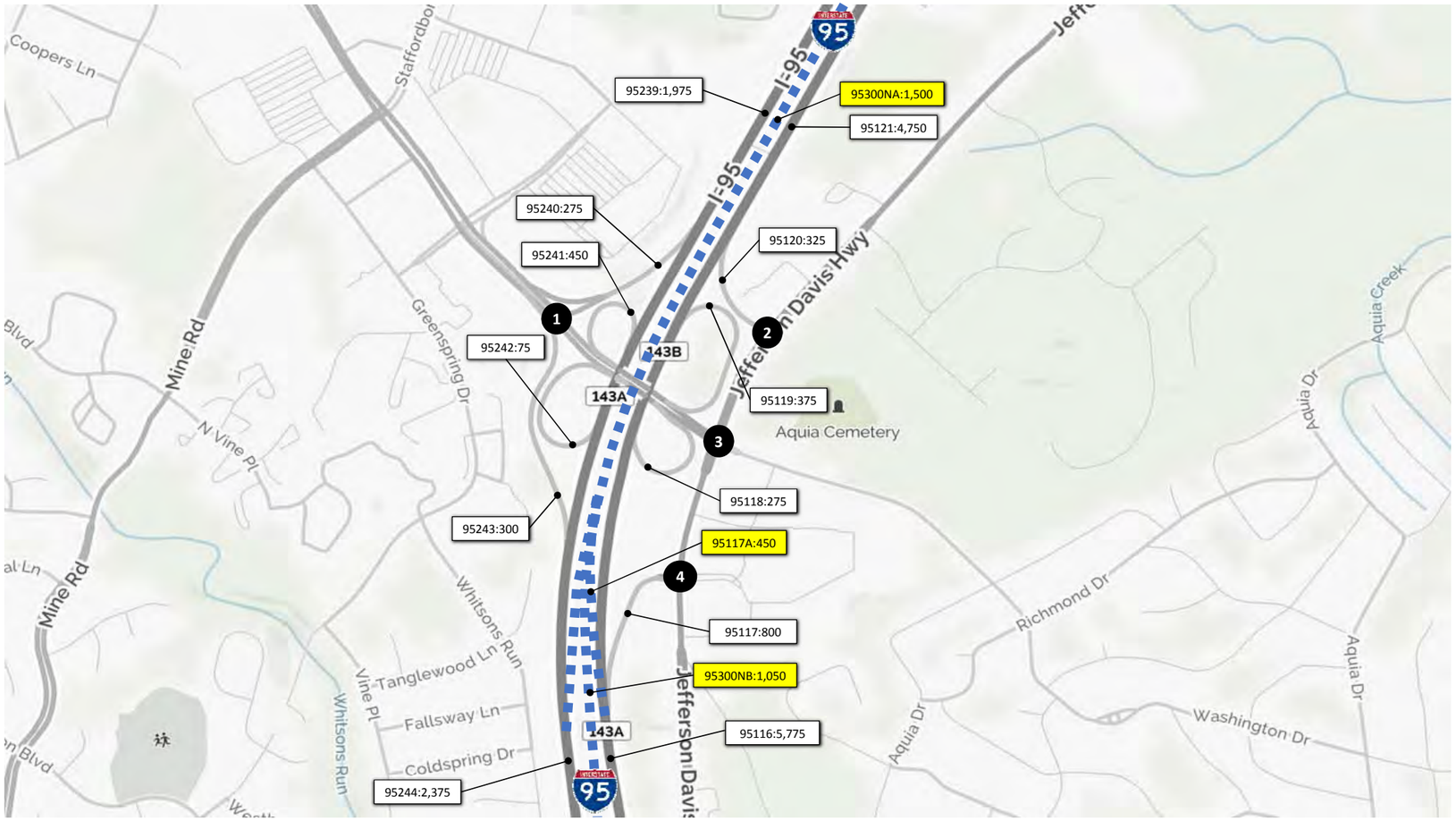
2022 Build

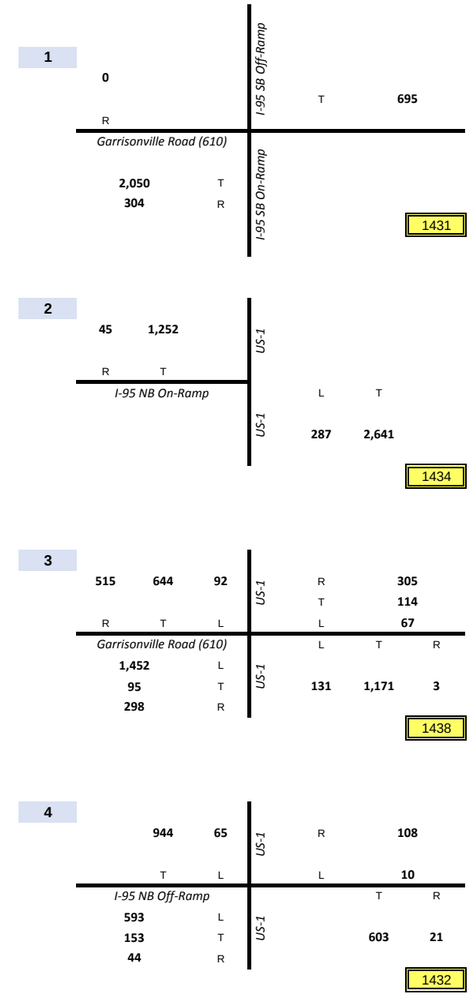
Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure E.4-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

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I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure E.4-5

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

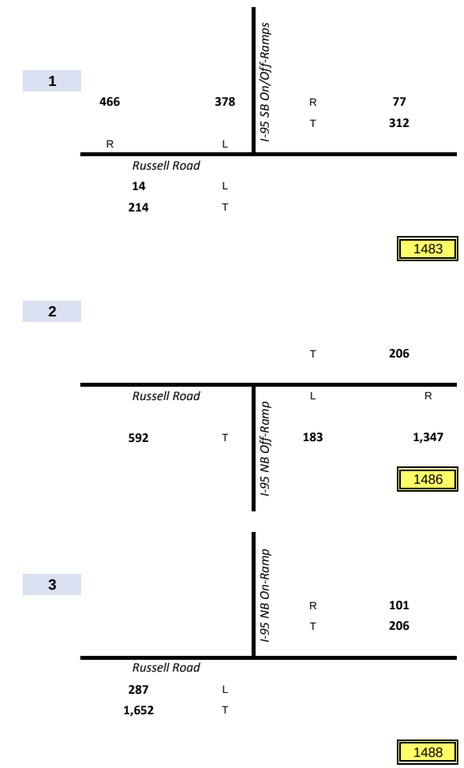
2022 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure E.4-6




**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 8-9 AM Volumes

I-95 Corridor

August 2017

Figure E.4-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 250 | 6 | 643 | Carl D Silver Pkwy | R | 1,018 |
| | | | | T | 2,231 |
| R | T | L | | L | 15 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 203 | | L | | | |
| 1,508 | | T | | 9 | 6 | 6 |
| 5 | | R | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 13 | 4 | 12 | Ramseur St | R | 4 |
| | | | | T | 1,529 |
| R | T | L | | L | 185 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 28 | | L | | | |
| 1,697 | | T | | 246 | 3 | 236 |
| 391 | | R | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

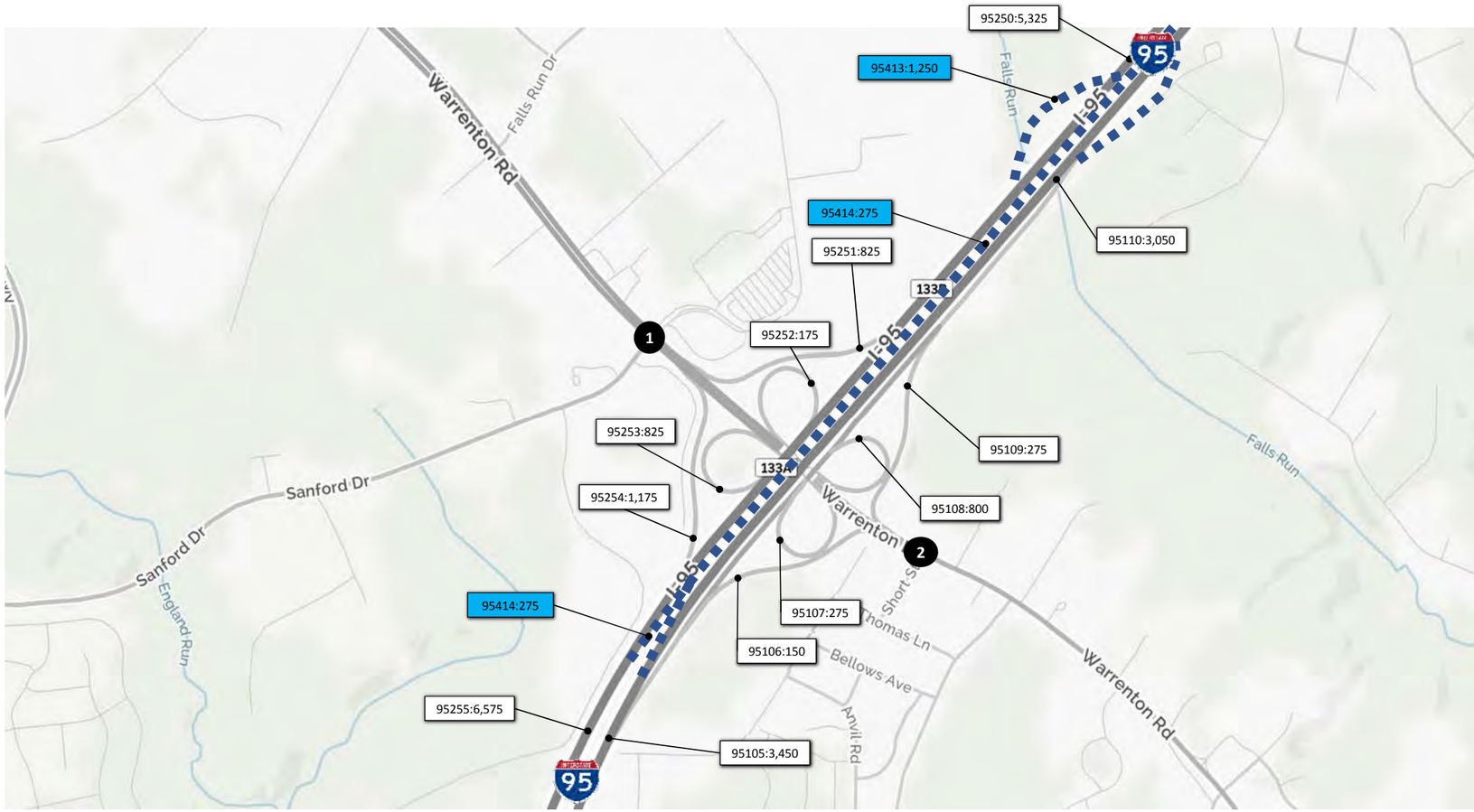
2022 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure E.5-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 55 | 71 | 281 | R | 265 |
| | | | | T | 1,849 |
| | R | T | L | L | 377 |
| | *US-17 (Warrenton Rd)* | | | L T R | |
| | 49 | | L | | |
| | 1,977 | | T | 34 6 321 | |
| | 48 | | R | | |

