MULTIMODAL TRANSPORTATION ANALYSIS

NEW ES AT REED SITE

ARLINGTON, VA

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EXECUTIVE SUMMARY

The following report is a Multimodal Transportation Analysis (MMTA) for the New Elementary School (ES) at the Reed site. The New ES at Reed project consists of creating a new neighborhood elementary school, with a capacity of 732 students, to be opened for the start of the 2021-2022 school year. The Reed site was selected for a new neighborhood school in the APS Strategic Plan. The project is currently in the schematic design phase. This MMTA is based on the conceptual plans for the New ES.

The purpose of this report is to review existing and future transportation facilities in the area surrounding the project site, project transportation demand needs of the project, determine if the new transportation demand generated by the project would have detrimental impacts on the surrounding transportation network, and present recommendations to minimize the detrimental impact from the proposed project.

This report concludes that the New ES at the Reed site will not have a detrimental impact to the surrounding transportation and roadway network given the recommendations from this report are implemented, including the Transportation Management Plan.

Study Area and Project Description

The site is surrounded by an extensive regional and local transportation system that will connect students, staff, and visitors of the project to the rest of Arlington County and surrounding areas. Several local initiatives will positively impact the study area, including the Washington Boulevard Bike, Pedestrian, and Roadway Enhancements, and a number of Neighborhood Conservation projects.

The current Reed site is home to:

- The Westover Library, a local branch of the Arlington Public Library
- The Children's School, a non-profit daycare and pre-school focused on serving APS staff
- Integration Station, APS' preschool for special education students
- A recreational area with several athletic fields

The conceptual plan to add an elementary school for the site demolishes the building currently housing The Children's School and Integration Station. The Westover library will remain, and the athletic fields will be reconfigured but remain on the site.

Transportation Demand

Based on extensive surveys of APS students and staff, observations of the Reed site and other APS facilities, and traffic and parking data collected near the Reed site, this report assembled detailed projections of travel demand assumptions for the New ES.

The following mode splits are anticipated for the New ES:

- Students:
  - 38% Automobile
  - 36% School Bus
  - 26% Walk/Bike
- Staff:
  - 89% Automobile
  - 9% Walk/Bike
  - 2% Transit

The conceptual design was based on projected transportation demands, which are detailed in the report. The site was designed to accommodate:

- Parking demand of 45 spaces for the library, and 119 spaces for the New ES
- Queuing room for 30 cars at the student drop-off and pick-up area
- Space for 7 school buses to load and unload students

The conceptual design for the project includes 125 parking spaces in expanded Northwest and 18th Street lots, and approximately 10 spaces that can be used for visitor parking in the pick-up/drop-off area. After schematic design, this number may change slightly. Based on the expected supply, some of the parking demand is accommodated on-street in order to preserve green space on site.

Traffic Operations

This MMTA contains a detailed analysis of capacity at nearby intersections. The assumptions and methodologies of the capacity analyses were scoped with Arlington County DES staff. The analyses include a comparison of traffic capacity for existing conditions, and projected future conditions including scenarios with and without the project.

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The analysis reached the conclusion that the surrounding streets can accommodate the anticipated traffic from the New ES, given certain design elements were incorporated into the schematic design and a Transportation Management Plan (TMP) is developed and implemented. This conclusion was based on the following findings from the technical anlaysis:

- The existing study area intersections all operate at acceptable levels of service and delay, with one exception. The southbound approach of 18th Street N to Washington Boulevard shows has long delays as side street traffic waits for gaps in Washington Boulevard traffic. This condition is common for side streets with low traffic volume intersecting an arterial like Washington Boulevard.
- The future scenarios show similar results, with all study area intersections operating at acceptable levels with one exception.
- The vehicular trip generation from the New ES is relatively minor and does not change traffic patterns nearby in a detrimental way. This is especially true for during PM commuter park hour. The AM peak hour trip generation of 379 vehicles/hour is the equivalent of one new car on the road every 9.5 seconds. During the PM school peak hour, the vehicular trip generation of 310 vehicles/hour if the equivalent of one new car on the road every 11.5 seconds. During the PM commuter peak hour, the vehicular trip generation of 25 vehicles/hour if the equivalent of one new car on the road every 144 seconds.
- This report does not recommend any traffic mitigation measures for the proposed New ES (e.g. roadway widening or new traffic signals).
- A sensitivity anlaysis that explored different mode split scenarios for the New ES confirmed the findings of the baseline mode split scenario.
- These findings are based on trip generation and routing assumptions that are reliant on the certain elements being included in the New school's Transportation Management Plan (TMP). Thus, this report recommended development and implementation of the TMP be a commitment of approval.

Parking Impacts

This MMTA reviewed the projected parking demand and opportunities for parking supply to determine potential impacts the project could have on the surrounding neighborhood. Detailed counts of parking occupancy on surrounding streets and nearby off-street parking lots were performed to gain an understanding of parking opportunities and concerns. After reviewing the data collected, this report found the following:

- The New ES and associated parking lots should maximize the ability to share parking between the New ES and the library in a manner that helps prevent library visitor parking from using other parking supplies.
- Residential parking on surrounding streets in the neighborhood is readily available during the school day. The streets directly adjacent to the school could serve as a potential resource of parking supply for New ES staff and visitors.
- On weekdays, the retail areas adjacent to the Reed site have the highest parking demand mid-day, which coincides with school peak parking demand. Thus, there is a potential for the New ES parking demand to impact retail parking supply. Additionally, there is an opportunity for retail parking demand to use school parking supply outside of school hours.

Based on the overlap of parking demands with New ES, and in order to most efficiently use the parking provided on the Reed site while saving space for recreation fields, this report presents the following parking recommendations:

- Take advantage of the parking availability on surrounding neighborhood streets by using it as part of the parking supply for New ES staff.
- Based on a review of parking demand on residential streets adjacent to the Reed site, this report recommends that a maximum of 30 parked vehicles generated by the New ES should be parked off-site. Based on the parking demand calculations for the uses on site, this results in a minimum recommended parking supply on-site of 124 spaces. This report recommends that be the required minimum parking on site in lieu of the 150 spaces required by Zoning.

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- Discourage New ES (and library) staff from parking in front of retail areas or the library, so that those spaces can be used by retail patrons and library visitors. Work with County staff on curbside management changes to on-street parking areas to deter staff parking in certain locations.
- Utilize the New ES's area set aside for arrival drop-off and dismissal pick-up queuing for visitor parking at other times. This additional visitor parking could be used by the library, notably to boost the supply during events such as story time that do not coincide with school arrival or dismissal.
- Sign the expanded Northwest and 18th Street parking lots in a manner that encourages sharing outside of school operating hours. Use signs such as "APS and Library Staff parking only, Mon-Fri 6:00 AM to 4:30 PM, Public parking all other times".

Pedestrian Facilities

The report contains a review of pedestrian walking routes to and from the Reed site to help develop a set of recommendations improvements to raise the potential walking mode spit of students and staff at the New ES. The steps performed in this review included:

- A detailed review of infrastructure within a 0.25-mile distance of the site
- A detailed review of additional walking routes beyond 0.25 miles, based on potential walk zone boundaries for the New ES
- A review of crossing quality along walking routes across arterial roadways
- An examination of impacts that planned County projects would have on walking route quality

The following conclusions are reached regarding pedestrian facilities:

- Walking routes adjacent to the school generally meet County standards, with some exceptions
- Some targeted sidewalk improvements could help improve walking route quality, within the study area sidewalks can primarily be improved by adding sidewalks along expected walking routes that only have a sidewalk on one side of the street
- The presence of multiple signalized intersections along Washington Boulevard in the vicinity of the site provide safe crossing locations for pedestrians across an arterial.
- Already planned infrastructure enhancements by the County on Washington Boulevard and Patrick Henry Drive will significantly improve pedestrian access to the site, especially at the intersection of Patrick Henry Drive and 16th Street N
- This report recommends that the placement of crossing guards be considered at the following intersections when the school opens:
  - Washington Boulevard and 18th Street N
  - Patrick Henry Drive and 18th Street N
  - Patrick Henry Drive and 16th Street N
  - N Lexington Street and 18th Street N

Bicycle Facilities

Based on a review of bicycle facilities, this report concludes the following:

- The site has good connectivity to existing on- and off-street bicycle facilities. The site is surrounded by local neighborhood streets, bicycle lanes on Washington Boulevard and Patrick Henry Drive, and the W&OD and Custis Trails.
- While there are no bicycle lanes on Washington Boulevard adjacent to the site and stretching westward, planned improvements will add bicycle lanes and narrow vehicular lanes in both direction, improving bicycle comfort levels.
- There is one (1) Capital Bikeshare station adjacent to the site, with an additional station planned to be installed at the intersection of Washington Boulevard and Patrick Henry Drive in FY2018.
- The plans for on-site bicycle parking for the New ES are currently being developed as part of the schematic design. The school will meet or exceed County requirements for short and long-term bicycle parking on site and provide showers and lockers for staff that commute via bicycle.
- This report recommends short-term bicycle parking be located on both the southern and northern entrances to the New ES, as cyclists will likely approach the school from several directions.

Transportation Management Plan

A Transportation Management Plan (TMP) has many components that are tailored to accommodate a given facility

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with the goal being the reduction of automobile trips by encouraging alternative forms of transportation and ensuring safe and efficient operations of transportation facilities.

This report outlines some of the potential TMP components for the New ES, including:

- A Transportation Demand Management (TDM) plan;
- A Safe Routes to School plan;
- A Parking Management Plan;
- Arrival and Dismissal Plans; and
- A Performance and Monitoring Plan.

Conclusion

This MMTA reached the conclusion that the development of the New ES on the Reed site will not have a detrimental impact to the surrounding roadway or parking systems, given certain design elements were incorporated into the schematic design and a Transportation Management Plan (TMP) is developed and implemented.

The required elements needed to be incorporated in schematic design include:

- A minimum of 124 off-street parking spaces on-site
- Room of seven school buses to load/unload
- An off-street student drop-off/pick-up area that can accommodate 30 total cars in queue
- Adequate bicycle parking for staff and students, with student parking located on multiple sides of the building

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INTRODUCTION

This report is a Multimodal Transportation Analysis (MMTA) for the New Elementary School (ES) at the Reed site. The New ES at Reed project consists of creating a new neighborhood elementary school, with a capacity of 732 students, to be opened in for the start of the 2021-2022 school year. The Reed site was selected for a new neighborhood school in the APS Strategic Plan. The project is currently in the schematic design phase. This MMTA is based on the conceptual plans for the New ES. Figure 1 shows the location of the Reed site.

PURPOSE OF STUDY

The purpose of this report is to:

1. Review existing and future transportation facilities in the area surrounding the project site.
2. Project the transportation demand needs of the proposed project.
3. Determine if the new transportation demand generated by the project would have detrimental impacts on the surrounding transportation network
4. Present recommendations to minimize the detrimental impact from the proposed project, including providing recommendations for the design team to incorporate into the schematic design

STUDY TASKS

The following tasks were completed as part of this study:

- A scoping meeting was held with Arlington County Department of Environmental Services (DES) staff on January 3, 2018. This meeting reviewed assumptions and methodologies for this MMTA.
- A scoping form based on the meeting with County staff was submitted to the County and subsequently approved.
- Field reconnaissance was performed at the Reed site to review lane configurations and traffic controls, as well as at other APS elementary schools to review pick-up/drop-off procedures and queues.
- Traffic counts were conducted at 11 locations on Thursday, February 1, 2018.
- APS Go! data for comparable APS facilities was reviewed to help establish mode split assumptions.
- Parking counts (inventory and occupancy) were conducted in the area surrounding the Reed site on Tuesday December 12, 2017, and Thursday, April 12, 2018.
- Capacity analyses for the existing conditions were performed.
- A revised scoping form submitted to the County and subsequently approved. The revised scoping form updated some of the assumptions to be used in this MMTA based on the processed APS Go! data and the existing conditions capacity analysis results.
- Future capacity analyses were performed based on the revised scope.
- Multimodal analyses were performed reviewing pedestrian and bicycle travel to and from the project.
- The analysis findings and recommendations were documented in this report.

CONTENTS OF STUDY

This report contains nine sections as follows:

- *Study Area Overview*
  This section reviews the area near and adjacent to the proposed project and includes an overview of the site location, and local initiatives within the study area.
- *Project Design*
  This section reviews the transportation components of the project, including the site plan and access. Included is a review of parking, truck access, and loading/unloading facilities.
- *Travel Demand Assumptions*
  This section outlines the travel demand of the proposed project. It contains projections on the mode splits of site users and summarizes the proposed trip generation of the project.
- *Traffic Operations*
  This section provides a summary of the existing roadway facilities and an analysis of the existing and future roadway capacity in the study area. This section highlights the vehicular impacts of the project, including presenting mitigation measures for minimizing impacts as needed.

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- *Parking*
  This section reviews the available parking surrounding the Reed site and presents parking recommendations.
- *Pedestrian Facilities*
  This section summarizes existing and future pedestrian access to the site, reviews walking routes to and from the project site, outlines impacts, and presents recommendations as needed.
- *Bicycle Facilities*
  This section summarizes existing and future bicycle access to the site, reviews the quality of cycling routes to and from the project site, outlines impacts, and presents recommendations as needed.
- *Transportation Management Plan*
  This section outlines the various components of the project's Transportation Management Plan (TMP), including Transportation Demand Management (TDM) and Safe Routes to School (SRTS) plans.
- *Summary and Conclusions*
  This section presents a summary of the recommended mitigation measures by mode and presents overall report findings and conclusions.

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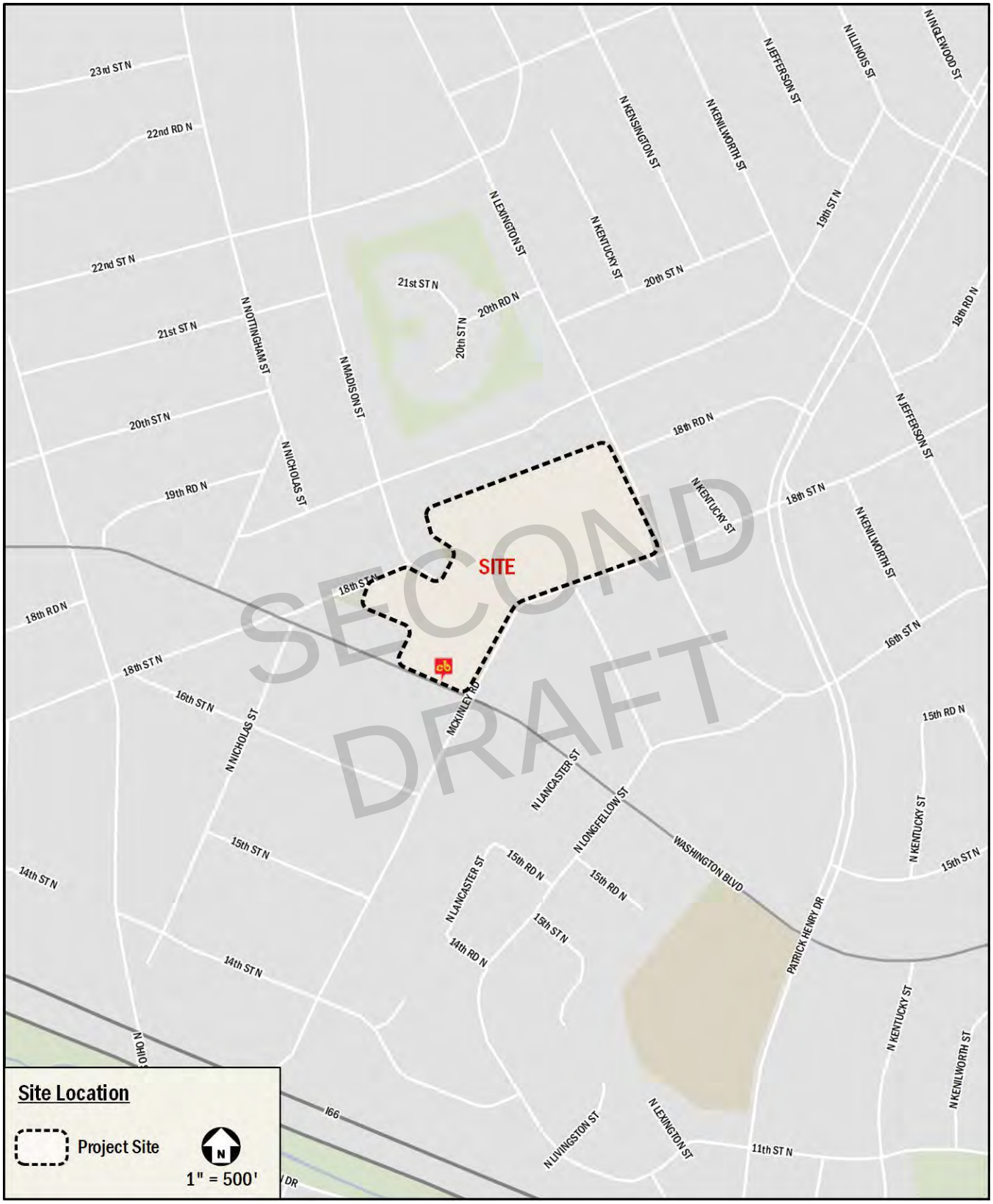

Figure 1: Site Location

STUDY AREA OVERVIEW

This section reviews the study area and includes an overview of the site location, including a summary of the major transportation characteristics of the area and of future regional projects.

The following conclusions are reached within this chapter:

- The site is surrounded by an extensive regional and local transportation system that will connect students, staff, and visitors of the project to the rest of Arlington County and surrounding areas.
- The site is served by public transportation with access to two Metrorail lines, and several local and regional bus routes.
- There is existing bicycle infrastructure including the W&OD and Custis Trails, and several bicycle lanes and signed routes in the vicinity of the site.
- Pedestrian conditions are generally good, particularly along anticipated major walking routes
- Several local initiatives will positively impact the study area, including the Washington Boulevard Bike, Pedestrian, and Roadway Enhancements, and a number of Neighborhood Conservation projects

MAJOR TRANSPORTATION FEATURES

Overview of Regional Access

Overview of major facilities, not a detailed description. Include highways, arterials, transit, major bicycle facilities. Cite mode specific chapters if they exist later in the report.

The New ES at Reed site has ample access to regional vehicular-, transit-, and bicycle-based transportation options, as shown in Figure 3, that connect the site to destination within Virginia, the District, and Maryland.

The site is accessible from interstate I-66, US Highways such as US-29 (Lee Highway) and US-50 (Arlington Boulevard), as well as State Routes such as SR-237 (Washington Boulevard), SR-694 (Great Falls Street), and SR-120 (N Glebe Road). All of these roadways bring vehicular traffic within a half-mile of the site, at which point arterials and local roads can be used to access the site directly. The main arterials in the vicinity of the site are Washington Boulevard and Patrick Henry Drive.

The site is located 0.8 miles from the East Falls Church Metrorail station, which is serviced by the Orange and Silver lines, and provide connection to areas in Virginia, the District, and Maryland that are near Metrorail. The site is also serviced by one major regional bus route which connects to multiple Metrorail stations in Arlington County and Falls Church.

The site is located a short distance from the W&OD and Custis Trails, which are both located less than 0.5 miles from the site. These two trails make up part of the "Arlington Loop", which provides local and regional off-street connectivity for bicycles to and from the site. A detailed review of existing and bicycle access and infrastructure is provided in a later section of this report.

Overall, the site has access to several regional roadways, transit, and bicycle options, making it convenient to travel between the site and destinations in the Virginia, the District, and Maryland.

Overview of Local Access

Overview of major facilities, not a detailed description. Include collectors, local transit, bicycle facilities. Cite mode specific chapters if they exist later in the report.

There are several local transportation options near the site that serve vehicular, transit, walking, and cycling trips, as shown on Figure 3.

The site is served by a local vehicular network of low volume neighborhood streets that provide connections from regional roads to the site.

Arlington Transit (ART) is a local bus system provided by Arlington County. ART supplements Metrobus with cross-County routes as well as neighborhood connections to Metrorail. As shown in Figure 4 there are multiple bus routes that service the site. In the vicinity of the site, the majority of bus routes travel along Washington Boulevard.

There are existing bicycle facilities that connect the site to neighborhoods within Arlington County, most notably bicycle lanes on Patrick Henry Drive, Washington Boulevard, and N Ohio Street. Other facilities include bicycle-friendly roads that include signed routes on N Lexington Street, N McKinley Road, 16th Street N, and 22nd Street N.

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As shown in Figure 2, the site is situated in a neighborhood that encompasses good walkscores and bikescores. The site is in an area that provides a better walking environment than areas to the west and south which either lack sidewalk coverage or have physical barriers limiting connectivity such as I-66. A detailed review of existing and proposed pedestrian access and infrastructure is provided in a later section of this report.

Car-sharing

Two car-sharing companies provide service in Arlington County: Zipcar and Car2Go. Both are private companies that provide registered users access to a variety of automobiles. Of these, Zipcar has designated spaces for their vehicles. There are no car-share locations within a quarter-mile of the site.

Car-sharing is also provided by Car2Go, which provides point-to-point car-sharing. Car2Go currently has a fleet of vehicles located throughout the District and Arlington. Car2Go vehicles may park in any non-restricted metered curbside parking space or Residential Permit Parking (RPP) location in any zone throughout the defined "Home Area". Members do not have to pay the meters or pay stations. Car2Go does not have permanent designated spaces for their vehicles; however, availability is tracked through their website and mobile phone application, which provides an additional option for car-sharing patrons.

Walkscore

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions within neighborhoods of Arlington County. Based on this website the planned development is located in the Highland Park – Overlee Knolls neighborhood. The site location has a walk score of 76 (or "Very Walkable"), a transit score of 51 (or "Good Transit"), and a bike score of 75 (or "Very Bikeable"). shows the neighborhood borders in relation to the site location and displays a heat map for walkability and bikeability.

The site is situated in an area with good walk scores because of the abundance of neighborhood serving retail locations that are in close proximity, where most errands can be completed by walking.

The transit score was based on the proximity to multiple bus lines, and distance to the nearest Metrorail stop which is located 0.8 miles from the site.

The site is situated in an area with good bike scores due to its proximity to low volume residential roadways, number of bike lanes and trails, and flat topography.

Overall, the Highland Park – Overlee Knolls neighborhood has high walk, transit, and bike scores. Additionally, planned roadway improvements will help increase the walk, bike, and transit scores in the Highland Park – Overlee Knolls neighborhood.

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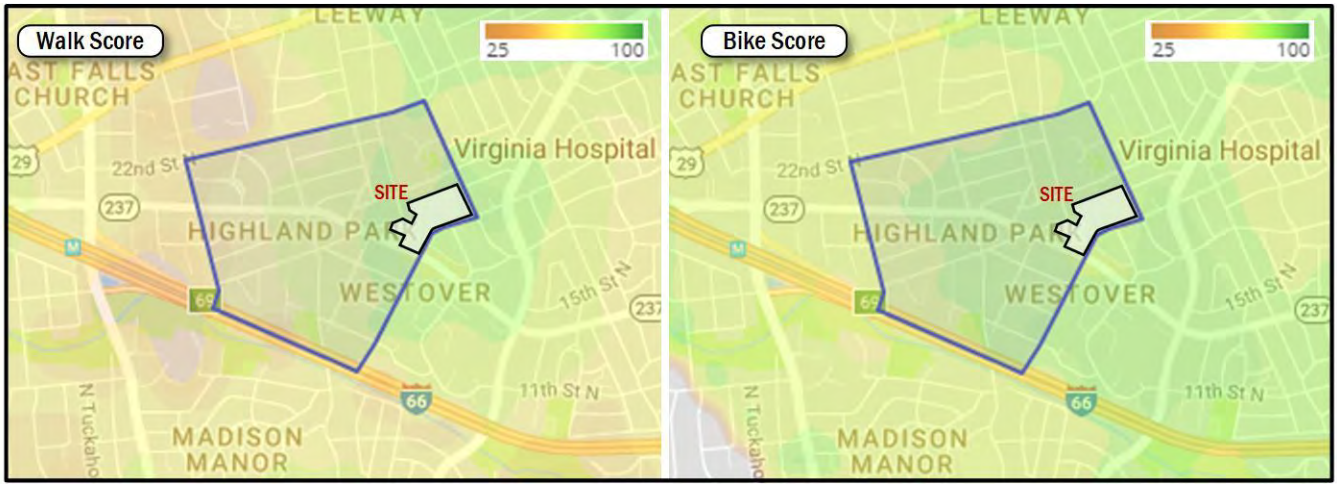

Figure 2: Walkscore and Bikescore

Figure 3: Major Regional Transportation Facilities

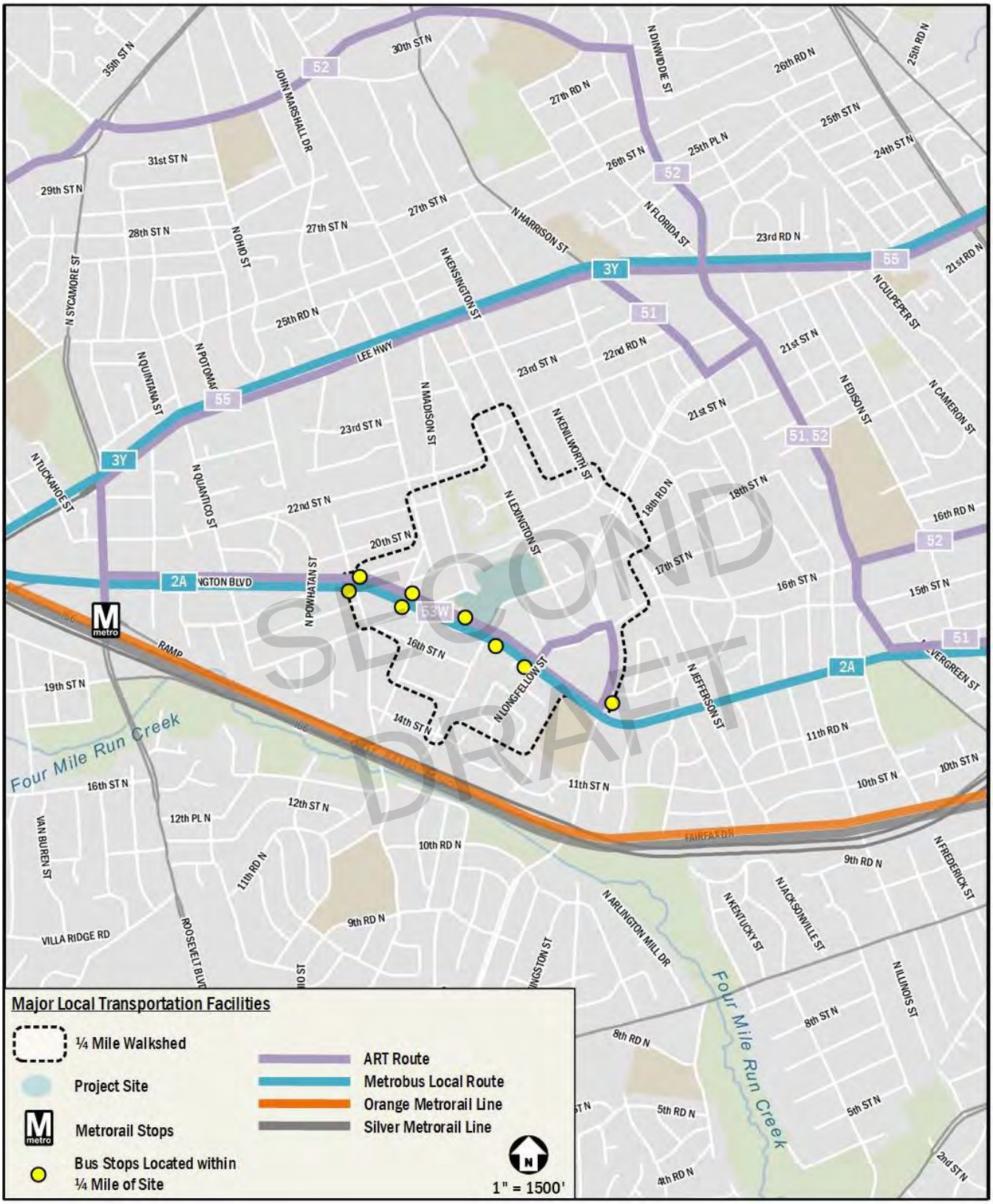

Figure 4: Major Local Transportation Facilities

FUTURE PROJECTS

There are a few local initiatives and approved developments in the vicinity of the site. These planned and proposed projects are summarized below.

Local Initiatives

Washington Boulevard Bike, Pedestrian, and Roadway Enhancements

The stretch of Washington Boulevard between Westover and East Falls Church is a VDOT owned and operated roadway. During the winter of 2016/2017, County staff developed a new striping and marking plan, with input from area property owners and community stakeholder groups, and VDOT will execute the work. Currently the road consists of two wide travel lanes and on-street parking through much of the corridor.

The most significant feature of the proposed layout is the introduction of bicycle lanes in both directions; some stretches getting an additional 2- or 3-foot buffer against moving traffic. The 2011 East Falls Church Area Plan calls for bike lanes along the entire stretch of Washington Boulevard through the master plan area. The 2008 Bicycle Element of the Master Transportation Plan (MTP) also calls for bike lanes in the same area.

The final plan as submitted to VDOT provides a number of benefits, including:

- Helping stitch together the expanding Capital Bikeshare system (a new station was installed at the East Falls Church metro station in 2016 and two new stations will be installed in Westover in 2017 and 2018);
- Connecting existing bicycle lanes on Washington Boulevard between the Westover neighborhood and Lacy Woods Park neighborhood;
- Creating a nearly two-mile stretch of bicycle lanes from N Sycamore Street to George Mason Drive;
- The narrowing of unnecessarily wide travel lanes to help calm traffic;
- Installing a dedicated left turn lane for westbound Washington Boulevard at N Ohio Street to help reduce backups;
- Improving pedestrian comfort on sidewalks due to buffering provided by the new bicycle lanes; and
- Pedestrian safety improvements at key intersections with highly visible markings for crosswalks.

This project is currently undergoing construction.

East Falls Church Plan

The East Fall Church Plan was adopted in 2011 by the County Board and designated the area in the vicinity of the East Falls Church Metrorail station as the East Falls Church Neighborhood Center District.

The East Falls Church Plan built on recommendations made by the citizen task force including:

- Preserving single-family areas and historic and natural resources;
- Providing opportunities for new open spaces and neighborhood-serving retail, including a grocery store;
- Limiting building heights to four to six stories along building frontages, with specific height guidance for the park-and-ride site up to nine stories;
- Outlining goals and strategies for attaining affordable housing units;
- Considering financing options for a new West Entrance to the Metrorail station;
- Reducing auto congestion and limit spillover parking impacts;
- Improving bicycle and pedestrian safety and connectivity;
- Enhancing bus service; and
- Studying improvements to I-66.

Major challenges in developing a plan for the area were connecting both sides of I-66 through better bicycle and pedestrian facilities, addressing current and future traffic issues, and providing opportunities for mixed-use development that complements the character of the neighborhood.

Key elements of the plan include:

- A “Neighborhood Center” vision for that includes preserving the surrounding single-family neighborhoods, preserving and creating new open spaces, providing opportunities for additional neighborhood-oriented retail and enhancing pedestrian and bicycle connections to the Metrorail station;
- A new mixed-use development node at the existing 422-space park-and-ride site to include: ground floor retail, a pool of 100 to 200 shared public parking spaces priced to favor short-term parkers, a public open space and continuation of existing bus operations;

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- New public open spaces adjacent to the W&OD Trail near Lee Highway;
- A new west entrance to the East Falls Church Metrorail station to make the station more accessible from proposed development along Lee Highway and Washington Street in the City of Falls Church; and
- Street improvements including new lane configurations, addition of on-street bicycle lanes, on-street parking (where possible), and intersection enhancements to increase pedestrian safety and reduce speeding and merging conflicts.

Neighborhood Conservation (NC) Projects

The Neighborhood Conservation (NC) Program helps improve and enhance Arlington neighborhoods. When the program was created in 1964, the goal was to empower residents by having them come together to discuss and share ideas for improving their neighborhoods. Today, the program provides funding for a variety of improvements including: installation of sidewalks, curbs and gutters, streetlights, signs, park improvements, neighborhood art and beautification. This program empowers citizens to identify and plan projects in their own neighborhoods

N Ohio Street / John Marshall Trail Improvements

This is a pedestrian safety and street improvement project on N Quintana Street from Washington Boulevard to 19th Street N. The project scope includes: (1) a new 5-foot wide concrete sidewalk being constructed along the east side of the street. It will narrow to 4-foot in width at one location to protect a mature tree; (2) a utility/buffer (grass) strip, located adjacent to the sidewalk; (3) LED Carlyle-style streetlights replacing existing DVP-owned Cobra streetlights; (4) storm water drainage improvements within the project limits; (5) the street width narrowing to 28 feet at the northerly end of the project limits, closer to Washington Boulevard, and on-street parking will being retained along both sides; and (6) the street width being narrowed to 22 feet at the mid- to southerly parts of the project limits, and on-street parking being retained along the east side only. The narrowed roadway will maintain two travel lanes, one in each direction, but will be considered a yield street.

N Ohio Street / John Marshall Trail Improvements

The segment of N Ohio Street from 22nd Street N to Washington Boulevard will be improved to include sidewalks, crosswalks, and curb ramps that meet Arlington County and ADA standards. In addition, LED streetlight improvements may also be implemented in the future.

22nd Street N Improvements

The street improvement project on 22nd Street N from N Kentucky Street to N Lexington Street proposes to construct a curb and gutter where there currently is none on the north side of the street. The project scope also includes a proposed curb extension with bio-retention basin on 22nd Street N, adjacent to the property located at 5709 N 22nd Street.

Patrick Henry Drive Street Improvement Project

This is a neighborhood pedestrian safety and beautification project to install curb extensions at Washington Boulevard at Patrick Henry Drive; curb extensions at 15th Street N, with double handicap-accessible ramps on the west side of Patrick Henry Drive to accommodate mid-block crossing; curb extensions at 16th Street N and N Lexington Street; bump-out entrance into parking area of Westover Apartments on the west side of Patrick Henry Drive; the installation of 5-foot bicycle lanes on the west side of Patrick Henry Drive from Washington Boulevard to 16th Street N; 5-foot sidewalk along several locations; yellow painted dividing stripe on Patrick Henry Drive, and re-orienting parking on the west side at the Westover Apartments to be 60 degree back-in parking. Travel lanes will be 10 feet on both sides of Patrick Henry Drive.

N Illinois Street Improvements

Pedestrian safety and street improvement project on North Illinois Street from 22nd Street N to Lee Highway. The project scope includes: (1) design and installation of a new 5-foot continuous sidewalk, with a 2.5-foot utility/buffer strip, curb, and gutter on the west side of the street; (2) continuous curb and gutter on the east side of the street; (3) ADA compliant pedestrian ramps throughout the project area; and (4) curb extensions at the intersections of N Illinois Street with N 22nd Road, N 23rd Street, and N 24th Street.

24th Street Improvements

This is a neighborhood pedestrian safety and beautification project on 24th Street N, from N Illinois Street to N Kensington Street. The project scope includes: (1) installing a continuous 5-foot sidewalk, curb and gutter, and associated storm water infrastructure, on the south side of 24th Street N; (2) on-street parking being retained on both sides of 24th Street N; (3) ADA compliant pedestrian ramps being installed at the intersections with N Illinois Street and N Kensington Street; and (4) New

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Carlyle style streetlights installed in the new 2.5-foot utility/buffer strip adjacent to the sidewalk.

Based on industry standards, some of the infrastructure improvements identified above were included in this report's future traffic models. The Traffic Operations chapter of this report details which projects met standards for inclusion, and how future changes were assumed and incorporated into the analysis.

Potential Developments

There is one (1) potential development project in the vicinity of the site, which was considered for inclusion as part of this study. Figure 6 identifies the location of this development.

Virginia Hospital Center Expansion

In 2015, Virginia Hospital Center (VHC) proposed the expansion of the hospital on an adjacent parcel of land at 1800 N Edison Street. Generally known as the Edison Site, the 5.6-acre site was owned by the County at the time.

VHC intends to incorporate the Edison Site into their existing, adjacent campus for a total site area of 21.6 acres. VHC's rezoning, site plan amendment, and use permit amendment applications propose to:

- Rezone Edison Site from "S-3A" to "S-D";
- Replace existing buildings on Edison Site with a new 7-story medical office building and an 8-story parking garage; and
- Convert 120,000 square feet of medical office use on the current VHC campus to hospital use.

The Site Plan Review Committee, including members of the Planning Commission and representatives of other advisory commission and nearby civic associations, will meet to review the proposed development plans in 2018.

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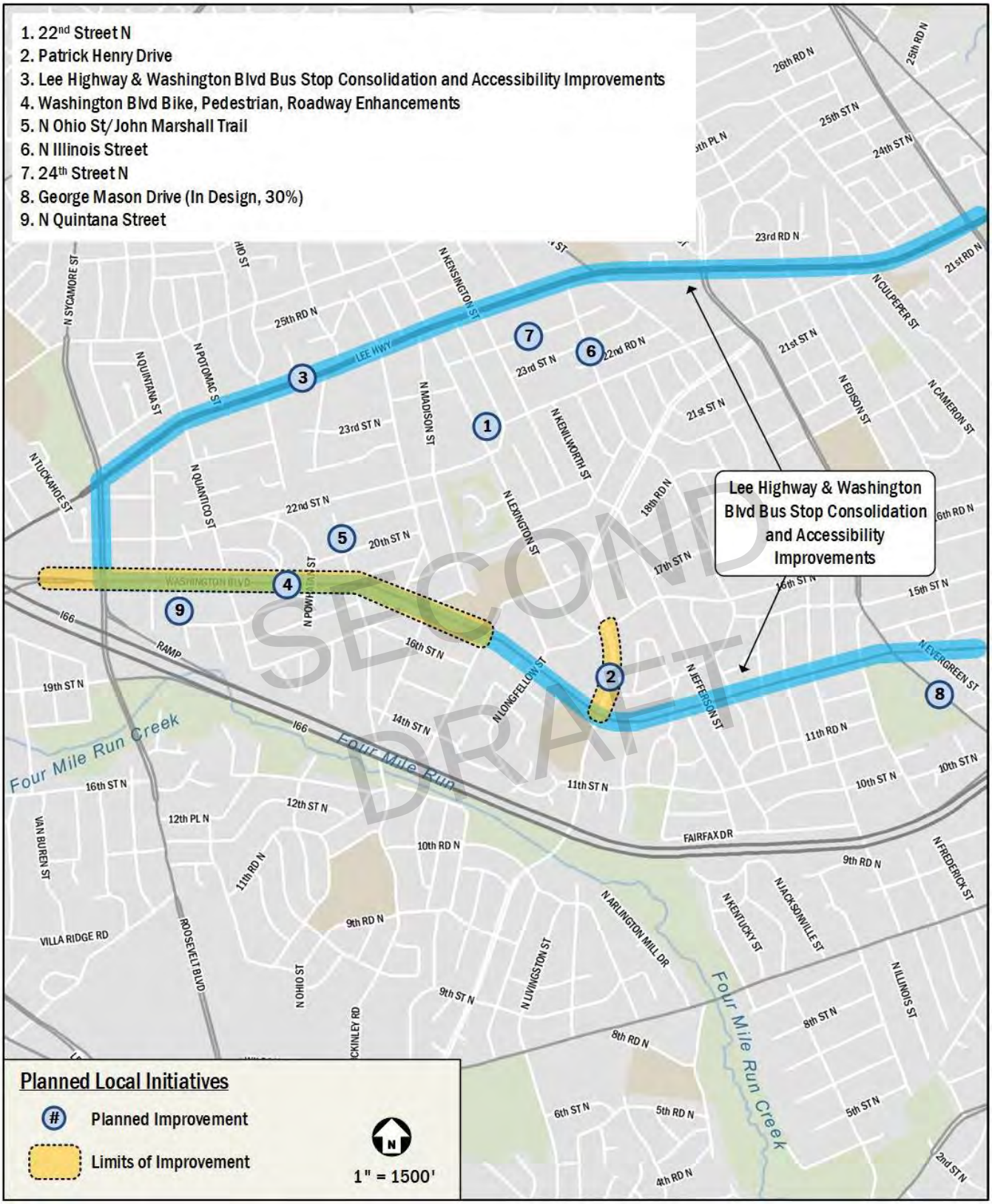

Figure 5: Map of Local Initiatives

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Figure 6: Map of Nearby Developments

PROJECT DESIGN

This section reviews the transportation components of New Elementary School (ES) at the Reed site project. This includes an overview of how the site will be accessed by its various users, and how each mode is accommodated.

The New ES at Reed project consists of creating a new neighborhood elementary school, with a capacity of 732 students, to be opened for the start of the 2021-2022 school year. The Reed site was selected for a new neighborhood school in the APS Strategic Plan. This report is based on a conceptual design approved by the School Board and developed by APS, the design team, and the BLPC (Building Level Planning Committee) and PRFC (Public Facilities Review Committee).

The project is currently in schematic design, and thus specific details are likely to change. It is not anticipated that major transportation site elements will change, such as parking lot locations or driveways. Changes will likely be limited to slight differences in the total number of parking spaces in the expanded parking lots.

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PROJECT OVERVIEW

The current Reed site is home to:

- The Westover Library, a local branch of the Arlington Public Library
- The Children's School, a non-profit daycare and pre-school focused on serving APS staff (with approximately 120 students)
- Integration Station, APS' preschool for special education students (with approximately 26-32 students)
- A recreational area with several athletic fields

The conceptual plan to add an elementary school for the site demolishes the building currently housing The Children's School and Integration Station. The Westover library will remain, and the athletic fields will be reconfigured but remain on the site. An overview of changes to the Reed site is presented in Figure 8.

SITE ACCESS AND PARKING

Current vehicular access to the site is located on the Northwest parking lot behind the library, which accommodates APS and library staff parking, and a general parking lot on 18th Street, which is used primarily by visitors to the Reed site.

Future vehicular access will remain similar to existing. The Northwest parking lot will be expanded but will remain a staff parking lot. This is because the location of the Northwest lot, off 18th and Madison Streets, is accessed via residential streets and 18th Street's intersection with Washington Boulevard is unsignalized. Since access to the parking lot is less intuitive and doesn't offer drivers a lot of routing choices, it is best used by staff instead of visitors (and especially parents picking-up and dropping-off students).

The 18th Street lot will also be expanded, and will accommodate visitor parking, staff parking not accommodated in the Northwest lot, and a student drop-off/pick-up loop and queuing area. In addition to being expanded, the 18th Street lot will remove one of its curb cuts and switch to a one-way loop circulation out of the same curb cut. This allows for more space for queuing and decreases a pedestrian/vehicular conflict point near the front door of the school.

The conceptual design was based on projected transportation demands, which are detailed in the next chapter of this report. In summary, the site was designed to accommodate:

- Parking demand of 45 spaces for the library, and 119 spaces for the New ES
- Queuing room for 30 cars at the student drop-off and pick-up area
- Space for 7 school buses to load and unload students

Figure 9 and Figure 10 present a summary of future site access.

Library Access

Library staff and volunteers will park in the expanded Northwest lot. This report recommends that 15 spaces within that lot have signage reserving spaces for the library, since the library opens later than the new ES.

Library patrons will have access to visitor parking in the expanded 18th Street lot. This report recommends that the visitor parking within eh 18th Street lot is signed to prevent is being used by staff. It is also anticipated that many library patrons will park on the street adjacent to the library, as they do today.

New ES Access

Staff for the new ES will park in the expanded northwest lot, the expanded 18th Street lot, and on-street adjacent to the Reed site. Although most staff parking will be accommodated on the Reed site, some parking is expected to occur on-street. This represents a compromise between minimizing impacts to the surrounding neighborhood with providing green space and recreation facilities on site. A detailed review of parking, and potential impacts is included in a chapter later in this report.

School buses will be accommodated on street on McKinley/18th Streets in front of the building near the front door. There is room for seven buses. This report reviewed bus maneuverability on McKinley/18th Streets and found that buses need to cross the yellow line in front of the Reed site. Figure 7 highlights this issue and a potential solution involving a slight adjustment to the double yellow center line.

Drivers dropping-off students the morning and picking them up in the afternoon will do so in the expanded 18th St lot. A dedicated loop and queuing space for this activity will be incorporated in the lot. The queuing space can accommodate around 30 vehicles, which is sufficient to handle the anticipated demand.

LOADING

The New ES's loading facilities are anticipated to remain where they are today, on the northwest side of the building adjacent to the Northwest lot. Design of the loading dock is currently being performed as part of the schematic design phase.

BICYCLE FACILITIES

The amount of location of bicycle racks on the Reed site will be determined as part of schematic design. The bicycle facilities chapter later in this report presents recommendations on the types and location for on-site bicycle parking.