*S Gateway Dr*

*Sanford Dr*

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 5 | 0 | 4 | R | 3 |
| | | | | T | 1,195 |
| | R | T | L | L | 18 |
| | *US-17 BUS (Warrenton Rd)* | | | L T R | |
| | 5 | | L | | |
| | 1,956 | | T | 111 3 28 | |
| | 135 | | R | | |

*Parking Lot*

*Short St*

1338

**Legend**

xx,xxx — **Weekday Hourly Volume**

**Proposed Express Lane Extension**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure E.5-2

**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | I-95 SB Off-Ramp | | |
| 62 | 4 | 534 | | | T | 319 |
| R | T | L | | | L | 137 |
| Centreport Pkwy | | | | | | |
| 137 | | T | | I-95 SB On-Ramp | | |
| 157 | | R | | | | |

1363

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | I-95 NB On-Ramp | | |
| | | | | | R | 275 |
| | | | | | T | 225 |
| Centreport Pkwy | | | | | | |
| 8 | L | | | | L | T | R |
| 663 | T | | | I-95 NB Off-Ramp | 231 | 1 | 106 |

1366

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | US-1 | R | 101 |
| 857 | 90 | | | | | |
| T | L | | | | L | 668 |
| Centreport Pkwy | | | | | | |
| | | | | | T | R |
| | | | | US-1 | 768 | 409 |

1368

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

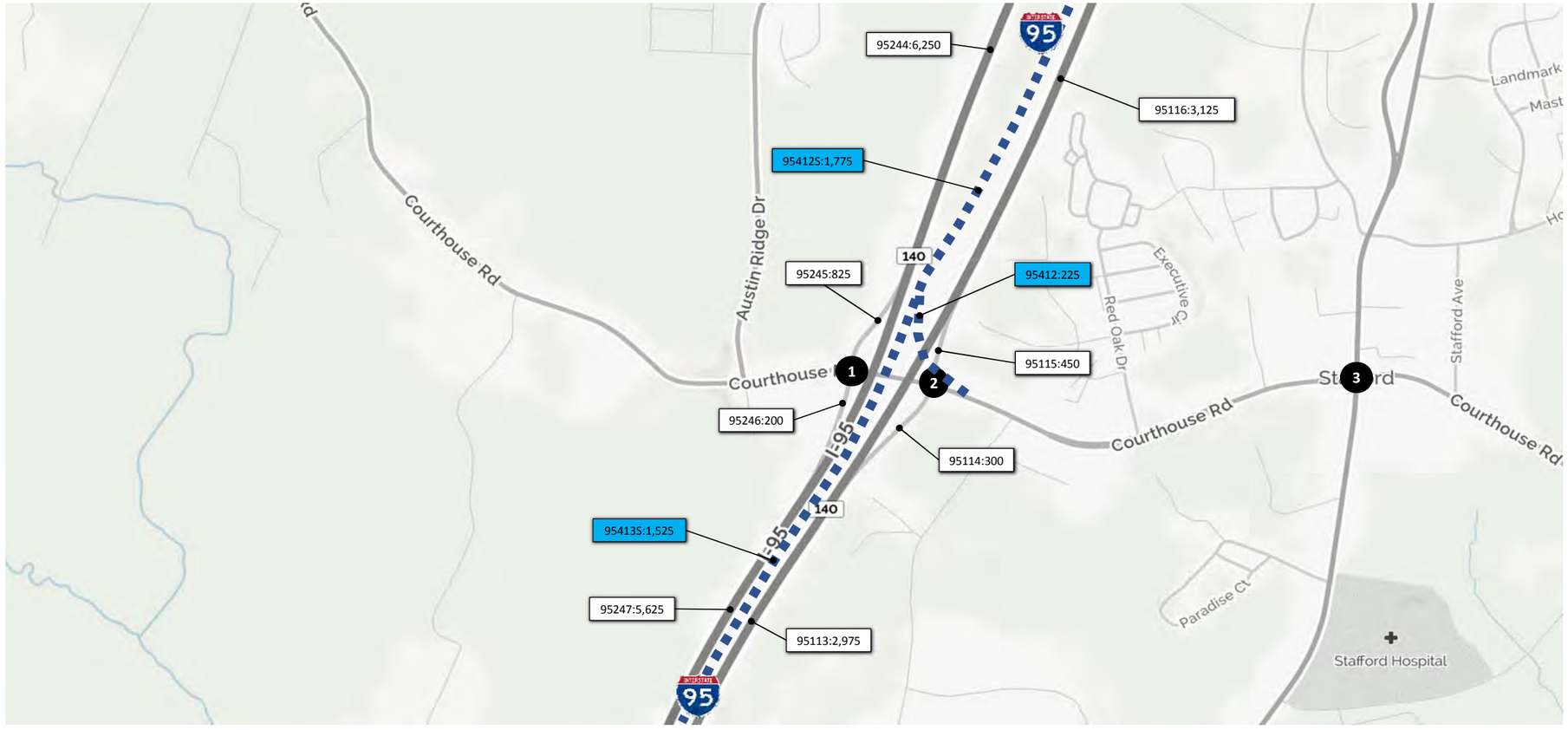
2022 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure E.5-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | T | L | 450 |
| R | T | L | | | | 55 |
| Courthouse Road (630) | | | | | | |
| | 432 | T | I-95 SB On-Ramp | | | |
| | 148 | R | | | | |
| 423 | 0 | 399 | | | | |

1403

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | T | 412 |
| | | | | T | | 446 |
| Courthouse Road (630) | | | | L | T | R |
| 30 | L | | I-95 NB Off-Ramp | | | |
| 801 | T | | | 59 | 0 | 235 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | US-1 | R | T | 103 |
| | | | | T | | 275 |
| R | T | L | | L | | 30 |
| Courthouse Road (630) | | | | L | T | R |
| | 159 | L | US-1 | | | |
| | 502 | T | | 288 | 192 | 18 |
| | 375 | R | | | | |
| 295 | 497 | 95 | | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