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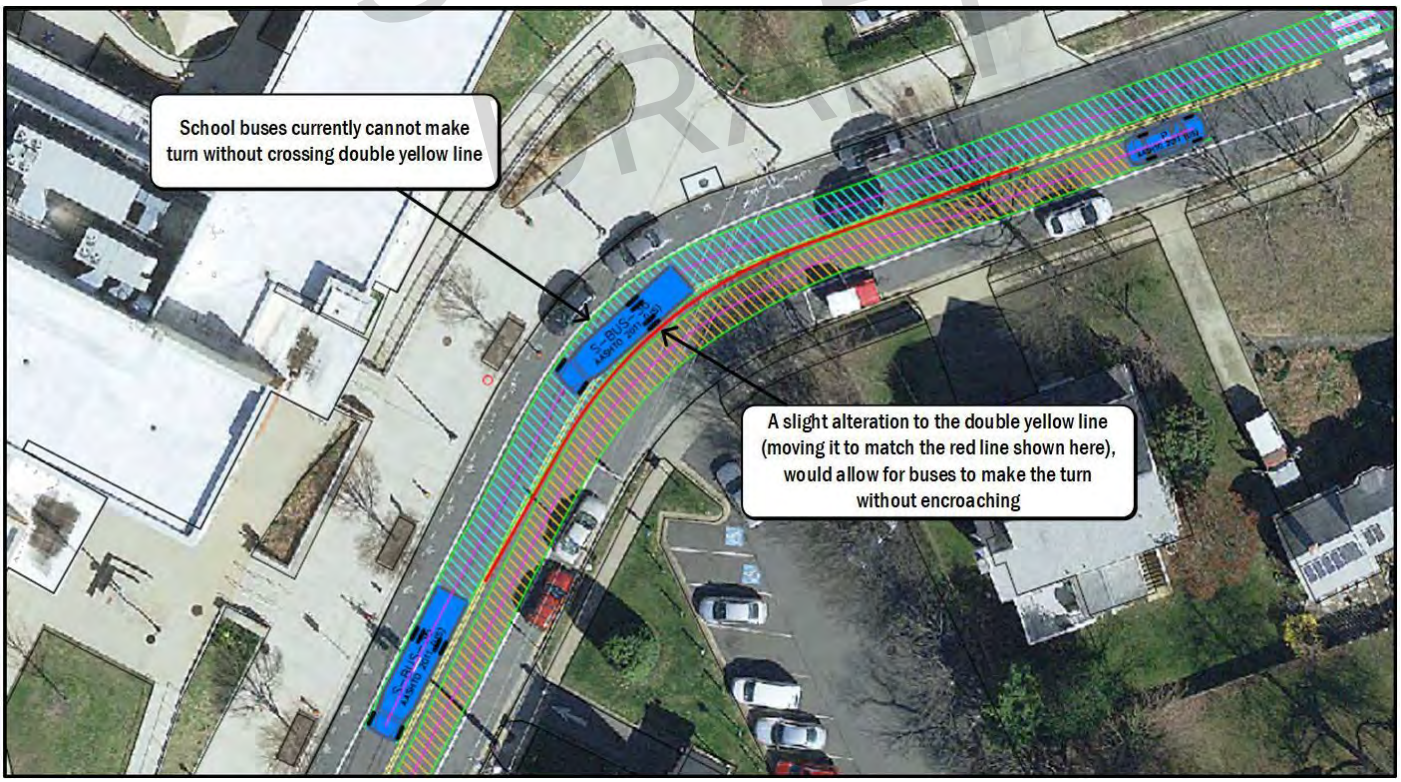

Figure 7: Bus Encroachment

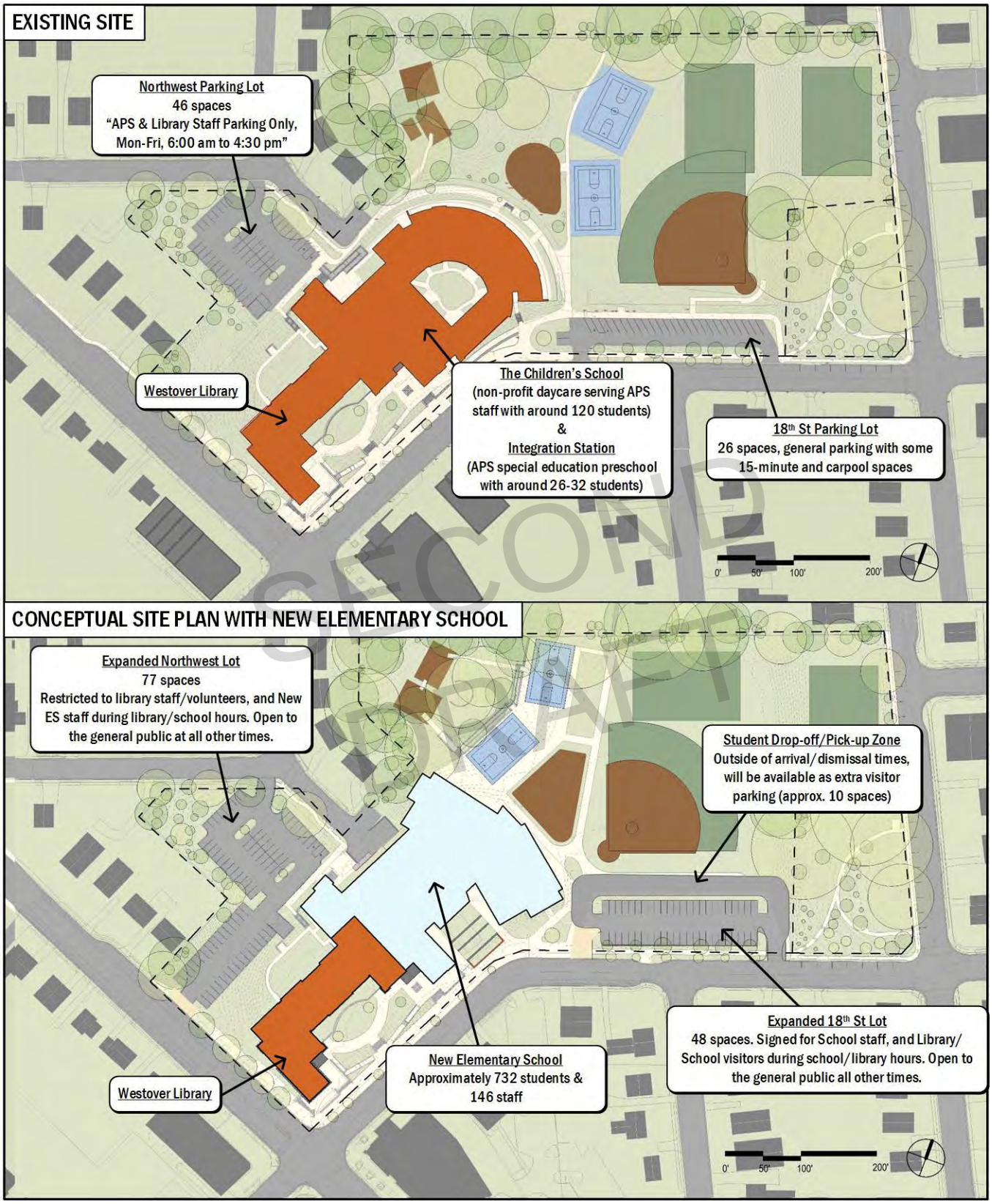

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Figure 8: Overview of Existing and Proposed Access

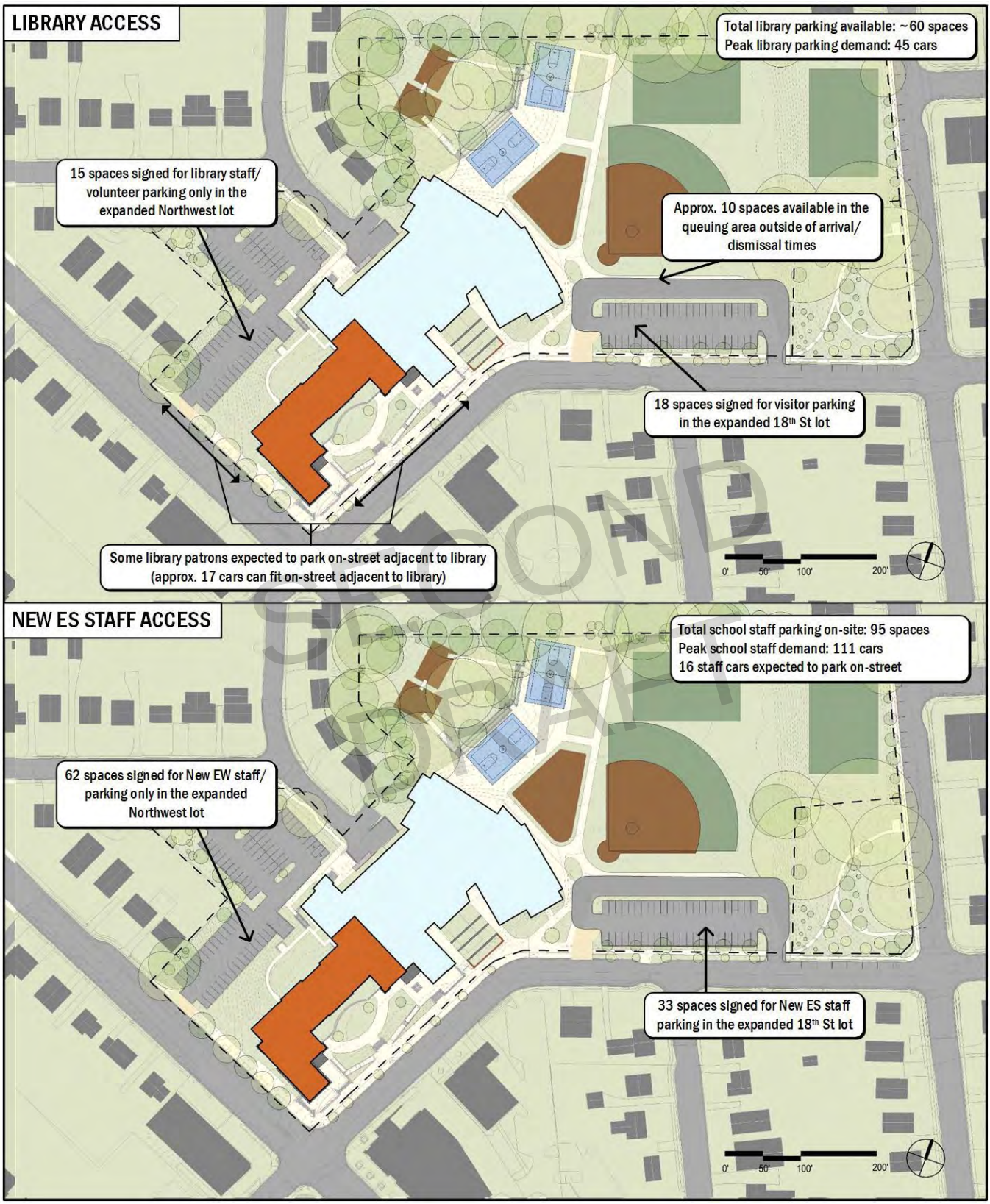

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Figure 9: Library and New ES Staff Access

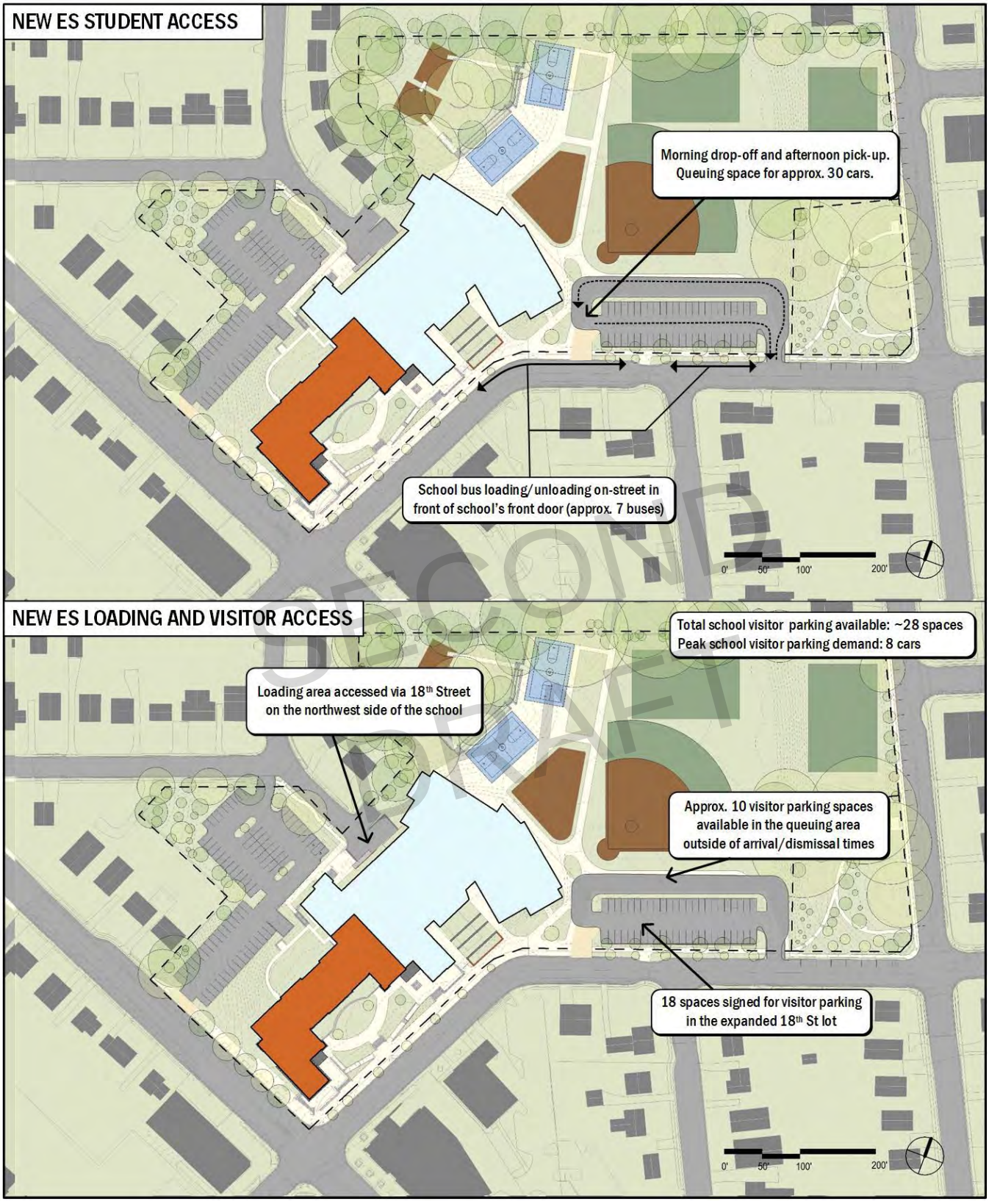

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Figure 10: Student, Visitor and Loading Access

TRAVEL DEMAND ASSUMPTIONS

This section outlines the transportation demand of the proposed new ES at the Reed site. This includes a review of APS Go! survey information, expected mode splits for staff and students, vehicular trip generation, parking demand and estimates of queuing space needed for school buses and parent drop-off/pick-up.

MODE SPLIT

The main source of mode split information for this report was APS Go! survey data collected in 2016. These surveys included all APS schools and consisted of multiple surveys including student tallies, parent surveys, and staff surveys. Not only do these surveys include mode split questions, but they also asked many other relevant questions where the responses were used to help assemble assumption for this report (e.g. arrival and departure times for staff).

APS Go! data for the student tallies and parent surveys were reviewed to help establish assumed modes splits for the New ES at the Reed site. Table 1 summarizes the morning mode split data from these surveys, and Table 2 contains the afternoon mode split survey results. The surveys were summarized in three categories, (1) all APS elementary schools, (2) all APD neighborhood schools (since the New ES will be a neighborhood school), and (3) just the results for the closest neighborhood elementary school to the Reed site, McKinley ES.

After comparing the summaries of survey information, this report decided to base assumptions on the student tallies over the parent surveys, as it appeared they were a more accurate reflection of mode splits. Based on the parent responses, they were overestimating the amount of times they would walk their children to school compared to how much they actually drive their children to school.

A similar summary of mode splits was performed for staff using the APS Go! data, the only difference being that the two closest APS facilities to the Reed site were averaged as comparable locations, McKinley ES and Swanson MS. This information is summarized in Table 3.

Table 1: Student Morning Mode Split Survey Results

Population & Source	Morning Mode Split					
	Auto	Carpool	School Bus	Walk	Bike	Transit
All APS Elementary Schools						
Parent Survey	25%	<1%	43%	30%	1%	<1%
Student Tally	37%	2%	39%	21%	1%	<1%
APS Neighborhood ES						
Parent Survey	25%	<1%	39%	34%	1%	<1%
Student Tally	36%	2%	36%	24%	2%	<1%
McKinley ES						
Parent Survey	16%	1%	49%	34%	<1%	<1%
Student Tally	37%	1%	41%	21%	<1%	<1%

Table 2: Student Afternoon Mode Split Survey Results

Population & Source	Afternoon Mode Split					
	Auto	Carpool	School Bus	Walk	Bike	Transit
All APS Elementary Schools						
Parent Survey	36%	<1%	35%	26%	2%	<1%
Student Tally	36%	3%	38%	22%	1%	<1%
APS Neighborhood ES						
Parent Survey	35%	<1%	32%	30%	2%	<1%
Student Tally	35%	3%	36%	24%	2%	<1%
McKinley ES						
Parent Survey	36%	1%	35%	29%	<1%	<1%
Student Tally	37%	1%	40%	22%	<1%	<1%

Table 3: Summary of Staff Mode Split Survey Results

Population	Mode				
	Auto	Carpool	Walk	Bike	Transit
All APS Staff	85%	3%	4%	3%	5%
APS Neighborhood ES Staff	84%	3%	5%	2%	6%
McKinley ES and Swanson MS Staff	86%	3%	7%	2%	2%

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Based on the survey results above (including APS Go! survey information from school visitors), this report assembled baseline assumptions regarding anticipated mode splits for students, staff, and visitors are the New ES. These assumptions are summarized in Table 4.

Table 4: New ES Mode Splits (baseline)

Population	Mode					
	Auto	Carpool	School Bus	Walk	Bike	Transit
Students	38%	0%	36%	24%	2%	0%
Staff	86%	3%	--	7%	2%	2%
Visitors	81%	2%	--	12%	2%	3%

This report also used two other sets of mode split assumptions its analysis, one that assumes enhanced Transportation Demand Management (TDM) measures that increase use of non-auto modes, and an inclement weather scenario that assumes many people that walk to school would drive or be driven instead. These mode splits, summarized in Table 5 and Table 6, were used in sensitivity analyses, to ensure that this report is making proper conclusions even when considering these alternate mode split scenarios. Mainly, the enhanced TDM scenario was used to base parking demand assumptions, and the inclement weather scenario used to help identify potential traffic impacts not foreseen under the baseline mode split.

Table 5: New ES Mode Splits (with Enhanced TDM)

Population	Mode					
	Auto	Carpool	School Bus	Walk	Bike	Transit
Students	33%	0%	36%	27%	4%	0%
Staff	81%	5%	--	7%	2%	5%
Visitors*	81%	2%	--	12%	2%	3%

**Enhanced TDM measures are not expected to affect visitor mode splits*

Table 6: New ES Mode Splits (with Inclement Weather)

Population	Mode					
	Auto	Carpool	School Bus	Walk	Bike	Transit
Students	43%	0%	36%	19%	2%	0%
Staff	81%	3%	--	2%	2%	2%
Visitors*	86%	2%	--	7%	2%	3%

Parking Demand

The future Reed site will generate parking demand from three sources: the library, the New ES, and the recreation fields. The library and New ES will have their parking demand peak during the same time, during an afternoon on a school day. Although the fields will generate parking demand, it will not overlap with parking demand generated by the New ES. Thus, this report focused on projecting the parking demand peak on a weekday afternoon when the New ES parking demand is highest and overlaps with library parking demand. Table 7 summarizes the parking demand estimates for the future Reed site when parking demand peaks during a weekday afternoon.

Table 7: Parking Demand Summary

Population	Parking Demand	
	Baseline	With Enhanced TDM
Library		
Staff/Volunteers	15 spaces	15 spaces
Visitors	30 spaces	30 spaces
New ES		
Staff	120 spaces	111 spaces
Visitors	8 spaces	8 spaces
Total	**173 spaces**	**164 spaces**

The parking demand for the library was based on counts of existing parking on site and on adjacent streets, and information provided by library staff. The parking demand for the New ES is based on the expected staff population, mode split estimates, arrival and departure times from APS Go! data, and visitor surveys contained in the APS Go! data.

This report uses the parking demand with enhanced TDM as the design condition for the Reed site.

Queuing Demand

This report assumes that the New ES will need to accommodate seven (7) school buses on site. This is based on the amount of school buses needed to serve comparable APS neighborhood elementary schools; it represents the higher end of buses needed at elementary schools.

The amount of queuing space needed parent drop-off/pick-up area was based on observations at other APS elementary schools and is estimated to range from 23 to 28 cars in the morning and 28 to 61 cars in the afternoon. These ranges vary due to the geometry and operations at the comparable locations observed. Because this project provides an opportunity to establish proper geometry and operational practices for the pick-up/drop-off area, this report recommends a design target of a 30-car queue length for the New ES.

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TRIP GENERATION

The vehicular trip generation for this project takes into account the changes to the existing uses, and the addition of New ES traffic. First, the existing trips from the library, Children's School and Integration Station are removed from the network. The trips removed are just those entering the existing the site at parking lots (i.e. they do not include traffic not parking on-site). Second, the library trips that were removed are added back to the network. The library trips were removed and added back because they will park in different locations after the New ES project is constructed. Finally, traffic generated by the New ES is added to the network.

The trip generation for the New ES is based on the population numbers of students and staff, the mode split assumptions summarized above (in Table 4), and transportation profiles based on APS Go! data (including arrival and departure times). The assumed bell times for the New ES were 9:00 AM to 3:41 PM, which match nearby elementary schools, but if offset from the closest public school, Swanson MS, which has bell times of 7:50 AM to 2:24 PM.

Using this information, a daily vehicular trip generation as determined for each user group. These are shown on Figure 11. Once these daily profiles were assembled, the morning peak hour, school dismissal peak hour, and evening commuter peak hour trip generations were assembled. Table 8 contains a summary of the project's trip generation (for the baseline mode split scenario).

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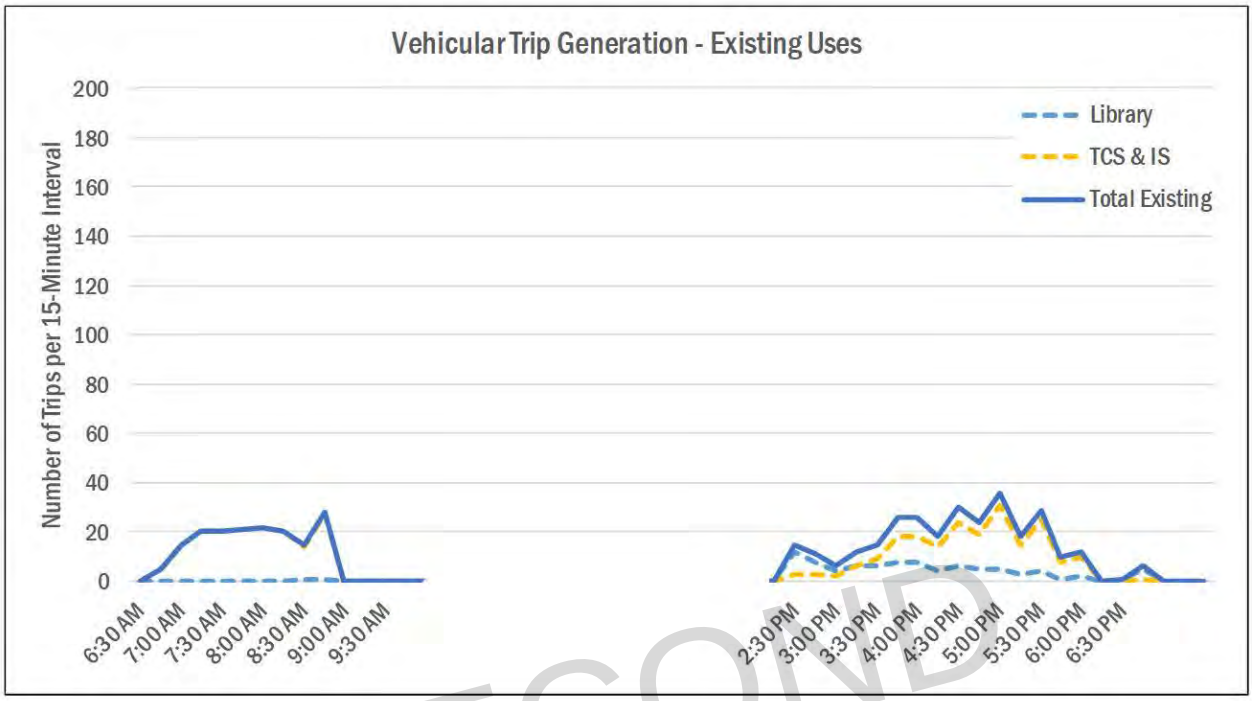
Table 8: Trip Generation Summary (baseline)

User Group	Vehicular Trip Generation								
	AM Peak Hour			*PM School Peak Hour*			*PM Commuter Peak Hour*		
	IB	OB	Total	IB	OB	Total	IB	OB	Total
Step 1: Subtract existing trips (in and out of driveways into the site) from the network									
Library	0 v/hr	0 v/hr	0 v/hr	-11 v/hr	-14 v/hr	-25 v/hr	-6 v/hr	-11 v/hr	-17 v/hr
Day Care	-50 v/hr	-33 v/hr	-83 v/hr	-17 v/hr	-19 v/hr	-36 v/hr	-37 v/hr	-54 v/hr	-91 v/hr
Total	**-50 v/hr**	**-33 v/hr**	**-83 v/hr**	**-28 v/hr**	**-33 v/hr**	**-61 v/hr**	**-43 v/hr**	**-65 v/hr**	**-108 v/hr**
Step 2: Add Library trips back to the network (library trips are removed and reapplied because they will be parking in different locations)									
Library	0 v/hr	0 v/hr	0 v/hr	11 v/hr	14 v/hr	25 v/hr	6 v/hr	11 v/hr	17 v/hr
Step 3: Add trips associated with New ES									
Student Pick-up/Drop-off	200 v/hr	200 v/hr	400 v/hr	145 v/hr	145 v/hr	290 v/hr	50 v/hr	44 v/hr	94 v/hr
Staff	58 v/hr	1 v/hr	59 v/hr	0 v/hr	49 v/hr	49 v/hr	0 v/hr	21 v/hr	21 v/hr
Visitors	3 v/hr	0 v/hr	3 v/hr	3 v/hr	4 v/hr	7 v/hr	0 v/hr	1 v/hr	1 v/hr
Total	**261 v/hr**	**201 v/hr**	**462 v/hr**	**148 v/hr**	**198 v/hr**	**346 v/hr**	**50 v/hr**	**66 v/hr**	**116 v/hr**
Total net new Trips									
Library and New ES	211 v/hr	168 v/hr	379 v/hr	131 v/hr	179 v/hr	310 v/hr	13 v/hr	12 v/hr	25 v/hr



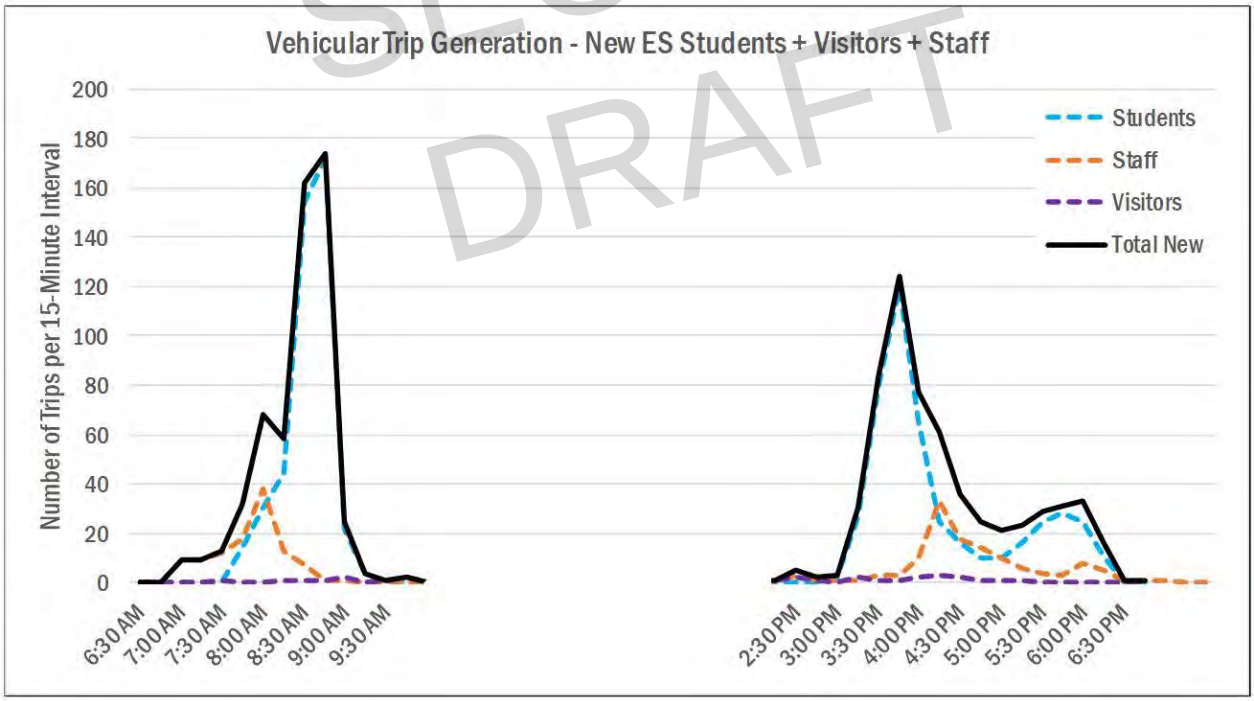


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Figure 11: Vehicular Trip Generation Summary

TRAFFIC OPERATIONS

This section provides a summary of an analysis of the existing and future roadway capacity in the study area. Included is an analysis of potential vehicular impacts of the project and a discussion of potential improvements.

The purpose of the capacity analysis is to:

- Determine the existing capacity of the study area roadways;
- Determine the overall impact of the proposed project on the study area roadways; and
- Discuss potential improvements and mitigation measures to accommodate the additional vehicular trips

The following conclusions are reached within this chapter:

- The existing study area intersections all operate at acceptable levels of service and delay, with one exception. The southbound approach of 18th Street N to Washington Boulevard shows has long delays as side street traffic waits for gaps in Washington Boulevard traffic. This condition is common for side streets with low traffic volume intersecting an arterial like Washington Boulevard.
- The future scenarios show similar results, with all study area intersections operating at acceptable levels with one exception.
- Traffic generated by the New ES has a negligible impact on the PM commuter peak hour.
- This report does not recommend any traffic mitigation measures for the proposed New ES
- A sensitivity anlaysis that explored different mode split scenarios for the New ES confirmed the findings of the baseline mode split scenario.

STUDY AREA, SCOPE, & METHODOLOGY

This section outlines the assumptions used to develop the existing and future capacity analyses, including volumes, roadway geometries and traffic operations. The scope of the analysis contained within this report was extensively discussed with and agreed to with Arlington County DES staff. The general methodology of the analysis follows national and County guidelines on the preparation of transportation impact evaluations of site development.

Capacity Analysis Scenarios

The vehicular analyses were performed to determine if the proposed development will lead to adverse impacts on traffic operations. (A review of impacts to each of other modes is provided later in this report.) This is accomplished by comparing future scenarios: (1) without the proposed project (referred to as the Background condition), and (2) with volumes generated by the project (referred to as the Total Future condition).

As per this report's scoping agreement, the roadway capacity analysis examined the following scenarios:

1. 2018 Existing Conditions
2. 2021 Future Conditions without project traffic
3. 2021 Future Conditions with project traffic

Each scenario contains three distinct hours of analysis, scenarios:

1. The AM commuter/school peak hour (in order to be conservative these hours were assumed to be the same)
2. The PM school peak hour
3. The PM commuter peak hour

Study Area

The study area is a list of intersections where detailed capacity analyses were performed for the scenarios listed above. They represent the intersections most likely to have potential impacts or require changes to traffic operations to accommodate the proposed project. Although it is possible that impacts will occur outside of the study area, those impacts are not significant enough to be considered a detrimental impact nor worthy of mitigation measures.

The study area intersections are based on the projected future trip generation and the location of site access points. As agreed to in this report's scoping agreement, the following intersections were included:

1. Washington Blvd/18th Street/N Nicholas St
2. Washington Blvd/McKinley Road
3. 18th Street N/Parking Lot Exit
4. 18th Street N/N Longfellow Street
5. 18th Street N/Parking Lot Entrance
6. 18th Street N/ N Lexington Street

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7. 18th Street N/Patrick Henry Drive
8. N Lexington Street/18th Road N
9. N Lexington Street/19th Street N
10. 19th Street N/ N Madison Street
11. N Madison Street/18th Street N/Parking Lot

Figure 12 shows a map of the study area intersections.

Traffic Volume Assumptions

The following section reviews the traffic volume assumptions and methodologies used in the roadway capacity analyses.

Existing Traffic Volumes

The existing traffic volumes are comprised of turning movement count data, which was collected on Thursday, February 1, 2018. The results of the traffic counts are included in the Technical Appendix.

For the AM commuter/school and PM commuter peak hours, the system peak of the study area intersections was used. This was 7:30 AM to 8:30 AM for the AM peak, and 4:45 PM to 5:45 PM in the PM peak. For the PM school peak hour, the counts from 3:00 PM to 4:00 PM were used based on the anticipated trip generation from the New ES and the assumed afternoon bell time. The existing peak hour traffic volumes are shown on Figure 13.

2021 Background Volumes (without the Project)

The traffic projections for the 2011 Background conditions consist of the existing volumes with two additions:

- Traffic generated by developments expected to be completed prior to the project (known as background developments); and
- Inherent growth on the roadway (representing regional traffic growth).

Following national and local methodologies, a background development must meet the following criteria to be incorporated into the analysis:

- Be located in the study area, defined as having an origin or destination point within the cluster of study area intersections;
- Have entitlements; and
- Have a construction completion date prior or close to the proposed development.

Based on these criteria, and as discussed previously, no developments were included in the 2021 Background scenario. As described in the Study Area Overview chapter, the Virginia Hospital Center Expansion project does not meet these criteria. Traffic generated from that project is considered covered in the general background growth.

While the background developments represent local traffic changes, regional traffic growth is typically accounted for using growth rates. The growth rates used in this analysis are derived using trends in historical counts. Table 9 shows a summary of the growth in traffic volumes on roadways adjacent to the study area. Based on this analysis an annual growth rate of 0.2% was assumed.

Table 9: AADT Volume Trends

Roadway	AADT					Annual % Change (2012 - 2016)
	2012	*2013*	*2014*	*2015*	*2016*	
18th St N from N Longfellow St to Patrick Henry Dr	930	990	980	970	950	0.5%
McKinley Rd from Washington Blvd to N Longfellow St	2,600	3,500	3,500	3,400	2,600	0.0%
Patrick Henry Dr from Washington Blvd to George Mason Dr	6,500	6,100	6,100	6,000	6,900	1.5%
Washington Blvd from Lee Highway to Patrick Henry Dr	15,000	13,000	13,000	12,000	14,000	-1.7%
N Lexington St from 16th St N to 22nd St N	2,400	2,300	2,300	2,300	2,400	0.0%
16th St N from Patrick Henry Dr to N Lexington St	2,300	2,300	2,300	2,200	2,400	1.1%
Average						**0.2%**

**Adjacent to proposed study area*

Source: VDOT Traffic Data 2012 to 2016 (http://www.virginiadot.org/info/ct-trafficcounts.asp)

The traffic volumes generated the inherent growth along the network were added to the existing traffic volumes in order to establish the 2021 Background traffic volumes. The Background peak hour traffic volumes are shown on Figure 14.

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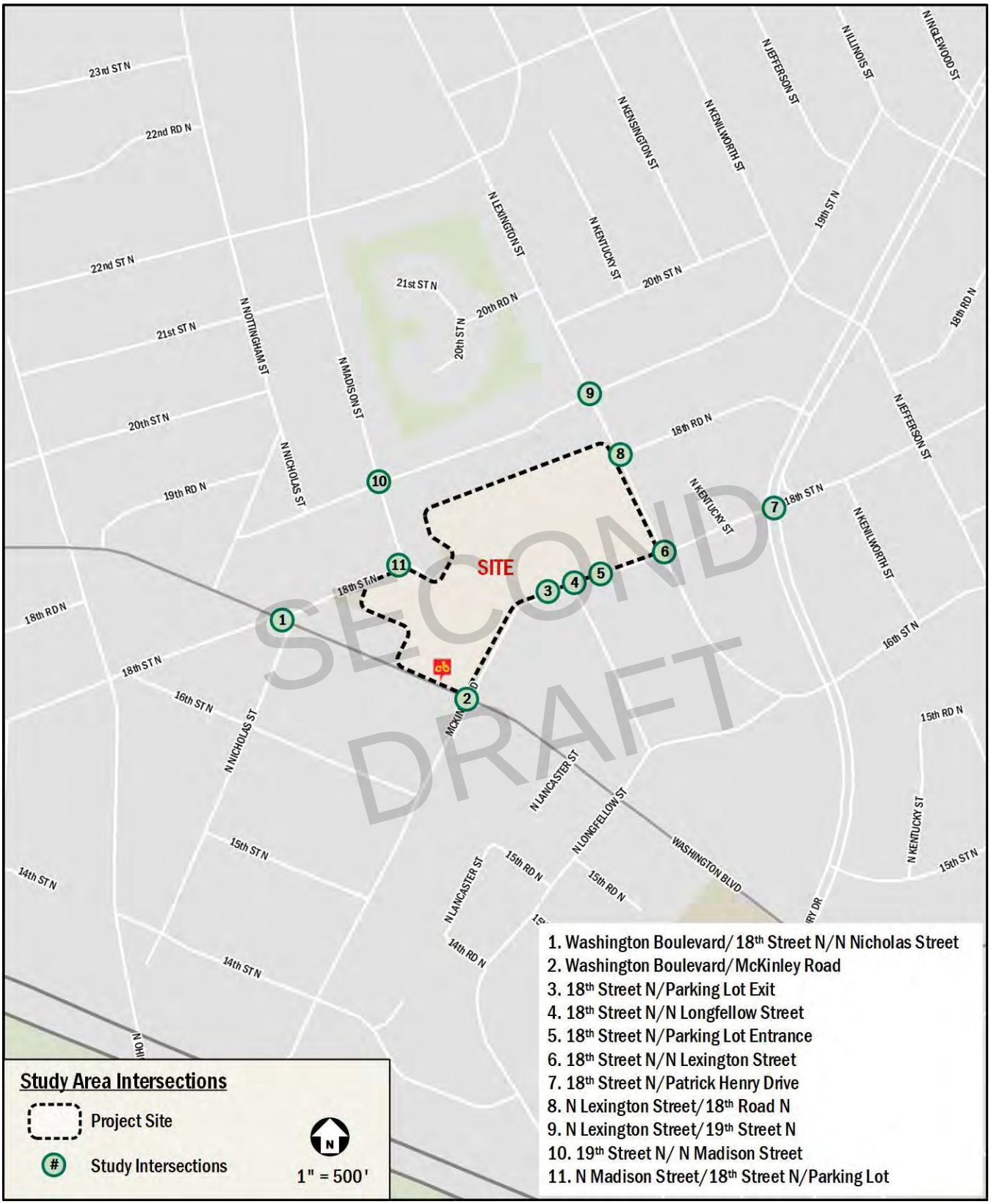

Figure 12: Study Area Intersections

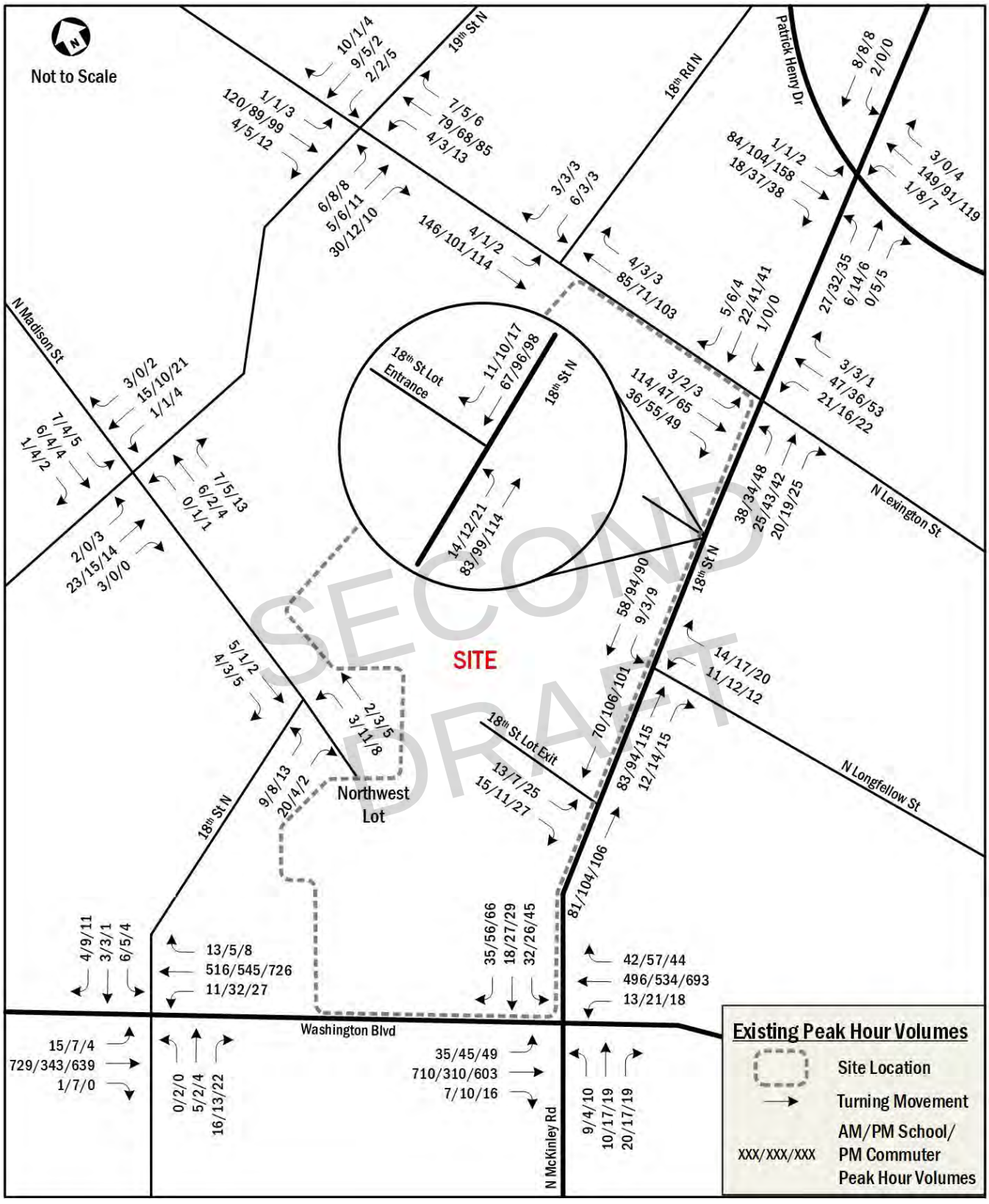

Figure 13: Existing Peak Hour Volumes

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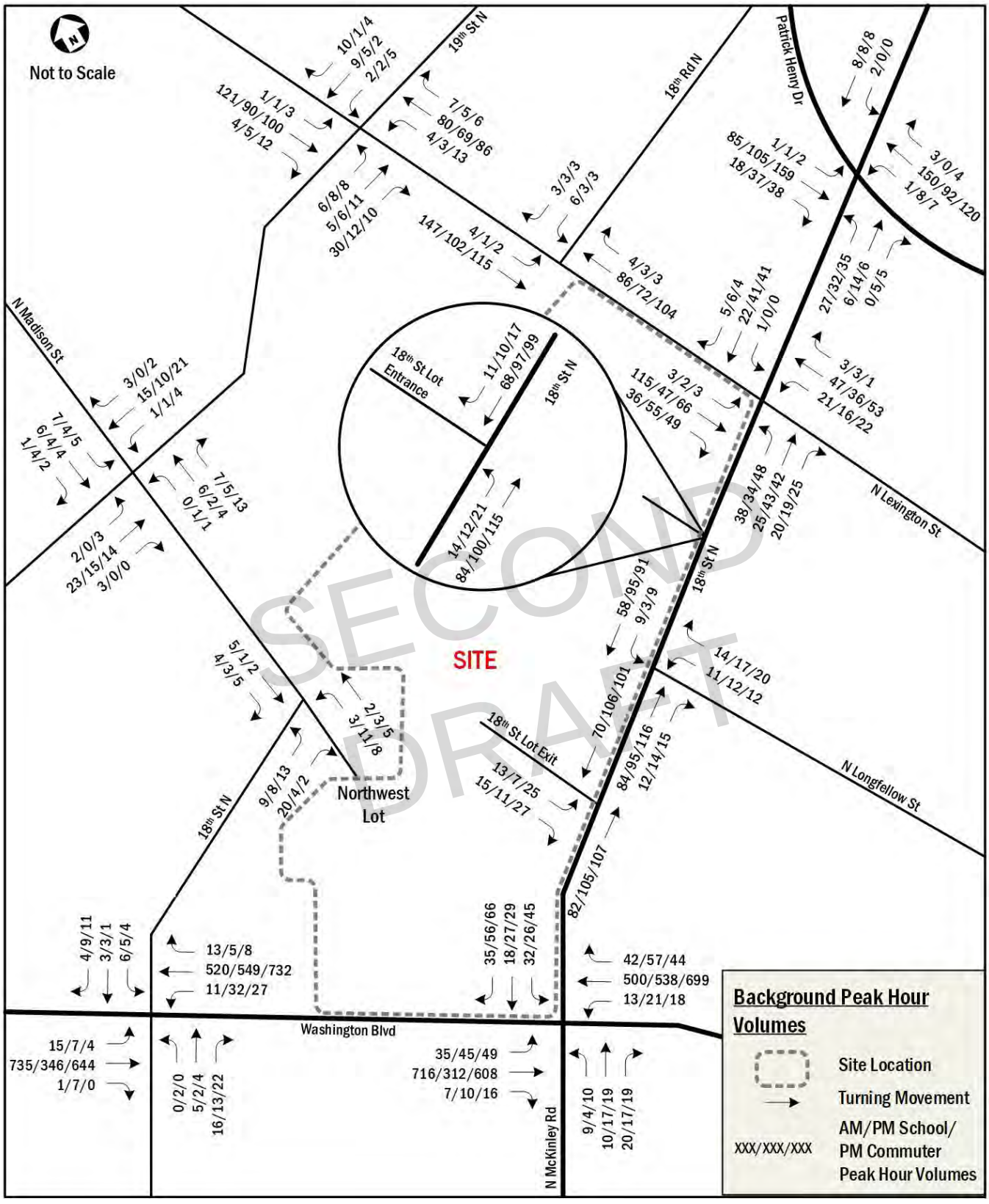

Figure 14: Background Peak Hour Volumes

2021 Total Future Volumes (with Project)

The 2021 Total Future Volumes consist of the 2021 Background volumes with the addition of the traffic volumes generated by the project. Thus, the 2021 Total Future traffic volumes include traffic generated by: the existing volumes, the inherent growth on the study area roadways, and the proposed project.

The proposed project's trip generation was presented in the Travel Demand Assumptions chapter of this MMTA. The trip generation was distributed and assigned in three steps. First, the existing trips from the library, Children's School and Integration Station are removed from the network. The trips removed are just those entering the existing the site at parking lots (i.e. they do not include traffic not parking on-site). Second, the library trips that were removed are added back to the network. The library trips were removed and added back because they will park in different locations after the New ES project is constructed. Finally, traffic generated by the New ES is added to the network.

Distribution and routing assumptions are based on the location of APS Planning Units, traffic counts and existing volume patterns, and the Existing Conditions vehicular capacity analysis. Separate distributions for staff and parents were developed: Figure 15 shows the inbound and outbound trip distribution for staff; Figure 16 shows the trip distribution for local traffic, representing all trips that have origins and destinations in the local neighborhood; and Figure 17 shows the trip distribution for students which accounts for how some parents continue to work or return from work.

The traffic volumes for the 2021 Total Future conditions were calculated by adding the development-generated traffic volumes to the 2021 Background traffic volumes as per the steps listed above. Figure 18 shows the existing trips removed from the network. Figure 19 shows the library trips reapplied to the network. Figure 20 shows the New ES staff trips. Figure 21 shows the New ES student trips. Figure 22 shows the New ES visitor trips. Figure 23 shows the total trips generated by the New ES. Figure 24 shows the Total Future peak hour trips.

Geometry and Operations Assumptions

The following section reviews the roadway geometry and operations assumptions made and the methodologies used in the roadway capacity analyses.

Existing Geometry and Operations

Study area intersection geometry, lane configuration and additional infrastructure details were recorded at the time of the traffic counts and confirmed via field reconnaissance by Gorove/Slade.

For some intersections where wide travels lanes existing, observations were made on how traffic flowed through the intersection and the lane configurations adjusted. For example, on the westbound approach of Washington Boulevard to N McKinley Rd, there is technically only a single lane, but enough pavement width to fit two cars. Based on field observations this was coded in the traffic model as two lanes to better reflect actual conditions.

Traffic signal timings were provided by County staff and double-checked in the field. Figure 25 shows the Existing lane configurations.

2021 Background Geometry and Operations Assumptions

Following industry standard methodologies, a background geometry improvement must be funded and have a construction completion date prior or close to the proposed development.

Based on these criteria, a slight change was made to the intersection of Washington Boulevard and 18th Street N. The plans provided by the County for the Washington Boulevard Bike, Pedestrian, and Roadway Enhancement show that vehicles on Washington Boulevard turning right onto 18th Street N (in both directions) will have a small right turn lane available. This change was made for the 2021 scenarios. No changes to signal timings were made. Figure 26 shows the Background lane configurations.

2021 Total Future Geometry and Operations Assumptions

The 2021 Total Future geometry and operations assumptions include changes to accommodate the proposed modifications and expansion of the 18th Street parking lot. This includes removal of the 18th Street lot exit curb cut and moving the exiting traffic from the parking lot to the location of the entering curb cut, turning into a two-way driveway. No signal timing changes were made. Figure 27 shows the Total Future lane configurations.

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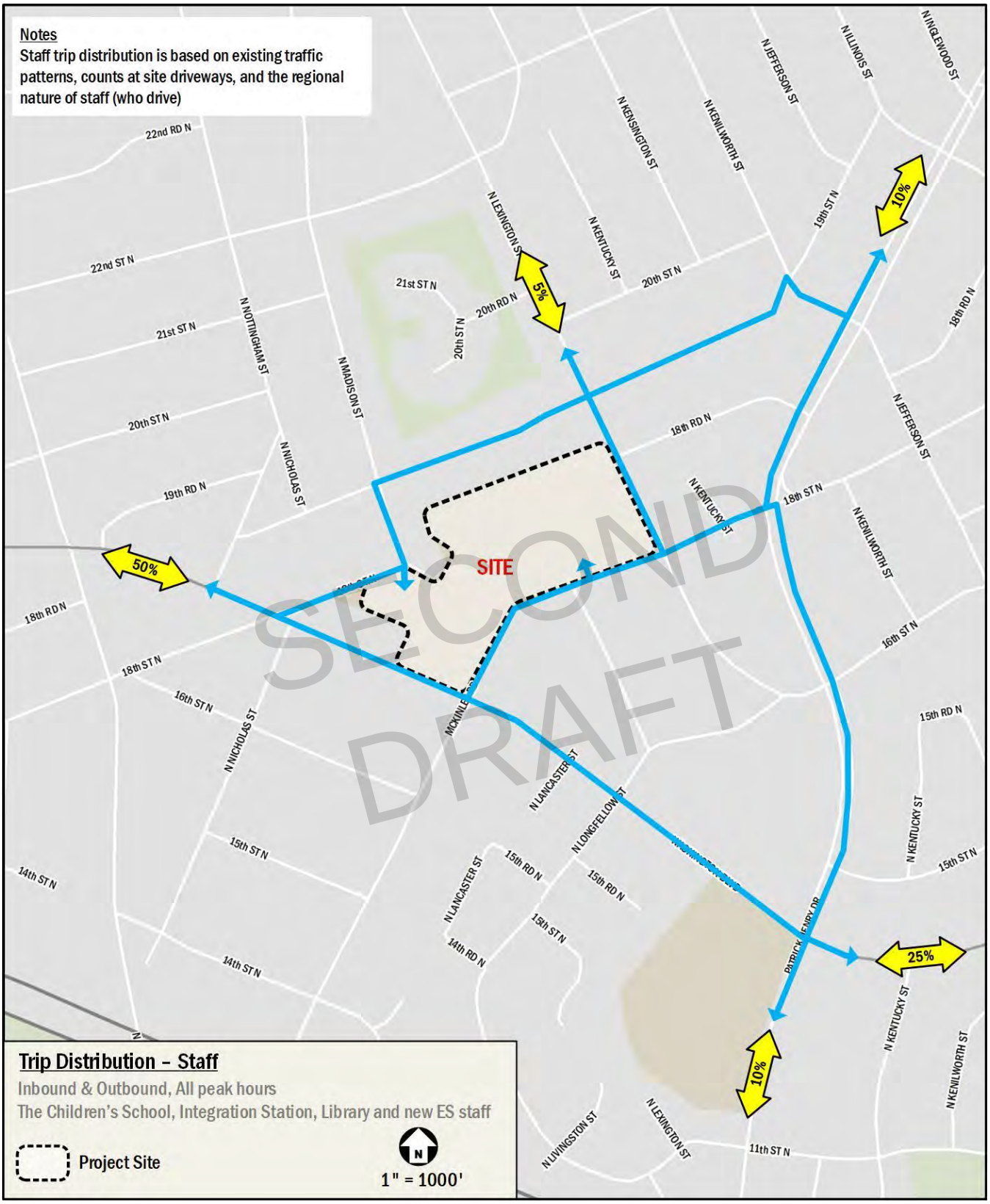

Figure 15: Staff Distribution

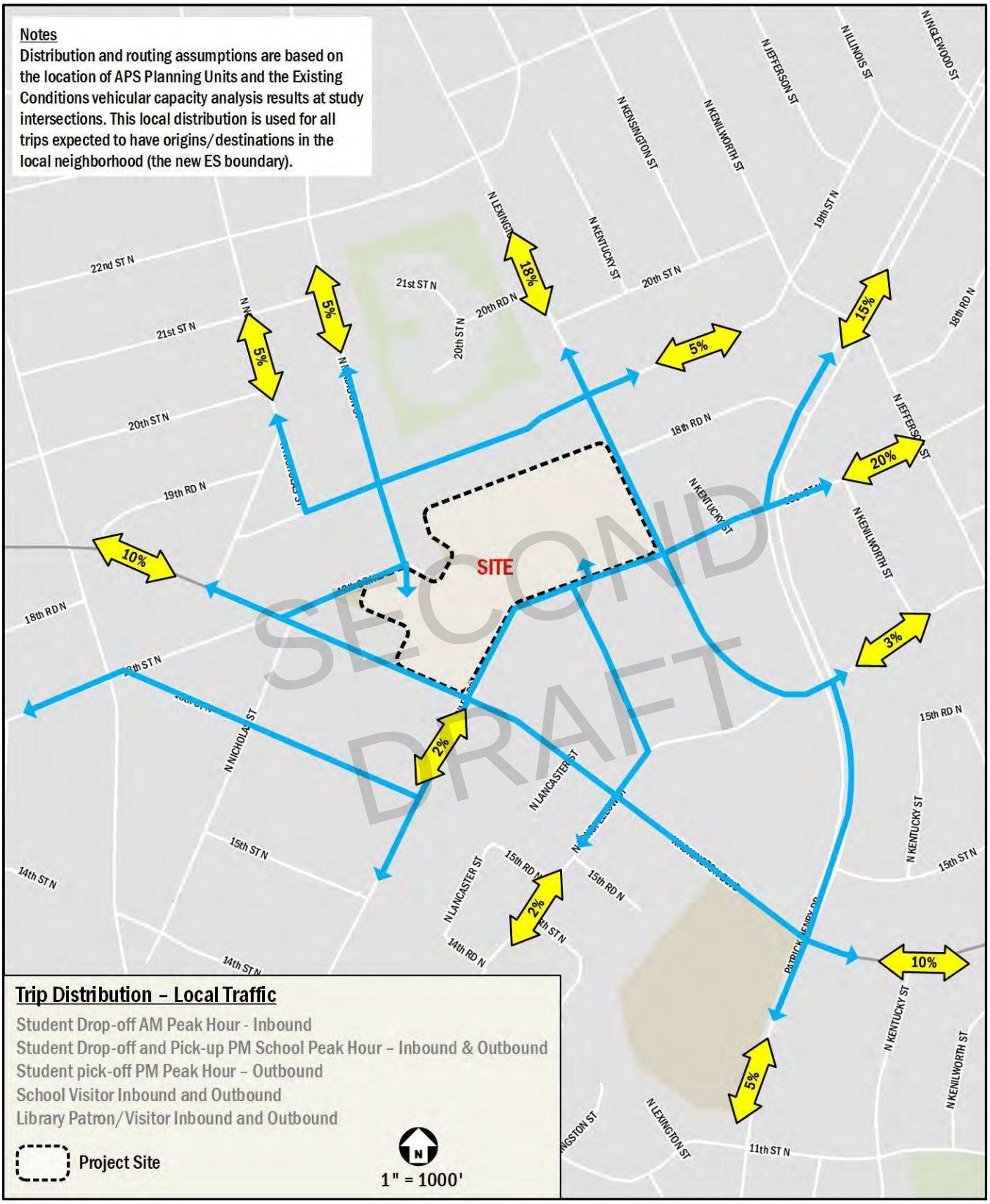

Figure 16: Local Traffic Distribution

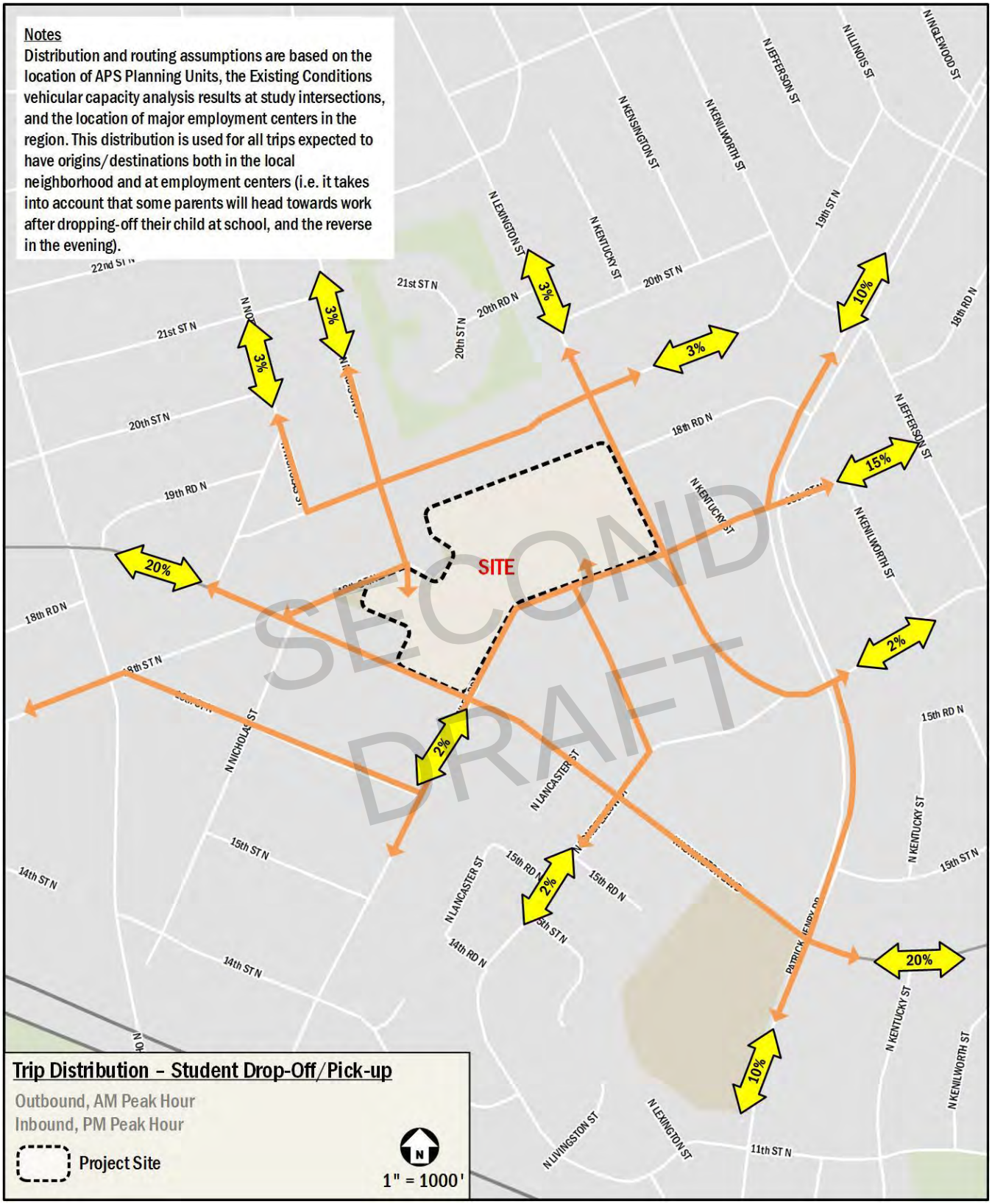

Figure 17: Student Drop-Off/Pick-Up Distribution

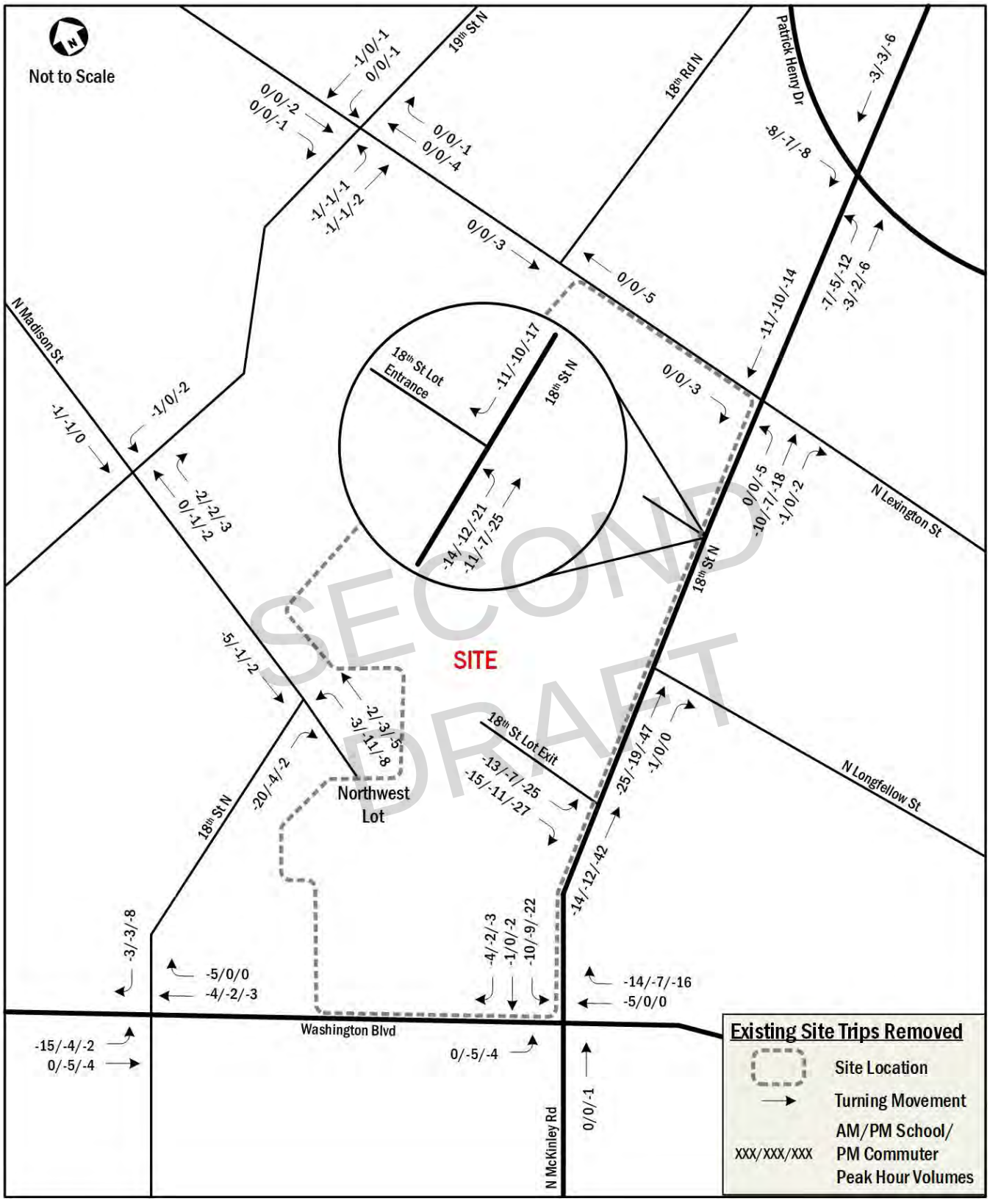

Figure 18: Existing Trips Removed

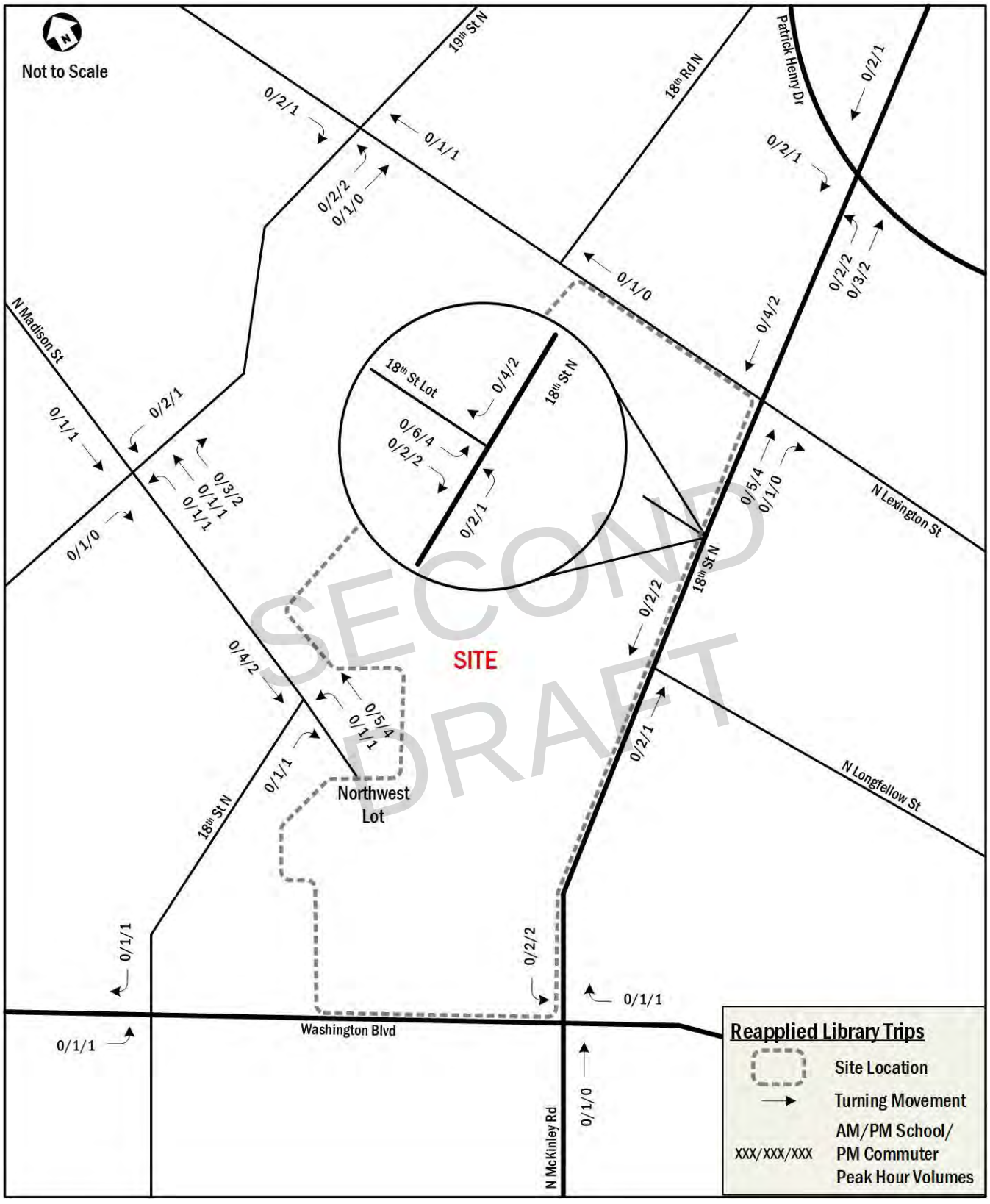

Figure 19: Reapplied Library Trips

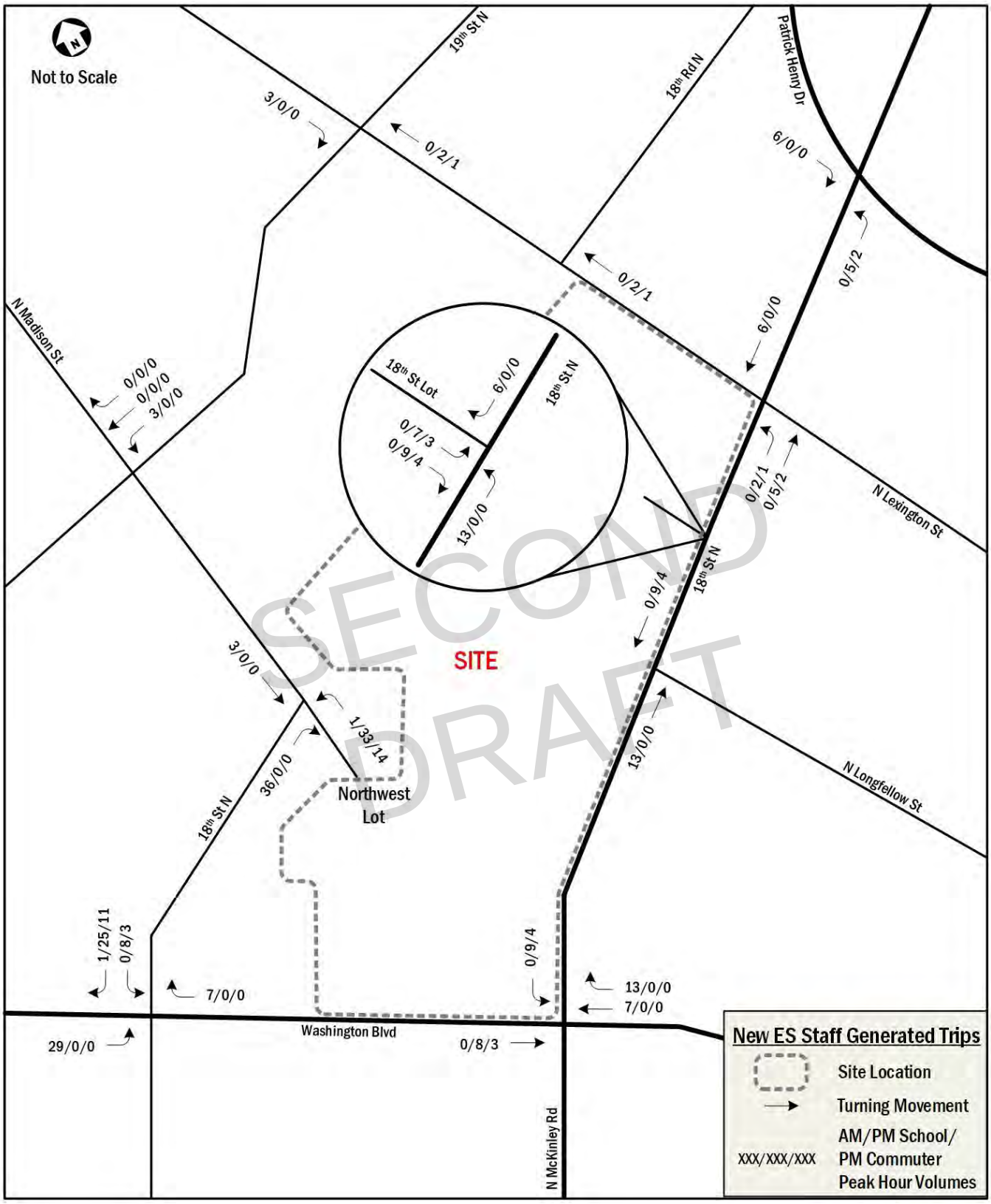

Figure 20: New ES Staff Trips

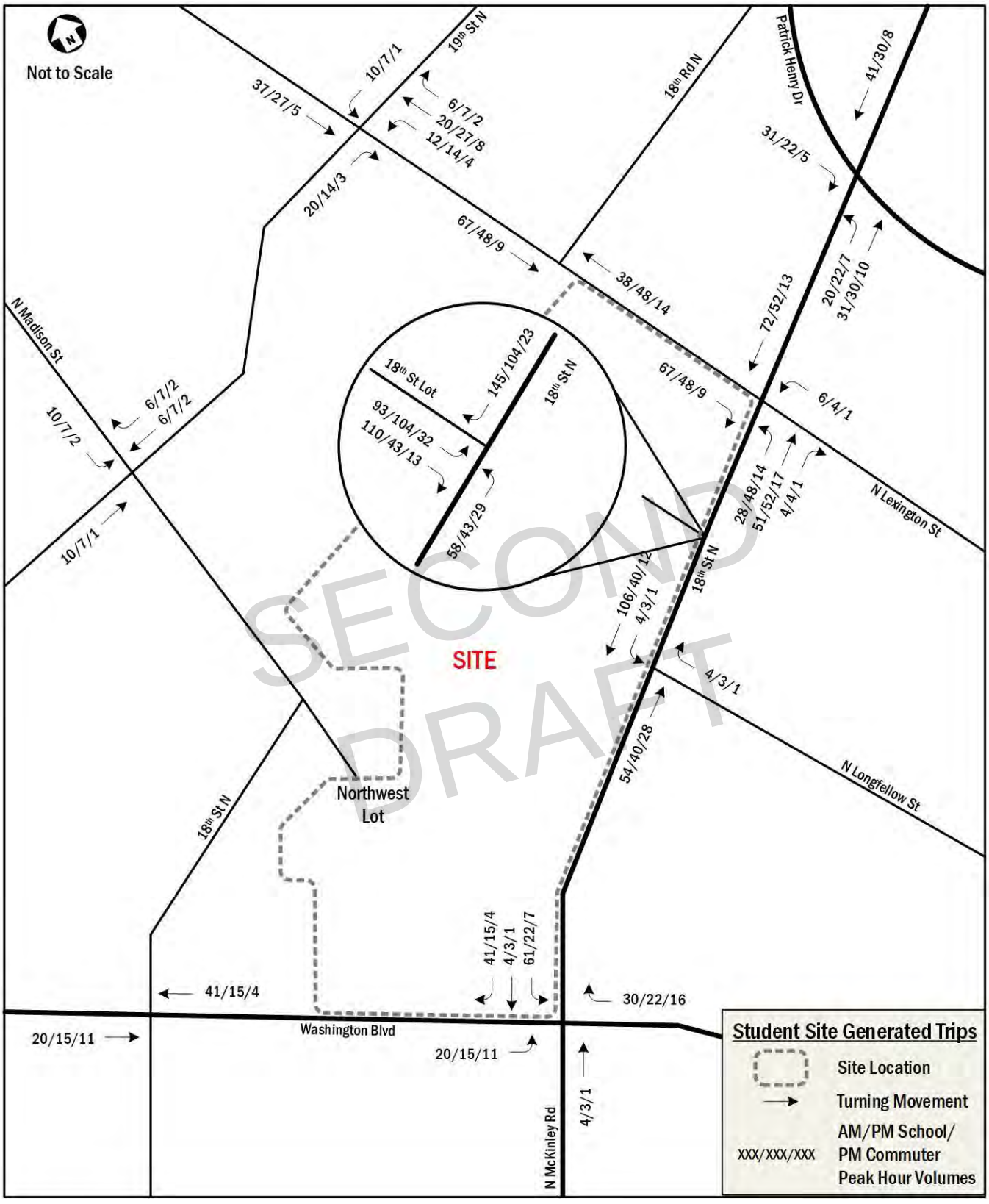

Figure 21: New ES Student Trips

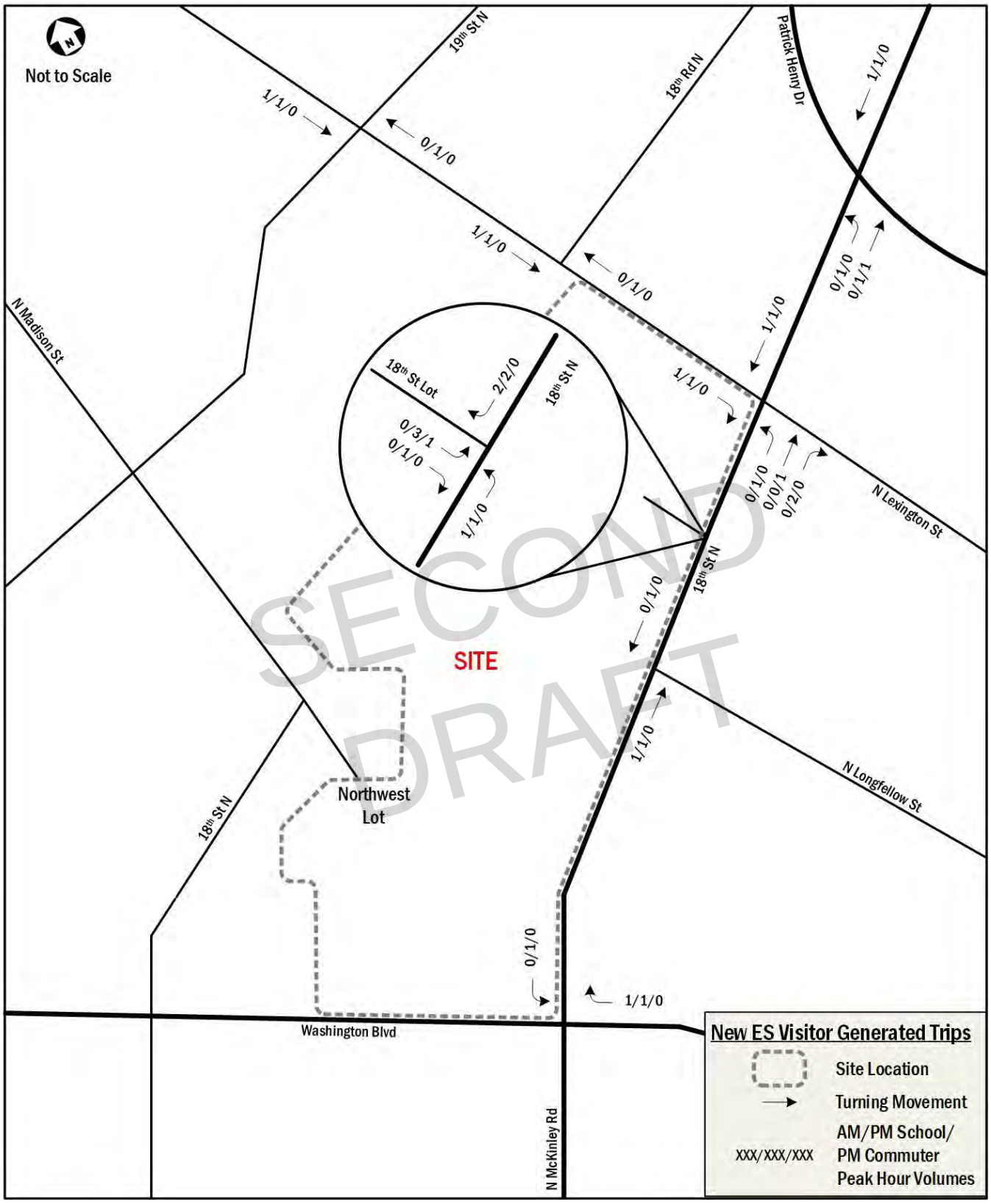

Figure 22: New ES Visitor Trips

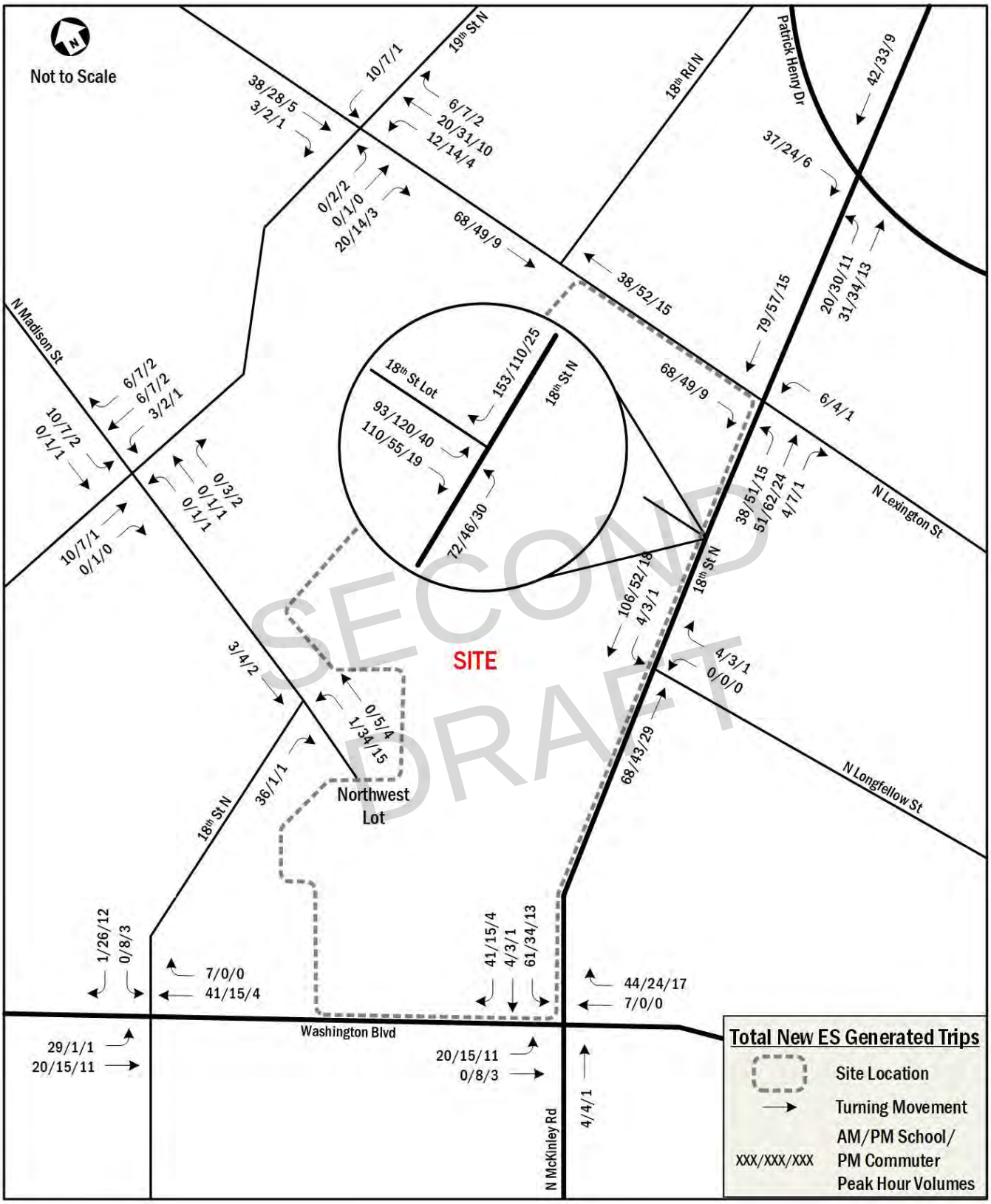

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Figure 23: Total New ES Generated Trips

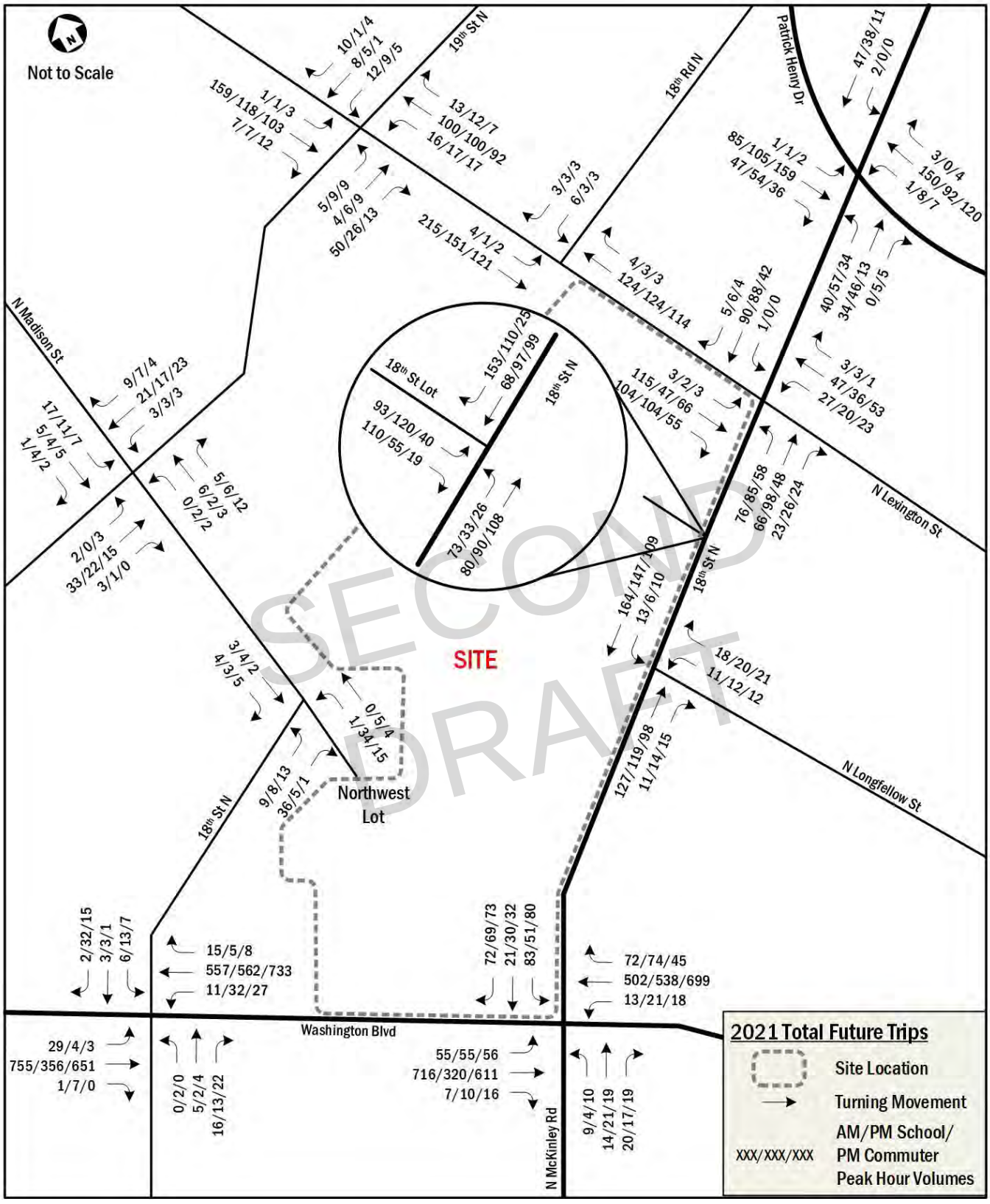

Figure 24: Total Future Peak Hour Trips

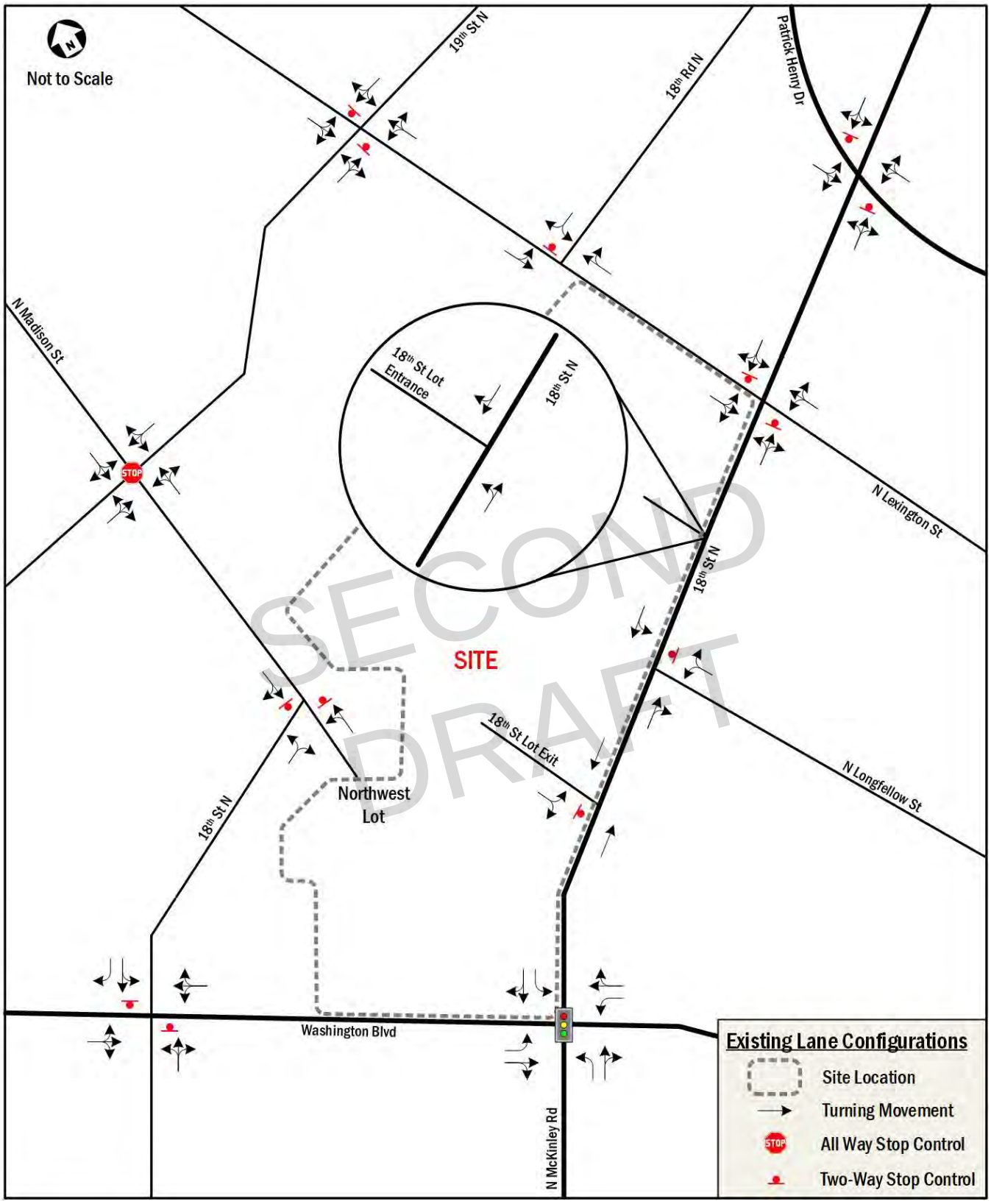

Figure 25: Existing Lane Configurations

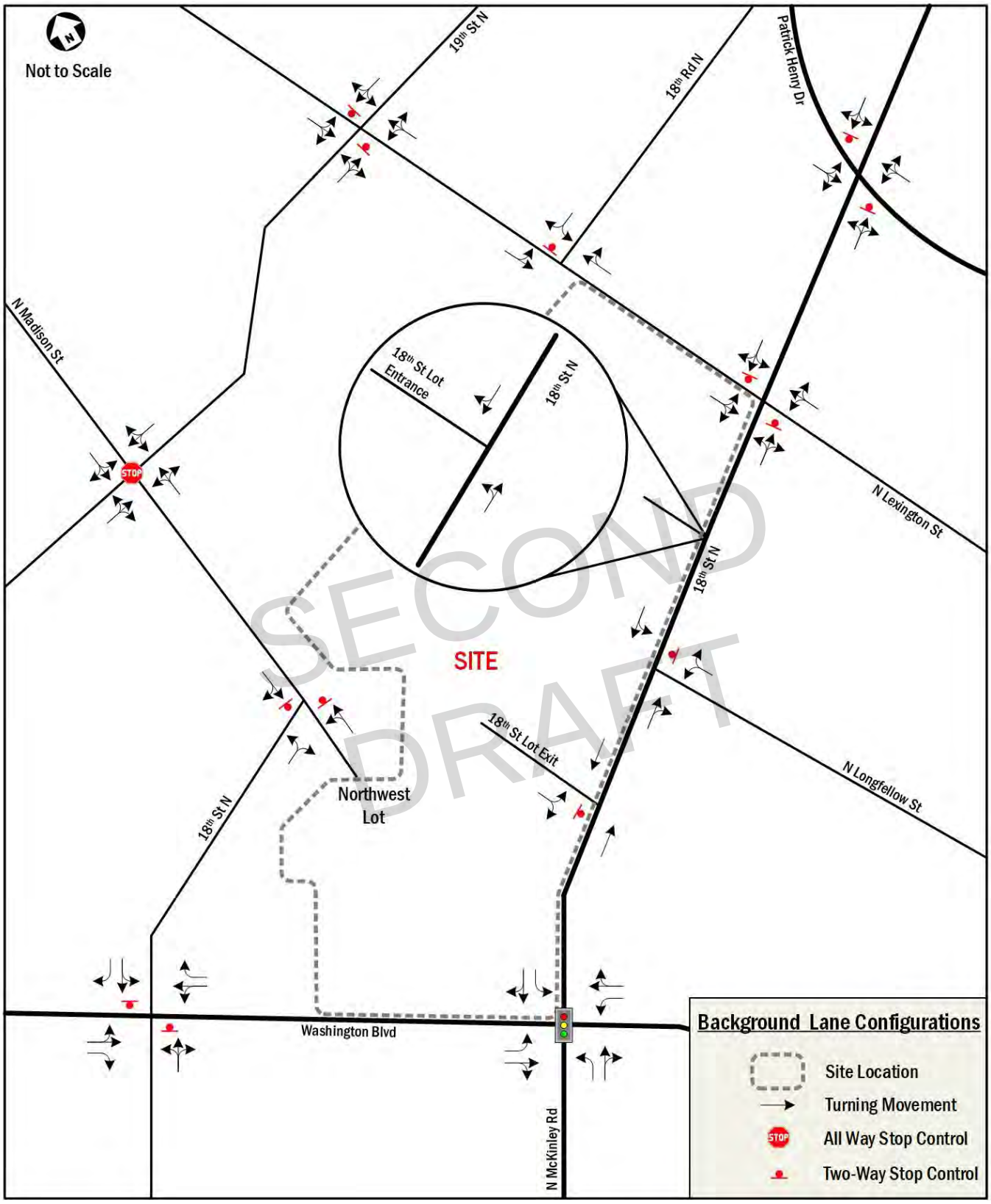

Figure 26: Background Lane Configurations

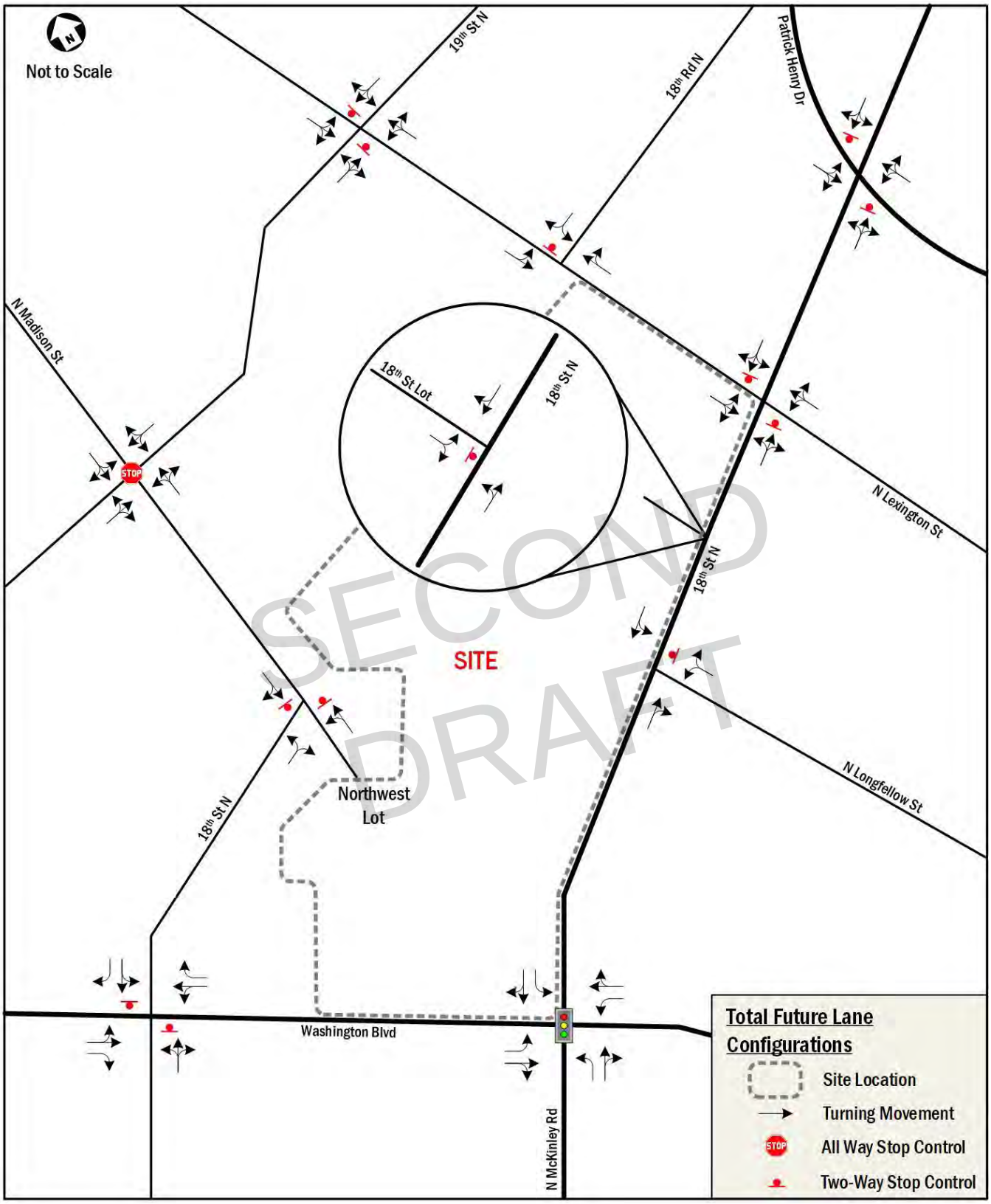

Figure 27: Total Future Lane Configurations

VEHICULAR ANALYSIS RESULTS

Intersection Capacity Analysis

Intersection capacity analyses were performed for the three scenarios outlined previously at the intersections contained within the study area during the morning and afternoon peak hours. Synchro version 9.1 was used to analyze the study intersections based on the *Highway Capacity Manual* (HCM) 2000 methodology.