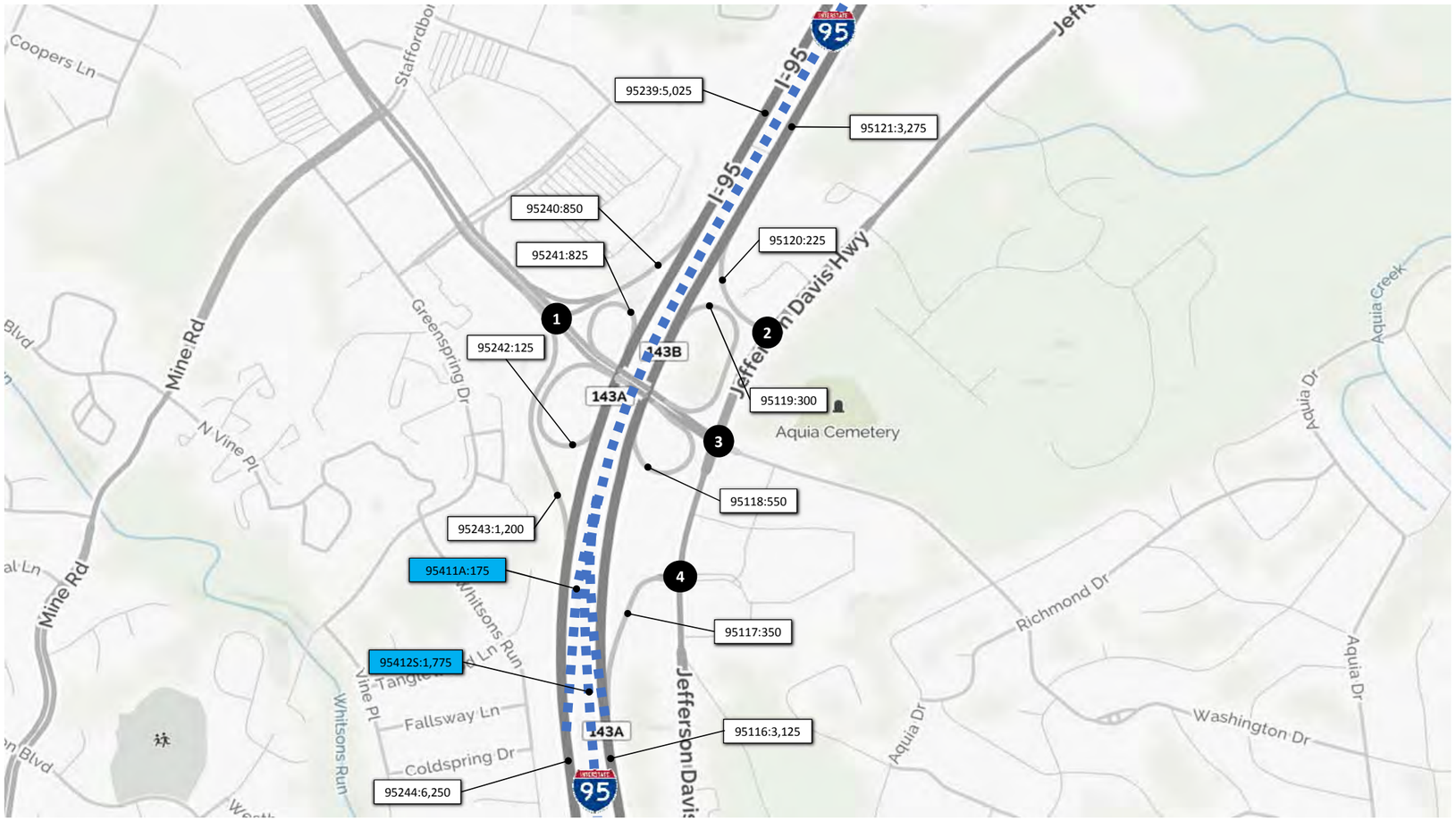
2022 Build

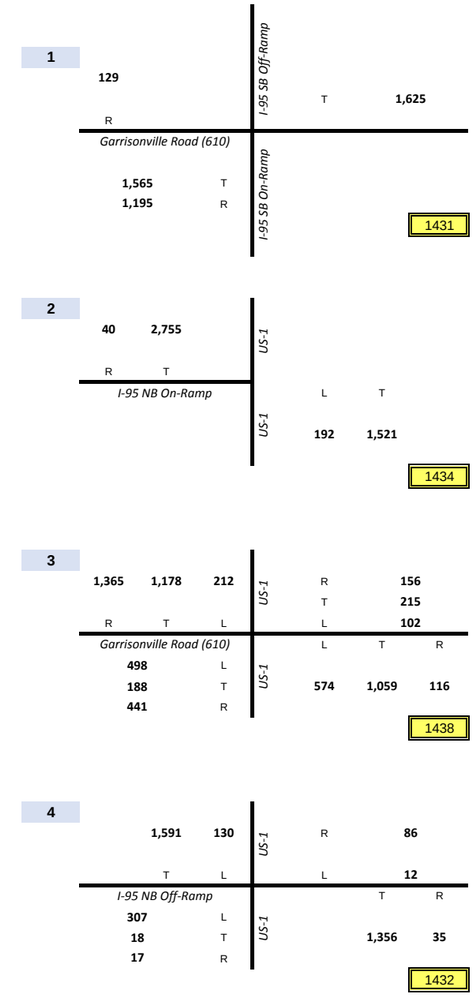
Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure E.5-4




**Legend**

| | |
|---|---|
| xx,xxx | Weekday Hourly Volume |
| ■ ■ ■ ■ ■ | Proposed Express Lane Extension |

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure E.5-5

**Legend**

| | |
|---|---|
| xx,xxx | **Weekday Hourly Volume** |
| ■ ■ ■ ■ ■ | **Proposed Express Lane Extension** |

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

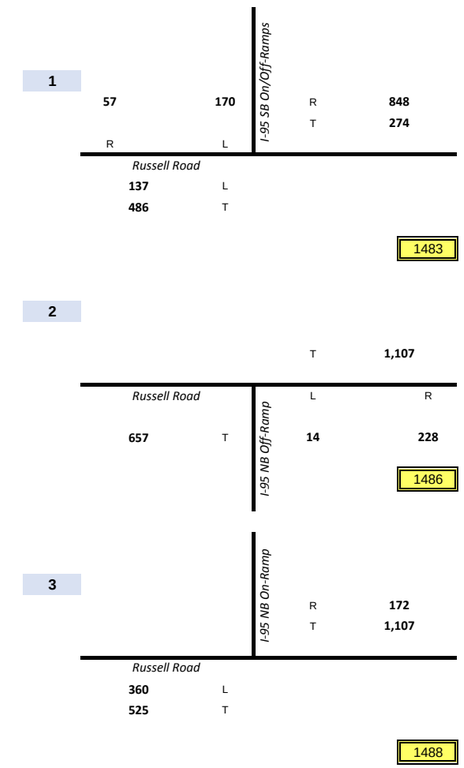
2022 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure E.5-6




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Access Point

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 3-4 PM Volumes

I-95 Corridor

August 2017

Figure E.5-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 250 | 6 | 643 | Carl D Silver Pkwy | R | 1,018 |
| | | | | T | 2,231 |
| R | T | L | | L | 15 |
| VA-3 (Plank Road) | | | Mall Court | L | T | R |
| 203 | | L | | | |
| 1,508 | | T | | 9 | 6 | 6 |
| 5 | | R | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 13 | 4 | 12 | Ramseur St | R | 4 |
| | | | | T | 1,529 |
| R | T | L | | L | 185 |
| VA-3 (Plank Road) | | | Gateway Blvd | L | T | R |
| 28 | | L | | | |
| 1,697 | | T | | 246 | 3 | 236 |
| 391 | | R | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

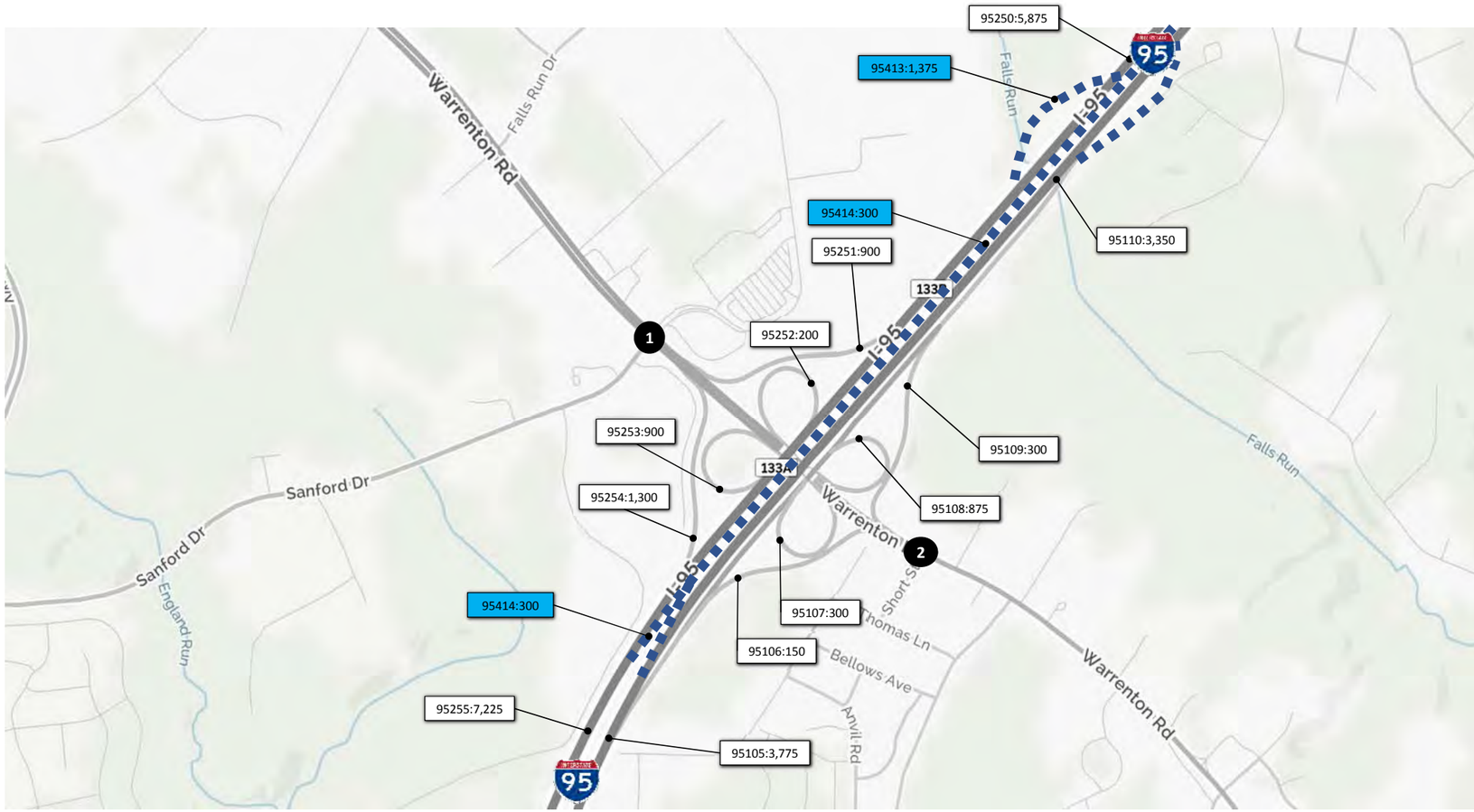
2022 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure E.6-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 55 | 71 | 281 | S Gateway Dr | R | 265 |
| | | | | | T | 1,849 |
| | R | T | L | | L | 377 |
| | *US-17 (Warrenton Rd)* | | | | L | T | R |
| | 49 | | L | Sanford Dr | | | |
| | 1,977 | | T | | 34 | 6 | 321 |
| | 48 | | R | | | | |
| | | | | | | | 1333 |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 5 | 0 | 4 | Parking Lot | R | 3 |
| | | | | | T | 1,195 |
| | R | T | L | | L | 18 |
| | *US-17 BUS (Warrenton Rd)* | | | | L | T | R |
| | 5 | | L | Short St | | | |
| | 1,956 | | T | | 111 | 3 | 28 |
| | 135 | | R | | | | |
| | | | | | | | 1338 |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