The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each approach. A LOS grade is a letter grade based on the average delay (in seconds) experienced by motorists traveling through an intersection. LOS results range from "A" being the best to "F" being the worst. LOS D is typically used as the acceptable LOS threshold in the District; although LOS E or F is sometimes accepted in urbanized areas if vehicular improvements would be a detriment to safety or non-auto modes of transportation.

The LOS capacity analyses were based on: (1) the peak hour traffic volumes; (2) the lane use and traffic controls; and (3) the Highway Capacity Manual (HCM) methodologies (using *Synchro* software). The average delay of each approach and LOS is shown for the signalized intersections in addition to the overall average delay and intersection LOS grade. The HCM does not give guidelines for calculating the average delay for a two-way stop-controlled intersection, as the approaches without stop signs would technically have no delay.

Table 10 shows the results of the capacity analyses. Detailed LOS descriptions and the analysis worksheets are contained in the Technical Appendix

The results show that all study area intersections operate at acceptable conditions with one exception, the southbound approach of 18th Street N to Washington Boulevard.

At several locations within the study area, there are slight improvements between existing and future conditions. This is because of two reasons. First, the methodology used in the analysis assumes a minimum peak hour factor of 0.92 in the future analysis years. At some locations, this caused slight improvements in delay and LOS. Second, the removal of existing trips and application of library and New ES trips to the site resulted in some volume changes that lead to improved results in the Total Future condition. This is most apparent on the southbound approach of 18 Street N to Washington Boulevard between Total Future and Background conditions. The Total Future conditions has slightly different volumes at the approach (notably fewer through volumes and more right turns). This leads to a decrease in delay.

Queuing Analysis

In addition to the capacity analyses presented above, a queuing analysis was performed at the study intersections. The queuing analysis was performed using Synchro software. The 50th percentile and 95th percentile queue lengths are shown for each lane group at the study area signalized intersections. The 50th percentile queue is the maximum back of queue on a median cycle. The 95th percentile queue is the maximum back of queue that is exceeded 5% of the time. For unsignalized intersections, only the 95th percentile queue is reported for each lane group (including free-flowing left turns and stop-controlled movements) based on the HCM 2000 calculations. HCM 2000 does not calculate queuing for all-way stops.

Table 11 shows the results of the queuing analysis. The queuing analyses show that all study intersections have acceptable queuing results, with all queues shorter than available storage lengths.

Mitigations

Based on County standards, the proposed project is determined to have an impact if any intersection or approach experiences a degradation to LOS E or F in the future scenario where one does not exist in the background scenario.

There is one location in the study area that meets this criterion, the southbound approach of 18 Street N to Washington Boulevard degrades from a LOS E to a LOS F in the AM peak hour scenario. After exploring potential mitigation measures for this location, this report is not recommending any, for several reasons. First, this condition is typical for side street traffic approaching an arterial at an unsignalized location. Second, the amount of volumes at the approach is very low and would not warrant a traffic signal. Third, potential improvements that would widen the intersection to provide more lanes could alleviate the poor LOS, but those improvements would have detrimental impacts to other modes. And finally, traffic delayed at this intersection can use the traffic grid to find other routes that don't experience this delay, by driving to an intersection with Washington Boulevard that has a traffic signal.

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Table 10: Capacity Analysis Results

Intersection/ Movement	AM Peak Hour						PM School Dismissal Peak						PM Commuter Peak Hour					
	Existing		*Background*		*Total Future*		*Existing*		*Background*		*Total Future*		*Existing*		*Background*		*Total Future*	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Washington Blvd & 18th St/Nicholas St																		
Overall	**1.2**	**A**	**1.1**	**A**	**1.4**	**A**	**1.2**	**A**	**1.1**	**A**	**1.6**	**A**	**2.0**	**A**	**1.8**	**A**	**1.6**	**A**
Eastbound	0.4	A	0.4	A	0.9	A	0.3	A	0.3	A	0.1	A	0.2	A	0.2	A	0.1	A
Westbound	0.4	A	0.4	A	0.4	A	0.9	A	0.8	A	0.8	A	0.8	A	0.8	A	0.8	A
Northeastbound	30.6	D	27.0	D	30.5	D	16.6	C	16.7	C	17.4	C	21.3	C	21.5	C	21.7	C
Northbound	21.8	C	20.3	C	22.7	C	14.8	B	14.0	B	14.4	B	22.7	C	21.3	C	21.7	C
Southbound	39.0	E	35.3	E	50.2	F	21.0	C	18.3	C	17.8	C	91.9	F	88.7	F	44.9	E
Washington Blvd & McKinley Rd																		
Overall	**17.5**	**B**	**17.4**	**B**	**18.0**	**B**	**15.5**	**B**	**15.2**	**B**	**15.8**	**B**	**19.8**	**B**	**19.3**	**B**	**19.6**	**B**
Eastbound Left	9.9	A	9.7	A	10.9	B	11.1	B	10.7	B	11.6	B	15.8	B	14.5	B	15.9	B
Eastbound TR	18.9	B	19.2	B	19.2	B	11.7	B	11.4	B	11.5	B	16.3	B	16.4	B	16.5	B
Westbound Left	9.5	A	9.5	A	9.5	A	8.9	A	8.9	A	8.9	A	9.3	A	9.4	A	9.4	A
Westbound TR	15.6	B	14.9	B	15.7	B	16.7	B	16.3	B	16.9	B	22.7	C	21.6	C	21.7	C
Northbound Left	20.8	C	20.7	C	20.8	C	20.6	C	20.6	C	20.6	C	20.8	C	20.8	C	20.8	C
Northbound TR	20.9	C	20.8	C	20.9	C	21.0	C	20.9	C	21.0	C	21.0	C	21.0	C	21.0	C
Southbound LT	21.8	C	21.7	C	23.8	C	21.9	C	21.7	C	22.7	C	22.6	C	22.5	C	24.2	C
Southbound Right	20.7	C	20.7	C	21.0	C	20.9	C	20.9	C	21.0	C	21.0	C	21.0	C	21.0	C
18th St & Existing Exit																		
Overall	**1.5**	**A**	**1.4**	**A**	**--**	**--**	**0.7**	**A**	**0.7**	**A**	**--**	**--**	**2.0**	**A**	**1.9**	**A**	**--**	**--**
Eastbound	9.2	A	9.1	A	--	--	9.3	A	9.3	A	--	--	9.8	A	9.7	A	--	--
Northbound	0.0	A	0.0	A	--	--	0.0	A	0.0	A	--	--	0.0	A	0.0	A	--	--
Southbound	0.0	A	0.0	A	--	--	0.0	A	0.0	A	--	--	0.0	A	0.0	A	--	--
18th St & Longfellow St																		
Overall	**1.6**	**A**	**1.5**	**A**	**1.2**	**A**	**1.3**	**A**	**1.2**	**A**	**1.1**	**A**	**1.5**	**A**	**1.5**	**A**	**1.5**	**A**
Westbound	9.3	A	9.3	A	9.8	A	9.4	A	9.4	A	9.7	A	9.6	A	9.6	A	9.5	A
Northbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound	1.1	A	0.9	A	0.6	A	0.2	A	0.2	A	0.4	A	0.8	A	0.7	A	0.7	A
18th St & Existing Entrance (Future Exit)																		
Overall	**--**	**--**	**--**	**--**	**6.3**	**A**	**--**	**--**	**--**	**--**	**5.0**	**A**	**--**	**--**	**--**	**--**	**2.9**	**A**
Eastbound	--	--	--	--	13.2	B	--	--	--	--	12.8	B	--	--	--	--	10.3	B
Northbound	--	--	--	--	4.1	A	--	--	--	--	2.8	A	--	--	--	--	2.0	A
Southbound	--	--	--	--	0.0	A	--	--	--	--	0.0	A	--	--	--	--	0.0	A
18th St & Lexington St																		
Overall	**4.4**	**A**	**4.2**	**A**	**7.0**	**A**	**5.4**	**A**	**5.5**	**A**	**7.8**	**A**	**5.8**	**A**	**5.6**	**A**	**5.9**	**A**
Eastbound	0.2	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.2	A
Westbound	2.4	A	2.4	A	2.8	A	2.3	A	2.2	A	2.7	A	2.3	A	2.3	A	2.3	A
Northbound	11.5	B	11.2	B	14.5	B	10.7	B	10.6	B	13.3	B	11.4	B	11.2	B	11.6	B
Southbound	11.0	B	10.8	B	13.0	B	10.5	B	10.4	B	11.6	B	10.9	B	10.8	B	11.0	B
18th St & Patrick Henry Dr																		
Overall	**1.6**	**A**	**1.6**	**A**	**3.6**	**A**	**2.5**	**A**	**2.4**	**A**	**4.5**	**A**	**1.8**	**A**	**1.7**	**A**	**2.1**	**A**
Eastbound	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.0	A	0.0	A	0.0	A	0.1	A
Westbound	0.0	A	0.1	A	0.1	A	0.6	A	0.7	A	0.7	A	0.2	A	0.2	A	0.5	A
Northbound	11.1	B	10.9	B	12.0	B	10.9	B	10.8	B	12.0	B	11.5	B	11.4	B	11.6	B
Southbound	11.1	B	10.9	B	11.7	B	10.9	B	10.9	B	11.4	B	11.5	B	11.4	B	11.6	B
18th Rd & Lexington St																		
Overall	**0.5**	**A**	**0.5**	**A**	**0.4**	**A**	**0.4**	**A**	**0.3**	**A**	**0.2**	**A**	**0.4**	**A**	**0.3**	**A**	**0.3**	**A**
Eastbound	0.2	A	0.2	A	0.2	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A
Westbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound	9.7	A	9.7	A	10.4	B	9.2	A	9.1	A	9.6	A	9.4	A	9.4	A	9.5	A
19th St & Lexington St																		
Overall	**2.3**	**A**	**2.3**	**A**	**2.7**	**A**	**1.9**	**A**	**1.8**	**A**	**2.4**	**A**	**2.1**	**A**	**2.0**	**A**	**2.1**	**A**
Eastbound	0.1	A	0.1	A	0.0	A	0.1	A	0.1	A	0.1	A	0.2	A	0.2	A	0.2	A
Westbound	0.4	A	0.3	A	1.0	A	0.3	A	0.3	A	1.1	A	1.0	A	1.0	A	1.2	A
Northbound	9.7	A	9.6	A	9.9	A	9.7	A	9.7	A	10.1	B	10.2	B	10.2	B	10.2	B
Southbound	10.0	A	9.9	A	11.1	B	10.1	B	10.1	A	11.1	B	10.0	B	10.0	B	10.0	B
19th St & Madison St																		
Overall	**7.1**	**A**	**7.0**	**A**	**7.2**	**A**	**7.0**	**A**	**7.0**	**A**	**7.0**	**A**	**7.0**	**A**	**7.0**	**A**	**7.0**	**A**
Eastbound	7.2	A	7.2	A	7.4	A	6.9	A	6.9	A	7.2	A	7.1	A	7.1	A	7.2	A
Westbound	6.8	A	6.8	A	6.9	A	6.7	A	6.7	A	6.8	A	6.7	A	6.7	A	6.7	A
Northbound	7.1	A	7.1	A	7.2	A	7.1	A	7.1	A	7.1	A	7.2	A	7.1	A	7.2	A
Southbound	7.0	A	7.0	A	7.1	A	7.1	A	7.1	A	7.0	A	7.2	A	7.1	A	7.1	A
18th St & Madison St/Parking Lot																		
Overall	**4.5**	**A**	**4.3**	**A**	**2.5**	**A**	**6.0**	**A**	**7.1**	**A**	**8.6**	**A**	**7.7**	**A**	**7.6**	**A**	**8.0**	**A**
Eastbound	8.9	A	8.9	A	8.8	A	8.5	A	8.6	A	8.9	A	8.7	A	8.7	A	8.7	A
Westbound	9.0	A	9.0	A	8.9	A	9.2	A	8.9	A	9.0	A	9.1	A	9.1	A	9.0	A
Northbound	2.3	A	2.3	A	1.5	A	4.7	A	5.0	A	6.5	A	6.4	A	6.4	A	6.8	A
Southbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A

SECOND DRAFT

Table 11: Queuing Analysis Results

Intersection & Lane Group	Storage Length (ft)	AM Peak Hour						PM School Dismissal Peak						PM Commuter Peak Hour					
		Existing		*Background*		*Total Future*		*Existing*		*Background*		*Total Future*		*Existing*		*Background*		*Total Future*	
		50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
Washington Blvd & 18th St/Nicholas St																			
Eastbound Left	40	--	--	--	1	--	3	--	--	--	1	--	0	--	--	--	0	--	0
Eastbound Thru	670	--	1	--	0	--	0	--	1	--	0	--	0	--	0	--	0	--	0
Wetbound Thru	40	--	1	--	1	--	1	--	3	--	2	--	2	--	2	--	2	--	2
Westbound Right	630	--	--	--	0	--	0	--	--	--	0	--	0	--	--	--	0	--	0
Northeasbound LTR	340	--	9	--	7	--	8	--	4	--	3	--	4	--	11	--	9	--	10
Northbound LTR	560	--	6	--	4	--	5	--	1	--	1	--	1	--	2	--	2	--	2
Southbound LTR	440	--	10	--	8	--	11	--	5	--	4	--	9	--	28	--	24	--	17
Washington Blvd & McKinley Rd																			
Eastbound Left	50	9	25	9	24	14	36	13	32	12	32	15	39	14	43	14	41	16	49
Eastbound TR	630	281	425	286	432	286	432	104	150	95	149	98	154	226	341	229	346	231	348
Westbound Left	50	3	12	3	13	3	13	6	16	5	16	5	16	5	15	5	15	5	15
Westbound TR	570	208	291	190	288	206	312	229	341	220	333	229	349	333	499	319	487	320	489
Northbound Left	50	4	15	4	15	4	15	2	9	2	9	2	9	4	16	4	16	4	16
Northbound TR	330	4	23	4	24	6	27	7	28	7	28	9	31	8	31	8	31	8	31
Southbound LT	510	21	48	21	48	45	88	24	50	22	50	34	70	33	66	32	66	49	94
Southbound Right	30	0	21	0	21	0	30	0	25	0	27	0	29	0	28	0	29	0	30
18th & Site Exit																			
Eastbound LR	30	--	3	--	3	--	--	--	2	--	2	--	--	--	6	--	5	--	--
Northbound Thru	390	--	0	--	0	--	--	--	0	--	0	--	--	--	0	--	0	--	--
Southbound Thru	75	--	0	--	0	--	--	--	0	--	0	--	--	--	0	--	0	--	--
18th St & Longfellow St																			
Westbound LR	490	--	3	--	2	--	3	--	3	--	3	--	3	--	4	--	3	--	3
Northbound TR	75	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Southbound LT	125	--	1	--	1	--	1	--	0	--	0	--	0	--	1	--	1	--	1
18th & Site Entrance																			
Eastbound LR	60	--	--	--	--	--	37	--	--	--	--	--	30	--	--	--	--	--	7
Northbound LT	125	--	--	--	--	--	5	--	--	--	--	--	3	--	--	--	--	--	2
Soutbound TR	165	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0
18th St & Lexington St																			
Eastbound LTR	320	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Westbound LTR	585	--	1	--	1	--	2	--	1	--	1	--	1	--	1	--	1	--	1
Northbound LTR	165	--	13	--	11	--	35	--	12	--	12	--	38	--	18	--	16	--	19
Southbound LTR	320	--	4	--	4	--	17	--	6	--	6	--	14	--	7	--	6	--	6
18th St & Patrick Henry Dr																			
Eastbound LTR	320	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Westbound LTR	590	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Northbound LTR	320	--	5	--	4	--	12	--	7	--	7	--	17	--	7	--	7	--	8
Southbound LTR	200	--	1	--	1	--	7	--	1	--	1	--	5	--	1	--	1	--	2
18th Rd & Lexington St																			
Eastbound LT	160	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Westbound TR	320	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Southbuond LR	670	--	1	--	1	--	1	--	1	--	1	--	1	--	1	--	1	--	1
19th St & Lexington St																			
Eastbound LTR	320	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Westbound LTR	220	--	0	--	0	--	1	--	0	--	0	--	1	--	1	--	1	--	1
Northbound LTR	750	--	5	--	4	--	6	--	3	--	3	--	5	--	4	--	3	--	4
Southbuond LTR	800	--	3	--	2	--	4	--	1	--	1	--	2	--	1	--	1	--	1
19th St & Madison St																			
Eastbound LTR	655																		
Westbound LTR	245																		
Northbound LTR	500																		
Southbound LTR	750																		
18th St & Madison St																			
Eastbound LTR	245	--	1	--	1	--	1	--	0	--	0	--	1	--	1	--	1	--	1
Westbound LTR	30	--	1	--	0	--	0	--	0	--	1	--	3	--	1	--	1	--	2
Northbound LTR	440	--	1	--	0	--	0	--	0	--	0	--	0	--	1	--	1	--	1

HCM 2000 Does Not Analyze All-Way Stop Controlled Intersections

SECOND DRAFT

Additional Mode Split Scenarios

As stated in the Travel Demand Assumptions chapter, two additional mode split scenarios were developed for the New ES, an enhanced TDM scenario and an inclement weather scenario. The following presents a summary of a sensitivity analysis of the capacity analysis results that performs the same analysis but with these mode splits underlying the trip generation calculations.

These results show that the various mode split scenarios for the New ES all result in very similar results. The Enhanced TDM scenario results in the southbound approach of 18th Street N to Washington Boulevard having a LOS E in Total Future conditions, the same as existing conditions, and thus not requiring the exploration of mitigations. But this is mainly because the approach is right on the threshold between LOS E and F. This report does not see any reason to alter the findings and conclusions reached in the baseline capacity analysis results based on the sensitivity analyses.

SECOND DRAFT

Table 12: Sensitivity Analysis Results

Intersection/ Movement	AM Peak Hour						PM School Dismissal Peak					
	Total Future		*Enhanced TDM*		*Inclement Weather*		*Total Future*		*Enhanced TDM*		*Inclement Weather*	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Washington Blvd & 18th St/Nicholas St												
Overall	**1.4**	**A**	**1.3**	**A**	**1.4**	**A**	**1.6**	**A**	**1.5**	**A**	**1.6**	**A**
Eastbound	0.9	A	0.8	A	0.9	A	0.1	A	0.1	A	0.1	A
Westbound	0.4	A	0.4	A	0.4	A	0.8	A	0.8	A	0.8	A
Northeastbound	30.5	D	22.3	C	22.9	C	17.4	C	14.3	B	14.5	B
Northbound	22.7	C	29.9	D	30.8	D	14.4	B	17.3	C	17.5	C
Southbound	50.2	F	48.5	E	50.8	F	17.8	C	17.5	C	17.6	C
Washington Blvd & McKinley Rd												
Overall	**18.0**	**B**	**17.9**	**B**	**18.1**	**B**	**15.8**	**B**	**15.7**	**B**	**15.9**	**B**
Eastbound Left	10.9	B	10.7	B	11.2	B	11.6	B	11.4	B	11.7	B
Eastbound TR	19.2	B	19.2	B	19.2	B	11.5	B	11.5	B	11.5	B
Westbound Left	9.5	A	9.5	A	9.5	A	8.9	A	8.9	A	8.9	A
Westbound TR	15.7	B	15.5	B	15.8	B	16.9	B	16.8	B	17.0	B
Northbound Left	20.8	C	20.8	C	20.8	C	20.6	C	20.6	C	20.6	C
Northbound TR	20.9	C	20.9	C	20.9	C	21.0	C	21.0	C	21.0	C
Southbound LT	23.8	C	23.5	C	24.2	C	22.7	C	22.6	C	22.9	C
Southbound Right	21.0	C	21.0	C	21.1	C	21.0	C	21.0	C	21.0	C
18th St & Existing Exit												
Overall	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Eastbound	--	--	--	--	--	--	--	--	--	--	--	--
Northbound	--	--	--	--	--	--	--	--	--	--	--	--
Southbound	--	--	--	--	--	--	--	--	--	--	--	--
18th St & Longfellow St												
Overall	**1.2**	**A**	**1.2**	**A**	**1.1**	**A**	**1.1**	**A**	**1.1**	**A**	**1.1**	**A**
Westbound	9.8	A	9.7	A	9.9	A	9.7	A	9.6	A	9.7	A
Northbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound	0.6	A	0.6	A	0.6	A	0.4	A	0.3	A	0.3	A
18th St & Existing Entrance (Future Exit)												
Overall	**6.3**	**A**	**5.7**	**A**	**7.0**	**A**	**5.0**	**A**	**4.6**	**A**	**5.5**	**A**
Eastbound	13.2	B	12.1	B	14.3	B	12.8	B	12.1	B	13.6	B
Northbound	4.1	A	3.8	A	4.5	A	2.8	A	2.5	A	3.0	A
Southbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
18th St & Lexington St												
Overall	**7.0**	**A**	**6.5**	**A**	**7.4**	**A**	**7.8**	**A**	**7.5**	**A**	**8.2**	**A**
Eastbound	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A
Westbound	2.8	A	2.8	A	2.9	A	2.7	A	2.6	A	2.8	A
Northbound	14.5	B	13.9	B	15.3	C	13.3	B	12.8	B	13.8	B
Southbound	13.0	B	12.7	B	13.4	B	11.6	B	11.3	B	11.7	B
18th St & Patrick Henry Dr												
Overall	**3.6**	**A**	**3.4**	**A**	**4.1**	**A**	**4.5**	**A**	**4.3**	**A**	**4.7**	**A**
Eastbound	0.1	A	0.1	A	0.1	A	0.0	A	0.0	A	0.0	A
Westbound	0.1	A	0.1	A	0.1	A	0.7	A	0.7	A	0.7	A
Northbound	12.0	B	11.9	B	12.4	B	12.0	B	11.9	B	12.3	B
Southbound	11.7	B	11.6	B	11.9	B	11.4	B	11.3	B	11.5	B
18th Rd & Lexington St												
Overall	**0.4**	**A**	**0.4**	**A**	**0.4**	**A**	**0.2**	**A**	**0.2**	**A**	**0.2**	**A**
Eastbound	0.2	A	0.2	A	0.1	A	0.1	A	0.1	A	0.0	A
Westbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound	10.4	B	10.3	B	10.4	B	9.6	A	9.6	A	9.7	A
19th St & Lexington St												
Overall	**2.7**	**A**	**2.7**	**A**	**2.8**	**A**	**2.4**	**A**	**2.3**	**A**	**2.4**	**A**
Eastbound	0.0	A	0.0	A	0.0	A	0.1	A	0.1	A	0.1	A
Westbound	1.0	A	1.0	A	1.0	A	1.1	A	1.0	A	1.2	A
Northbound	9.9	A	9.8	A	9.9	A	10.1	B	10.0	B	10.1	B
Southbound	11.1	B	11.0	B	11.3	B	11.1	B	11.0	B	11.3	B
19th St & Madison St												
Overall	**7.2**	**A**	**7.2**	**A**	**7.2**	**A**	**7.0**	**A**	**7.0**	**A**	**7.1**	**A**
Eastbound	7.4	A	7.3	A	7.4	A	7.2	A	7.1	A	7.2	A
Westbound	6.9	A	6.9	A	6.9	A	6.8	A	6.8	A	6.8	A
Northbound	7.2	A	7.2	A	7.2	A	7.1	A	7.1	A	7.1	A
Southbound	7.1	A	7.1	A	7.1	A	7.0	A	7.0	A	7.0	A
18th St & Madison St/Parking Lot												
Overall	**2.5**	**A**	**2.7**	**A**	**2.5**	**A**	**8.6**	**A**	**8.5**	**A**	**8.6**	**A**
Eastbound	8.8	A	8.8	A	8.8	A	8.9	A	8.9	A	8.9	A
Westbound	8.9	A	8.9	A	8.9	A	9.0	A	9.0	A	9.0	A
Northbound	1.5	A	1.6	A	1.5	A	6.5	A	6.5	A	6.5	A
Southbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A

SECOND DRAFT

PARKING

This section reviews the available parking surrounding the Reed site and presents parking recommendations, including:

- A summary of parking data collected in the area surrounding the Reed site on a typical weekday
- A review of existing peak parking demand for the existing uses on the Reed site, the nearby retail uses, and the surrounding residential streets
- A list of opportunities and concerns for accommodating anticipated demand from the new ES

The following conclusions are reached within this chapter:

- During a typical weekday, the existing parking demand adjacent to the Reed site is easily accommodated by the parking supply
- The adjacent retail area's parking supply peaks during the middle of the day with just over 70% occupied
- There is a potential that some New ES parking could occupy on-street spaces that would be better served for retail parking demand
- There is a significant amount of on-street parking on residential streets that could serve as parking supply for the New ES
- Curbside management strategies should be used to ensure that parking generated by the New ES that parks on street does so in these residential areas and not in on-street parking adjacent to the library or retail uses

EXISTING PARKING DEMAND

As part of this transportation report, detailed counts of parking supply and demand were conducted surrounding the Reed site. The purpose of these counts was to determine the amount of parking supply and demand on streets within walking distance of the site and to identify trends or patterns associated with parking demand.

The area surveyed during this study, shown in Figure 28, represents an approximate 0.25-mile walk from the Reed site. Each block face in the study area was surveyed to determine whether parking is allowed and the approximate number of spaces on the block face. Several off-street parking lots were also included in the study area.

The time and date of the parking data collection were selected based on the purpose of the counts. Since the information will be used to help determine parking supply needs for the new Elementary School, the date of the count was selected to represent a 'typical weekday', as school parking demand is highest during a school day when staff is parked on site. As such, parking data was collected in the study area on Tuesday December 12, 2017 from 6:00 AM to 10:00 PM. The parking demand sweeps were conducted every 30 minutes.

The parking data found a total of 1,395 parking spaces in the study area, the majority of which are unrestricted. The restricted parking is all adjacent to retail or library/school uses, such as patron parking in the commercial area on or adjacent to Washington Blvd, and 12 one-hour parking spaces on the northwest corner of McKinley Rd and Washington Blvd and the northeast corner of McKinley Rd and Washington Blvd. Most of the off-street parking lots were signed for specific uses, including the Northwest lot on the Reed Site, which is signed for Library/APS staff only from 6:00 AM to 4:30 PM Monday through Friday. None of the residential blocks in the study area had restricted (permit) parking.

The parking data found that the peak parking occupancy for the entire area occurred at 11:00 AM with an overall parking utilization of 38 percent (525 occupied of 1,395 available). The largest contributor to the peak is the commercial parking along Washington Blvd. Most other streets observed have an occupancy lower than 70% as seen on the map in Figure 29.

Tables and figures with parking demand for each period of data collection are contained in this report's Technical Appendix.

SECOND DRAFT

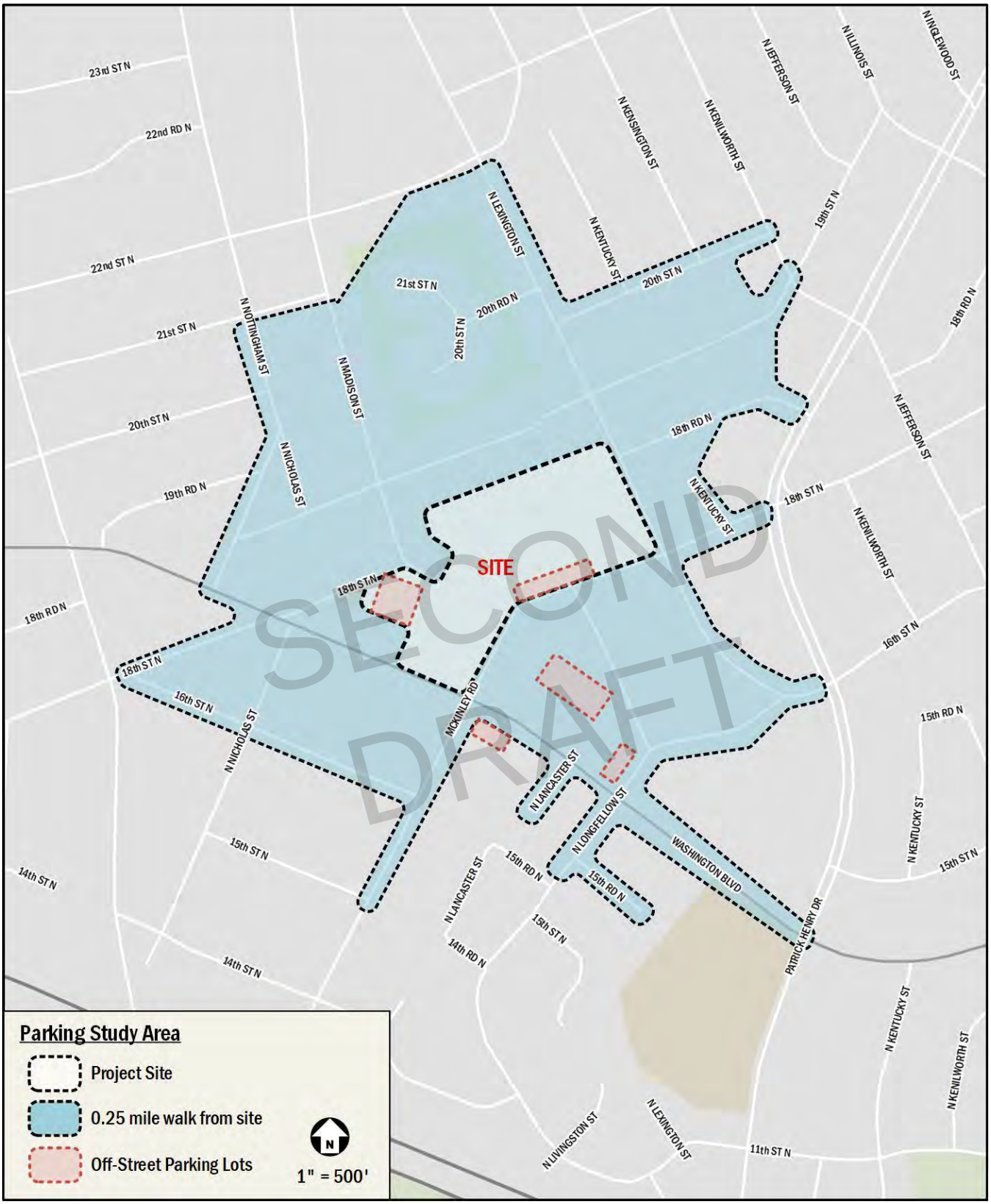


Figure 28: Parking Count Study Area

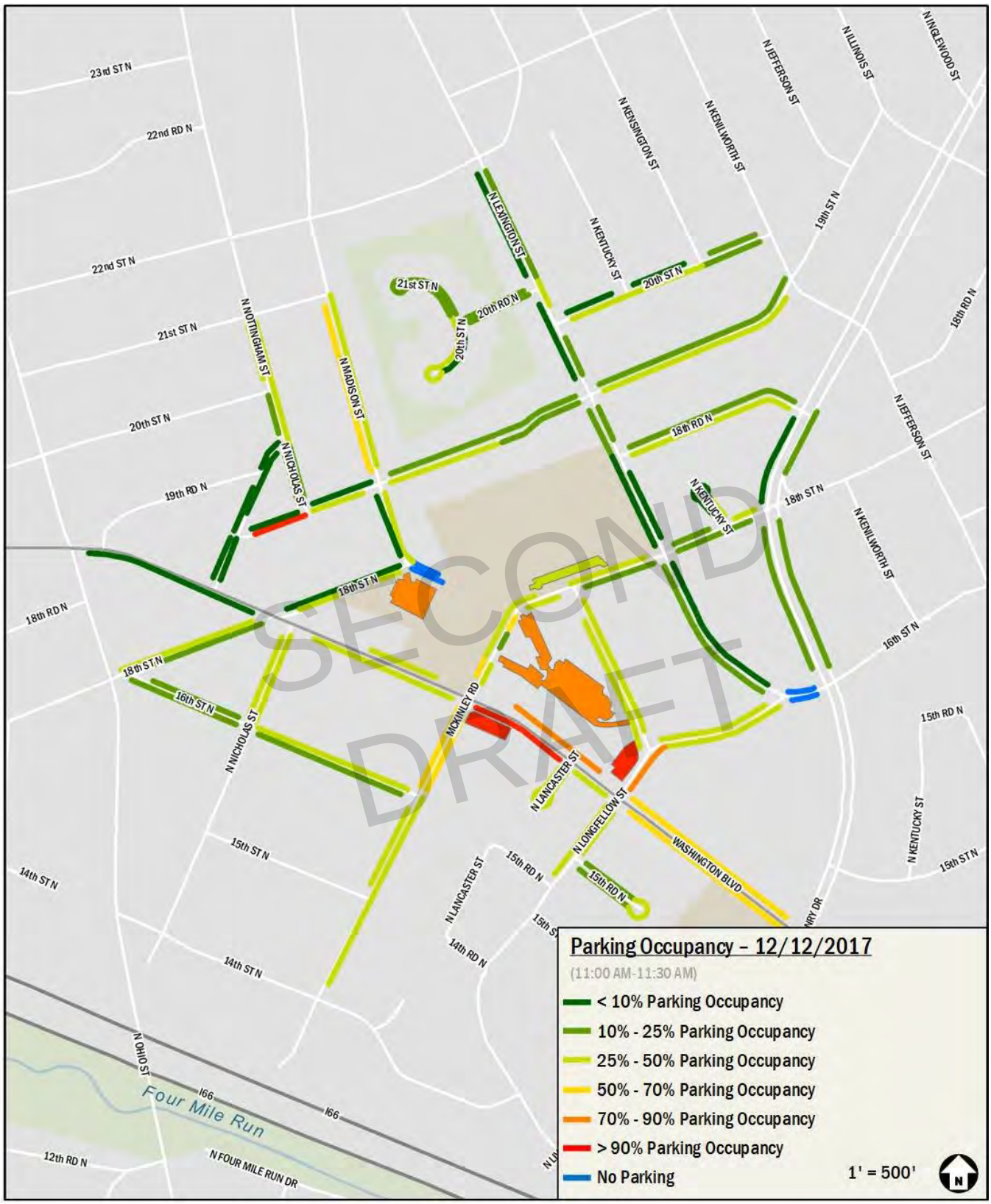


Figure 29: Peak Parking Occupancy

For purposes of reviewing the parking demand in more detail, the parking supply within the study area was broken down into three categories:

- Site Parking, which consists of the existing Northwest and 18th Street lots on the Reed site
- Retail Parking, which includes all retail/commercial off-street lots, and on-street parking on blocks that have retail and/or library uses on that block
- Residential Parking, which includes all on-street spaces on primarily residential blocks

Figure 30 shows these parking categories. Table 13 provides a review of each category's peak parking demands. Figure 31 shows the overall and site parking demand over the course of the counts, while Figure 32 shows the retail and residential parking demand.

Table 13: Summary of Parking Demand

Parking Type	Number of Spaces	Peak Demand
Site	72	81% at 2:30 PM
Retail	267	72% at 12:30 PM
Residential	1,056	38% at 6:30 AM/9:30PM
Total	**1,395**	**38% at 11:30 AM**

Site parking peaks at 2:30pm, with 81% of the 72 off-street spaces on the Reed site occupied. The lots on the Reed site peak during the middle of the day, which is logical considering the uses on site (day care/pre-school and public library).

The retail parking also peaked in the middle of the day, around lunch time. The retail parking is over 50% occupied throughout most of the day but drops in the evening around 6:30 pm.

Residential parking in the neighborhoods surrounding the Reed site is readily available, peaking at under 40% early in the morning and late at night. During the middle of the day, residential parking is mostly under 30% occupied.

Spot Counts

Additional parking counts were conducted at a later date to help double check the results of the original parking count. This was done because the original count was performed on a Tuesday in December, with cold weather (partly sunny with a high of 48 degrees). Concerns were expressed that this may not capture typical demand because the library has popular activities on Thursdays (e.g. story time), and the cold weather could impact parking demand. The secondary parking counts are referred as a 'spot' count because they were smaller in scope and duration. The did not cover as wide of an area, limiting the number of residential blocks counted, and they only were performed between 10:00 AM and 6:00 PM, since that time had already been demonstrated to be the peak of the uses within the study area.

The spot counts were performed on Thursday, April 12, 2018, when the weather was partly sunny with a high of 79 degrees. Figure 33 shows the area of the spot count and Table 14 provides a summary of the count and peak demand times. Figure 34 shows a comparison of the parking demand within the spot count area to the existing counts and a comparison of the off-street lots on site, while Figure 35 shows comparisons between the retail and residential parking (within the spot count area).

Table 14: Summary of Spot Count Parking Demand

Parking Type	Number of Spaces	Peak Demand
Site	72	86% at 10:30 AM
Retail	267	76% at 12:30 PM 77% at 6:00 PM
Residential	267	33% at 6:00 PM
Total	**606**	**52% at 12:30 PM** **52% at 6:00 PM**

The spot counts show many similarities to the original counts, and a few differences. The main finding is that during the peak parking demand time for the New ES, 11:00 AM to 2:00 PM, the overall, site, and retail parking demands are very similar between the two counts. Thus, the main findings from the original counts regarding potential impact from the New ES are the same.

There are two differences between the original and spot counts. First, parking demand on site is a little higher before Noon, peaking at 10:30 AM. This is likely due to the event at the library (story time). This means that additional visitor parking for the library would be beneficial at that time.

Second, the amount of parking demand in the afternoon and early evening is slightly higher, notably for the retail parking. This means that the warmer weather may have an impact on parking in the area, although this does not coincide with the peak parking times for the New ES.

SECOND DRAFT

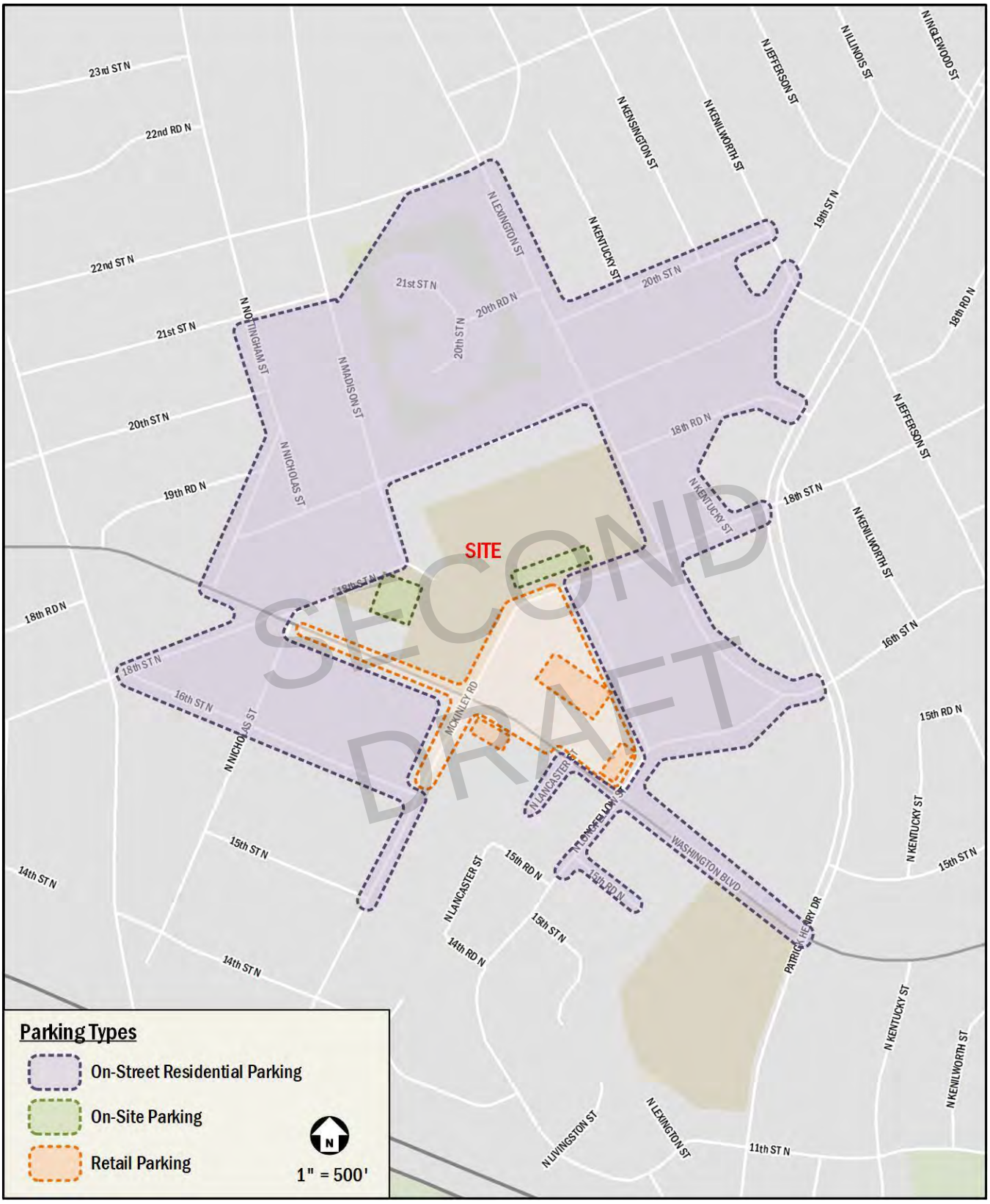


Figure 30: Parking Categories within Study Area

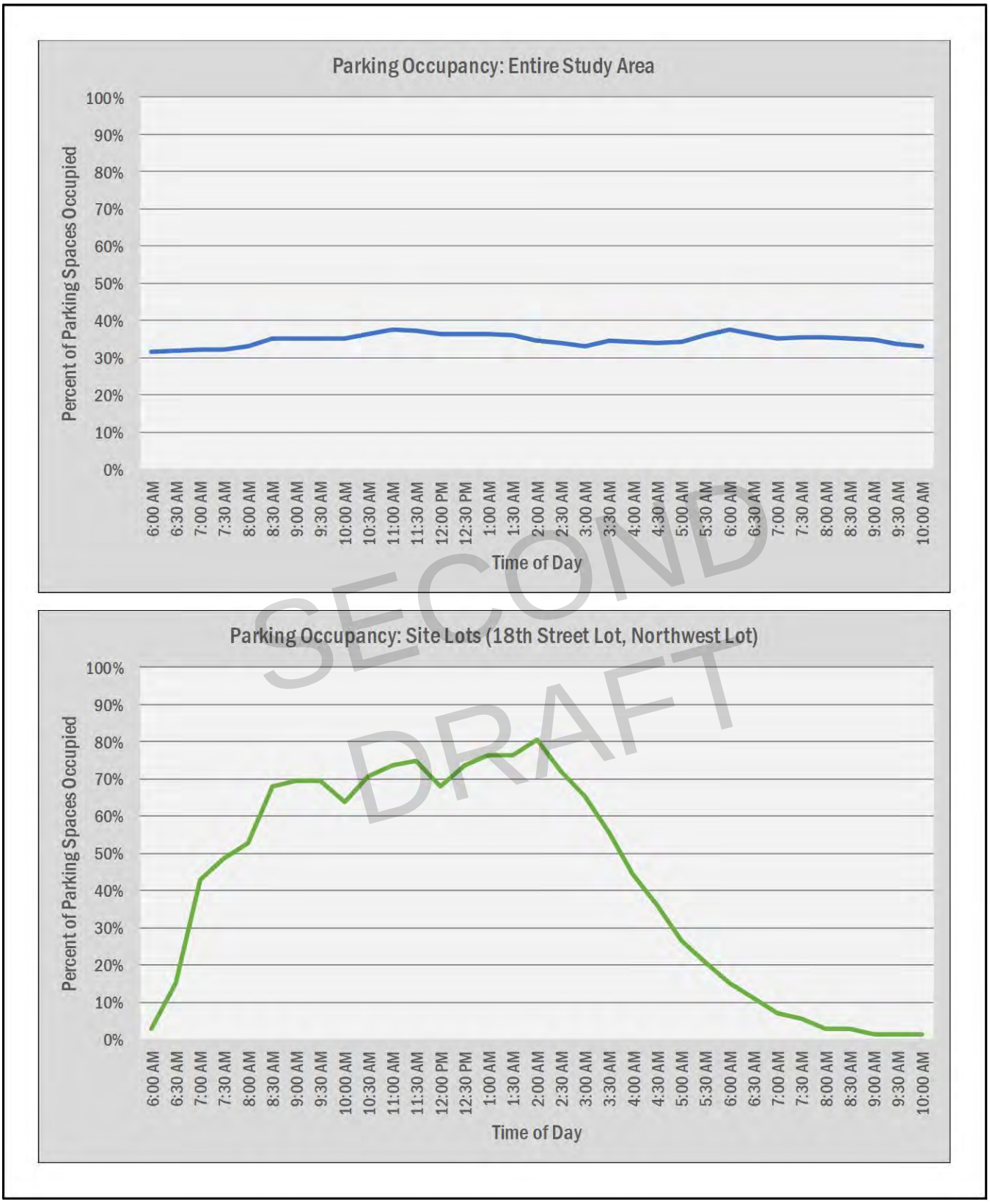


Figure 31: Parking Occupancy, Overall and Site

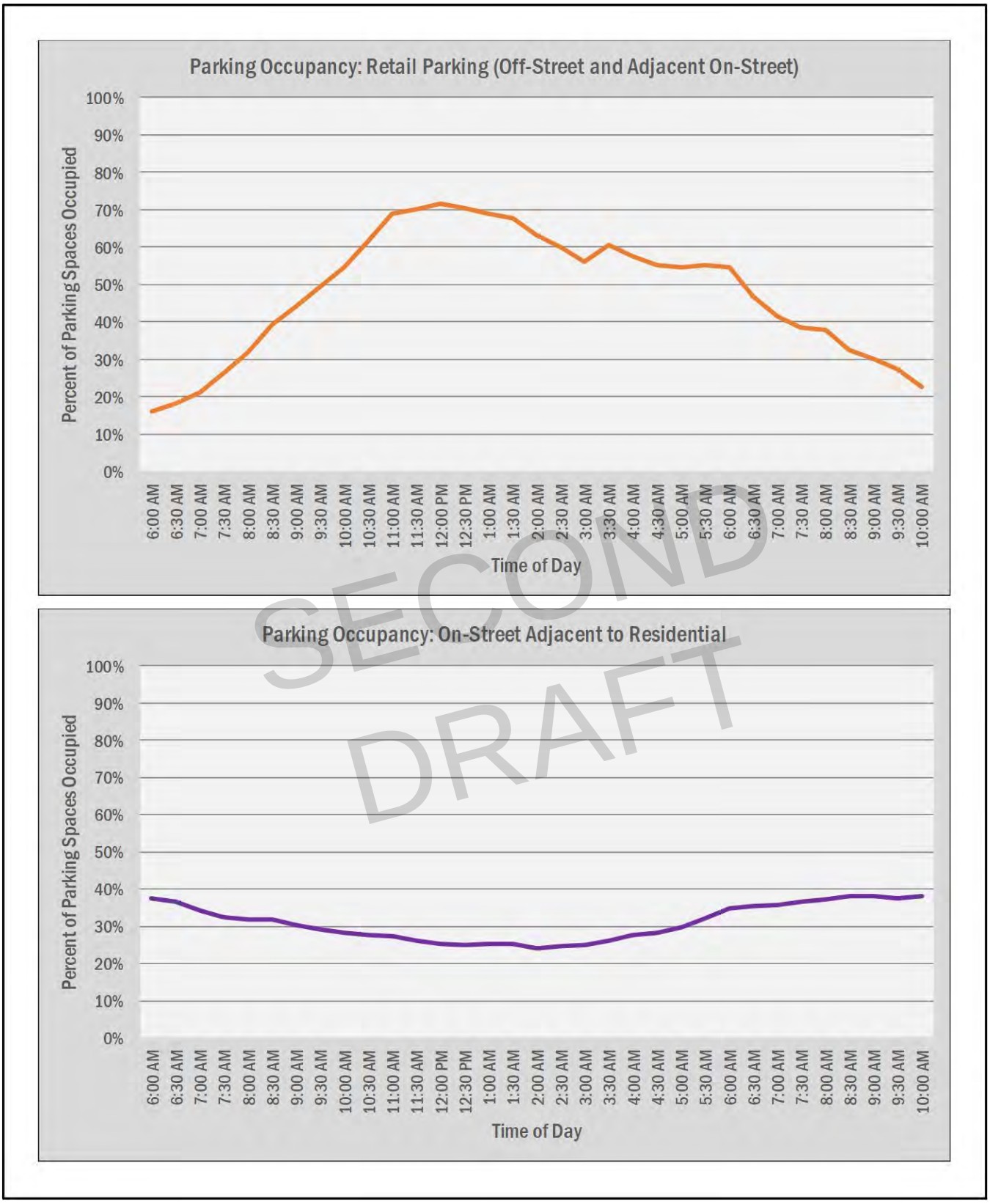


Figure 32: Parking Occupancy, Retail and Residential

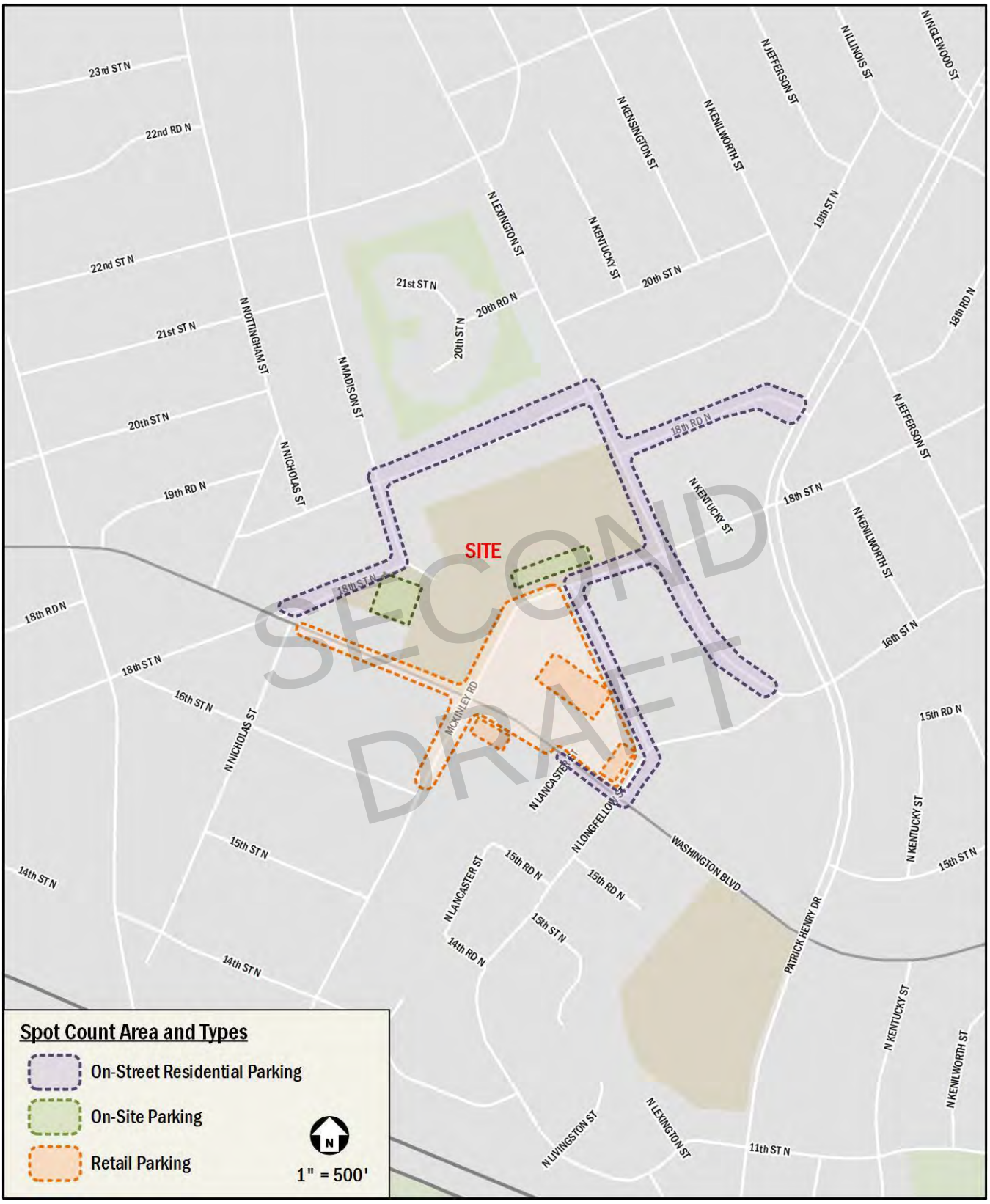
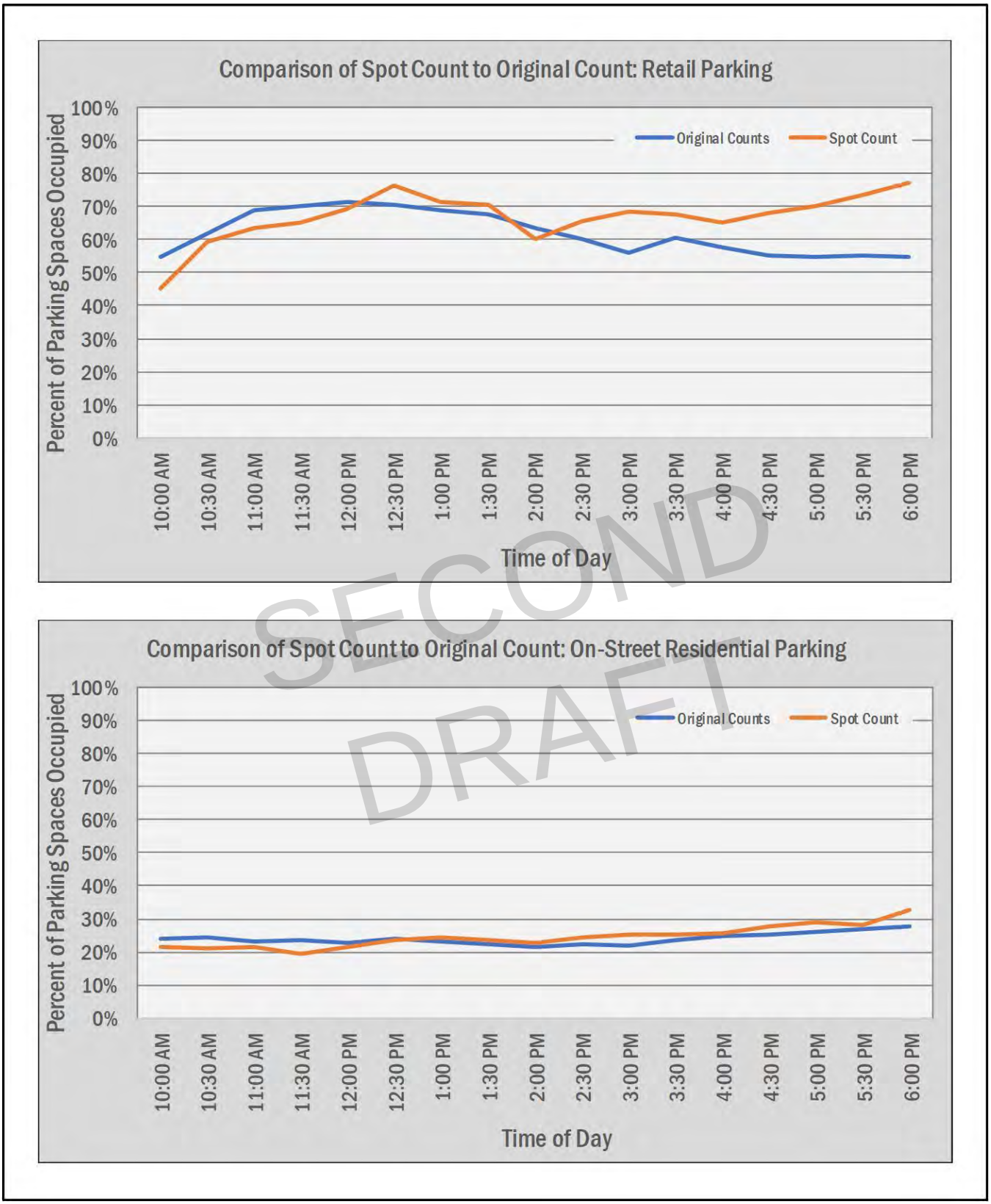


Figure 33: Spot Count Area

SECOND DRAFT

Figure 34: Spot Count Comparison, Overall and Site



SECOND DRAFT

Figure 35: Spot Count Comparison, Retail and Residential

PARKING IMPACTS

Based on the parking data and counts, the potential impacts of building a New ES on the Reed site were reviewed and recommendations developed. This was done by comparing the anticipated peak demand of the New ES to the demands observed from the parking data for the existing uses on site and surrounding residential and retail. Then a list of recommendations was developed to minimize the impact of the New ES.

Parking demand of the New ES will peak in the middle of a school day, around 10 AM to 3:00 PM. This compares to other parking demand sources in the following manner:

- The library demand appears to be constant during operating hours from staff and patron parking, which overlaps the peak parking times for the New ES. The library's parking needs appear to peak during events at the library such as story time. Thus, the New ES and associated parking lots should maximize the ability to share parking between the New ES and the library in a manner that helps prevent library visitor parking from using other parking supplies.
- The recreation fields on site do not appear to have parking demand that overlaps with a typical school day. Although the fields do generate some parking demand, this occurs outside of school operating hours and can use the parking lots on the Reed site.
- Residential parking on surrounding streets in the neighborhood is readily available during the school day. The streets directly adjacent to the school could serve as a potential resource of parking supply for New ES staff and visitors.
- The retail areas adjacent to the Reed site generate parking demand that coincides with school peak parking demand. The parking data shows the retail parking peaking during lunch time. Thus, there is a potential for the New ES parking demand to impact retail parking supply. Additionally, there is an opportunity for retail parking demand to use school parking supply outside of school hours.

As stated in the Travel Demand Assumptions chapter, the expected parking demand at the future Reed site, during the peak of the school's parking demand, will be 164 vehicles, 45 for the library and 119 for the New ES. The Zoning requirement for the site is 150 parking spaces, 33 for the library and 117 for the New ES. This report recommends that the amount of off-street parking built on site not meet either the anticipated demand nor the Zoning requirement. Instead, this report recommends that the New ES take advantage of the parking availability on surrounding neighborhood streets by using it as part of its parking supply.

A review of on-street parking on residential streets surrounding the site found that 20% of the approximately 150 spaces were occupied at 10 AM (this includes 18th Street between Longfellow and Lexington Streets, Lexington Street between 18th and 19th Streets, 19th Street between Lexington and Madison Streets, Madison Street between 18th and 19th Streets, and 18th Street between Madison Street and Washington Boulevard). Considering that based on aerial imagery, it appears that 70% to 80% of the houses on these streets have driveways, this report finds it reasonable that an additional 30 cars parking on these streets during a weekday, essentially doubling the occupancy from 20% to 40%, would be acceptable. Thus, this report assumes that up to 30 cars driven by New ES school staff will park on surrounding streets. Additionally, this report recommends that 10 on-street spaces in front of the library count be considered part of the supply for the 45-space parking demand for the library. Thus, out of the total demand of 164 parked cars, only 124 on-site off-street spaces will be necessary.

Based on the overlaps of parking demands with New ES, and in order to most efficiently use the parkin provided on the Reed site while saving space for recreation fields, this report presents the following parking recommendations:

- Take advantage of the parking availability on surrounding neighborhood streets by using it as part of the parking supply for New ES staff.
- Based on a review of parking demand on residential streets adjacent to the Reed site, this report recommends that a maximum of 30 parked vehicles generated by the New ES should be parked off-site. Based on the parking demand calculations for the uses on site, this results in a minimum recommended parking supply on-site of 124 spaces. This report recommends that be the required minimum parking on site in lieu of the 150 spaces required by Zoning.

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- Discourage New ES (and library) staff from parking in front of retail areas or the library, so that those spaces can be used by retail patrons and library visitors. Work with County staff on curbside management changes to on-street parking areas to deter staff parking in certain locations. For example, the parking in front of the library on Washington Boulevard is currently unrestricted. Switching it to time restricted (i.e. 2-hour) parking, would allow it to be used by visitors and patrons but not by employees.
- Utilize the New ES's area set aside for arrival drop-off and dismissal pick-up queuing for visitor parking at other times. This additional visitor parking could be used by the library, notably to boost the supply during events such as story time that do not coincide with school arrival or dismissal.
- Sign the expanded Northwest and 18th Street parking lots in a manner that encourages sharing outside of school operating hours. Use signs such as "APS and Library Staff parking only, Mon-Fri 6:00 AM to 4:30 PM, Public parking all other times".

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PEDESTRIAN FACILITIES

This section presents a review of pedestrian walking routes to and from the Reed site. The purpose of this review is to develop a set of recommendations for infrastructure and operational improvements to raise the potential walking mode spit of students and staff at the New ES. The steps performed in this review included:

- A detailed review of infrastructure within a 0.25 mile distance of the site
- A detailed review of additional walking routes beyond 0.25 miles, based on potential walk zone boundaries for the New ES
- A review of crossing quality along walking routes across arterial roadways
- An examination of impacts that planned County projects would have on walking route quality

The following conclusions are reached within this chapter:

- Walking routes adjacent to the school generally meet County standards, with some exceptions to the south of the site in residential neighborhoods, and along sections of Washington Boulevard, Patrick Henry Drive, and 16th Street N
- Some targeted sidewalk improvements could help improve walking route quality, within the study area sidewalks can primarily be improved by adding sidewalks along expected walking routes that only have a sidewalk on one side of the street
- The presence of multiple signalized intersections along Washington Boulevard in the vicinity of the site provide safe crossing locations for pedestrians across an arterial. Each traffic signal provides adequate walk time for pedestrians crossing Washington Boulevard.
- Crosswalks on Patrick Henry Drive in the vicinity of the site do not meet County standards for crosswalk treatments, especially when considered as primary crossing points across an arterial
- Already planned infrastructure enhancements by the County on Washington Boulevard and Patrick Henry Drive will significantly improve pedestrian access to the site, especially at the intersection of Patrick Henry Drive and 16th Street N
- This report recommends that the placement of crossing guards be considered at the following intersections when the school opens:
    - Washington Boulevard and 18th Street N
    - Patrick Henry Drive and 18th Street N
    - Patrick Henry Drive and 16th Street N
    - N Lexington Street and 18th Street N

SIDEWALK REVIEW

The sidewalk review is an examination of sidewalks along expected walking routes to and from the New ES, comparing their sidewalk widths, buffer widths, and curb ramps to County standards. The sidewalk review for this report was performed for: (1) all facilities within a quarter-mile of the site, and (2) facilities along five (5) primary walking routes in the preliminary walkzone that APS developed for the New ES at Reed. Figure 36 shows the pedestrian study area that was evaluated as part of this MMTA.

The sidewalks, crosswalks, and curb ramps within the study area were evaluated based on the guidelines set forth by Arlington County. Table 15 summarizes the county width requirements for sidewalks and buffers by street type.

Table 15: Arlington County Sidewalk Requirements

Street Type	Minimum Widths	
	Sidewalk	*Buffer*
Neighborhood (Low Density)	4’	2’
Primarily Single-Family Residential Neighborhoods Arterial	5’	4’
Urban Center Local (Medium to High Density)	6’	4’
Primarily Retail Oriented Mixed-Use Arterial	10’	6’

Comparisons of the pedestrian facilities within the study area to Arlington County standards are shown on Figure 37, Figure 38, and Figure 39.

Within one-quarter mile of the site, almost all of the roadways are considered neighborhood (low density). Washington Boulevard and Patrick Henry Drive are both arterials, with Patrick Henry Drive and some of Washington Boulevard being classified as Primary Single-Family Residential Neighborhood Arterials. Washington Boulevard between N Nottingham Street and N Longfellow Street is classified as a Primary Retail Oriented Mixed-Use Arterial. Most of the sidewalks surrounding the site meet County standards for sidewalk width

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and buffer; however, there are exceptions. Firstly, there are areas to the in the residential neighborhood to the south of the site that lack sidewalks on both sides of the road. Secondly, while there are sidewalks and buffers present on both Washington Boulevard and Patrick Henry Drive, the sidewalk and buffer widths do not meet the minimum specified widths per County standards.

ADA standards require that all curb ramps be provided wherever an accessible route crosses a curb and must have a detectable warning. Additionally, curb ramps shared between two crosswalks is not desired. Under existing conditions there are curb ramps present at most intersections; however, many intersections have curb ramps that are shared by multiple crosswalks, which is undesired.

Outside of the quarter-mile walk area, the five extended walking routes show a similar level of quality. All have at adequate facilities, although not all of them meet standard. The exception is the extended walking route along 16th Street east of the site, which has acceptable sidewalks on its northern side, but no sidewalks on its southern half. It may be worthwhile for the County to explore adding sidewalks to the southern side of 16th Street N. A preliminary review of these streets shows that he width of the roadway would likely mean that adding sidewalks would come at the loss of on-street parking on that side of the street, or a similar trade-off. Such trade-offs would require further study and review between the County and affected residents.

In general, all of the walking routes along collector and arterial streets reviewed had sidewalks on at least one side of the street. Some neighborhood streets south of Washington Boulevard lack sidewalks on either side, but this is typical of many residential areas in Arlington County, and not as significant of a concern. Although it would improve the pedestrian experience to add sidewalks to cover these gaps, it is not something that has to be done for a school to work on the Reed site. Thus this report is not recommending that the school project implement any off-site pedestrian infrastructure improvements, but rather the County explore improving the gaps identified within this review in a separate process.

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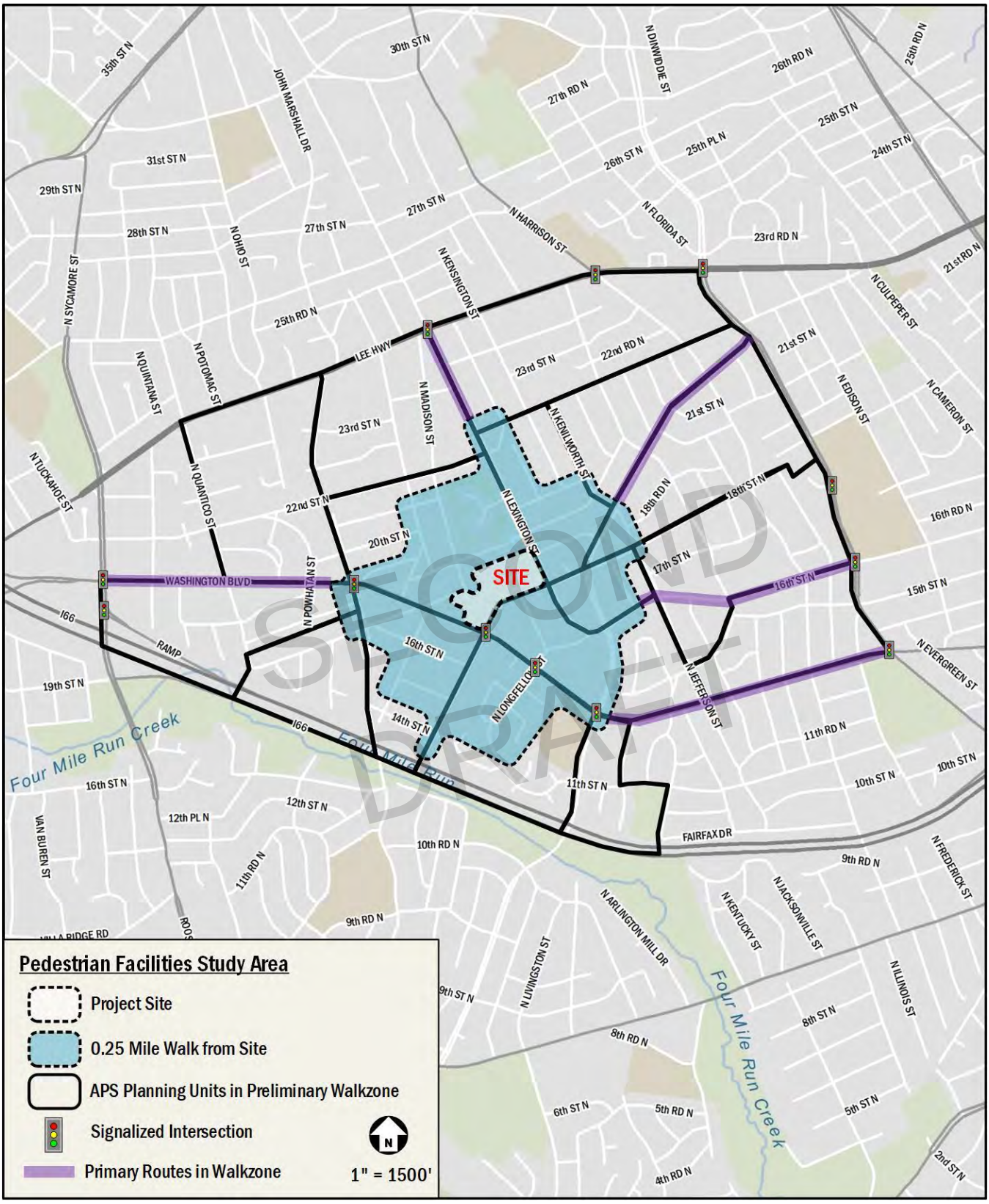

Figure 36: Pedestrian Study Area

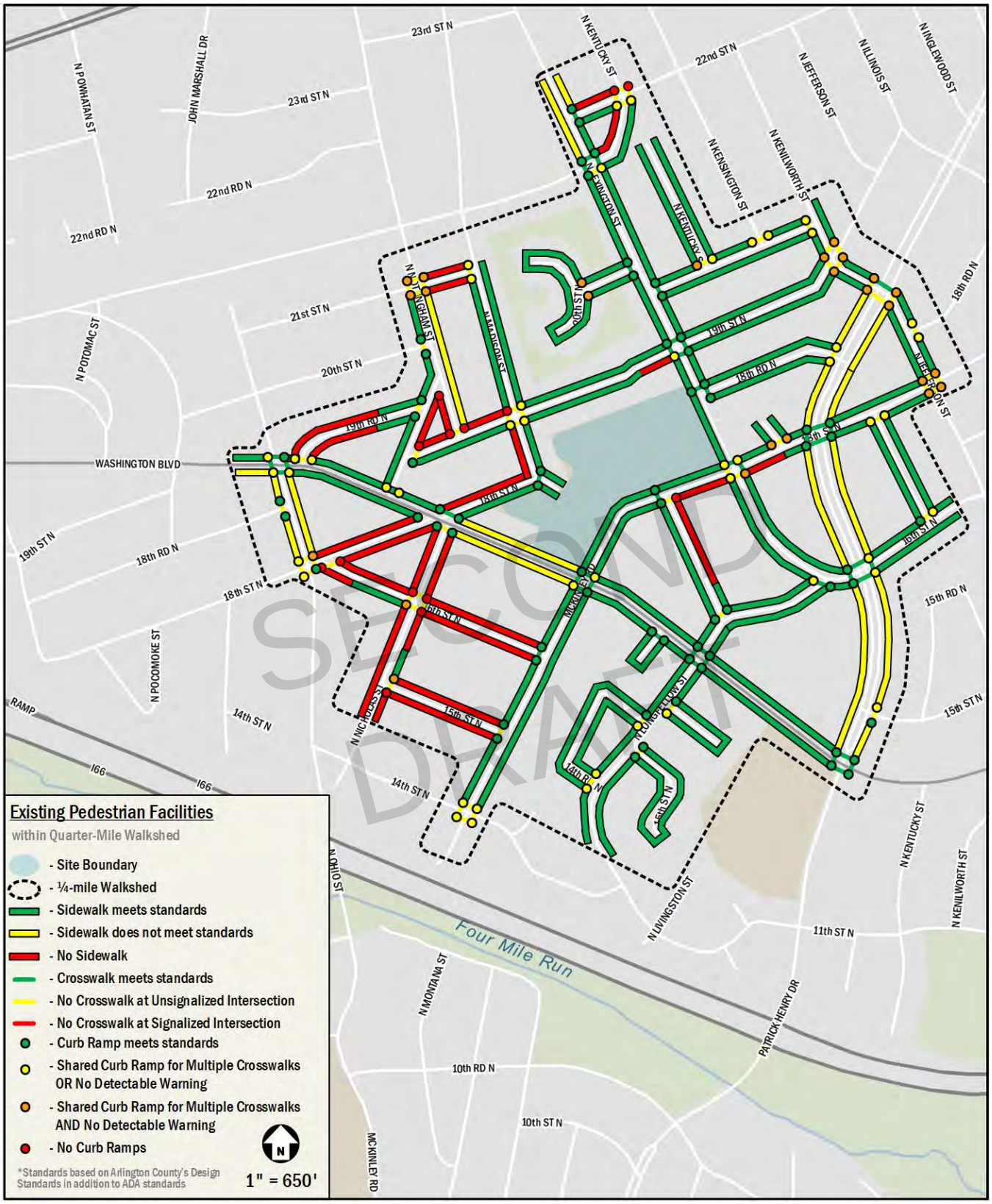

Figure 37: Exiting Pedestrian Facilities (quarter mile)

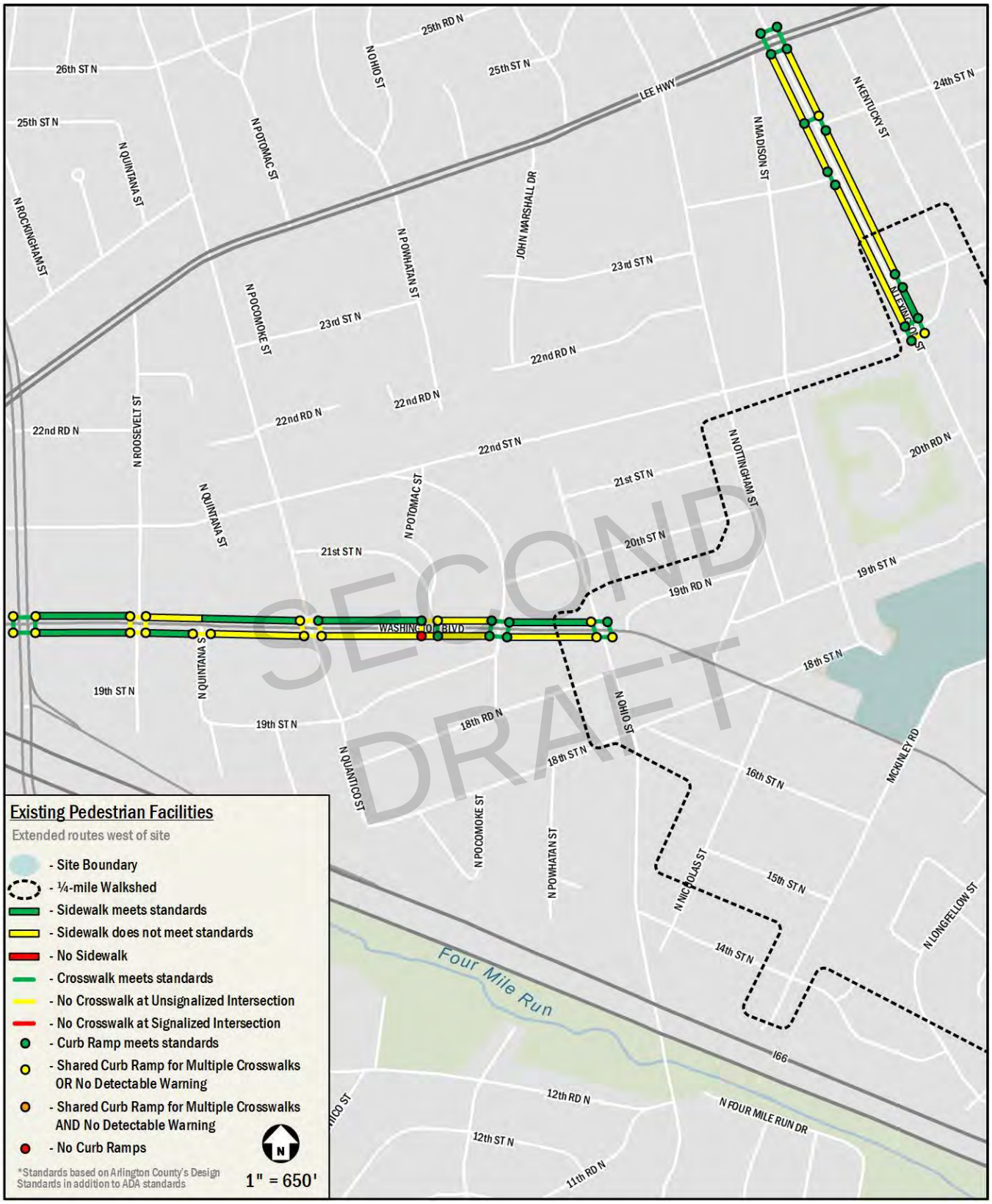

Figure 38: Existing Pedestrian Facilities (routes to west)

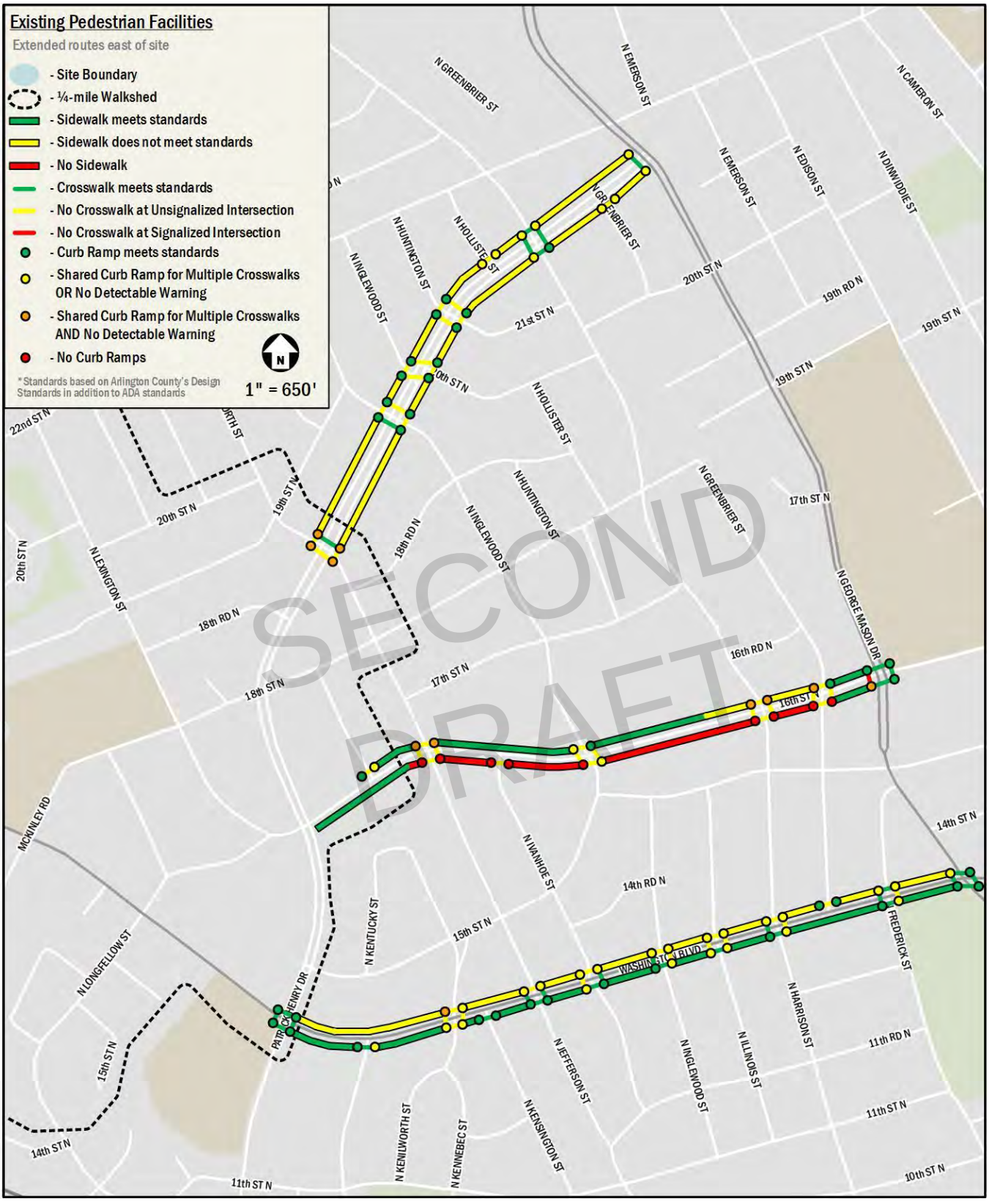

Figure 39: Existing Pedestrian Facilities (routes to east)

Crossing Review

This section reviews the quality of crosswalks along walking routes that cross nearby arterials to the Reed site. The purpose of this review is to determine is students would be conformable crossing arterials and what measures could be done to increase walking route quality.

Washington Boulevard

Washington Boulevard has several locations were pedestrians can cross at signalized locations with a 'walk/don't walk' pedestrian signal. The crossing review at these locations is based on ensuring pedestrians have sufficient time to cross when they get a 'walk' sign, by comparing the amount of walk time presented during the signal phases compared to the length of the crosswalk.

The main sources of data for this review were (1) crosswalk measurements taken using Arlington County's AC Maps, and (2) signal timing sheets provided by Arlington County (which show pedestrian walk and don't walk times). The required pedestrian crossing time was calculated by dividing the distance by an average walking speed of three (3) feet per second. Please note that the Virginia Department of Transportation (VDOT) and the *Manual on Uniform Traffic Control Devices* (MUTCD) assume an average pedestrian walking speed of 3.5 feet per second.

Table 16: Crossing Distance Analysis (Wash Blvd)

Intersection Leg	Crossing Distance (ft)	Required Crossing Time (sec)*	Minimum Provided Crossing Time	
			AM (sec)	*PM (sec)*
Washington Boulevard and N Ohio Street				
North Leg	50	17	26	26
South Leg	58	19	26	26
East Leg	47	16	24	24
West Leg	68	23	24	24
Washington Boulevard and N McKinley Road				
North Leg	39	13	23	23
South Leg	37	12	23	23
East Leg	59	20	23	23
West Leg	56	19	23	23
Washington Boulevard and N Longfellow Street				
North Leg	32	11	23	23
South Leg	34	11	23	23
East Leg	53	18	22	22
West Leg	45	15	22	22
Washington Boulevard and Patrick Henry Drive				
North Leg	63	21	25	25
South Leg	58	19	25	25
East Leg	52	17	27	27
West Leg	47	16	27	27

**assuming a pedestrian walking speed of 3 ft/sec.*

The 3 second assumption was used instead to be more conservative, and account of the age of the students walking to and from the school. Please note that the Virginia Department of Transportation (VDOT) and the *Manual on Uniform Traffic Control Devices* (MUTCD) assume an average pedestrian walking speed of 3.5 feet per second.

Table 16 shows the results of the pedestrian crossing distance analysis.

Based on the results of the analysis, the closest signalized intersections to the site allow sufficient time for pedestrians to cross, even when accounting for the walking speed of children. Although Washington Boulevard carries a relatively high level of vehicular volumes, this report does not recommend infrastructure upgrades to its crosswalks. Instead, a crossing guard may be the more appropriate solution to help ensure students obey the 'walk/don't walk' signals at the intersection.

Patrick Henry Drive

In contrast to Washington Boulevard, the walking routes that cross Patrick Henry Drive all cross at unsignalized intersections.

This report reviewed the crosswalk quality using Arlington County's *Evaluation Criteria at Unsignalized Crossings*, which assigns crosswalk types based on an intersection's speed limit, geometry and vehicular volumes. All crossings meet their criteria except for some of the crosswalks along Patrick Henry Drive at its intersections with 18th Street N and 16th Street N. With a school being located nearby, the crossings now require high-visibility style (continental) crosswalk markings with road-side 'School Crossing' signage (currently the crosswalks over Patrick Henry Drive itself are not high-visibility and the school crossing signage isn't present).

Even with improved crosswalk markings, and County improvements mentioned later in this section, these may not be comfortable crossing locations for elementary age students, due to high speeds of cars, and grades and roadway curves that limit sight distance. These factors create a situation where typical solutions, such as curb extensions, and enhanced signing and marking cannot easily improve pedestrian comfort at the crosswalks.

Based on observations in the field, this report recommends that the New ES explore the use of crossing guards at Patrick

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Henry Drive's intersections with 16th Street N and 18th Street N to help promote walking to and from the school.

Planned Pedestrian Infrastructure

This section reviews planned infrastructure improvements near the Reed site that could potentially alleviate some of the concerns noted above.

This review found significant planned enhancements to pedestrian facilities on Washington Boulevard and Patrick Henry Drive will address gaps in the system that are present under existing conditions. Figure 40 and Figure 41 show future pedestrian infrastructure conditions taking account the improvements listed below.

Washington Boulevard Bike, Pedestrian, Roadway Enhancements

The stretch of Washington Boulevard between Westover and East Falls Church is a VDOT owned and operated roadway. During the winter of 2016/2017, County staff developed a new striping and marking plan, with input from area property owners and community stakeholder groups, and VDOT will execute the work. Currently the road consists of two wide travel lanes and on-street parking through much of the corridor.

The most significant feature of the proposed layout is the introduction of bicycle lanes in both directions; some stretches getting an additional 2- or 3-foot buffer against moving traffic.

The final plan as submitted to VDOT provides a number of pedestrian benefits, including: (1) the narrowing of unnecessarily wide travel lanes to help calm traffic; (2) improving pedestrian comfort on sidewalks due to buffering provided by the new bicycle lanes; and (3) pedestrian safety improvements at key intersections with highly visible markings for crosswalks.

Although pedestrian comfort along Washington Boulevard will be improved, the planned sidewalk width still does not meet the minimum sidewalk widths in Arlington County for Primarily Retail Oriented Mixed-Use Arterials.

Neighborhood Conservation (NC) Projects

The following projects include pedestrian related improvements as part of Arlington County's Neighborhood Conservation (NC) Program. Infrastructure improvements made through the County's NC Program generally include the installation of sidewalks, curbs and gutters, streetlights, park improvements and renovations, neighborhood art, beautification, traffic management, and pedestrian safety improvements.

N Ohio Street / John Marshall Trail Improvements

This is a pedestrian safety and street improvement project on North Quintana Street from Washington Boulevard to 19th Street North. The project scope includes: (1) a new 5-foot wide concrete sidewalk being constructed along the east side of the street. It will narrow to 4-foot in width at one location to protect a mature tree; (2) a utility/buffer (grass) strip, located adjacent to the sidewalk; (3) LED Carlyle-style streetlights replacing existing DVP-owned Cobra streetlights; (4) storm water drainage improvements within the project limits; (5) the street width narrowing to 28 feet at the northerly end of the project limits, closer to Washington Boulevard, and on-street parking will being retained along both sides; and (6) the street width being narrowed to 22 feet at the mid- to southerly parts of the project limits, and on-street parking being retained along the east side only. The narrowed roadway will maintain two travel lanes, one in each direction, but will be considered a yield street.

N Ohio Street / John Marshall Trail Improvements

The segment of N Ohio Street from 22nd Street N to Washington Boulevard will be improved to include sidewalks, crosswalks, and curb ramps that meet Arlington County and ADA standards. In addition, LED streetlight improvements may also be implemented in the future.

22nd Street N Improvements

The street improvement project on 22nd Street N from N Kentucky and N Lexington Streets proposes to construct a curb and gutter where there currently is none on the north side of the street. The project scope also includes a proposed bio-retention basin on 22nd Street N, adjacent to the property located at 5709 N 22nd Street.

Patrick Henry Drive Street Improvement Project

This is a neighborhood pedestrian safety and beautification project to install curb extensions at Washington Blvd at Patrick Henry Drive; curb extensions at 15th Street N, with double handicap-accessible ramps on the west side of Patrick Henry Drive to accommodate mid-block crossing; curb extensions at

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16th Street N and N Lexington Street; bump-out entrance into parking area of Westover Apartments on west side of Patrick Henry Drive; install 5-foot bicycle lanes on the west side of Patrick Henry Drive from Washington Blvd to 16th Street N; install 5-foot sidewalk along several locations; install yellow painted dividing stripe on Patrick Henry Drive, and orient parking on the west side at the Westover Apartments to be 60 degree back-in parking. Travel lanes will be 10 feet on both sides of Patrick Henry Drive.