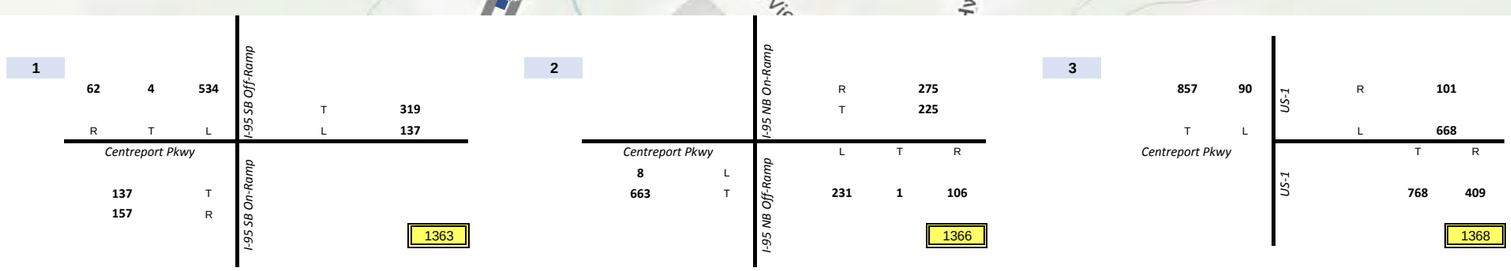
2022 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure E.6-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

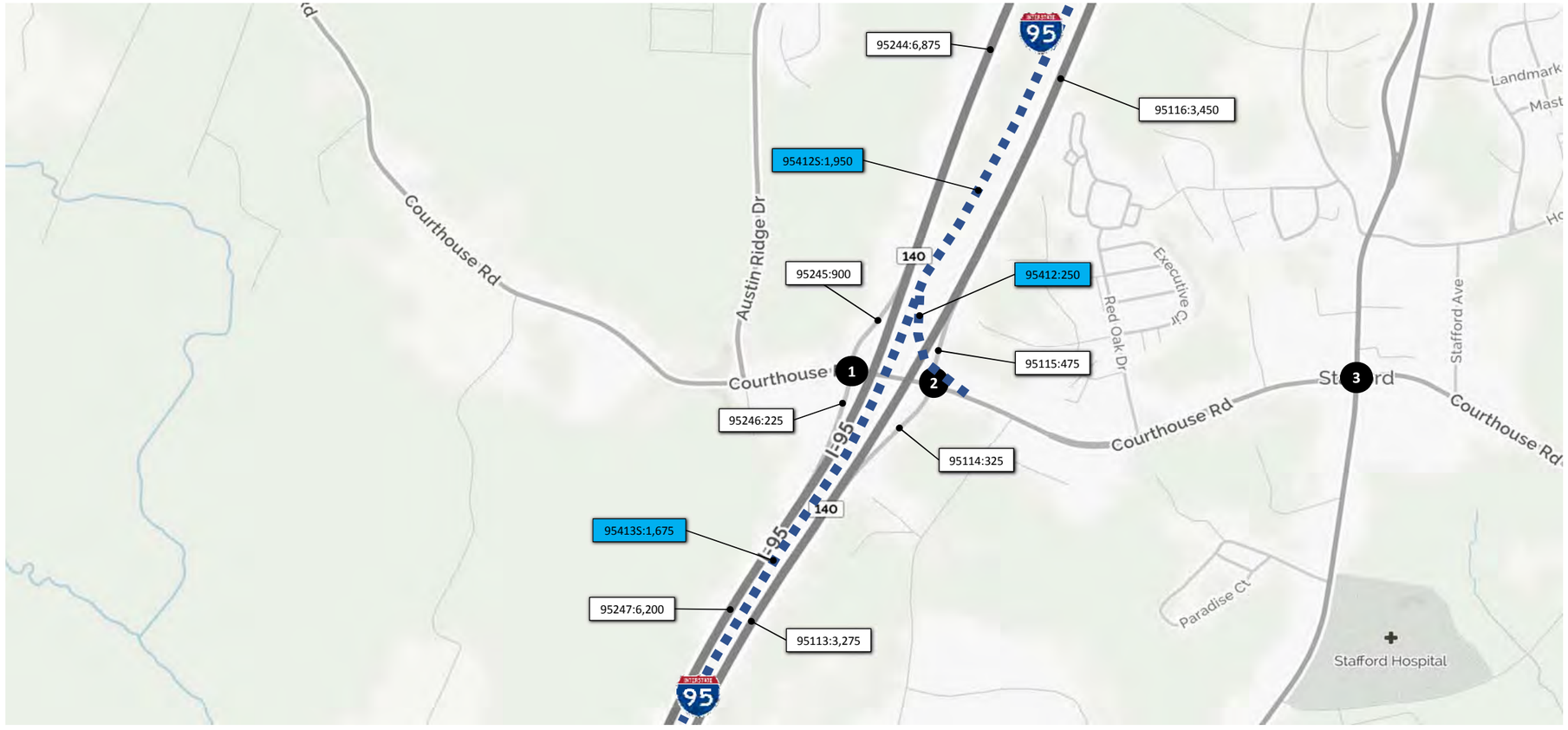
2022 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure E.6-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| 423 | 0 | 399 | I-95 SB Off-Ramp | T | 450 |
| R | T | L | | L | 55 |
| Courthouse Road (630) | | | | | |
| 432 | | T | I-95 SB On-Ramp | | |
| 148 | | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 412 |
| | | | | T | 446 |
| Courthouse Road (630) | | | | | |
| 30 | L | | I-95 NB Off-Ramp | L | T | R |
| 801 | T | | | 59 | 0 | 235 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 295 | 497 | 95 | US-1 | R | 103 |
| | | | | T | 275 |
| R | T | L | | L | 30 |
| Courthouse Road (630) | | | | | | |
| 159 | | L | US-1 | L | T | R |
| 502 | | T | | 288 | 192 | 18 |
| 375 | | R | | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

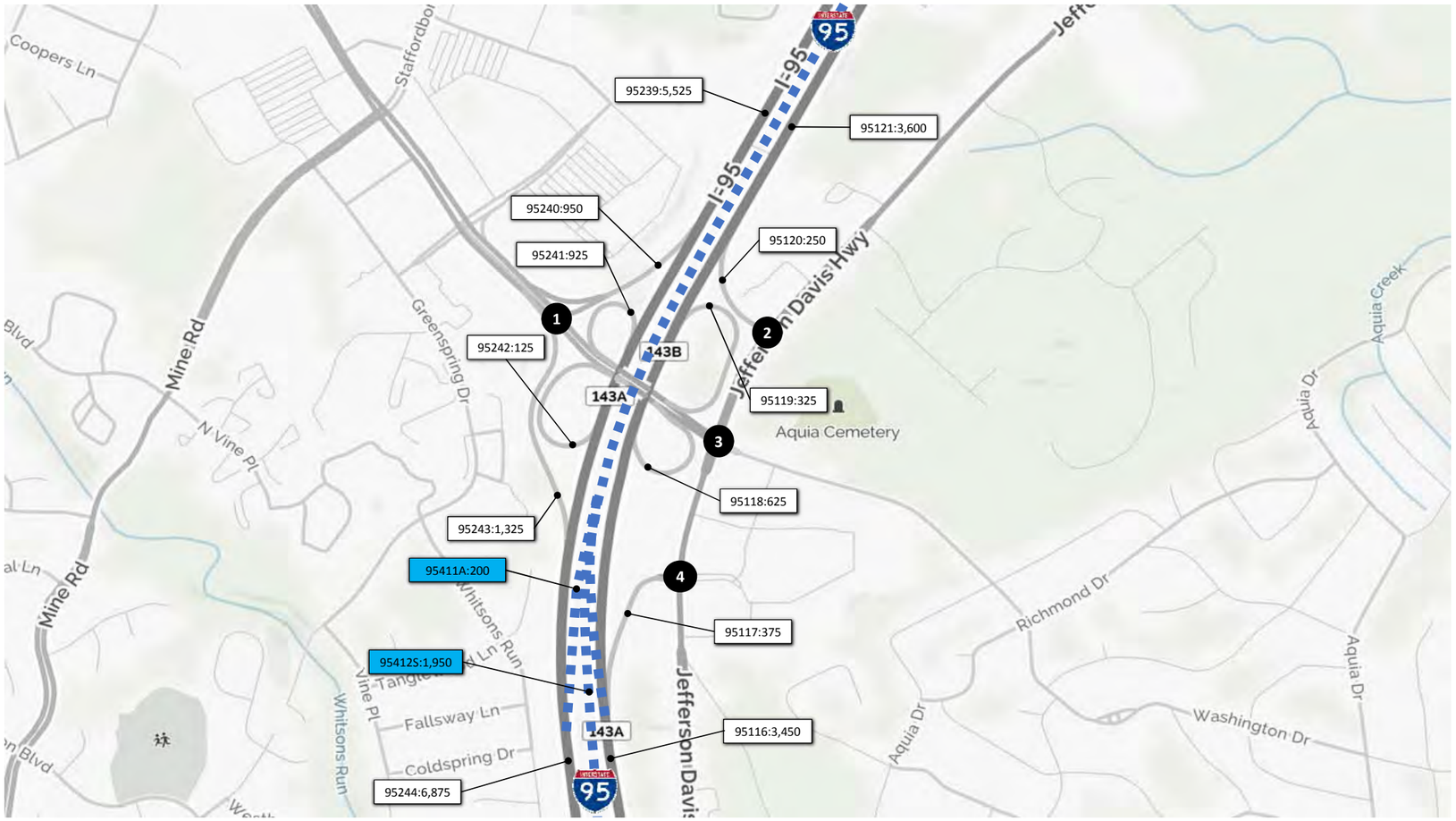
2022 Build

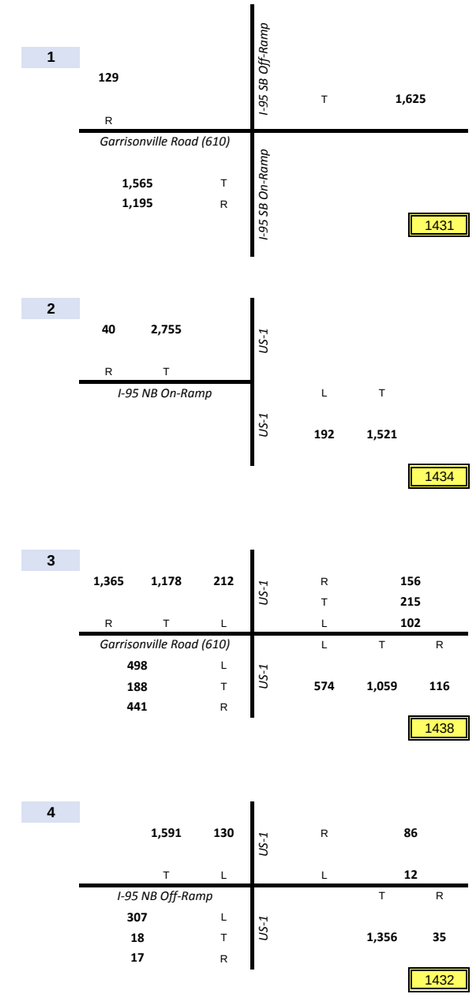
Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure E.6-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure E.6-5