Although pedestrian comfort along this segment of Patrick Henry Drive will be improved, sidewalk widths still do not meet the minimum sidewalk widths in Arlington County for Primarily Single-Family Residential Neighborhoods Arterial.

N Illinois Street Improvements

Pedestrian safety and street improvement project on North Illinois Street from 22nd Street North to Lee Highway. The project scope includes: (1) design and installation of a new 5-foot continuous sidewalk, with a 2.5-foot utility strip adjacent, curb and gutter, on the west side of the street; (2) continuous curb and gutter on the east side of the street; (3) ADA compliant pedestrian ramps throughout the project area; and (4) curb extensions at the intersections of N Illinois Street with N 22nd Road, N 23rd Street, and N 24th Street.

24th Street Improvements

This is a neighborhood pedestrian safety and beautification project on 24th Street N, from N Illinois Street to N Kensington Street. The project scope includes: (1) installing a continuous 5-foot sidewalk, curb and gutter, and associated storm water infrastructure, on the south side of 24th Street N; (2) on-street parking being retained on both sides of 24th Street N; (3) ADA compliant pedestrian ramps being installed at the intersections with N Illinois and N Kensington Streets; and (4) New Carlyle style streetlights installed in the new 2.5-foot utility/buffer strip adjacent to the sidewalk.

East Falls Church Plan

The East Fall Church Plan includes street improvements such as new lane configurations, addition of on-street bicycle lanes, on-street parking (where possible), and intersection enhancements to increase pedestrian safety and reduce speeding and merging conflicts.

Some of the design features recommended for Washington Boulevard between the Reed site and the East Falls Church Metrorail station include: (1) removing exclusive right-tum lanes and reducing vehicular travel lane widths to create space for on -street parking and a striped bicycle lane in each direction; and (2) providing tree/furniture zones and an 8-foot sidewalk.

Improving pedestrian connections in the vicinity of the East Falls Church Metrorail Station is seen as a vital strategy in increasing the likelihood of transit being used by commuters.

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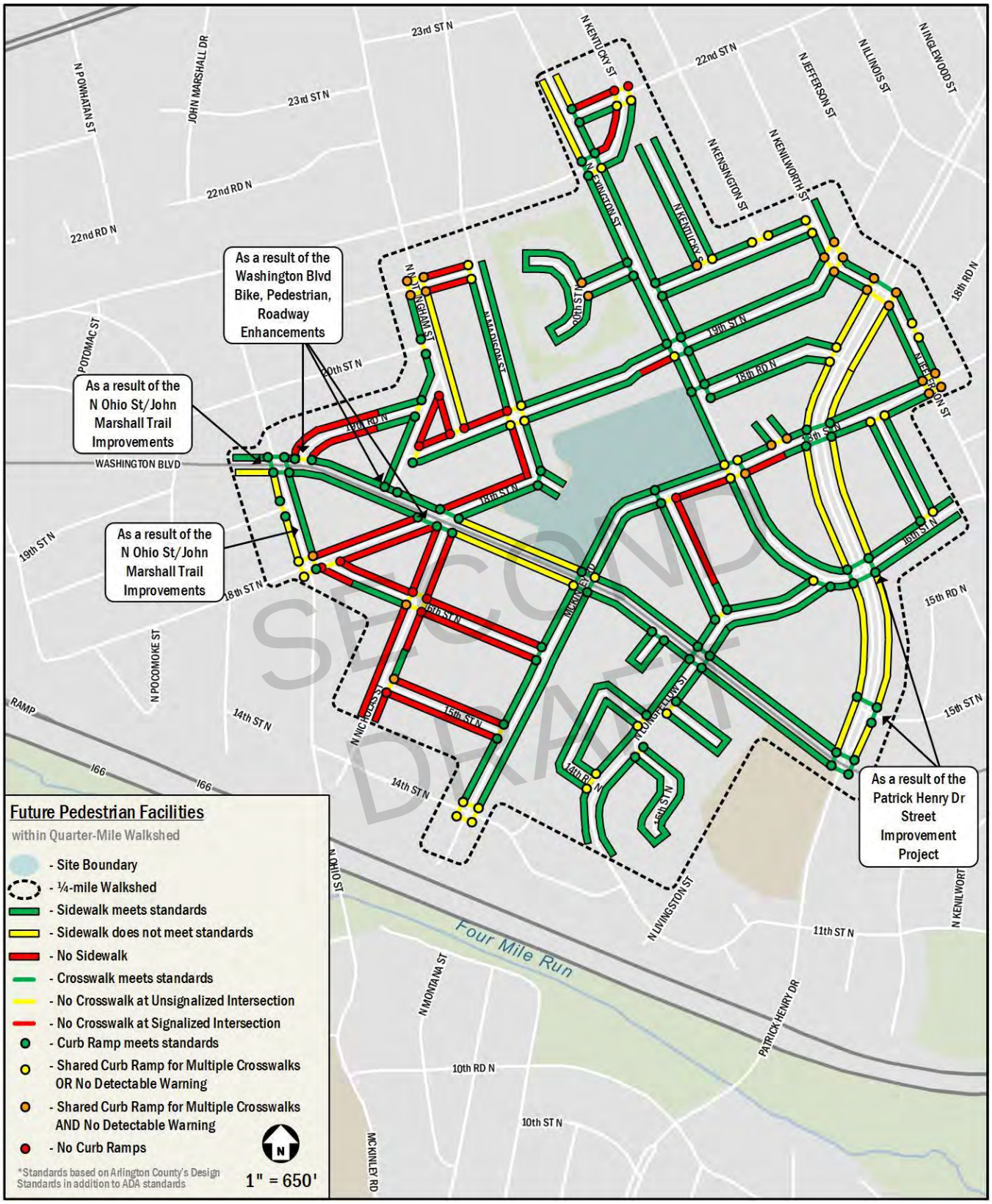

Figure 40: Future Pedestrian Facilities (quarter mile)

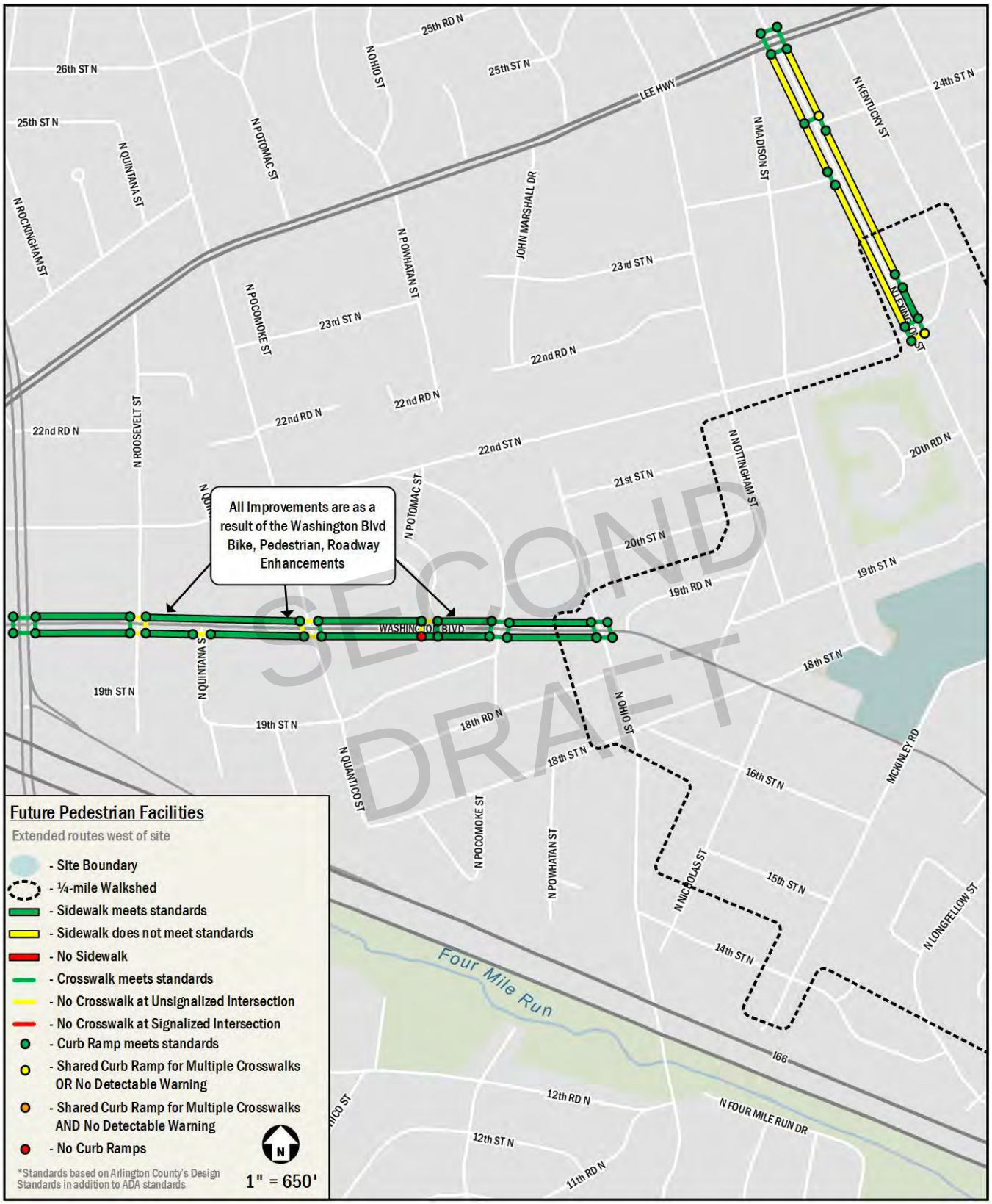

Figure 41: Future Pedestrian Facilities (routes to west)

PEDESTRIAN RECOMMENDATIONS

Based on the review of pedestrian facilities, this report concludes the following:

- Walking routes adjacent to the school generally meet County standards, with some exceptions to the south of the site in residential neighborhoods, and along sections of Washington Boulevard, Patrick Henry Drive, and 16th Street N
- Some targeted sidewalk improvements could help improve walking route quality, within the study area sidewalks can primarily be improved by adding sidewalks along expected walking routes that only have a sidewalk on one side of the street
- Specific improvements that the County could explore that would significantly improve the quality of the pedestrian walking area are adding sidewalks to (adding sidewalks to these areas would likely involve removal of on-street parking and as such would require further study by the County):
    - The southern side of 18th Street N between Patrick Henry Drive and Longfellow Street
    - The southern side of 16th Street N between George Mason Drive and N Jefferson Street.
- The presence of multiple signalized intersections along Washington Boulevard in the vicinity of the site provide safe crossing locations for pedestrians across an arterial. Each traffic signal provides adequate walk time for pedestrians crossing Washington Boulevard.
- Already planned infrastructure enhancements by the County on Washington Boulevard and Patrick Henry Drive will significantly improve pedestrian access to the site, especially at the intersection of Patrick Henry Drive and 16th Street N
- Even with the already planned improvements, some crossings over arterials could prove difficult for elementary school age students. This is due to factors such as the curvature and grade of Patrick Henry Drive making it difficult to upgrade the crosswalk quality even with enhanced signing and marking.
- This report recommends that the placement of crossing guards be considered at the following intersections when the school opens:
    - Washington Boulevard and 18th Street N
    - Patrick Henry Drive and 18th Street N
    - Patrick Henry Drive and 16th Street N
    - N Lexington Street and 18th Street N

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BICYCLE FACILITIES

This section presents a review of bicycle routes to and from the Reed site. The purpose of this review is to develop a set of recommendations for infrastructure and operational improvements to raise the potential bicycle mode split of students and staff at the New ES. The steps performed in this review included:

- A detailed review of existing bicycle infrastructure in the vicinity of the site
- An examination of impacts that planned County projects would have on bicycle comfort levels to and from the site

The following conclusions are reached within this chapter:

- The site has good connectivity to existing on- and off-street bicycle facilities. The site is surrounded by local neighborhood streets, bicycle lanes on Washington Boulevard and Patrick Henry Drive, and the W&OD and Custis Trails and Metrorail at East Falls Church
- While there are no bicycle lanes on Washington Boulevard adjacent to the site and stretching westward, planned improvements will add bicycle lanes and narrow vehicular lanes in both direction, improving bicycle comfort levels.
- There is one (1) Capital Bikeshare station adjacent to the site, with an additional station planned at the intersection of Washington Boulevard and Patrick Henry Drive in FY2018
- Providing long-term bicycle parking, showers, and lockers for staff, and well situated short-term bicycle parking for students and visitors will increase the likelihood of people choosing to cycle to and from the site

EXISTING BICYCLE FACILITIES REVIEW

The site has good connectivity to existing on- and off-street bicycle facilities, and the site is surrounded by neighborhood streets that are relatively low in vehicular traffic and speed. North-south connectivity is provided via bicycle lanes on Patrick Henry Drive and signed routes on N Lexington Street and N McKinley Road. East-west connectivity is provided via bicycle lanes on Washington Boulevard and via signed routes on 22nd Street N.

In addition, the site is located a short distance from the W&OD and Custis Trails, which are both located less than 0.5 miles from the site. These two trails provide regional connectivity bicycles to and from the site. Figure 42 shows existing bicycle facilities in the area.

Bicycle Parking

There is some short-term bicycle parking in the vicinity of the site, particularly near the entrance to the Westover Branch Library.

Capital Bikeshare

In addition to personal bicycle, the Capital Bikeshare program provides additional cycling options for staff and visitors of the planned development. The Bikeshare program has placed over 400 Bikeshare stations across Washington, DC, Arlington, and Alexandria, VA, Montgomery County, MD, and most recently Fairfax, VA, with over 3,700 bicycles provided. There is a Capital Bikeshare station that is adjacent to the site, on the northwest corner of the intersection of Washington Boulevard and N McKinley Road. The Capital Bikeshare stations house a total of 15 bikes. There is also a station about a mile down Washington Boulevard at the East Falls Church MetroRail station.

PLANNED BICYCLE FACILITIES

This section reviews planned infrastructure improvements near the Reed site that would improve bicycle comfort levels to and from the site.

Washington Boulevard Bike, Pedestrian, Roadway Enhancements

A number of improvements to bicycle infrastructure are included as part of the Washington Boulevard Bike, Pedestrian, Roadway Enhancements project. The most significant feature of the proposed plan is the introduction of bicycle lanes in both directions; some stretches getting an additional 2- or 3-foot buffer against moving traffic. In addition, the narrowing of unnecessarily wide travel lanes to help calm traffic will slow vehicles and further improve bicycle comfort levels.

The Washington Boulevard Bike, Pedestrian, Roadway Enhancements project was reviewed in more detail in the Study Area Overview chapter.

East Falls Church Plan

The East Fall Church Plan includes street improvements such as new lane configurations and the addition of on-street bicycle lanes. This is accomplished by removing exclusive right-tum lanes and reducing vehicular travel lane widths to create space

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for on -street parking and a striped bicycle lane in each direction

Improving bicycle comfort in the vicinity of the East Falls Church Metrorail Station is seen as a vital strategy in increasing the likelihood of transit and bicycles being used by commuters.

Capital Bikeshare

One (1) Capital Bikeshare station is planned at the intersection of Washington Boulevard and Patrick Henry Drive, as part of Arlington County's Capital Bikeshare Expansion Plan. This station is scheduled to be installed in FY2018.

Bicycle Facilities at the New ES

The plan for bicycle parking for the New ES is currently being developed as the project is in schematic design. The project plans to include short- and long-term bicycle parking.

Short-term bicycle parking spaces will be provided near the primary entrances of the school and will be designed to meet Arlington County's Bicycle Parking Guidelines (2016). This report recommends that bicycle parking be located on both the north and south sides of the New ES, as there will be bicycle facilities and/or bicycle friendly roads on both sides of the facility. In particular, some cyclists may use the trail that leads to 19th Street N.

The project also plans to include secure long-term bicycle parking, serving staff that commute to the school. The project plans to meet or exceed the number of long-term bicycle parking spaces, showers, and lockers as required by Arlington County. These long-term storage spaces are provided for staff so that they may store their bicycles securely.

The inclusion of short- and long-term bicycle parking and related facilities as a part of the project will increase the likelihood of students and staff commuting to and from the site by bicycle.

Bicycle Recommendations

Based on the review of bicycle facilities, this report concludes the following:

- The site has good connectivity to existing on- and off-street bicycle facilities. The site is surrounded by local neighborhood streets, bicycle lanes on Washington Boulevard and Patrick Henry Drive, and the W&OD and Custis Trails.
- While there are no bicycle lanes on Washington Boulevard adjacent to the site and stretching westward, planned improvements will add bicycle lanes and narrow vehicular lanes in both direction, improving bicycle comfort levels.
- There is one (1) Capital Bikeshare station adjacent to the site, with an additional station planned to be installed at the intersection of Washington Boulevard and Patrick Henry Drive in FY2018.
- The plans for on-site bicycle parking for the New ES are currently being developed as part of the schematic design. The school will meet or exceed County requirements for short and long-term bicycle parking on site and provide showers and lockers for staff that commute via bicycle.
- Based on the latest school design, the County requirements for bicycle parking are:
  - 37 short-term bicycle parking spaces
  - 15 long-term bicycle parking spaces
- This report recommends short-term bicycle parking be located on both the southern and northern entrances to the New ES, as cyclists will likely approach the school from several directions.

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Figure 42: Existing Bicycle Facilities

Figure 43: Future Bicycle Facilities

TRANSPORTATION MANAGEMENT PLAN

A Transportation Management Plan (TMP) has many components that are tailored to accommodate a given facility with the goal being the reduction of automobile trips by encouraging alternative forms of transportation.

A few typical TMP components for elementary schools are the establishment of a Transportation Demand Management (TDM) plan, the establishment of a Safe Routes to School plan, the establishment of a Parking Management Plan, the establishment of Arrival and Dismissal Plans, and the establishment of a Performance and Monitoring Plan.

The TMP will include a schedule and details of implementation and continued operation of the elements in the plan. The TMP for the New ES at Reed may include, but not be limited to, the following:

TRANSPORTATION DEMAND MANAGEMENT

The TDM Plan addresses the use permit conditions and includes additional strategies for reducing single-occupancy vehicle (SOV) and single-family travel to the New ES at Reed consistent with the Arlington County TDM program and the APS Go! Master Plan.

The goals of the TDM plan are to:

1. Reduce staff drive rates from the existing rate in support of APS's division-wide goal of 75% by 2021 (as an average of all sites).
2. Increase the student walk/bike rate from the existing rate in support of APS's division-wide goal of 30% by 2021 (as an average of all schools).
3. Increase the number of school bus eligible students who ride the school bus.
4. Mitigate potential adverse impacts of parking on APS sites and in surrounding communities.
5. Support and grow a culture around walking, biking, carpooling and public transit use among students and staff.

A number of TDM strategies are outlined in the APS Go! Master Plan, which can be used to increase school bus utilization, public transit utilization, vanpool and carpool utilization, non-motorized transportation mode utilization – e.g., walking and biking, strategies for managing motor vehicle parking and student drop-off/pickup, and evaluation.

This report recommends focusing on the following TDM strategies:

General TDM Strategies

1. Appoint a School Transportation Coordinator (STC);
2. Promote the APS pre-tax transportation benefit;
3. Invite ATP and Safe Routes to School staff to Open House nights;

Strategies to Increase School Bus Utilization

4. Establish frequent bus rider incentive program;
5. Establish "walking school bus" program to bus stops;
6. Promote school bus use in communications with parents;

Strategies to Increase Public Transit Use

7. Make APS subsidized SmartTrip passes available to staff for trips to and from work;
8. Offer transit training for students;

Strategies to Increase Vanpool and Carpool Utilization

9. Inform staff members about the "Guaranteed Ride Home" program;
10. Provide monetary incentive for staff who participate in carpool or vanpools for travel to and from work;
11. Promote school pools to parents (i.e., carpools involving children from different families)

Strategies to Increase Non-Motorized Transportation Mode Utilization

12. Continue partnering with the County to make physical improvements to the pedestrian and bicycle environment near the school, as necessary
13. Provide secure bicycle parking/storage facilities for students and staff;
14. Provide shower/changing facilities on site for staff who bike or walk to work;
15. Maintain trained crossing guards at appropriate intersections near school;
16. Establish a walking club;
17. Establish and provide parents with information on walking school buses and bike trains;

Additional TDM strategies will be included in the final use permit. These TDM strategies will target specific community concerns regarding traffic, while complimenting the site's location and proximity to transit and bicycle facilities.

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Safe Routes to School

Safe Routes to School (SRTS) is a national program that works to make it safer and easier for students to walk or bike to school. SRTS programs examine conditions around schools and conduct projects and activities that work to improve safety and accessibility, and reduce traffic and air pollution in the vicinity of schools. The core elements of SRTS include:

- Enabling and encouraging children, including those with disabilities, to walk and bicycle to school
- Making bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age.
- Facilitating the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution near schools.

The Virginia SRTS Program offers several funding options through grants.

The following additional strategies can be used to compliment the TDM plan, and encourage and enable students to walk and bicycle to the New ES at Reed while fulfilling SRTS objectives:

1. Participate in Walk to School Day and Bike to School Day;
2. Consider establishing a regular (i.e. weekly or monthly) walk and bike to school day;
3. Create a Student Safety Patrol;
4. Hold pedestrian safety classes or assemblies;
5. Plan a Bicycle Rodeo; and
6. Create a frequent walker, biker, and bus rider program

Parking Management Plan

A Parking Management Plan (PMP) will addresses the use permit conditions and be consistent with Arlington Public Schools Policy 50-1.1.

The PMP will show how curbside space adjacent to the site will be designated for parking by the various users of the project. In addition, the PMP will provide effective directional signage to direct staff and visitors to appropriate location on the property.

Arrival and Dismissal Plans

Arrival and dismissal plans will be developed for the New ES at the Reed site. Their purpose of these plans is to ensure that school arrival and dismissal occurs safely and efficiently for users of all modes.

These plans will include details on parent drop-off and pick-up procedures, including how the queuing space will be managed, where school staff will be placed and their roles, and the marketing/messaging for parents and students.

Performance and Monitoring

The New ES at Reed will maintain records of participation in APS non-SOV incentive programs and conduct biennial surveys of student, visitors, staff, and parents, regarding their travel to and from the school site. The School Transportation Coordinator (STC) will submit a biennial letter to APS Go! and the County Manager describing the results of the survey and any TDM related activities.

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SUMMARY AND CONCLUSIONS

This report concludes that the New ES at the Reed site will not have a detrimental impact to the surrounding transportation and roadway network given the recommendations from this report are implemented, including the Transportation Management Plan.

Traffic Operations

The analyses contained within this report reached the conclusion that the surrounding streets can accommodate the anticipated traffic from the New ES, given certain design elements were incorporated into the schematic design and a Transportation Management Plan (TMP) is developed and implemented. This conclusion was based on the following findings from the technical anlaysis:

- The existing study area intersections all operate at acceptable levels of service and delay, with one exception. The southbound approach of 18th Street N to Washington Boulevard shows has long delays as side street traffic waits for gaps in Washington Boulevard traffic. This condition is common for side streets with low traffic volume intersecting an arterial like Washington Boulevard.
- The future scenarios show similar results, with all study area intersections operating at acceptable levels with one exception.
- The vehicular trip generation from the New ES is relatively minor and does not change traffic patterns nearby in a detrimental way. This is especially true for during PM commuter park hour. The AM peak hour trip generation of 379 vehicles/hour is the equivalent of one new car on the road every 9.5 seconds. During the PM school peak hour, the vehicular trip generation of 310 vehicles/hour if the equivalent of one new car on the road every 11.5 seconds. During the PM commuter peak hour, the vehicular trip generation of 25 vehicles/hour if the equivalent of one new car on the road every 144 seconds.
- This report does not recommend any traffic mitigation measures for the proposed New ES (e.g. roadway widening or new traffic signals).
- A sensitivity anlaysis that explored different mode split scenarios for the New ES confirmed the findings of the baseline mode split scenario.
- These findings are based on trip generation and routing assumptions that are reliant on the certain elements being included in the New school's Transportation Management Plan (TMP). Thus, this report recommended development and implementation of the TMP be a commitment of approval.

Parking Impacts

Based on the overlap of parking demands with New ES, and in order to most efficiently use the parking provided on the Reed site while saving space for recreation fields, this report presents the following parking recommendations:

- Take advantage of the parking availability on surrounding neighborhood streets by using it as part of the parking supply for New ES staff.
- Based on a review of parking demand on residential streets adjacent to the Reed site, this report recommends that a maximum of 30 parked vehicles generated by the New ES should be parked off-site. Based on the parking demand calculations for the uses on site, this results in a minimum recommended parking supply on-site of 124 spaces. This report recommends that be the required minimum parking on site in lieu of the 150 spaces required by Zoning.
- Discourage New ES (and library) staff from parking in front of retail areas or the library, so that those spaces can be used by retail patrons and library visitors. Work with County staff on curbside management changes to on-street parking areas to deter staff parking in certain locations.
- Utilize the New ES's area set aside for arrival drop-off and dismissal pick-up queuing for visitor parking at other times. This additional visitor parking could be used by the library, notably to boost the supply during events such as story time that do not coincide with school arrival or dismissal.
- Sign the expanded Northwest and 18th Street parking lots in a manner that encourages sharing outside of school operating hours. Use signs such as "APS and

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Library Staff parking only, Mon-Fri 6:00 AM to 4:30 PM, Public parking all other times".

Pedestrian Facilities

The following conclusions are reached regarding pedestrian facilities:

- Walking routes adjacent to the school generally meet County standards, with some exceptions
- Some targeted sidewalk improvements could help improve walking route quality, within the study area sidewalks can primarily be improved by adding sidewalks along expected walking routes that only have a sidewalk on one side of the street
- The presence of multiple signalized intersections along Washington Boulevard in the vicinity of the site provide safe crossing locations for pedestrians across an arterial.
- Already planned infrastructure enhancements by the County on Washington Boulevard and Patrick Henry Drive will significantly improve pedestrian access to the site, especially at the intersection of Patrick Henry Drive and 16th Street N
- This report recommends that the placement of crossing guards be considered at the following intersections when the school opens:
  - Washington Boulevard and 18th Street N
  - Patrick Henry Drive and 18th Street N
  - Patrick Henry Drive and 16th Street N
  - N Lexington Street and 18th Street N

Bicycle Facilities

Based on a review of bicycle facilities, this report concludes the following:

- The site has good connectivity to existing on- and off-street bicycle facilities. The site is surrounded by local neighborhood streets, bicycle lanes on Washington Boulevard and Patrick Henry Drive, and the W&OD and Custis Trails.
- While there are no bicycle lanes on Washington Boulevard adjacent to the site and stretching westward, planned improvements will add bicycle lanes and narrow vehicular lanes in both direction, improving bicycle comfort levels.
- There is one (1) Capital Bikeshare station adjacent to the site, with an additional station planned to be installed at the intersection of Washington Boulevard and Patrick Henry Drive in FY2018.
- The plans for on-site bicycle parking for the New ES are currently being developed as part of the schematic design. The school will meet or exceed County requirements for short and long-term bicycle parking on site and provide showers and lockers for staff that commute via bicycle.
- This report recommends covered short-term bicycle parking be located on both the southern and northern entrances to the New ES, as cyclists will likely approach the school from several directions.

Conclusion

This MMTA reached the conclusion that the development of the New ES on the Reed site will not have a detrimental impact to the surrounding roadway or parking systems, given certain design elements were incorporated into the schematic design and a Transportation Management Plan (TMP) is developed and implemented.

The required elements needed to be incorporated in schematic design include:

- A minimum of 124 off-street parking spaces on-site
- Room of seven school buses to load/unload
- An off-street student drop-off/pick-up area that can accommodate 30 total cars in queue
- Adequate bicycle parking for staff and students, with student parking located on multiple sides of the building

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New ES at Reed Site Technical Appendix

Contents

Appendix A – Signed Scoping Document

Appendix B – Parking Occupancy by Half Hour

Appendix C – Parking Occupancy Spot Count

Appendix D – Existing Turning Movement Counts

Appendix E – Existing (2018) Capacity Analysis Worksheets

Appendix F – Background Capacity Analysis Worksheets

Appendix G – Future (2021) Conditions with Development Capacity Analysis Worksheets

Appendix H – Trip Generation Demand Assumptions

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Appendix A

Signed Scoping Document

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PRE-SCOPE OF WORK MEETING FORM

Information on the Project
Traffic Impact Analysis Base Assumptions

The applicant is responsible for entering the relevant information and submitting the form to VDOT and the locality no less than three (3) business days prior to the meeting. If a form is not received by this deadline, the scope of work meeting may be postponed.

Contact Information			
Consultant Name: Tele: E-mail:	Dan VanPelt and Rob Schiesel, Gorove/Slade Associates, Inc. 202-296-8625 dan.vanpelt@goroveslade.com; rbs@goroveslade.com		
Developer/Owner Name: Tele: E-mail:	Ajibola (Aji) Robinson, Arlington Public Schools 703-228-7738 ajibola.robinson@apsva.us		
Project Information			
Project Name:	New Elementary School at Reed	Locality/County:	Arlington County
Project Location: (Attach regional and site specific location map)	The site is bordered by 18th Street N, N McKinley Road, and Washington Boulevard to the south, N Madison Street to the west, 19th Street N to the north, and N Lexington Street to the east. The site is located in the Westover neighborhood of Arlington, Virginia.		
Submission Type	Comp Plan ☐	Rezoning ☐	Site Plan ☒ / Subd Plat ☐
Project Description: (Including details on the land use, acreage, phasing, access location, etc. Attach additional sheet if necessary)	The following is a **revised** scoping form that provides more detail and revisions to assumptions already documented in the approved scoping form on file. Due to the timing of this project an opportunity exists to detail and refine some assumptions, based mainly on school survey data, existing traffic counts and Synchro models, and other information that has been analyzed since the scoping form was approved. Updated items within the form are highlighted in red below. The primary changes are: • The inclusion of the concept plan approved by the School Board • A revised trip generation based not on ITE rates, but on APS Go! surveys • Revised trip distributions, based on a review of potential APS planning units in the school boundary, patterns in existing traffic volumes, and the results of the existing conditions analysis (LOS and queuing) This Multimodal Transportation Analysis (MMTA) will analyze a site currently improved with the existing Reed-Westover Building, which houses both Arlington County and Arlington County Public School (APS) Programs. The existing building is approximately 61,000 square feet, of which the Arlington County Westover Library Branch comprises of 16,000 square feet, and the APS Children's School and Integration Station are 45,000 square feet. The APS programs will be relocated prior to construction and it is expected that the library will continue operations throughout construction. The existing uses on the site are serviced by two surface parking lots comprising 72 parking spaces. The proposed development will add an approximately 110,000 square foot elementary school to the site, with a student cap of 725 students. The facility will be a heavily used community asset. In addition to expected use during regular school hours it will be used to support the APS Extended Day program, used most evenings and weekends by community groups, and used throughout the summer for various camps and summer school/enrichment programs. A conceptual design has been chosen and is shown in Figure 3. Vehicular access and the conceptual parking layout is also shown on Figure 3. The exact location of pedestrian access points and loading facilities for the proposed development are still being considered and will be included in the final report. Based on trip generation calculations, a VDOT 870 study will not be needed.		

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Proposed Use(s): (Check all that apply; attach additional pages as necessary)	Residential ☐	Commercial ☐	Mixed Use ☐	Other ☒
	Residential Uses(s)		**Other Use(s)** ITE LU Code(s): 520 (Elementary School) Independent Variable(s): 725 Students	
Total Peak Hour Trip Projection: (Based on trip generation calculations; see Table 3)	Less than 100 ☐	100 – 499 ☒	500 – 999 ☐	1,000 or more ☐

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It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

<table>
<tr><th colspan="6">Traffic Impact Analysis Assumptions</th></tr>
<tr><td>Study Period</td><td colspan="2">Existing Year: 2017</td><td colspan="2">Build-out Year: 2021</td><td>Design Year: N/A</td></tr>
<tr><td rowspan="2">Study Area Boundaries
(Attach map)</td><td colspan="3">North: 19th Street N</td><td colspan="2">South: 18th Street N</td></tr>
<tr><td colspan="3">East: Patrick Henry Drive</td><td colspan="2">West: Washington Boulevard</td></tr>
<tr><td>External Factors That Could Affect Project
(Planned road improvements, other nearby developments)</td><td colspan="5">• Washington Boulevard Bike, Pedestrian, Roadway Enhancements
• N Ohio Street/John Marshall Trail
o From Washington Boulevard to 22nd Street N (Under Construction)
o From 22nd Road N to 23rd Street N (Planned; Not Funded)
• 22nd Street N Street Improvement Plan
• Patrick Henry Drive Improvements from Washington Boulevard to 16th Street N
• East Falls Church Plan
• Neighborhood Conservation (NC) Projects
o Illinois Street from 22nd Street N to Lee Highway
o 24th Street N from Illinois Street to Kensington Street
• Westover Village: N Longfellow Street and 16th Street N Intersection Improvements
• Background Developments
o Virginia Hospital Center</td></tr>
<tr><td>Consistency With Comprehensive Plan
(Land use, transportation plan)</td><td colspan="5">Yes</td></tr>
<tr><td>Available Traffic Data
(Historical, forecasts)</td><td colspan="5">• VDOT Historical AADT Data
• All-way Stop analysis at 18th Street N/N Lexington Street (2017)
• Washington Blvd Restriping – Washington Boulevard /McKinley Road (2015)</td></tr>
<tr><td>Trip Distribution</td><td colspan="5">Distribution and routing assumptions have been revised, based on the location of APS Planning Units, traffic counts and existing volume patterns, and the Existing Conditions vehicular capacity analysis results (shown in Table 1). Separate distributions for staff and parents were developed: Figure 5 shows the inbound and outbound trip distribution for staff; Figure 6 shows the trip distribution for local traffic, representing all trips that have origins and destinations in the local neighborhood; and Figure 7 shows the trip distribution for students when parents continue to work or return from work. More information on the distributions and what vehicular trips they will be used for are contained on the figure themselves.</td></tr>
<tr><td rowspan="2">Annual Vehicle Trip Growth Rate:
(See Table 2)</td><td rowspan="2">0.2%</td><td>Peak Period for Study
(check all that apply)</td><td colspan="3">☒ AM ☒ PM (school dismissal) ☒ PM</td></tr>
<tr><td>Peak Hour of the Generator</td><td colspan="3">See Table 5</td></tr>
<tr><td>Study Intersections and/or Road Segments
(Please refer to attached Figure 7)</td><td colspan="3">1) Washington Blvd/18th Street/N Nicholas St
2) Washington Blvd/McKinley Road
3) 18th Street N/Parking Lot Exit</td><td colspan="2">7) 18th Street N/Patrick Henry Drive
8) N Lexington Street/18th Road N
9) N Lexington Street/19th Street N
10) 19th Street N/ N Madison Street</td></tr>
</table>

SECOND DRAFT

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

	4) 18th Street N/N Longfellow Street 5) 18th Street N/Parking Lot Entrance 6) 18th Street N/ N Lexington Street	11) N Madison Street/18th Street N/Parking Lot
Trip Adjustment Factors (See Table 3)	Internal allowance: ☐ Yes ☒ No TDM/Mode Split Reduction: * see Table 3. Three trip generation scenarios are proposed to be analyzed as part of this MMTA: 1) baseline scenario; 2) inclement weather scenario; and 3) enhanced non-automobile mode use (TDM) scenario.	Pass-by allowance: ☐ Yes ☒ No Reduction: See Table 3
Software Methodology	☒ Synchro ☐ HCS (v.2000/+) ☐ aaSIDRA ☐ CORSIM ☐ Other _____	
Traffic Signal Proposed or Affected (Analysis software to be used, progression speed, cycle length)	1) Washington Boulevard / McKinley Road Analysis Software: Synchro version 9.1 Results: HCM 2000 methodology	
Improvement(s) Assumed or to be Considered	• Transportation Demand Management (TDM) measures • Improvements to vehicular access (if necessary)	
Background Traffic Studies Considered	None	
Plan Submission	☐ Master Development Plan (MDP) ☐ Generalized Development Plan (GDP) ☐ Preliminary/Sketch Plan ☒ Other Plan type (Final Site, Subd. Plan)	
Additional Issues to be Addressed	☒ Queuing analysis ☐ Actuation/Coordination ☐ Weaving analysis ☐ Merge analysis ☒ Bike/Ped Accommodations ☒ Intersection(s) ☒ TDM Measures ☐ Other _____	

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NOTES on ASSUMPTIONS:

1. Synchro files/signal timings will be obtained from Arlington County.
2. The scenarios to be included in the study are Existing (2017), Future without Development (2021), Future with Development - Baseline (2021), Future with Development - Inclement Weather (2021), and Future with Development – Enhanced TDM (2021).
3. Existing peak hour factors in the range of 0.85 to 1.00 will be used for existing scenarios. The default peak hour factor of 0.92 to 1.00 will be used for all future scenarios.
4. Default heavy vehicle percentage of 2% will be used for all movements.
5. For any approach, LOS D or better would be considered as acceptable/desirable traffic operation condition. We will recommend mitigations if any intersection or approach experiences a degradation to LOS E or F in the future scenario where one does not exist in the background scenario
6. Signal timing adjustments would be considered as an acceptable mitigation measure.
7. Will provide both 95th and 50th percentile queues.
8. Will utilize HCM 2000 for signalized and unsignalized intersections.

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

9. Level of service calculations for existing and future conditions without and with development shall be in accordance with the Highway Capacity Manual (HCM) 2000 methodologies, as computed by Synchro 9.1 software. Typical Synchro parameters to be utilized in this analysis will be consistent with those values provided in VDOT's TOSAM and Arlington County standards.
10. A Multimodal Transportation Analysis (MMTA) will be provided in the study which will include the following information:
    a. Multimodal trip generation
    b. Curbside management information
    c. Parking Demand in the vicinity of the site (as shown in Figure 8)
    d. Transit Facilities
    e. Transit Ridership (As available, to be provided by Arlington County)
    f. Bike/pedestrian facilities (as shown in Figure 9, Figure 10, and Figure 11)
    g. Multimodal Initiatives
    h. Bus services within the study area
11. Data Collection:
    a. We will collect weekday Turning Movement Counts (TMCs), including pedestrians and bicycles from 6:00AM-9:00AM and from 2:00PM-7:00PM at all study intersections. We will conduct counts on a "typical weekday" when Arlington Public Schools are in session and the Westover Library is open
12. Three mode split scenarios will be analyzed as part of this MMTA (shown in Table 4):
    a. The baseline scenario
    b. Inclement weather scenario (based on observations and APS Go! data)
    c. Enhanced non-automobile use (TDM) scenario based on APS Go! data
13. Trip generation for the proposed development was developed using APS Go! data for APS locations with similar student, staff, and transportation profiles. Using this information, a daily vehicular trip generation was determined for each user group, and is attached to this form. By mapping daily trip generation, a morning peak hour, a school dismissal peak hour, and an evening peak hour was determined and is shown in Table 5.

SECOND DRAFT

SIGNED: _____ DATE: _____
Applicant or Consultant

PRINT NAME: ___Dan VanPelt, Gorove/Slade Associates, Inc._
Applicant or Consultant

SIGNED: _____ DATE: _____
Local Government Representative

PRINT NAME: _____
Local Government Representative

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

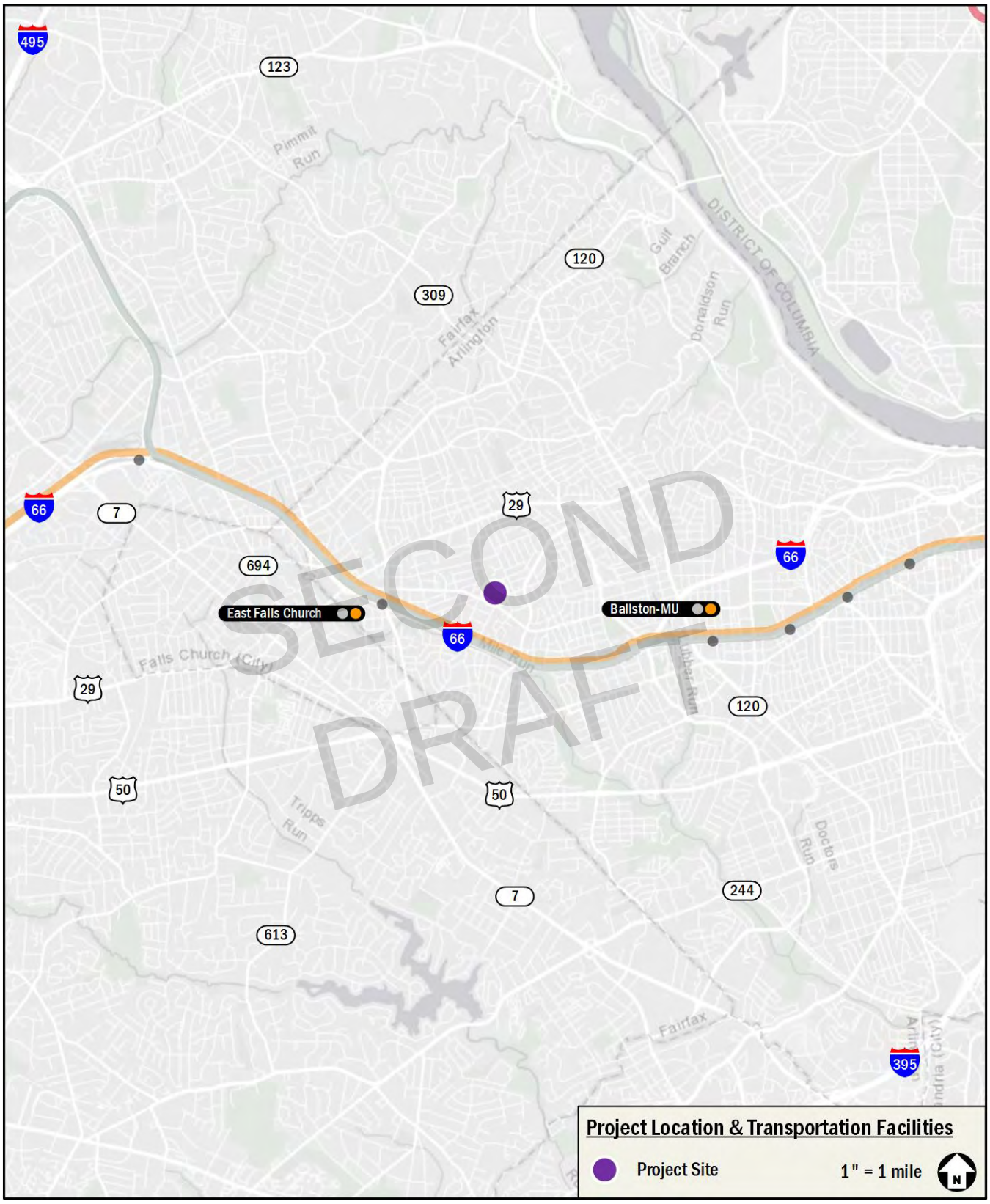

Figure 1: Project Location

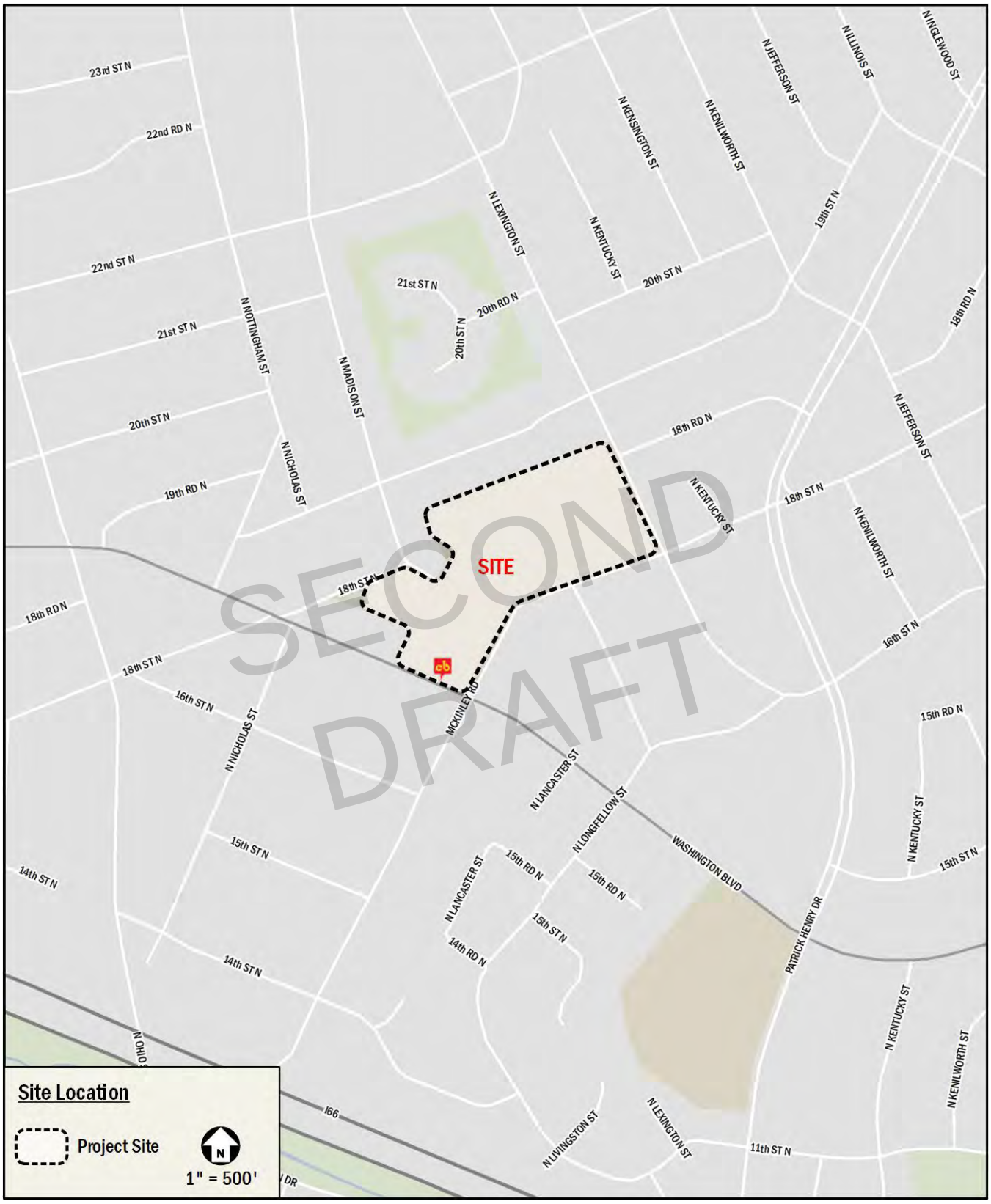

Figure 2: Site Location

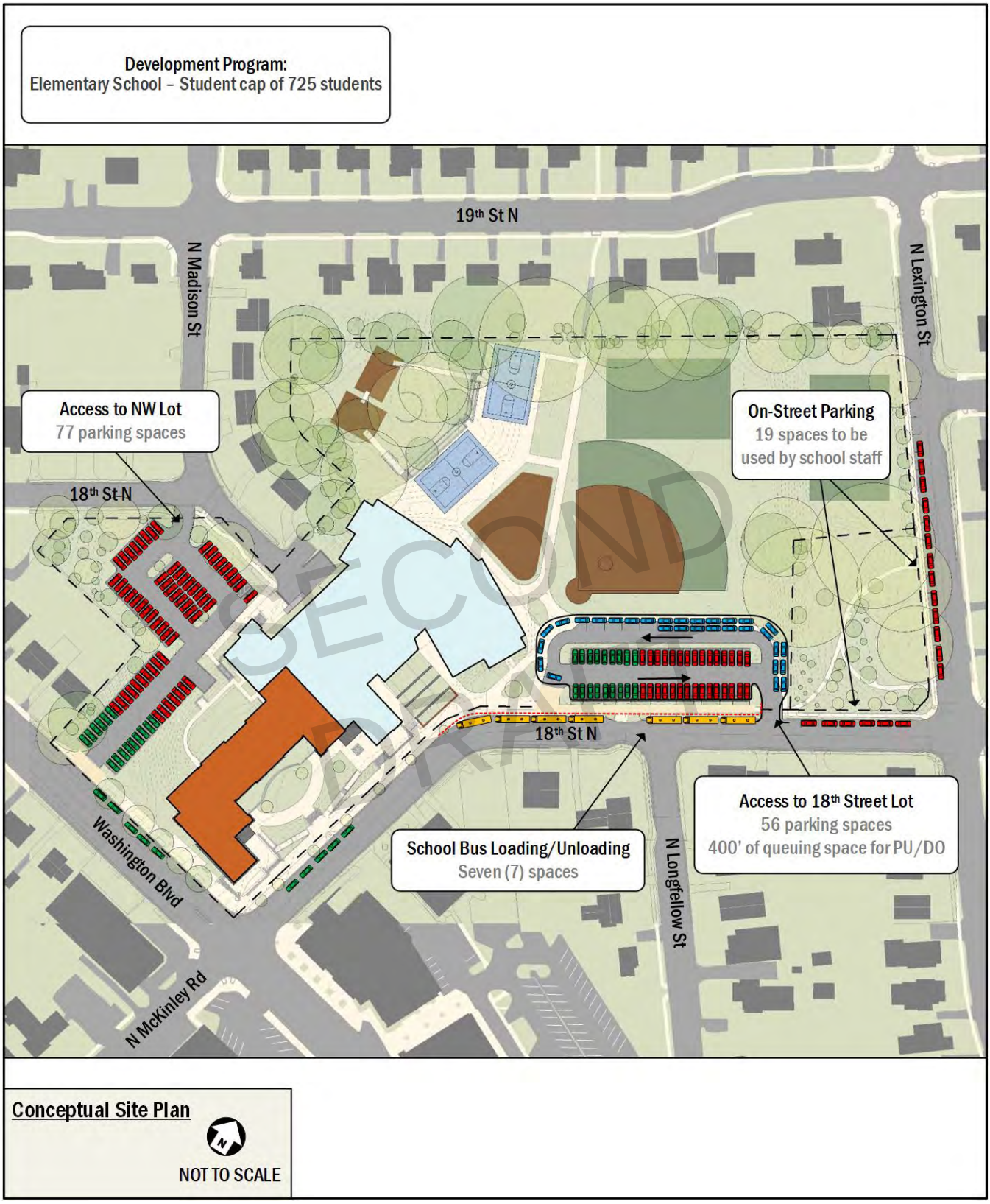

Figure 3: Conceptual Site Plan (New figure)

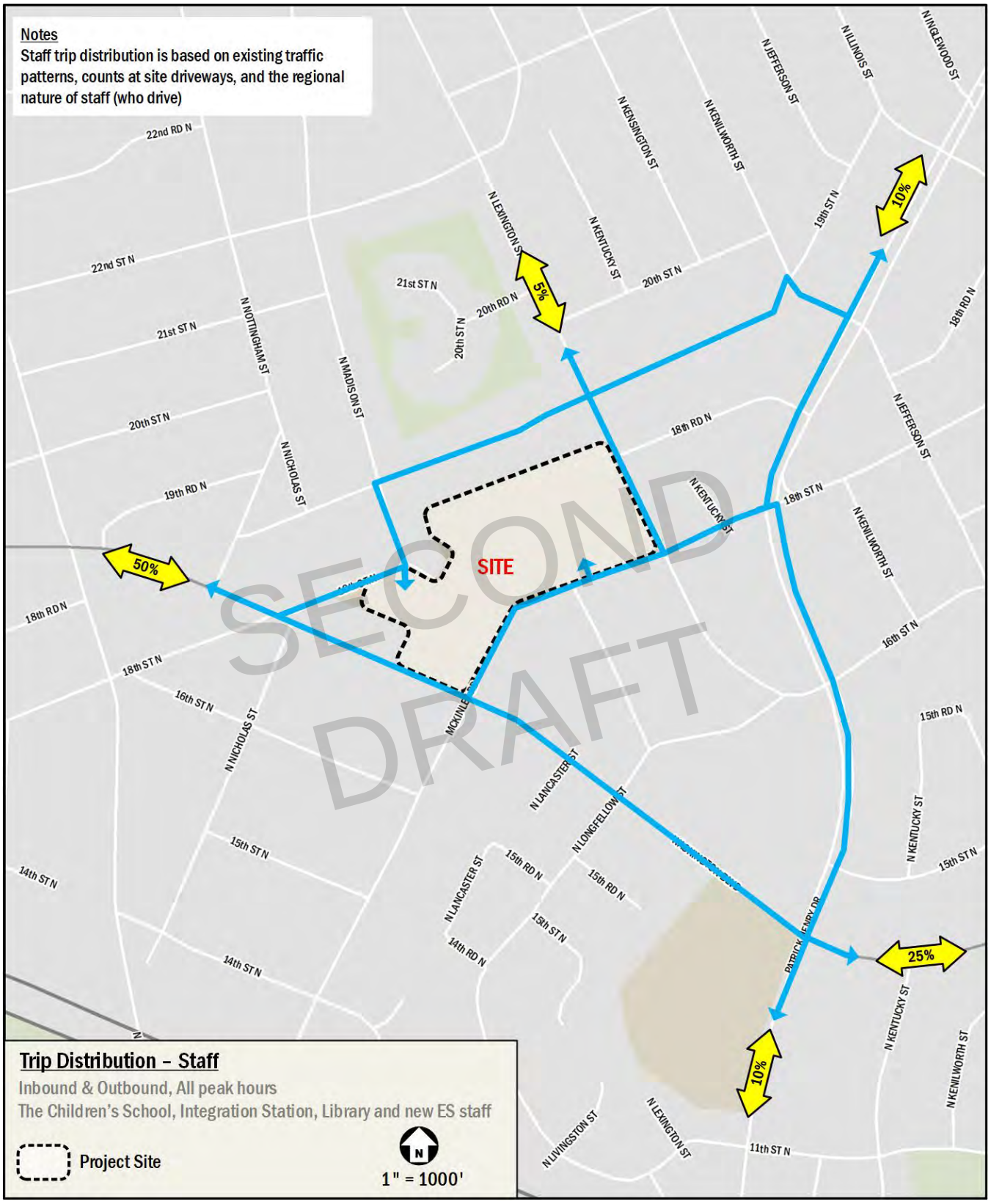

Figure 4: Staff Distribution (Revised figure)

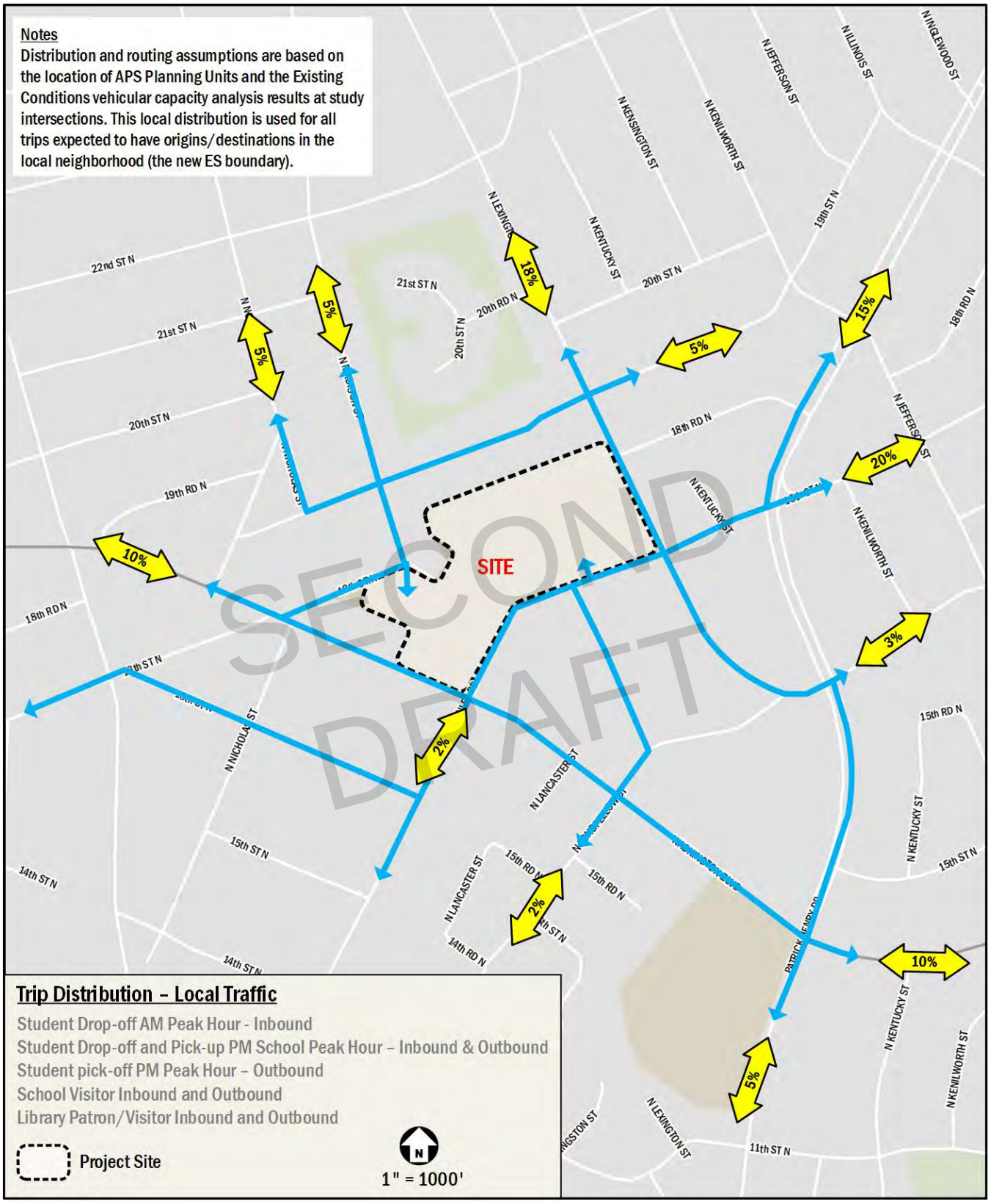

Figure 5: Local Traffic Distribution (Revised figure)

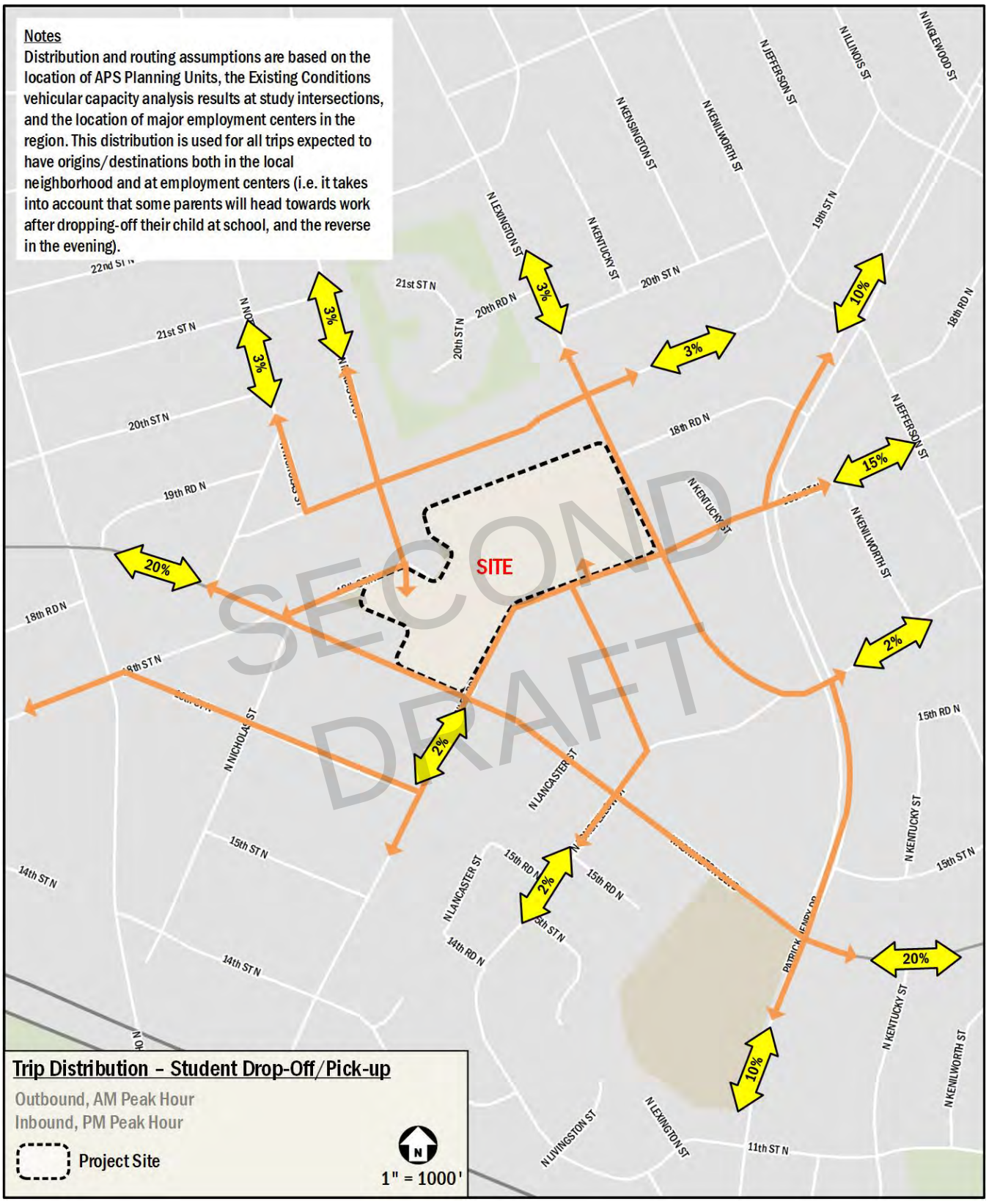

Figure 6: Student Drop-Off/Pick-Up Distribution (Revised figure)

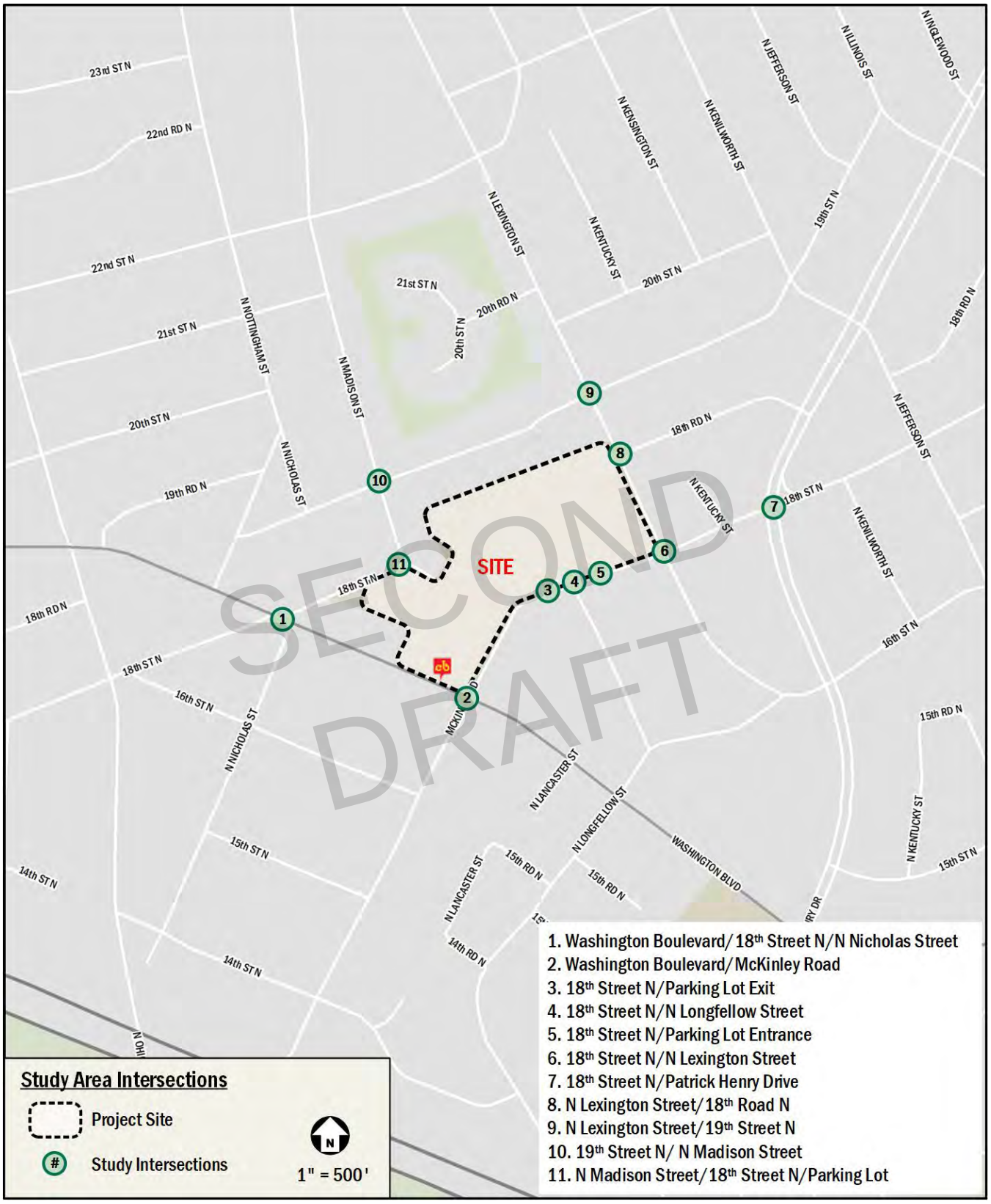

Figure 7: Study Area Intersections

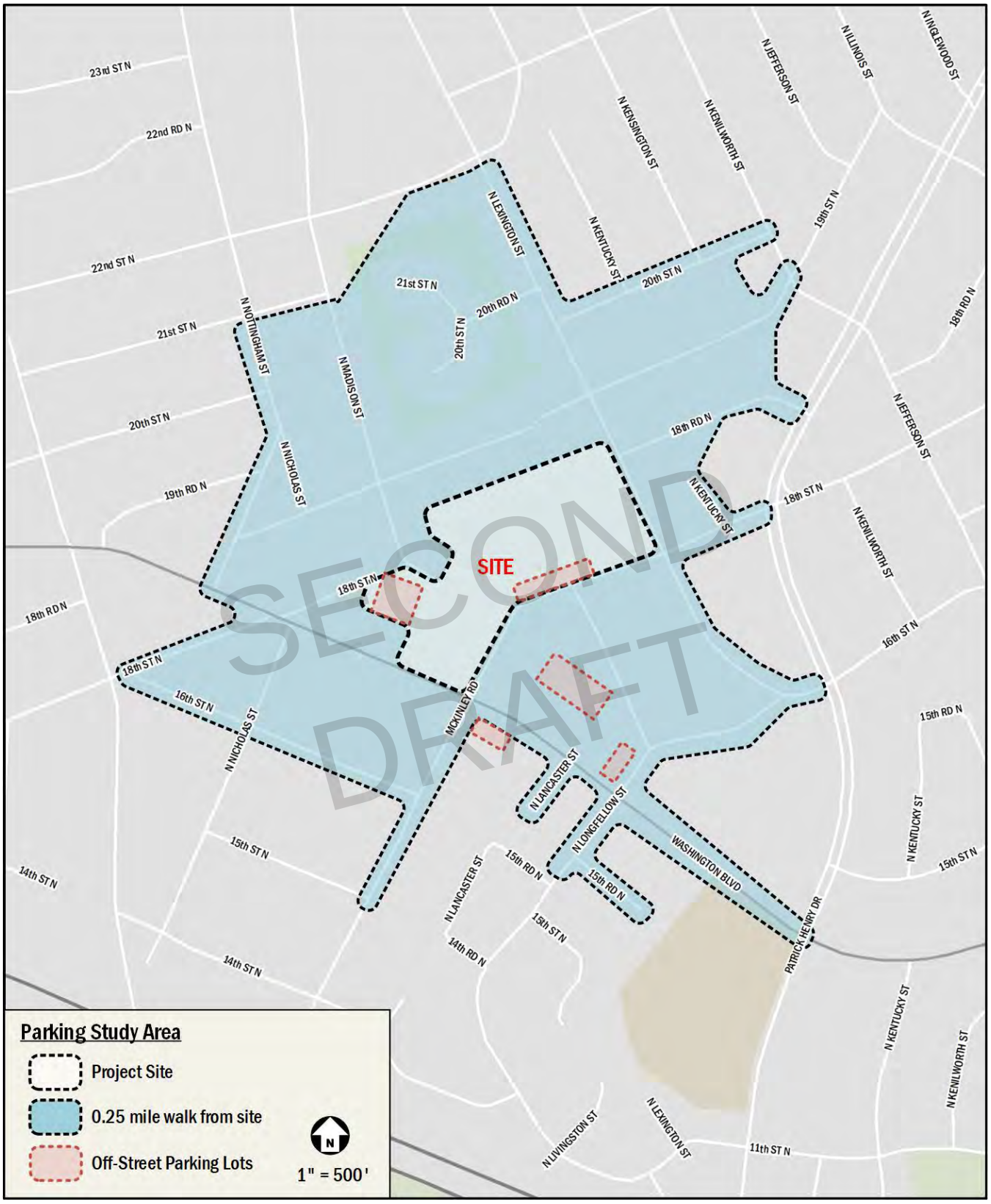

Figure 8: Parking Study Area

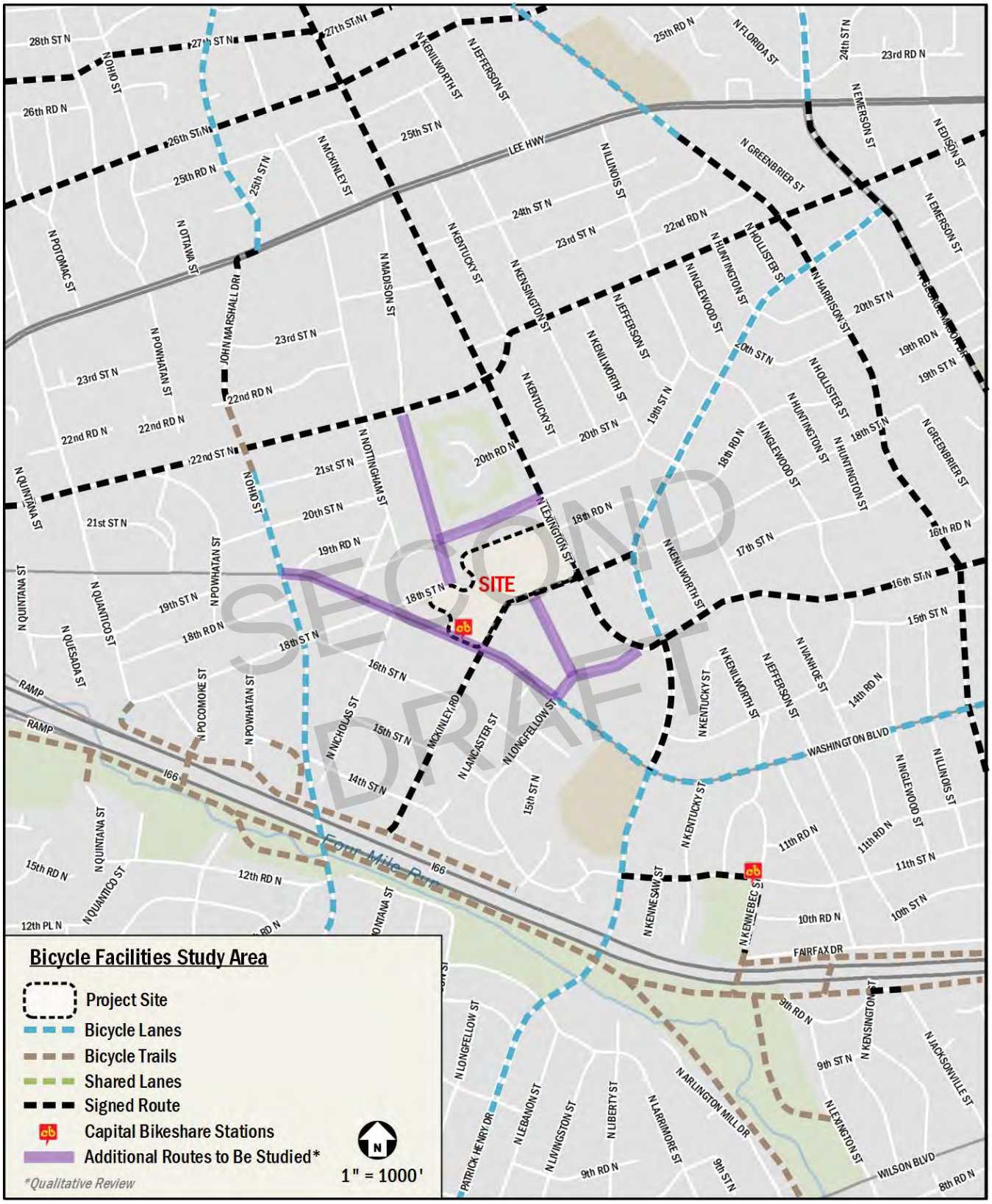

Figure 9: Bicycle Facilities Study Area

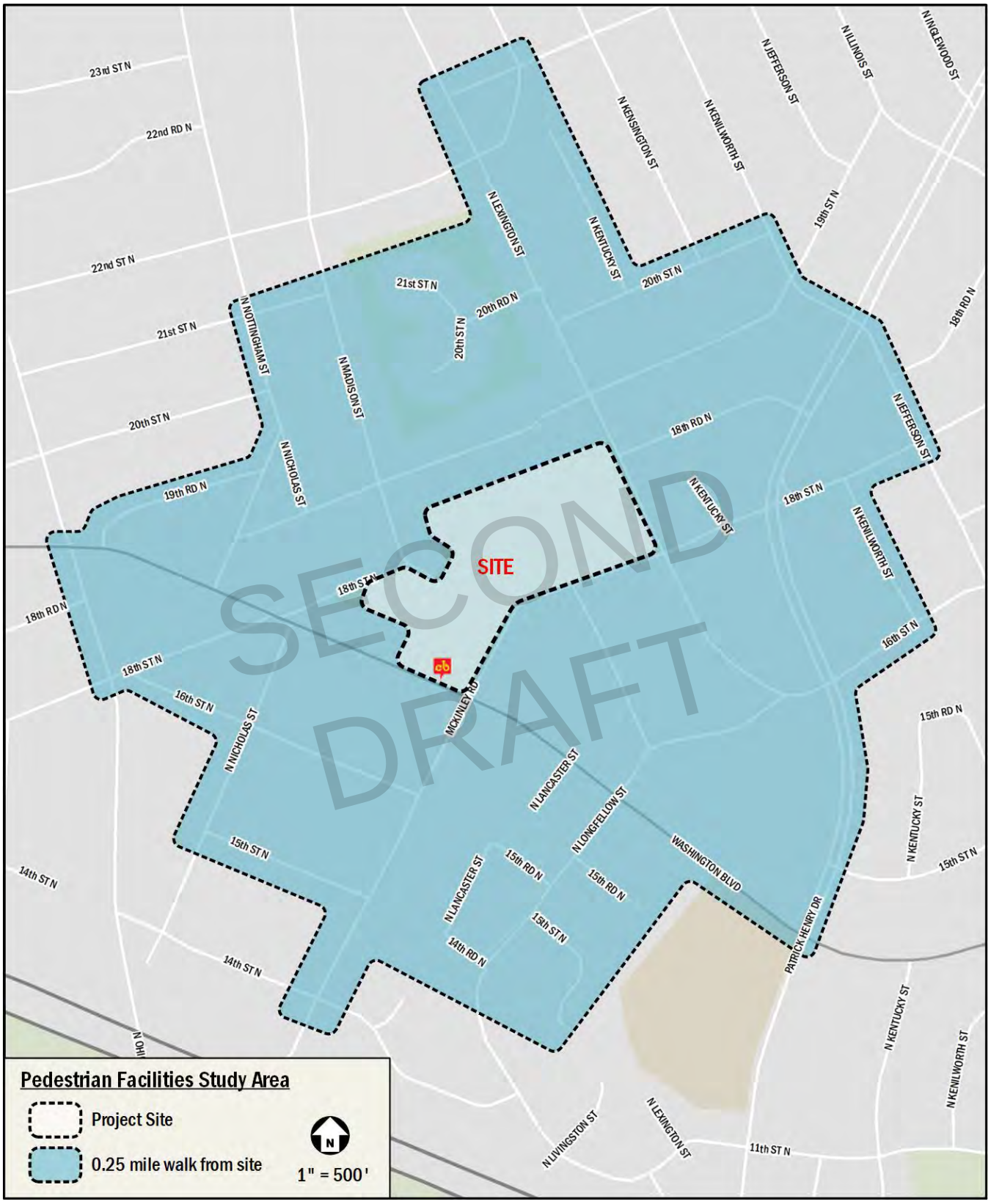

Figure 10: Pedestrian Facilities Study Area

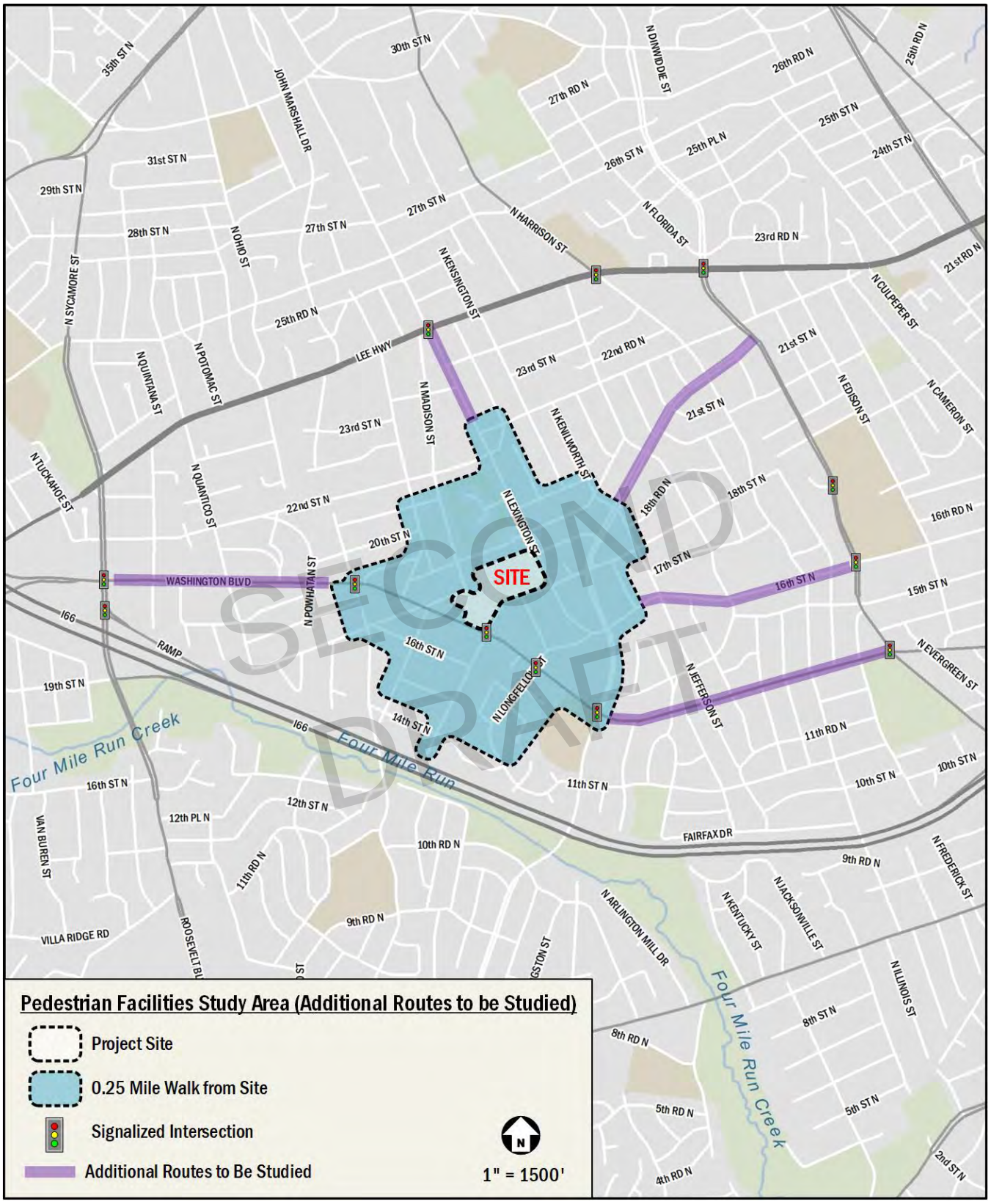

Figure 11: Additional Pedestrian Routes to be Studied

Table 1: Existing Conditions LOS Results (New table)

Intersection	Approach	Existing (2018)			
		AM Peak Hour		*PM Peak Hour*	
		Delay	LOS	Delay	LOS
Washington Blvd & 18th St N/ N Nicholas St	**Overall**	**1.2**	**A**	**2.0**	**A**
	Eastbound	0.4	A	0.2	A
	Westbound	0.4	A	0.8	A
	Northeastbound	21.8	C	22.7	C
	Northbound	30.6	D	21.3	C
	Southbound	40.4	E	91.9	F
Washington Blvd & N McKinley Rd	**Overall**	**17.5**	**B**	**19.8**	**B**
	Eastbound	18.5	B	16.2	B
	Westbound	15.5	B	22.4	C
	Northbound	20.8	C	21.0	C
	Southbound	21.3	C	21.9	C
18th St N & N Longfellow St	**Overall**	**1.6**	**A**	**1.8**	**A**
	Eastbound	0.0	A	0.0	A
	Westbound	1.1	A	0.8	A
	Northbound	9.3	A	9.6	A
18th St N & N Lexington St	**Overall**	**4.4**	**A**	**5.8**	**A**
	Eastbound	11.5	B	11.4	B
	Westbound	11.0	B	10.9	B
	Northbound	2.4	A	2.3	A
	Southbound	0.2	A	0.1	A
18th St N & Patrick Henry Dr	**Overall**	**1.6**	**A**	**1.8**	**A**
	Eastbound	11.1	B	11.5	B
	Westbound	11.1	B	11.5	B
	Northbound	0.0	A	0.2	A
	Southbound	0.1	A	0.0	A
18th Rd N & N Lexington St	**Overall**	**0.5**	**A**	**0.4**	**A**
	Westbound	9.7	A	9.4	A
	Northbound	0.0	A	0.0	A
	Southbound	0.2	A	0.1	A
19th St N & N Lexington St	**Overall**	**2.3**	**A**	**2.1**	**A**
	Eastbound	9.7	A	10.2	B
	Westbound	10.0	A	10.0	B
	Northbound	0.4	A	1.0	A
	Southbound	0.1	A	0.2	A
19th St N & N Madison St	**Overall**	**7.1**	**A**	**7.0**	**A**
	Eastbound	7.1	A	7.2	A
	Westbound	7.0	A	7.2	A
	Northbound	6.8	A	6.7	A
	Southbound	7.2	A	7.1	A
18th St N & N Madison St	**Overall**	**4.5**	**A**	**7.7**	**A**
	Eastbound	2.3	A	6.4	A
	Westbound	0.0	A	0.0	A
	Northbound	9.0	A	9.1	A
	Southbound	8.9	A	8.7	A

SECOND DRAFT

Table 2: Historical AADT Volumes

Route	From	To	ADT 2012	2013	2014	2015	2016	Annual % Change (2012 - 2016)
18th Street N	N Longfellow Street	Patrick Henry Drive	930	990	980	970	950	0.5%
McKinley Road	Washington Boulevard	N Longfellow Street	2,600	3,500	3,500	3,400	2,600	0.0%
Patrick Henry Drive	Washington Boulevard	George Mason Drive	6,500	6,100	6,100	6,000	6,900	1.5%
Washington Boulevard	Lee Highway	Patrick Henry Drive	15,000	13,000	13,000	12,000	14,000	-1.7%
N Lexington Street	16th Street N	22nd Street N	2,400	2,300	2,300	2,300	2,400	0.0%
16th Street N	Patrick Henry Drive	N Lexington Street	2,300	2,300	2,300	2,200	2,400	1.1%
*Adjacent to proposed study area								0.2%

Source: VDOT Traffic Data 2012 to 2016 (http://www.virginiadot.org/info/ct-trafficcounts.asp)

Based on a review of historical AADT data available from VDOT, volumes along certain roadways within the study area have slightly increased when comparing 2012 to 2016. As such, an annual background growth rate of 0.2% per year is proposed for the 2021 future scenarios.

Roadway	ADT 2012	2013	2014	2015	2016	Annual % Change (2012 - 2016)
18th St N from N Longfellow St to Patrick Henry Dr						
	930	990	980	970	950	0.5%
McKinley Rd from Washington Blvd to N Longfellow St						
	2,600	3,500	3,500	3,400	2,600	0.0%
Patrick Henry Dr from Washington Blvd to George Mason Dr						
	6,500	6,100	6,100	6,000	6,900	1.5%
Washington Blvd from Lee Highway to Patrick Henry Dr						
	15,000	13,000	13,000	12,000	14,000	-1.7%
N Lexington St from 16th St N to 22nd St N						
	2,400	2,300	2,300	2,300	2,400	0.0%
16th St N from Patrick Henry Dr to N Lexington St						
	2,300	2,300	2,300	2,200	2,400	1.1%
Adjacent to proposed study area						0.2%

Source: VDOT Traffic Data 2012 to 2016 (http://www.virginiadot.org/info/ct-trafficcounts.asp)

SECOND DRAFT

Table 3: Mode Split Assumptions (New table)

Student Mode Split Data from APS Go! (2016)

Population	Source	Mode											
		Auto		Carpool		School Bus		Walk		Bike		Transit	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
All APS Elementary Schools	Parent Survey	25%	36%	<1%	<1%	43%	35%	30%	26%	1%	2%	<1%	<1%
	Student Tally	37%	36%	2%	3%	39%	38%	21%	22%	1%	1%	<1%	<1%
APS Neighborhood ES	Parent Survey	25%	35%	<1%	<1%	39%	32%	34%	30%	1%	2%	<1%	<1%
	Student Tally	36%	35%	2%	3%	36%	36%	24%	24%	2%	2%	<1%	<1%
McKinley ES	Parent Survey	16%	36%	1%	<1%	49%	35%	34%	29%	<1%	<1%	<1%	<1%
	Student Tally	37%	37%	1%	1%	41%	40%	21%	22%	<1%	<1%	<1%	<1%

Staff Mode Split Data from APS Go! (2016)

	Mode				
	Auto	Carpool	Walk	Bike	Transit
All APS Staff	85%	3%	4%	3%	5%
APS Neighborhood ES Staff	84%	3%	5%	2%	6%
McKinley and Swanson Staff	86%	3%	7%	2%	2%

Table 4: Proposed Mode Splits (New table)

Baseline Mode Splits

Population	Mode					
	Auto	Carpool	School Bus	Walk	Bike	Transit
Students (Pick-up/Drop-off)	38%	0%	36%	24%	2%	0%
Staff	86%	3%	--	7%	2%	2%
Visitors	81%	2%	--	12%	2%	3%

Inclement Weather Mode Splits

Population	Mode					
	Auto	Carpool	School Bus	Walk	Bike	Transit
Students (Pick-up/Drop-off)	43%	0%	36%	19%	2%	0%
Staff	91%	3%	--	2%	2%	2%
Visitors	86%	2%	--	7%	2%	3%

SECOND DRAFT

Enhanced TDM Mode Splits

Population	Mode					
	Auto	Carpool	School Bus	Walk	Bike	Transit
S Students (Pick-up/Drop-off)	33%	0%	36%	27%	4%	0%
Staff	81%	5%	--	7%	2%	5%
Visitors*	81%	2%	--	12%	2%	3%

*Enhanced TDM measures are not expected to affect visitor mode splits

Table 5: Peak Hour Vehicular Trip Generation Methodology (using Baseline Mode Splits) (New table)

Step 1

Existing trips (derived using turning movement counts at driveways of existing parking lots) to the site are removed from the network:

Mode/User Group		Existing Trips								
		AM Peak Hour			*PM School Peak Hour*			*PM Commuter Peak Hour*		
		IB	OB	Total	IB	OB	Total	IB	OB	Total
Auto	Library	1 v/hr	1 v/hr	2 v/hr	11 v/hr	15 v/hr	26 v/hr	3 v/hr	6 v/hr	9 v/hr
	Day Care	50 v/hr	34 v/hr	84 v/hr	26 v/hr	33 v/hr	59 v/hr	16 v/hr	43 v/hr	59 v/hr
	Total	**51 v/hr**	**35 v/hr**	**86 v/hr**	**37 v/hr**	**48 v/hr**	**85 v/hr**	**19 v/hr**	**49 v/hr**	**68 v/hr**

Step 2

Trips belonging to the existing library use on site are added to the network
(*library trips being removed and reapplied to the network because they will be parking in different locations*):

Mode/User Group		Existing Library Trips								
		AM Peak Hour			*PM School Peak Hour*			*PM Commuter Peak Hour*		
		IB	OB	Total	IB	OB	Total	IB	OB	Total
Auto	Library	1 v/hr	1 v/hr	2 v/hr	11 v/hr	15 v/hr	26 v/hr	3 v/hr	6 v/hr	9 v/hr

Step 3

New site-generated trips added to the network:

Mode/User Group		Elementary School at Reed Trip Generation								
		AM Peak Hour			*PM School Peak Hour*			*PM Commuter Peak Hour*		
		IB	OB	Total	IB	OB	Total	IB	OB	Total
Auto	Students	200 v/hr	200 v/hr	400 v/hr	145 v/hr	145 v/hr	290 v/hr	50 v/hr	44 v/hr	94 v/hr
	Staff	58 v/hr	1 v/hr	59 v/hr	0 v/hr	49 v/hr	49 v/hr	0 v/hr	21 v/hr	21 v/hr
	Visitors	3 v/hr	0 v/hr	3 v/hr	3 v/hr	4 v/hr	7 v/hr	0 v/hr	1 v/hr	1 v/hr
	Total	**261 v/hr**	**201 v/hr**	**462 v/hr**	**148 v/hr**	**198 v/hr**	**346 v/hr**	**50 v/hr**	**66 v/hr**	**116 v/hr**

SECOND DRAFT

Appendix B

Parking Occupancy by Half Hour

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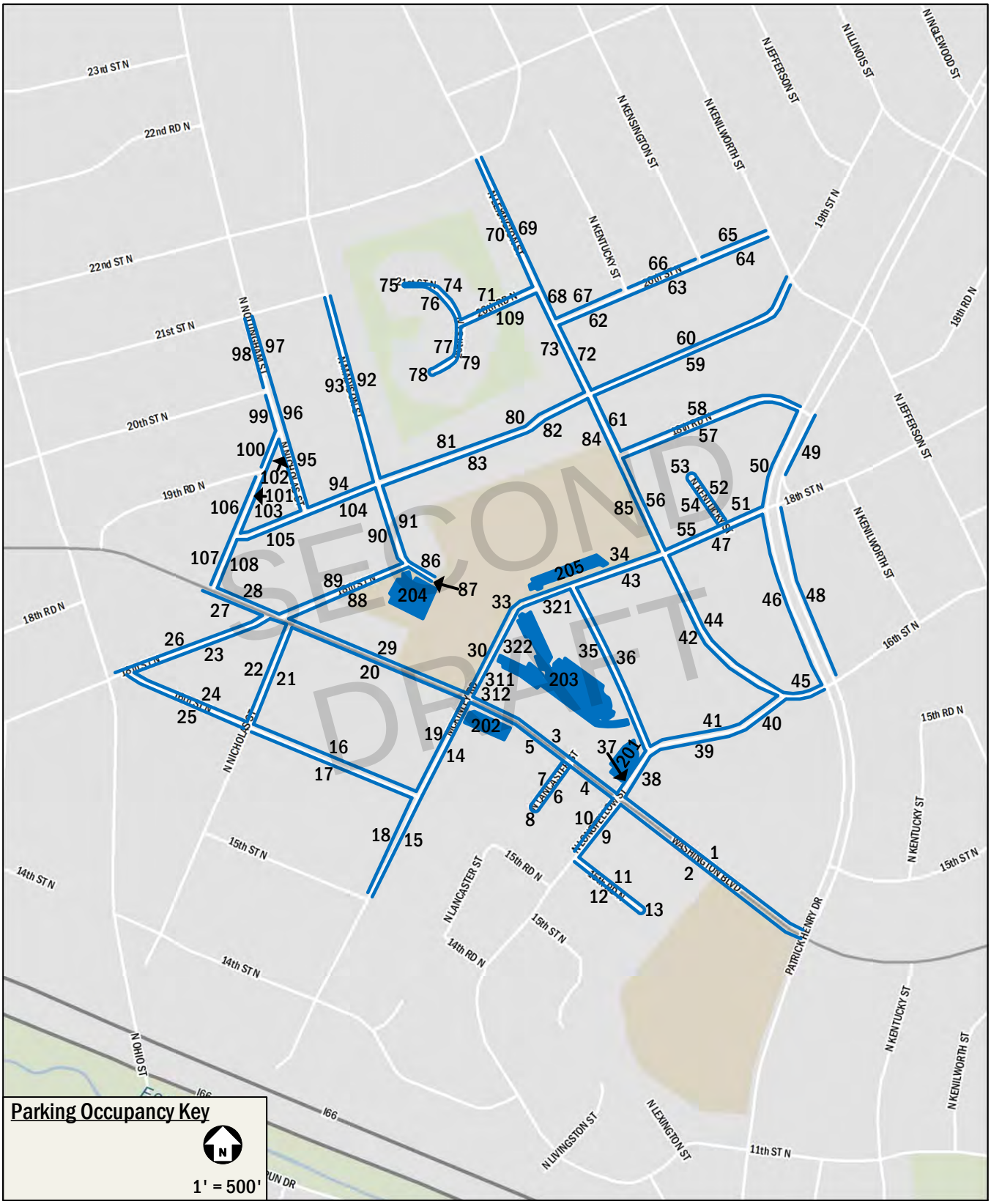
SECOND DRAFT
Parking Occupancy Key
1' = 500'
N
23rd ST N
22nd RD N
22nd ST N
21st ST N
20th ST N
19th RD N
18th RD N
16th ST N
15th RD N
15th ST N
14th ST N
14th RD N
11th ST N
N NICHOLAS ST
N KENSINGTON ST
N KENTUCKY ST
N KENILWORTH ST
N JEFFERSON ST
N ILLINOIS ST
N INGLEWOOD ST
N LANCASTER ST
N LIVINGSTON ST
N LEXINGTON ST
N OHIO ST
WASHINGTON BLVD
PATRICK HENRY DR
I66