**Legend**

| | |
|---|---|
| xx,xxx | **Weekday Hourly Volume** |
| ■ ■ ■ ■ ■ | **Proposed Express Lane Extension** |

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

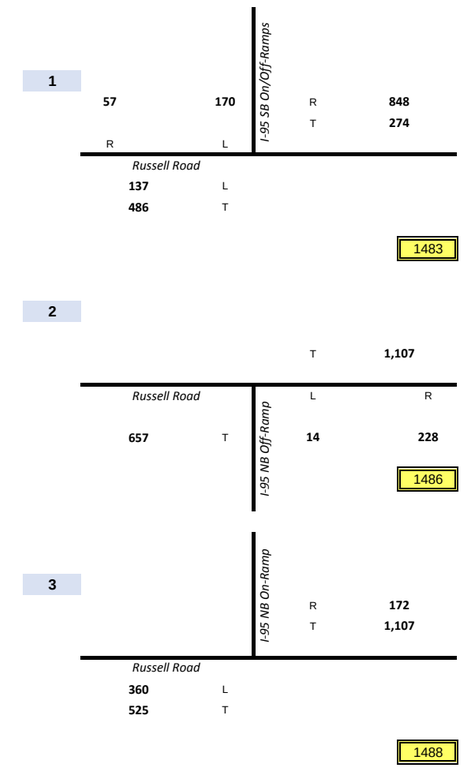
2022 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure E.6-6




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Access Point

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 4-5 PM Volumes

I-95 Corridor

August 2017

Figure E.6-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 284 | 7 | 728 | *Carl D Silver Pkwy* | R | 1,154 |
| | | | | T | 2,528 |
| R | T | L | | L | 18 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 230 | | L | *Mall Court* | | | |
| 1,710 | | T | | 10 | 7 | 7 |
| 6 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 15 | 4 | 13 | *Ramseur St* | R | 4 |
| | | | | T | 1,733 |
| R | T | L | | L | 209 |
| *VA-3 (Plank Road)* | | | | L | T | R |
| 32 | | L | *Gateway Blvd* | | | |
| 1,923 | | T | | 279 | 3 | 268 |
| 443 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

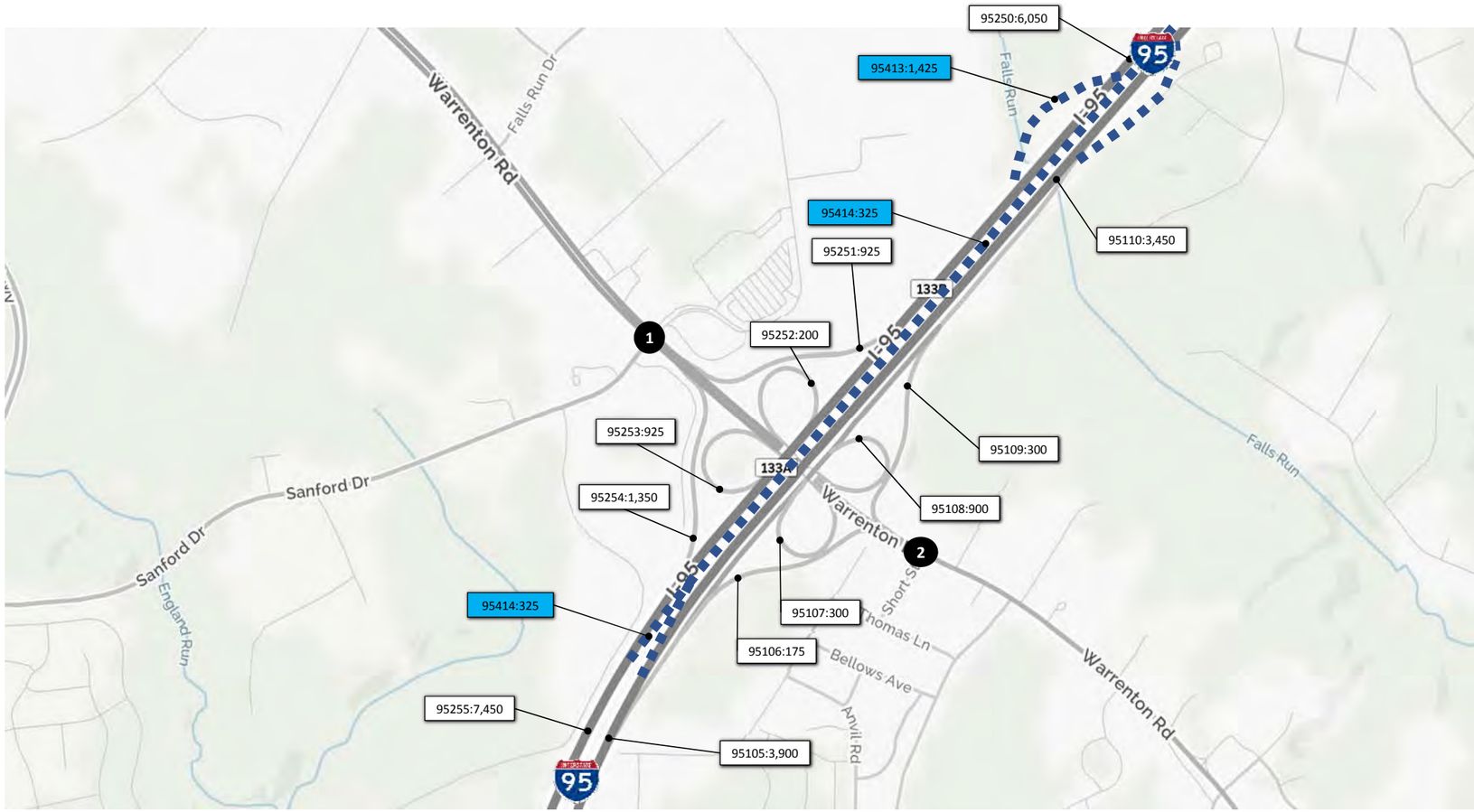
2022 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure E.7-1




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 63 | 80 | 319 | S Gateway Dr | R | 300 |
| | | | | | T | 2,096 |
| | R | T | L | | L | 427 |
| | US-17 (Warrenton Rd) | | | | L | T | R |
| | 56 | | L | Sanford Dr | | | |
| | 2,240 | | T | | 38 | 7 | 364 |
| | 54 | | R | | | | |
| | | | | | 1333 | | |

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | 6 | 0 | 4 | Parking Lot | R | 3 |
| | | | | | T | 1,354 |
| | R | T | L | | L | 20 |
| | US-17 BUS (Warrenton Rd) | | | | L | T | R |
| | 6 | | L | Short St | | | |
| | 2,217 | | T | | 126 | 3 | 32 |
| | 154 | | R | | | | |
| | | | | | 1338 | | |

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

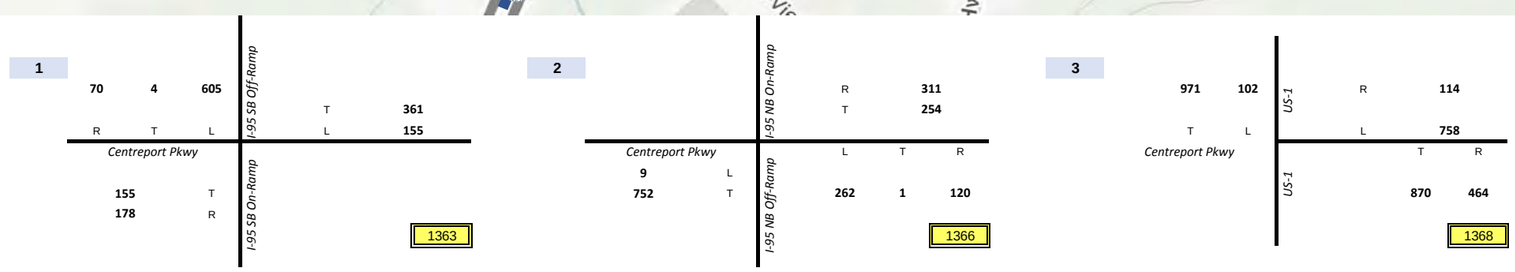
2022 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure E.7-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

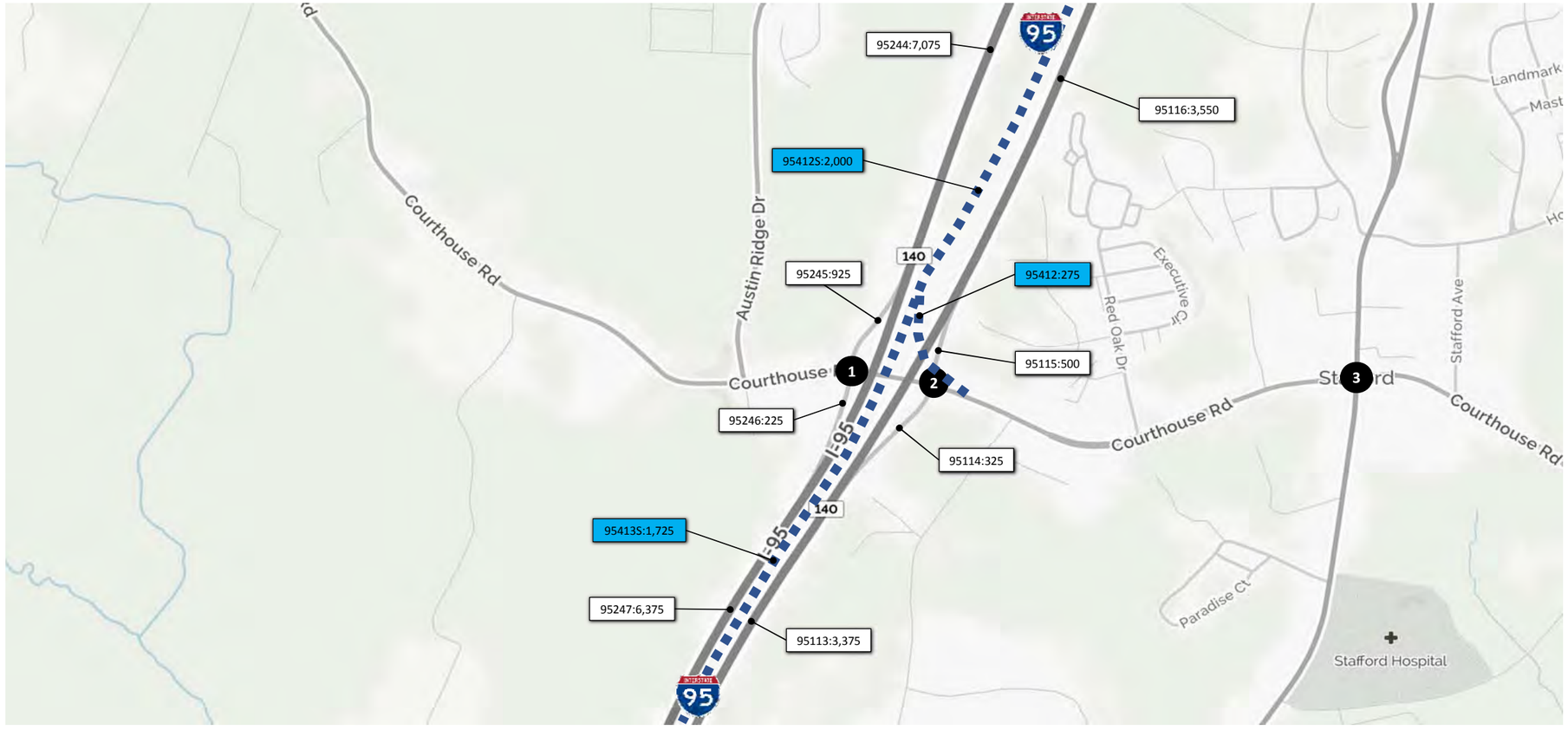
2022 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure E.7-3




**1**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | | |
| 480 | 0 | 452 | | T | 510 |
| R | T | L | | L | 63 |
| Courthouse Road (630) | | | | | |
| | 490 | T | I-95 SB On-Ramp | | |
| | 168 | R | | | |

1403

**2**

| | | | | | |
|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | 466 |
| | | | | T | 506 |
| Courthouse Road (630) | | | | | |
| 34 | L | | I-95 NB Off-Ramp | L | T | R |
| 908 | T | | | 67 | 0 | 266 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| 335 | 563 | 108 | US-1 | R | 117 |
| | | | | T | 311 |
| R | T | L | | L | 34 |
| Courthouse Road (630) | | | | | |
| 180 | L | | US-1 | L | T | R |
| 569 | T | | | 326 | 218 | 20 |
| 426 | R | | | | |

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

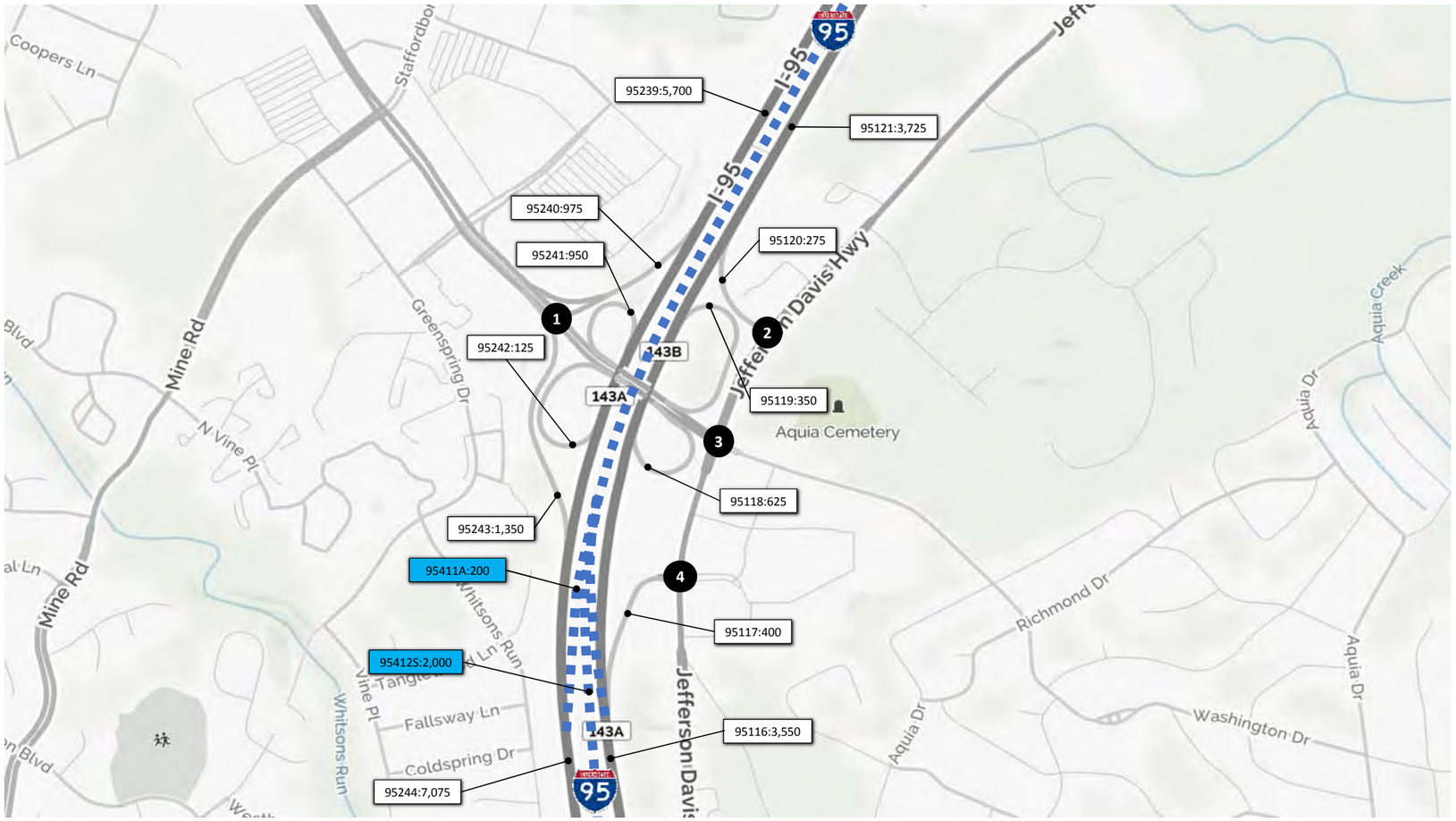
2022 Build

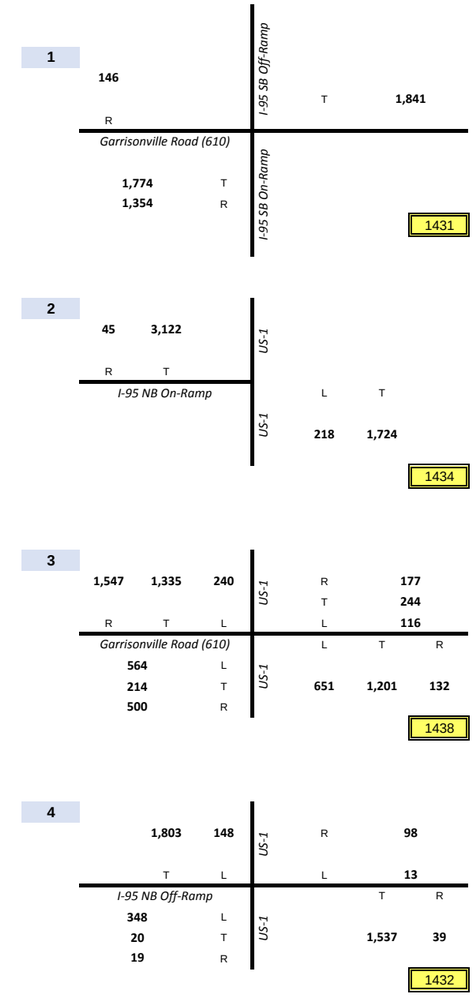
Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure E.7-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure E.7-5

**Legend**

| | |
|---|---|
| xx,xxx | **Weekday Hourly Volume** |
| ■ ■ ■ ■ ■ | **Proposed Express Lane Extension** |

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

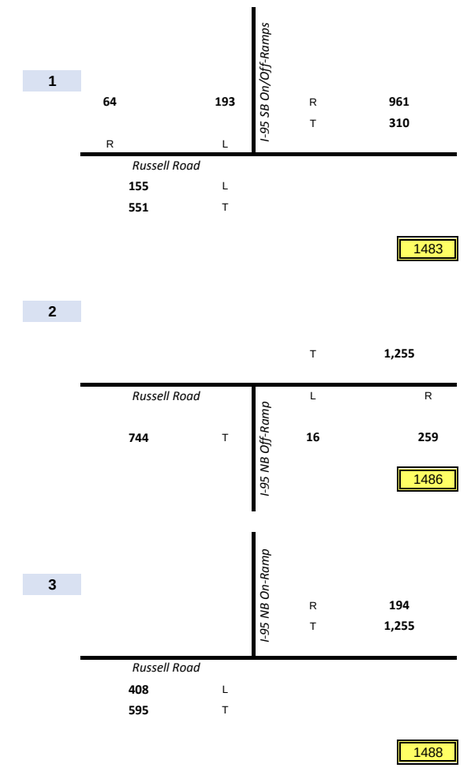
2022 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure E.7-6




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Access Point

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 5-6 PM Volumes

I-95 Corridor

August 2017

Figure E.7-7

**1**

| | | | | | |
|---|---|---|---|---|---|
| 275 | 7 | 707 | Carl D Silver Pkwy | R | 1,120 |
| | | | | T | 2,454 |
| R | T | L | | L | 17 |
| VA-3 (Plank Road) | | | | L | T | R |
| 223 | | L | Mall Court | | | |
| 1,659 | | T | | 10 | 7 | 7 |
| 6 | | R | | | | |

1303

**2**

| | | | | | |
|---|---|---|---|---|---|
| 14 | 4 | 13 | Ramseur St | R | 4 |
| | | | | T | 1,682 |
| R | T | L | | L | 203 |
| VA-3 (Plank Road) | | | | L | T | R |
| 31 | | L | Gateway Blvd | | | |
| 1,866 | | T | | 271 | 3 | 260 |
| 430 | | R | | | | |

1304

**Legend**

xx,xxx Weekday Hourly Volume

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

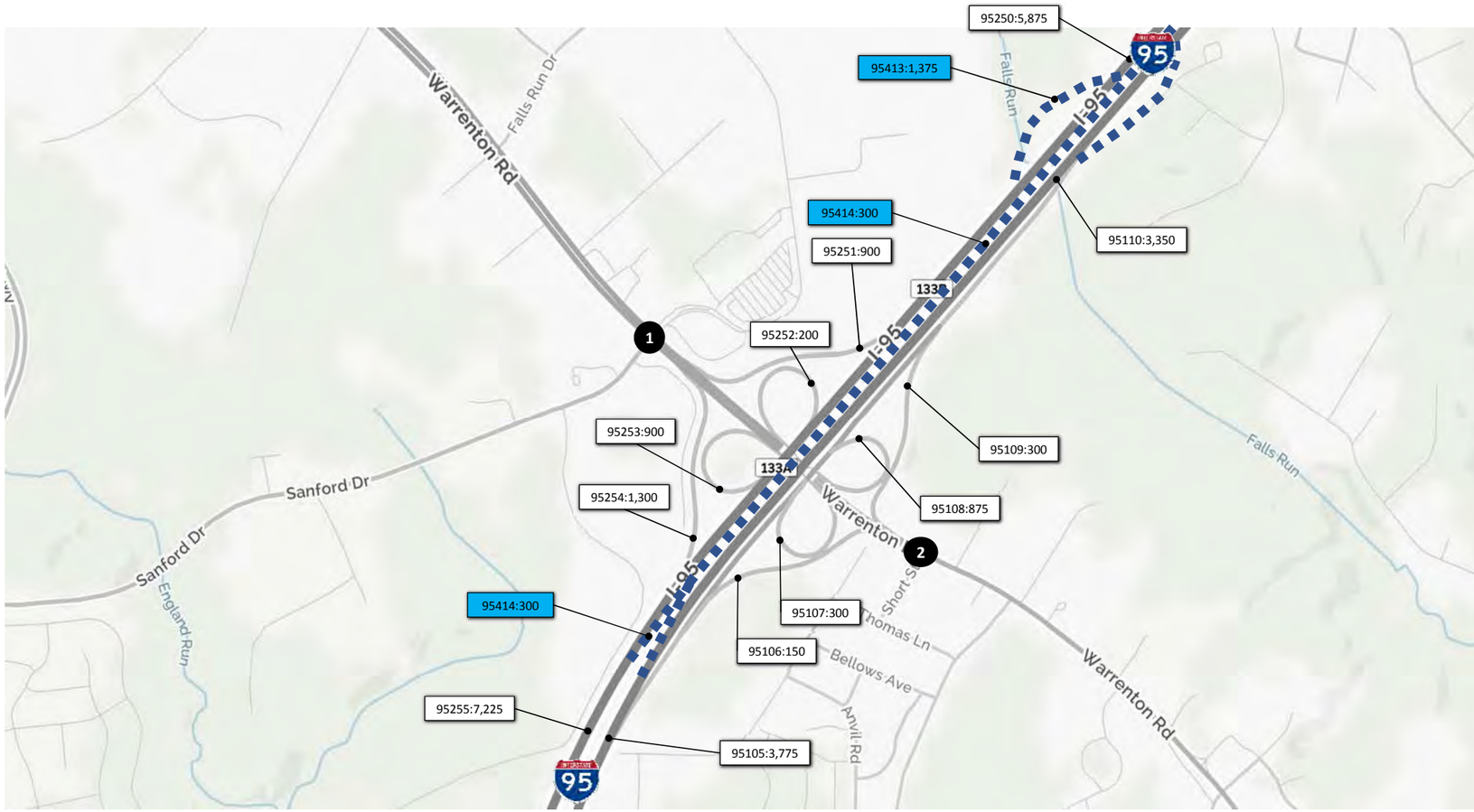
2022 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure E.8-1




**1**

| | | | | | |
|---|---|---|---|---|---|
| | 61 | 78 | 309 | R | 291 |
| | | | | T | 2,034 |
| | R | T | L | L | 414 |
| | *US-17 (Warrenton Rd)* | | | L T R | |
| | 54 | | L | | |
| | 2,174 | | T | 37 7 353 | |
| | 53 | | R | | |

*S Gateway Dr*

*Sanford Dr*

1333

**2**

| | | | | | |
|---|---|---|---|---|---|
| | 6 | 0 | 4 | R | 3 |
| | | | | T | 1,314 |
| | R | T | L | L | 20 |
| | *US-17 BUS (Warrenton Rd)* | | | L T R | |
| | 6 | | L | | |
| | 2,152 | | T | 122 3 31 | |
| | 149 | | R | | |

*Parking Lot*

*Short St*

1338

**Legend**

xx,xxx — **Weekday Hourly Volume**

**Proposed Express Lane Extension**

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

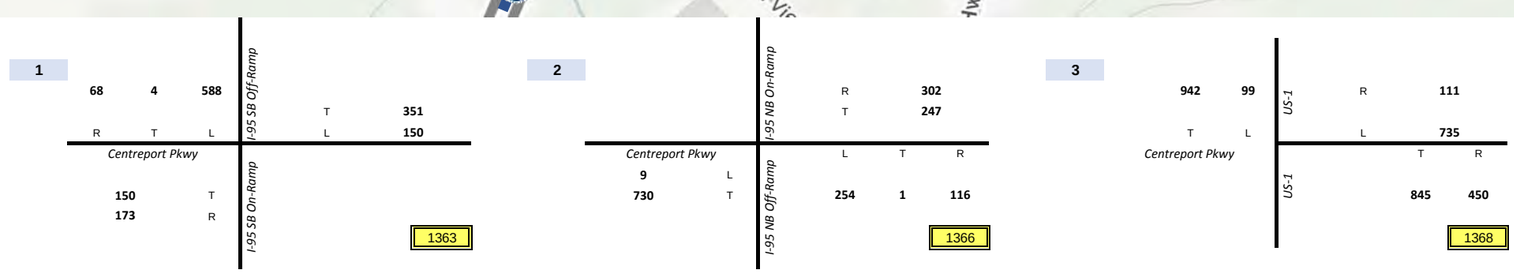
2022 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure E.8-2




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

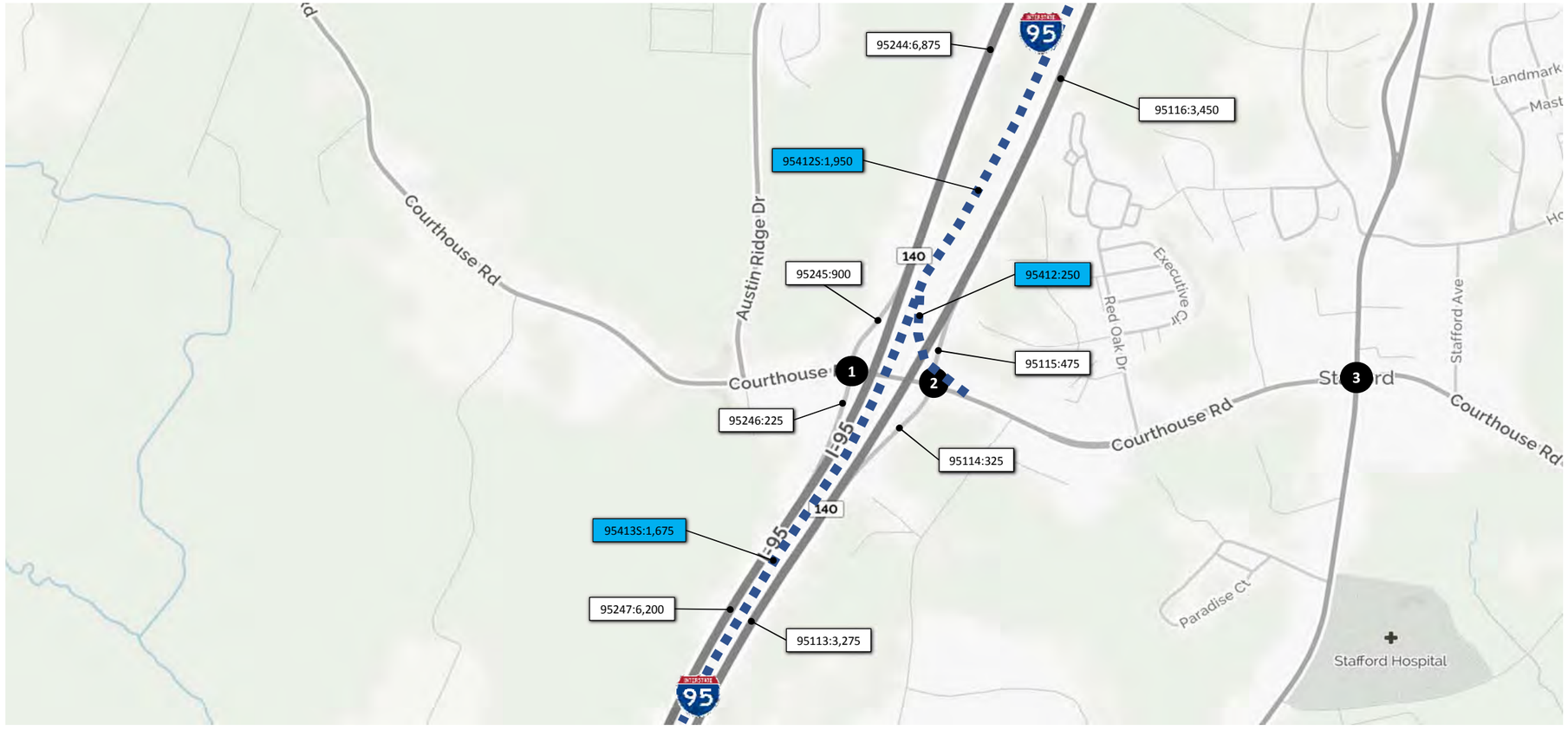
2022 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure E.8-3




**1**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 SB Off-Ramp | T | L | 495 |
| R | T | L | | | | 61 |
| Courthouse Road (630) | | | | | | |
| 475 | | T | I-95 SB On-Ramp | | | |
| 163 | | R | | | | |

466 0 439

1403

**2**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | I-95 NB On-Ramp | R | | 453 |
| | | | | T | | 491 |
| Courthouse Road (630) | | | | L | T | R |
| 33 | L | | I-95 NB Off-Ramp | | | |
| 881 | T | | | 65 | 0 | 258 |

1406

**3**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | US-1 | R | | 114 |
| | | | | T | | 302 |
| R | T | L | | L | | 33 |
| Courthouse Road (630) | | | | L | T | R |
| 175 | | L | US-1 | | | |
| 552 | | T | | 317 | 211 | 20 |
| 413 | | R | | | | |

325 546 105

1408

**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

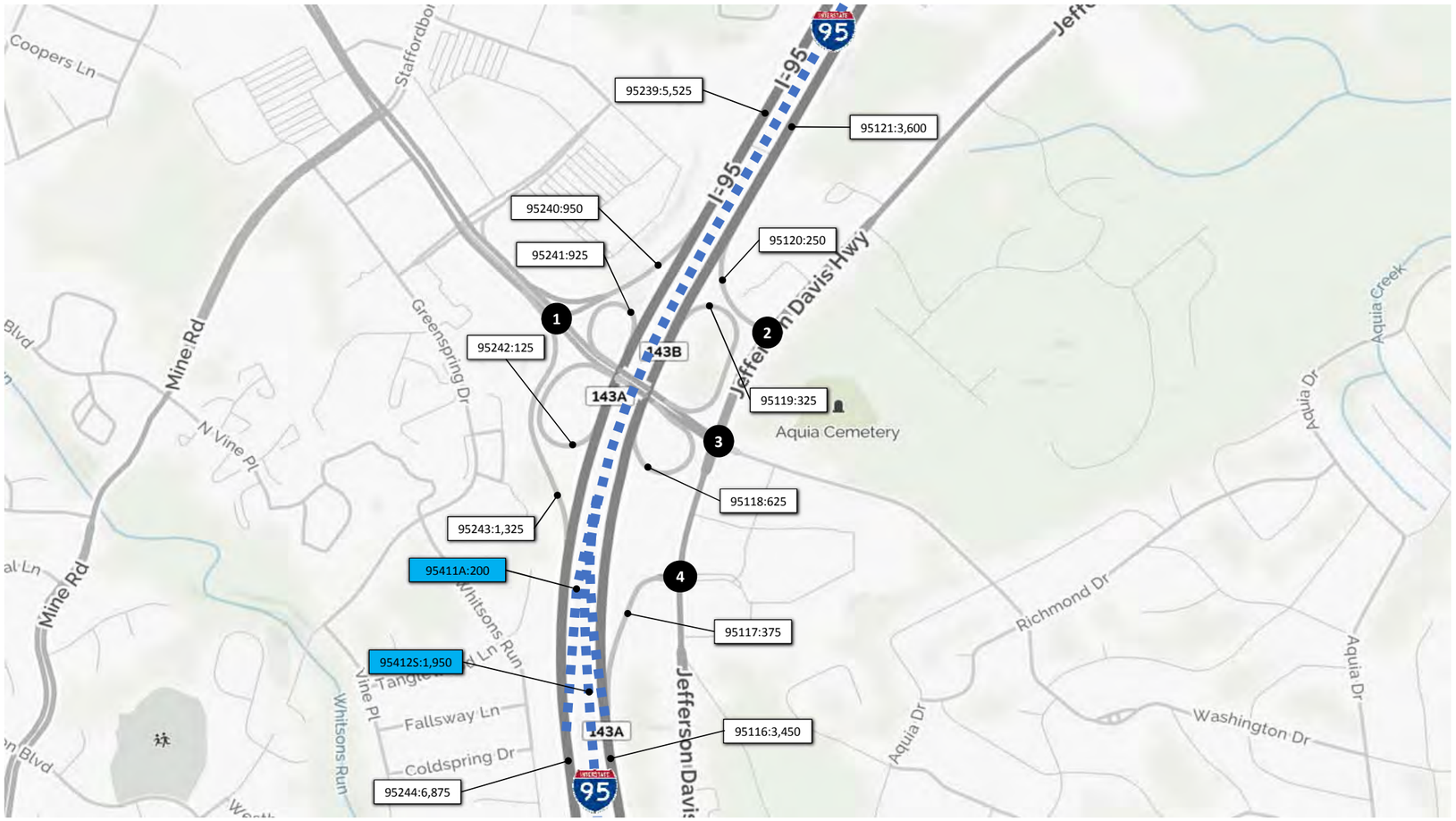
2022 Build

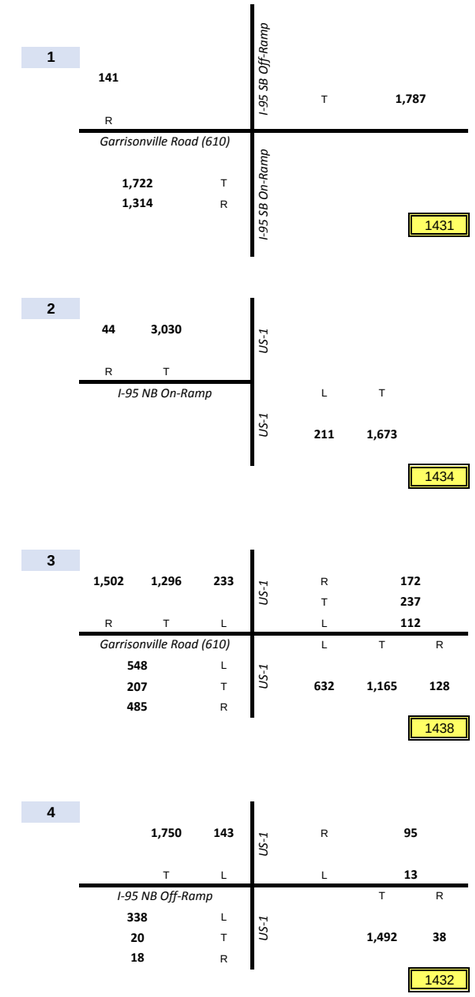
Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure E.8-4




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Extension

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure E.8-5

**Legend**

| | |
|---|---|
| xx,xxx | **Weekday Hourly Volume** |
| ■ ■ ■ ■ ■ | **Proposed Express Lane Extension** |

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

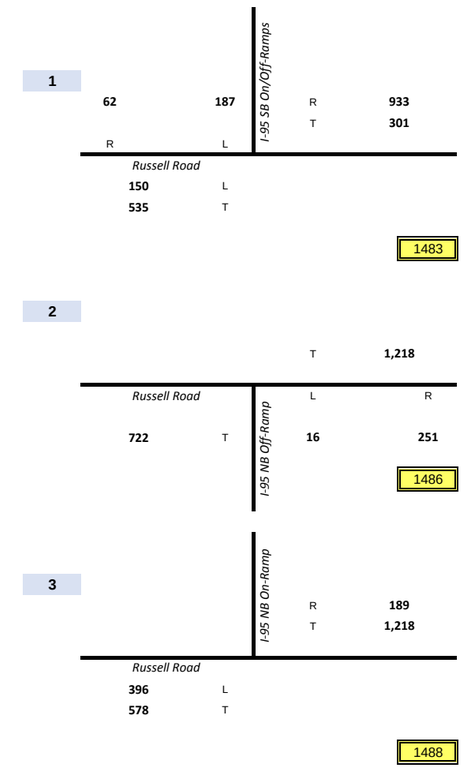
2022 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure E.8-6




**Legend**

xx,xxx — Weekday Hourly Volume

Proposed Express Lane Access Point

NOT TO SCALE

VDOT Virginia Department of Transportation

U.S. Department of Transportation Federal Highway Administration

I-95 Express Lanes Fredericksburg Extension Study

2022 Build

Weekday 6-7 PM Volumes

I-95 Corridor

August 2017

Figure E.8-7