BlockID	Restrictions	BUS STOPS	HC SPACES	TOTAL SPACES	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30
1	No Restrictions			24	16	18	19	19	17	16	16	16
2	No Restrictions			36	14	17	21	21	23	24	23	21
3	No Restrictions		1	27	1	2	7	8	8	10	11	11
4	No Restrictions	YES		2	0	0	0	0	0	0	0	1
5	No Restrictions	YES		6	0	0	0	0	0	0	0	1
6	No Restrictions			6	6	5	3	2	1	1	1	2
7	No Restrictions			5	4	4	3	3	2	1	1	1
8	No Restrictions			9	6	6	5	5	4	3	3	2
9	No Restrictions			8	6	5	5	5	4	4	4	4
10	No Restrictions			10	8	8	7	6	6	4	5	5
11	No Restrictions			8	3	3	4	3	2	1	1	2
12	No Restrictions			9	3	3	3	3	2	2	2	2
13	No Restrictions		2	6	5	5	5	5	4	4	3	3
14	No Restrictions			7	0	0	0	0	2	3	2	2
15	No Restrictions			16	8	8	7	7	7	7	6	6
16	No Restrictions			18	6	6	5	5	5	4	5	5
17	No Restrictions			18	8	8	8	8	7	7	5	5
18	No Restrictions			15	4	3	2	2	4	6	5	5
19	No Restrictions			8	3	3	3	2	2	1	1	1
20	No Restrictions			20	5	5	5	4	3	3	3	5
21	No Restrictions			12	4	4	3	2	2	1	1	1
22	No Restrictions			13	6	5	3	3	3	4	4	4
23	No Restrictions			14	2	2	2	6	9	10	6	8
24	No Restrictions			16	6	5	5	5	4	3	3	3
25	No Restrictions			18	6	5	4	5	5	6	4	4
26	No Restrictions			18	6	6	5	5	6	7	6	6
27	No Restrictions	YES		4	0	0	0	0	0	0	0	0
28	Travel Lane(Bikes)	YES										
29	No Restrictions	YES		10	4	4	3	3	2	2	3	2
30	No Parking Except Vendors 7:00AM to 12:30PM on Sunday---1Hour Parking 8:00AM to 6:00PM Monday to Friday			3	0	1	1	3	3	4	2	3
311	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			5	0	0	0	1	3	3	2	0
312	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			4	0	0	0	0	0	0	0	1
321	No Parking 7:00AM to 12:30PM on Sundays			4	1	1	2	2	1	1	1	1
322	not enough space to park			3	1	2	3	3	1	0	1	1
33	No Restrictions			7	0	0	0	1	3	4	3	3
34	No Restrictions			13	1	1	2	3	3	5	5	5
35	No Restrictions			20	7	8	9	9	9	10	9	8
36	2 Hour Parking 8:00AM to 6:00PM Except Sundays & Holidays(2 Spaces)(East Corner)			18	5	5	5	3	3	2	5	5
37	Travel Lanes			0	0	0	0	0	0	0	0	0
38	No Restrictions			4	2	2	2	2	2	2	2	3
39	No Restrictions			20	18	18	19	15	11	8	6	6
40	No Parking			0	0	0	0	0	0	0	1	0
41	No Restrictions		1	16	12	11	10	8	8	7	6	6
42	No Restrictions			19	1	1	1	3	3	4	4	4
43	No Restrictions			8	1	1	1	1	2	2	1	1
44	South Block Is No Parking			8	2	1	1	1	0	0	0	0
45	No Parking			0	0	0	0	0	0	0	0	0
46	No Restrictions			20	7	7	7	7	7	6	6	5
47	No Restrictions			5	2	3	3	3	3	4	4	3
48	No Restrictions			18	8	6	6	5	3	1	1	1
49	No Restrictions			8	1	1	1	1	1	2	2	2
50	No Restrictions			9	1	1	1	1	0	0	0	0
51	No Restrictions			3	1	1	1	1	1	2	2	2
52	No Restrictions			3	1	1	1	1	1	1	1	1
53	No Restrictions			4	2	2	2	2	2	2	2	1
54	No Restrictions			3	1	1	1	1	1	1	1	0
55	No Restrictions			6	1	1	1	1	0	0	0	1
56	No Restrictions			6	1	1	0	0	0	0	0	0

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BlockID	Restrictions	BUS STOPS	HC SPACES	TOTAL SPACES	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30
57	No Restrictions			24	10	10	9	8	8	7	6	7
58	No Restrictions			20	9	7	5	5	6	6	7	4
59	No Restrictions			38	18	15	12	13	13	13	13	11
60	No Restrictions			38	15	15	13	13	13	12	12	9
61	No Restrictions			6	1	1	1	1	1	0	0	0
62	No Restrictions			9	4	4	4	4	4	5	5	5
63	No Restrictions			10	7	6	5	3	3	2	1	2
64	No Restrictions			8	3	3	3	2	2	1	1	1
65	No Restrictions			9	0	0	0	0	0	1	1	1
66	No Restrictions			10	4	4	4	3	2	2	1	1
67	No Restrictions			10	3	3	3	3	3	3	3	2
68	No Restrictions			4	3	3	2	2	2	2	2	2
69	No Restrictions			16	4	4	3	3	3	3	3	3
70	No Restrictions			15	3	2	1	1	1	2	2	1
71	No Restrictions			9	2	2	1	1	1	1	1	1
72	No Restrictions			4	0	1	1	1	1	1	1	1
73	No Restrictions			11	2	2	1	1	2	2	2	2
74	No Restrictions			7	2	2	2	1	2	1	1	1
75	No Restrictions			6	6	6	6	5	5	4	4	3
76	No Restrictions			8	4	4	4	4	3	3	2	2
77	No Restrictions			7	3	3	3	3	3	3	3	2
78	No Restrictions			6	6	6	5	4	3	3	3	3
79	No Restrictions			6	0	0	0	0	0	0	0	0
80	No Restrictions			9	2	2	2	2	2	2	2	2
81	No Restrictions			13	6	6	6	5	5	4	4	4
82	No Restrictions			14	2	2	2	2	2	2	2	2
83	No Restrictions			14	8	8	8	7	5	5	5	7
84	No Restrictions			6	0	0	0	0	0	0	1	1
85	No Restrictions			14	1	1	1	0	0	0	1	1
86	No Parking			0	1	1	1	1	1	0	0	0
87	No Parking			0	0	0	0	0	0	0	0	0
88	No Restrictions			16	5	5	5	4	4	4	6	6
89	No Restrictions			14	3	3	3	4	4	2	1	1
90	No Restrictions			8	1	1	1	1	1	2	2	2
91	No Restrictions			11	4	4	4	2	2	3	3	3
92	No Restrictions			28	16	15	15	14	14	14	14	14
93	No Restrictions			24	10	9	9	8	13	17	17	17
94	No Restrictions			8	2	2	2	2	2	0	0	0
95	No Restrictions			7	3	3	3	3	3	4	4	2
96	No Restrictions			6	4	4	3	2	2	4	4	3
97	No Restrictions			7	2	2	2	2	2	2	2	2
98	No Restrictions			7	2	2	2	2	2	4	3	3
99	No Restrictions			7	2	2	2	2	4	6	5	3
100	No Restrictions			4	0	0	0	0	0	0	0	0
101	No Restrictions			10	0	0	0	0	0	0	0	0
102	No Restrictions			8	0	0	0	0	0	0	0	0
103	No Restrictions			6	6	6	5	5	3	0	0	0
104	No Restrictions			8	0	0	0	2	2	0	2	3
105	No Restrictions			4	0	0	0	0	3	5	5	5
106	No Restrictions			6	0	0	0	0	0	0	0	0
107	No Restrictions			8	1	1	1	0	0	1	1	1
108	No Restrictions			4	0	0	0	0	1	1	1	1
109	No Restrictions			8	5	5	5	3	3	3	0	1
201	No overnight parking, reserved for Patrons and Guests		1	21	1	2	2	3	4	5	5	10
202	Costomers Only Parking		1	22	2	3	5	5	6	7	14	16
203	Westover Costomers Only---16 spaces reserved for US postal Service---13 spaces (30 min Parking)		5	120	25	25	25	36	47	62	70	75
204	Also had 4 Car Pool Spaces		2	46	1	7	24	26	30	38	40	38
205	Also had 1 Carpool Space and 3 (15Min Parking)		2	26	1	4	7	9	8	11	10	12
TOTAL			15	1395	442	445	450	448	461	490	489	490

SECOND DRAFT

BlockID	Restrictions	BUS STOPS	HC SPACES	TOTAL SPACES	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30
1	No Restrictions			24	16	15	16	16	15	15	14	14
2	No Restrictions			36	23	22	21	21	21	21	19	18
3	No Restrictions		1	27	10	15	19	22	22	23	22	23
4	No Restrictions	YES		2	0	1	1	2	2	2	2	2
5	No Restrictions	YES		6	2	3	6	7	6	5	5	3
6	No Restrictions			6	2	1	2	2	2	2	2	3
7	No Restrictions			5	3	2	2	2	1	1	1	2
8	No Restrictions			9	5	4	3	1	1	1	1	3
9	No Restrictions			8	4	3	3	3	3	3	3	2
10	No Restrictions			10	6	6	5	3	3	2	4	4
11	No Restrictions			8	2	2	2	2	2	1	1	1
12	No Restrictions			9	2	2	1	1	1	1	1	1
13	No Restrictions		2	6	2	2	2	2	2	2	2	2
14	No Restrictions			7	2	3	4	4	5	5	6	5
15	No Restrictions			16	5	5	6	7	7	5	5	5
16	No Restrictions			18	7	6	6	6	6	6	7	7
17	No Restrictions			18	4	4	3	2	2	3	3	3
18	No Restrictions			15	4	5	5	5	5	4	3	4
19	No Restrictions			8	2	5	5	7	8	8	8	8
20	No Restrictions			20	7	7	7	7	8	8	8	8
21	No Restrictions			12	3	5	5	6	2	1	3	3
22	No Restrictions			13	4	3	4	3	3	3	4	5
23	No Restrictions			14	4	3	3	2	0	0	0	1
24	No Restrictions			16	4	4	4	4	3	3	3	3
25	No Restrictions			18	4	3	3	4	3	3	3	3
26	No Restrictions			18	6	5	6	6	6	6	6	7
27	No Restrictions	YES		4	0	0	0	0	0	0	0	0
28	Travel Lane(Bikes)	YES										
29	No Restrictions	YES		10	4	3	3	3	3	4	4	3
30	No Parking Except Vendors 7:00AM to 12:30PM on Sunday---1Hour Parking 8:00AM to 6:00PM Monday to Friday			3	3	2	2	2	2	3	2	3
311	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			5	0	1	1	1	1	2	1	2
312	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			4	2	2	2	2	3	4	4	4
321	No Parking 7:00AM to 12:30PM on Sundays			4	2	2	2	2	1	1	1	1
322	not enough space to park			3	2	2	2	2	2	2	1	1
33	No Restrictions			7	3	3	3	2	2	2	2	3
34	No Restrictions			13	4	5	4	4	4	4	3	3
35	No Restrictions			20	8	8	8	8	7	8	7	7
36	2 Hour Parking 8:00AM to 6:00PM Except Sundays & Holidays(2 Spaces)(East Corner)			18	6	6	6	7	7	8	8	8
37	Travel Lanes			0	0	0	0	0	0	0	0	0
38	No Restrictions			4	3	3	3	3	3	3	3	3
39	No Restrictions			20	7	7	8	7	7	7	6	6
40	No Parking			0	0	0	0	0	0	0	0	0
41	No Restrictions		1	16	6	6	6	7	7	8	8	8
42	No Restrictions			19	5	5	3	3	1	2	2	2
43	No Restrictions			8	1	1	1	1	1	1	1	1
44	South Block Is No Parking			8	0	0	0	0	0	0	0	0
45	No Parking			0	0	0	0	0	0	0	0	0
46	No Restrictions			20	5	5	5	4	4	4	4	4
47	No Restrictions			5	2	2	1	1	1	2	2	1
48	No Restrictions			18	1	1	2	2	2	4	4	4
49	No Restrictions			8	1	1	1	1	1	1	1	1
50	No Restrictions			9	0	0	0	0	0	0	0	0
51	No Restrictions			3	1	1	1	1	1	1	1	1
52	No Restrictions			3	1	1	1	1	1	1	1	0
53	No Restrictions			4	0	0	0	1	1	1	2	2
54	No Restrictions			3	0	0	0	0	0	0	0	1
55	No Restrictions			6	1	1	1	0	0	0	0	0
56	No Restrictions			6	0	0	0	0	0	0	0	0

SECOND DRAFT

BlockID	Restrictions	BUS STOPS	HC SPACES	TOTAL SPACES	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30
57	No Restrictions			24	9	8	8	8	8	7	6	6
58	No Restrictions			20	3	4	3	3	3	4	5	5
59	No Restrictions			38	11	11	11	11	10	9	10	10
60	No Restrictions			38	7	7	7	6	6	5	4	5
61	No Restrictions			6	1	1	1	1	1	1	1	0
62	No Restrictions			9	5	5	4	3	3	3	3	4
63	No Restrictions			10	3	3	3	2	2	1	2	1
64	No Restrictions			8	1	1	1	1	1	1	1	1
65	No Restrictions			9	2	2	2	2	2	3	3	3
66	No Restrictions			10	1	1	1	2	3	2	3	3
67	No Restrictions			10	1	1	1	1	1	2	2	2
68	No Restrictions			4	2	2	2	1	1	1	1	1
69	No Restrictions			16	4	4	4	3	2	2	2	2
70	No Restrictions			15	1	1	1	1	1	1	1	1
71	No Restrictions			9	1	1	1	1	1	1	1	1
72	No Restrictions			4	1	1	1	1	1	1	1	1
73	No Restrictions			11	2	2	1	1	1	1	1	1
74	No Restrictions			7	0	1	1	2	2	2	2	1
75	No Restrictions			6	1	1	1	1	1	1	1	1
76	No Restrictions			8	2	2	1	1	1	1	1	2
77	No Restrictions			7	2	2	3	3	3	3	3	3
78	No Restrictions			6	3	3	3	3	3	3	3	2
79	No Restrictions			6	0	0	0	0	0	0	0	0
80	No Restrictions			9	2	2	2	2	2	2	2	2
81	No Restrictions			13	3	3	3	3	3	3	3	3
82	No Restrictions			14	2	2	2	2	1	1	1	1
83	No Restrictions			14	7	7	7	6	7	7	7	7
84	No Restrictions			6	0	0	1	1	1	0	0	0
85	No Restrictions			14	0	0	0	0	1	1	1	1
86	No Parking			0	0	0	0	0	0	0	0	0
87	No Parking			0	0	0	0	0	0	0	0	0
88	No Restrictions			16	5	5	5	4	4	5	5	5
89	No Restrictions			14	2	1	1	2	2	2	2	2
90	No Restrictions			8	0	0	0	0	0	0	0	0
91	No Restrictions			11	3	3	3	3	3	3	3	2
92	No Restrictions			28	14	14	14	14	15	15	15	14
93	No Restrictions			24	17	15	15	14	13	13	13	13
94	No Restrictions			8	0	0	0	0	0	0	0	0
95	No Restrictions			7	1	1	1	1	2	2	2	1
96	No Restrictions			6	1	3	3	3	3	3	2	2
97	No Restrictions			7	4	3	3	3	3	2	2	2
98	No Restrictions			7	2	2	2	2	1	1	1	2
99	No Restrictions			7	1	1	1	1	1	1	1	1
100	No Restrictions			4	0	0	0	0	0	0	0	0
101	No Restrictions			10	0	0	0	0	0	0	0	0
102	No Restrictions			8	1	1	1	1	1	0	0	0
103	No Restrictions			6	0	0	0	0	0	0	0	0
104	No Restrictions			8	3	3	3	2	2	2	2	1
105	No Restrictions			4	4	4	4	3	3	3	3	4
106	No Restrictions			6	0	0	0	0	1	1	1	1
107	No Restrictions			8	0	0	0	0	0	0	0	0
108	No Restrictions			4	0	0	0	0	0	0	0	0
109	No Restrictions			8	1	1	2	2	2	3	3	2
201	No overnight parking, reserved for Patrons and Guests		1	21	12	16	19	18	19	16	15	11
202	Costomers Only Parking		1	22	17	18	22	22	22	20	21	17
203	Westover Costomers Only---16 spaces reserved for US postal Service---13 spaces (30 min Parking)		5	120	78	83	87	86	87	85	84	89
204	Also had 4 Car Pool Spaces		2	46	35	39	40	42	40	38	39	36
205	Also had 1 Carpool Space and 3 (15Min Parking)		2	26	11	12	13	12	9	15	16	19
TOTAL			15	1395	490	507	525	519	506	506	505	503

SECOND DRAFT

BlockID	Restrictions	BUS STOPS	HC SPACES	TOTAL SPACES	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30
1	No Restrictions			24	13	13	12	13	13	13	13	14
2	No Restrictions			36	16	14	14	15	16	12	8	11
3	No Restrictions		1	27	23	25	24	23	19	19	19	17
4	No Restrictions	YES		2	2	3	3	3	3	2	1	1
5	No Restrictions	YES		6	3	2	0	1	1	1	3	3
6	No Restrictions			6	3	2	3	2	2	2	3	3
7	No Restrictions			5	2	1	1	2	2	3	3	3
8	No Restrictions			9	3	2	3	3	4	6	8	8
9	No Restrictions			8	1	1	1	1	2	2	2	3
10	No Restrictions			10	3	4	4	4	4	4	4	5
11	No Restrictions			8	2	2	3	3	3	3	3	3
12	No Restrictions			9	1	1	1	1	1	2	2	2
13	No Restrictions		2	6	2	2	2	2	2	1	1	1
14	No Restrictions			7	4	4	4	5	5	5	4	5
15	No Restrictions			16	5	6	6	6	7	8	9	8
16	No Restrictions			18	7	7	6	6	6	6	7	6
17	No Restrictions			18	3	3	3	3	4	5	6	6
18	No Restrictions			15	4	4	4	3	3	3	5	6
19	No Restrictions			8	8	8	8	8	9	9	9	9
20	No Restrictions			20	8	7	7	7	8	10	11	8
21	No Restrictions			12	2	1	1	1	1	1	2	2
22	No Restrictions			13	5	6	6	6	7	6	6	7
23	No Restrictions			14	1	1	0	1	0	0	0	0
24	No Restrictions			16	3	2	3	3	4	4	5	6
25	No Restrictions			18	2	3	3	3	4	4	5	5
26	No Restrictions			18	7	7	7	6	8	9	9	9
27	No Restrictions	YES		4	0	0	0	0	0	0	0	0
28	Travel Lane(Bikes)	YES										
29	No Restrictions	YES		10	3	3	3	2	1	2	3	4
30	No Parking Except Vendors 7:00AM to 12:30PM on Sunday---1Hour Parking 8:00AM to 6:00PM Monday to Friday			3	3	2	1	6	9	8	8	8
311	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			5	2	2	2	2	2	1	2	2
312	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			4	4	4	4	4	4	3	3	4
321	No Parking 7:00AM to 12:30PM on Sundays			4	1	1	1	2	2	2	3	3
322	not enough space to park			3	2	2	2	2	1	1	2	1
33	No Restrictions			7	3	3	3	5	6	5	4	5
34	No Restrictions			13	3	3	4	4	4	4	3	3
35	No Restrictions			20	7	6	6	8	9	9	9	8
36	2 Hour Parking 8:00AM to 6:00PM Except Sundays & Holidays(2 Spaces)(East Corner)			18	6	6	5	5	4	4	6	6
37	Travel Lanes			0	0	0	0	0	0	0	0	0
38	No Restrictions			4	4	4	4	4	4	4	5	5
39	No Restrictions			20	6	6	6	7	8	10	10	15
40	No Parking			0	0	0	0	0	0	0	0	0
41	No Restrictions		1	16	8	9	9	8	7	8	8	11
42	No Restrictions			19	4	4	5	5	6	6	6	5
43	No Restrictions			8	1	1	1	1	1	1	1	1
44	South Block Is No Parking			8	0	0	0	0	0	0	0	1
45	No Parking			0	0	0	0	0	0	0	0	0
46	No Restrictions			20	4	4	4	4	4	5	5	4
47	No Restrictions			5	1	1	1	1	1	1	1	2
48	No Restrictions			18	3	4	4	5	5	5	7	7
49	No Restrictions			8	1	2	1	1	1	1	1	2
50	No Restrictions			9	0	0	0	1	1	2	2	2
51	No Restrictions			3	0	0	0	2	2	2	2	3
52	No Restrictions			3	0	1	1	1	1	1	1	0
53	No Restrictions			4	1	0	0	1	2	2	2	2
54	No Restrictions			3	0	0	0	0	1	1	1	1
55	No Restrictions			6	0	0	0	0	0	0	0	0
56	No Restrictions			6	0	0	0	1	1	1	1	1

SECOND DRAFT

BlockID	Restrictions	BUS STOPS	HC SPACES	TOTAL SPACES	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30
57	No Restrictions			24	6	6	5	5	6	6	6	9
58	No Restrictions			20	5	5	6	6	6	8	10	10
59	No Restrictions			38	10	11	11	11	11	12	12	14
60	No Restrictions			38	5	5	6	8	10	11	13	13
61	No Restrictions			6	0	0	0	0	0	0	0	0
62	No Restrictions			9	4	5	5	5	4	4	4	4
63	No Restrictions			10	2	2	2	2	2	2	3	3
64	No Restrictions			8	2	2	2	2	2	2	2	3
65	No Restrictions			9	2	1	1	1	1	1	0	0
66	No Restrictions			10	3	3	3	3	3	3	3	2
67	No Restrictions			10	1	1	1	2	2	2	3	3
68	No Restrictions			4	2	2	2	2	2	3	3	3
69	No Restrictions			16	1	1	1	2	2	2	4	4
70	No Restrictions			15	1	1	1	2	2	2	3	3
71	No Restrictions			9	1	1	1	1	1	1	1	2
72	No Restrictions			4	2	2	2	2	2	2	1	1
73	No Restrictions			11	0	0	0	0	1	0	0	0
74	No Restrictions			7	0	0	0	0	0	1	1	1
75	No Restrictions			6	2	2	3	3	2	2	3	3
76	No Restrictions			8	1	2	1	1	1	1	1	2
77	No Restrictions			7	3	2	3	3	3	4	4	5
78	No Restrictions			6	2	3	3	2	2	4	5	5
79	No Restrictions			6	0	0	0	0	0	0	0	0
80	No Restrictions			9	1	0	0	0	0	0	1	1
81	No Restrictions			13	3	4	4	4	4	4	5	5
82	No Restrictions			14	1	1	1	1	1	1	1	1
83	No Restrictions			14	6	6	6	6	6	5	4	4
84	No Restrictions			6	0	1	1	1	1	1	0	0
85	No Restrictions			14	0	1	1	1	1	2	2	2
86	No Parking			0	0	0	0	0	0	0	0	0
87	No Parking			0	0	0	0	0	0	0	0	0
88	No Restrictions			16	5	5	4	4	4	4	5	5
89	No Restrictions			14	2	2	2	2	2	2	1	1
90	No Restrictions			8	0	0	0	1	1	1	1	1
91	No Restrictions			11	2	2	1	1	2	2	2	2
92	No Restrictions			28	14	14	15	16	17	17	15	15
93	No Restrictions			24	12	12	13	13	14	9	5	8
94	No Restrictions			8	0	0	0	0	0	0	0	0
95	No Restrictions			7	1	1	1	1	1	2	3	3
96	No Restrictions			6	2	5	6	3	0	0	0	0
97	No Restrictions			7	3	3	3	4	4	2	2	2
98	No Restrictions			7	2	2	3	3	3	3	1	1
99	No Restrictions			7	1	1	1	1	1	2	2	2
100	No Restrictions			4	0	0	0	0	0	0	0	0
101	No Restrictions			10	0	1	1	1	1	1	0	0
102	No Restrictions			8	0	0	0	0	0	0	0	0
103	No Restrictions			6	0	0	0	0	0	0	0	0
104	No Restrictions			8	1	2	2	1	1	1	2	2
105	No Restrictions			4	4	4	4	4	4	4	4	4
106	No Restrictions			6	0	0	0	0	0	0	0	0
107	No Restrictions			8	0	0	0	0	0	0	0	0
108	No Restrictions			4	0	0	0	0	0	0	0	0
109	No Restrictions			8	2	2	0	1	1	1	2	2
201	No overnight parking, reserved for Patrons and Guests		1	21	9	8	8	10	10	11	11	11
202	Costomers Only Parking		1	22	11	10	8	13	16	12	9	14
203	Westover Costomers Only---16 spaces reserved for US postal Service---13 spaces (30 min Parking)		5	120	85	79	75	72	61	58	55	53
204	Also had 4 Car Pool Spaces		2	46	37	32	25	19	12	10	8	7
205	Also had 1 Carpool Space and 3 (15Min Parking)		2	26	21	20	22	21	20	16	11	8
TOTAL			15	1395	480	474	462	480	478	473	478	501

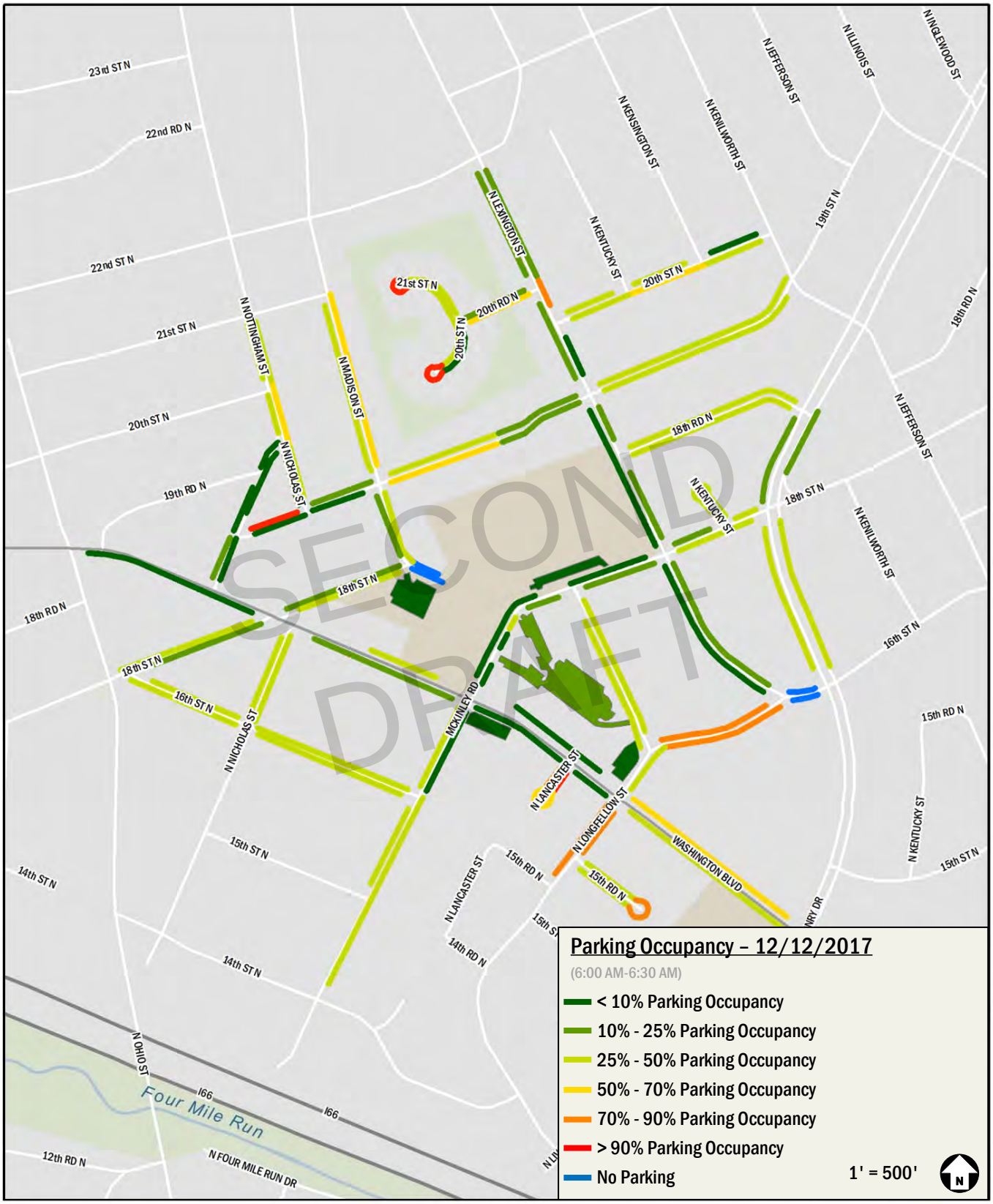
SECOND DRAFT

BlockID	Restrictions	BUS STOPS	HC SPACES	TOTAL SPACES	18:00	18:30	19:00	19:30	20:00	20:30	21:00	21:30	22:00
1	No Restrictions			24	15	15	16	17	16	16	16	17	16
2	No Restrictions			36	12	14	15	14	16	16	17	16	15
3	No Restrictions		1	27	15	14	13	13	13	15	15	13	8
4	No Restrictions	YES		2	0	0	0	0	0	0	0	0	0
5	No Restrictions	YES		6	4	3	2	2	1	1	1	0	0
6	No Restrictions			6	3	3	4	4	3	4	4	4	5
7	No Restrictions			5	3	3	3	5	4	4	4	4	4
8	No Restrictions			9	7	8	6	6	6	7	7	6	7
9	No Restrictions			8	5	5	5	5	6	6	6	7	7
10	No Restrictions			10	7	8	8	9	9	10	9	10	10
11	No Restrictions			8	2	3	3	3	3	2	3	3	3
12	No Restrictions			9	2	2	3	3	4	4	4	4	4
13	No Restrictions		2	6	2	2	2	3	2	4	4	5	5
14	No Restrictions			7	4	4	3	4	3	3	4	3	2
15	No Restrictions			16	7	8	8	9	11	10	9	8	8
16	No Restrictions			18	6	6	6	6	6	6	6	6	6
17	No Restrictions			18	8	7	7	8	8	8	8	7	8
18	No Restrictions			15	6	6	5	5	5	4	4	4	4
19	No Restrictions			8	8	8	7	6	6	5	4	4	3
20	No Restrictions			20	5	6	6	5	5	5	5	5	5
21	No Restrictions			12	3	3	3	3	4	4	4	4	4
22	No Restrictions			13	9	9	8	8	8	8	8	7	7
23	No Restrictions			14	1	1	1	1	1	1	1	1	1
24	No Restrictions			16	6	6	6	6	6	5	5	5	5
25	No Restrictions			18	6	6	6	5	5	5	5	5	5
26	No Restrictions			18	9	9	9	9	8	8	8	7	6
27	No Restrictions	YES		4	0	0	0	0	0	0	0	0	0
28	Travel Lane(Bikes)	YES											
29	No Restrictions	YES		10	6	4	4	5	6	4	3	3	3
30	No Parking Except Vendors 7:00AM to 12:30PM on Sunday---1Hour Parking 8:00AM to 6:00PM Monday to Friday			3	9	9	10	6	3	3	1	0	0
311	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			5	2	2	2	1	0	0	0	0	0
312	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			4	4	2	3	2	1	0	0	0	0
321	No Parking 7:00AM to 12:30PM on Sundays			4	2	2	2	2	2	1	1	1	1
322	not enough space to park			3	2	2	2	2	2	1	0	1	1
33	No Restrictions			7	5	5	6	3	3	1	0	0	0
34	No Restrictions			13	2	2	2	2	2	2	2	1	2
35	No Restrictions			20	7	7	7	7	7	8	8	8	8
36	2 Hour Parking 8:00AM to 6:00PM Except Sundays & Holidays(2 Spaces)(East Corner)			18	7	7	8	8	8	7	6	5	5
37	Travel Lanes			0	0	0	0	0	0	0	0	0	0
38	No Restrictions			4	4	5	5	5	5	5	4	3	2
39	No Restrictions			20	18	16	17	18	19	19	19	19	19
40	No Parking			0	0	0	0	0	0	0	0	0	0
41	No Restrictions		1	16	12	11	10	11	11	10	11	11	12
42	No Restrictions			19	4	4	4	3	3	2	1	1	1
43	No Restrictions			8	1	1	1	1	1	1	1	1	1
44	South Block Is No Parking			8	2	2	2	2	2	2	2	2	2
45	No Parking			0	0	0	0	0	0	0	0	0	0
46	No Restrictions			20	3	3	4	5	5	6	6	6	6
47	No Restrictions			5	2	2	2	2	2	2	2	2	2
48	No Restrictions			18	7	7	7	7	9	9	9	8	8
49	No Restrictions			8	2	2	1	1	1	1	1	1	1
50	No Restrictions			9	2	3	3	3	3	3	3	2	2
51	No Restrictions			3	3	3	3	3	2	2	2	2	1
52	No Restrictions			3	0	0	0	0	1	1	1	1	1
53	No Restrictions			4	2	2	2	2	2	2	2	2	2
54	No Restrictions			3	0	0	0	0	0	0	0	0	0
55	No Restrictions			6	0	0	0	1	1	1	1	1	1
56	No Restrictions			6	1	1	1	1	1	1	1	1	1

SECOND DRAFT

BlockID	Restrictions	BUS STOPS	HC SPACES	TOTAL SPACES	18:00	18:30	19:00	19:30	20:00	20:30	21:00	21:30	22:00
57	No Restrictions			24	10	10	8	8	7	9	8	8	9
58	No Restrictions			20	11	11	12	10	8	8	9	9	9
59	No Restrictions			38	16	18	19	18	18	18	17	18	18
60	No Restrictions			38	15	15	16	17	17	17	18	17	16
61	No Restrictions			6	0	0	0	0	0	0	0	0	0
62	No Restrictions			9	5	5	6	6	6	5	5	5	5
63	No Restrictions			10	5	5	5	6	6	6	6	6	6
64	No Restrictions			8	3	3	3	3	3	3	3	3	3
65	No Restrictions			9	0	0	0	0	0	0	0	0	0
66	No Restrictions			10	2	2	2	2	2	4	4	4	4
67	No Restrictions			10	3	3	3	3	3	3	3	3	3
68	No Restrictions			4	3	3	3	3	3	3	3	3	3
69	No Restrictions			16	5	6	7	6	6	5	4	4	4
70	No Restrictions			15	3	3	2	2	2	3	3	3	3
71	No Restrictions			9	2	2	2	2	2	2	2	2	2
72	No Restrictions			4	1	1	1	1	1	0	0	0	0
73	No Restrictions			11	0	0	0	0	1	1	1	1	1
74	No Restrictions			7	1	1	1	1	1	2	2	2	2
75	No Restrictions			6	4	4	4	5	5	6	6	6	6
76	No Restrictions			8	3	3	4	4	4	4	4	4	4
77	No Restrictions			7	5	5	5	5	5	5	5	4	5
78	No Restrictions			6	6	6	6	6	6	7	7	7	7
79	No Restrictions			6	0	0	0	0	0	0	0	0	0
80	No Restrictions			9	0	0	0	1	1	1	1	1	1
81	No Restrictions			13	5	5	5	5	6	7	7	7	7
82	No Restrictions			14	1	1	1	1	1	2	2	2	2
83	No Restrictions			14	6	6	7	7	7	7	7	7	7
84	No Restrictions			6	0	0	0	0	0	0	0	0	0
85	No Restrictions			14	1	1	1	1	1	1	1	1	1
86	No Parking			0	1	1	1	1	1	1	1	1	1
87	No Parking			0	0	0	0	0	0	0	0	0	0
88	No Restrictions			16	5	5	5	4	4	4	5	5	5
89	No Restrictions			14	2	2	2	2	2	2	2	2	2
90	No Restrictions			8	1	1	1	1	1	2	2	2	2
91	No Restrictions			11	3	3	2	3	3	4	4	4	4
92	No Restrictions			28	13	13	14	14	15	14	14	14	16
93	No Restrictions			24	9	8	8	8	8	8	8	8	9
94	No Restrictions			8	0	0	0	1	1	1	1	1	1
95	No Restrictions			7	4	4	3	3	3	4	4	3	3
96	No Restrictions			6	1	1	1	1	2	3	3	4	4
97	No Restrictions			7	2	2	2	2	2	2	2	2	2
98	No Restrictions			7	1	1	1	1	2	2	3	3	3
99	No Restrictions			7	2	2	2	3	3	2	2	2	3
100	No Restrictions			4	0	0	0	0	0	0	0	0	0
101	No Restrictions			10	0	0	0	0	0	0	0	0	0
102	No Restrictions			8	0	0	0	0	0	0	0	0	0
103	No Restrictions			6	0	0	0	0	0	0	0	0	0
104	No Restrictions			8	2	2	2	2	2	2	2	2	2
105	No Restrictions			4	3	3	2	2	2	4	5	5	5
106	No Restrictions			6	0	0	0	0	0	0	0	0	0
107	No Restrictions			8	0	0	0	0	0	0	0	0	0
108	No Restrictions			4	0	0	0	0	0	0	0	0	0
109	No Restrictions			8	4	4	4	4	4	3	4	4	5
201	No overnight parking, reserved for Patrons and Guests		1	21	11	5	2	2	2	2	2	2	2
202	Costomers Only Parking		1	22	18	11	7	6	5	5	5	5	5
203	Westover Costomers Only---16 spaces reserved for US postal Service---13 spaces (30 min Parking)		5	120	51	48	42	44	49	41	39	36	30
204	Also had 4 Car Pool Spaces		2	46	6	4	2	2	1	1	0	0	0
205	Also had 1 Carpool Space and 3 (15Min Parking)		2	26	5	4	3	2	1	1	1	1	1
TOTAL			15	1395	524	506	492	493	496	492	485	470	463

SECOND DRAFT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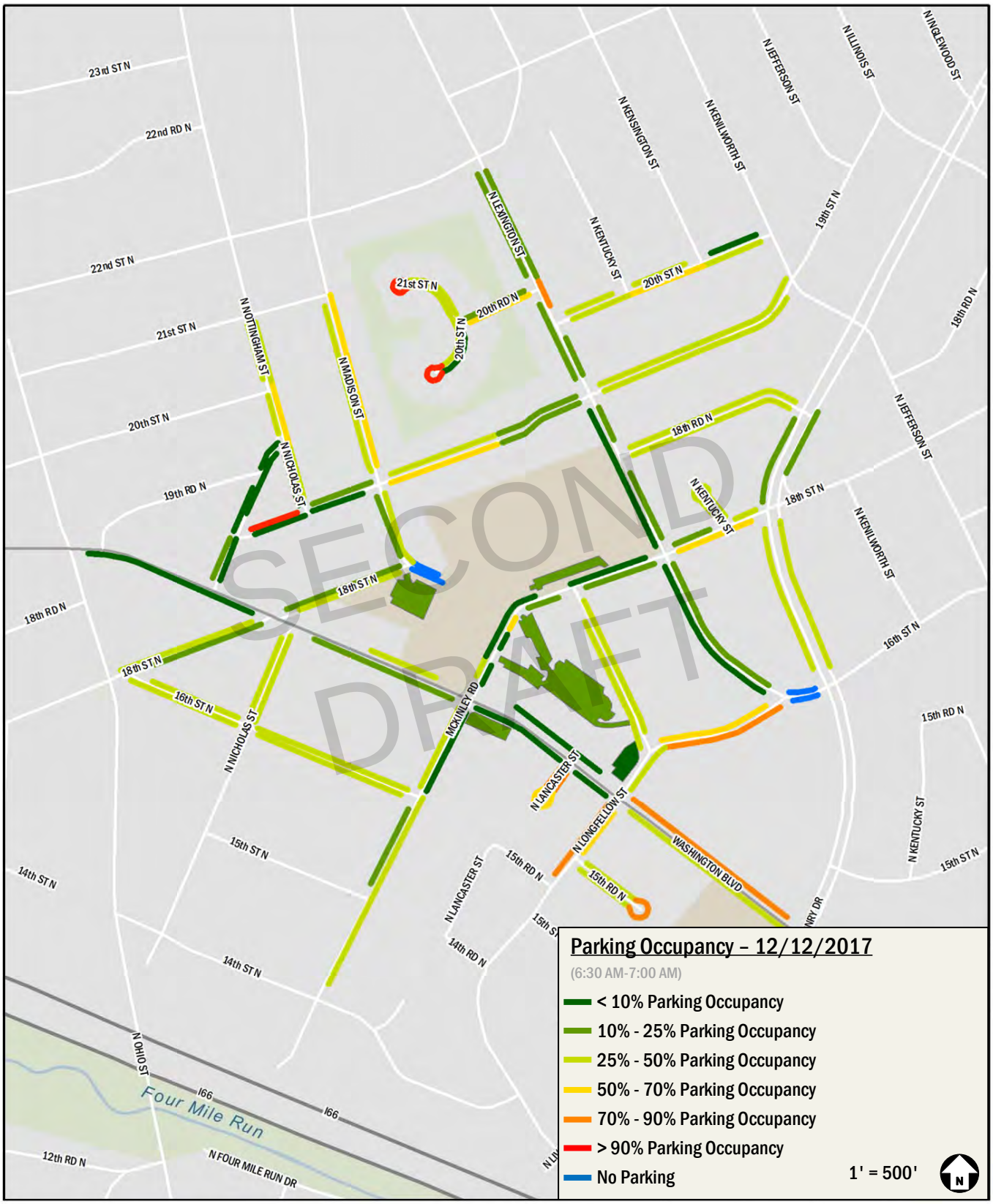
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Parking Occupancy – 12/12/2017
(6:30 AM-7:00 AM)
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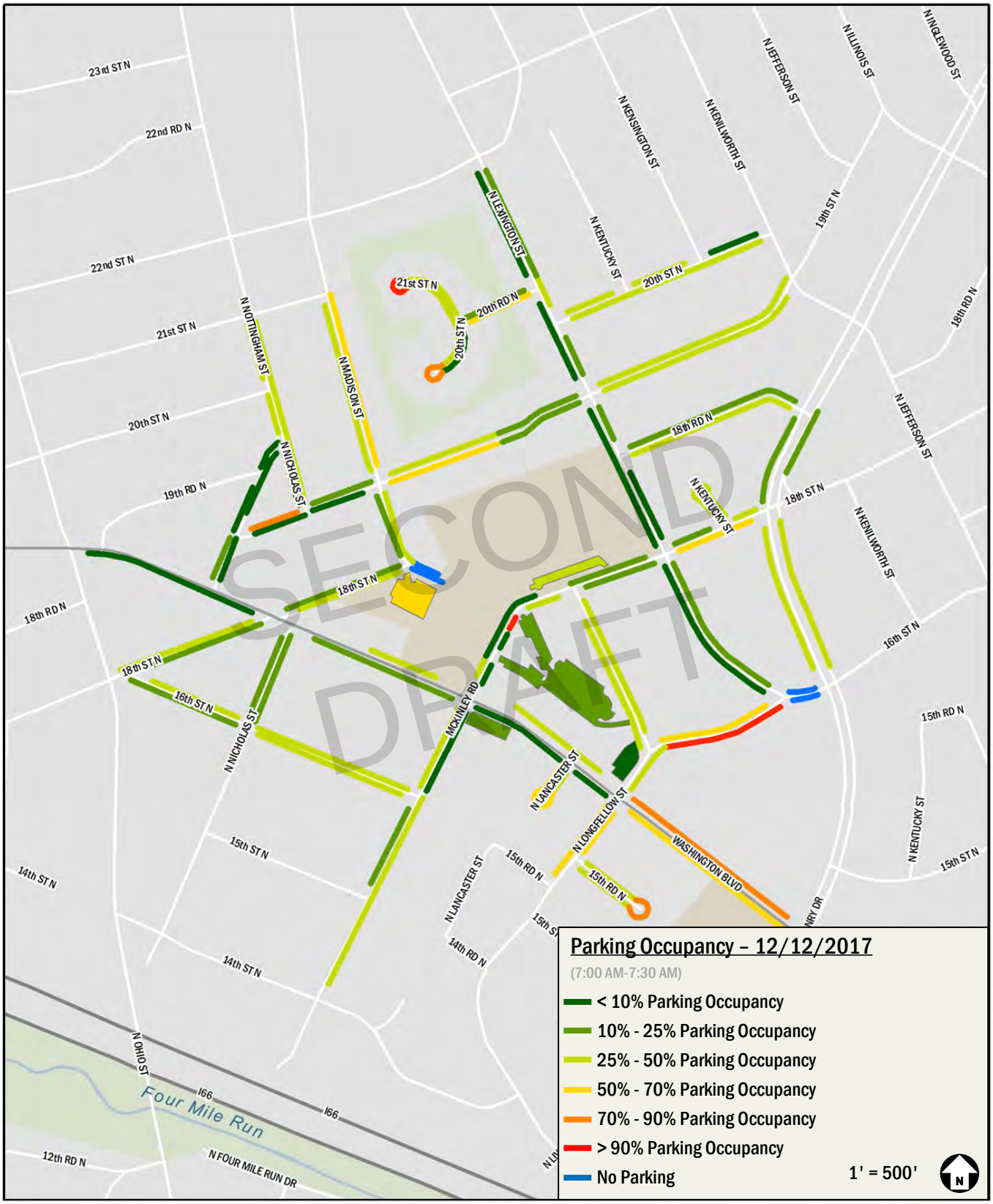
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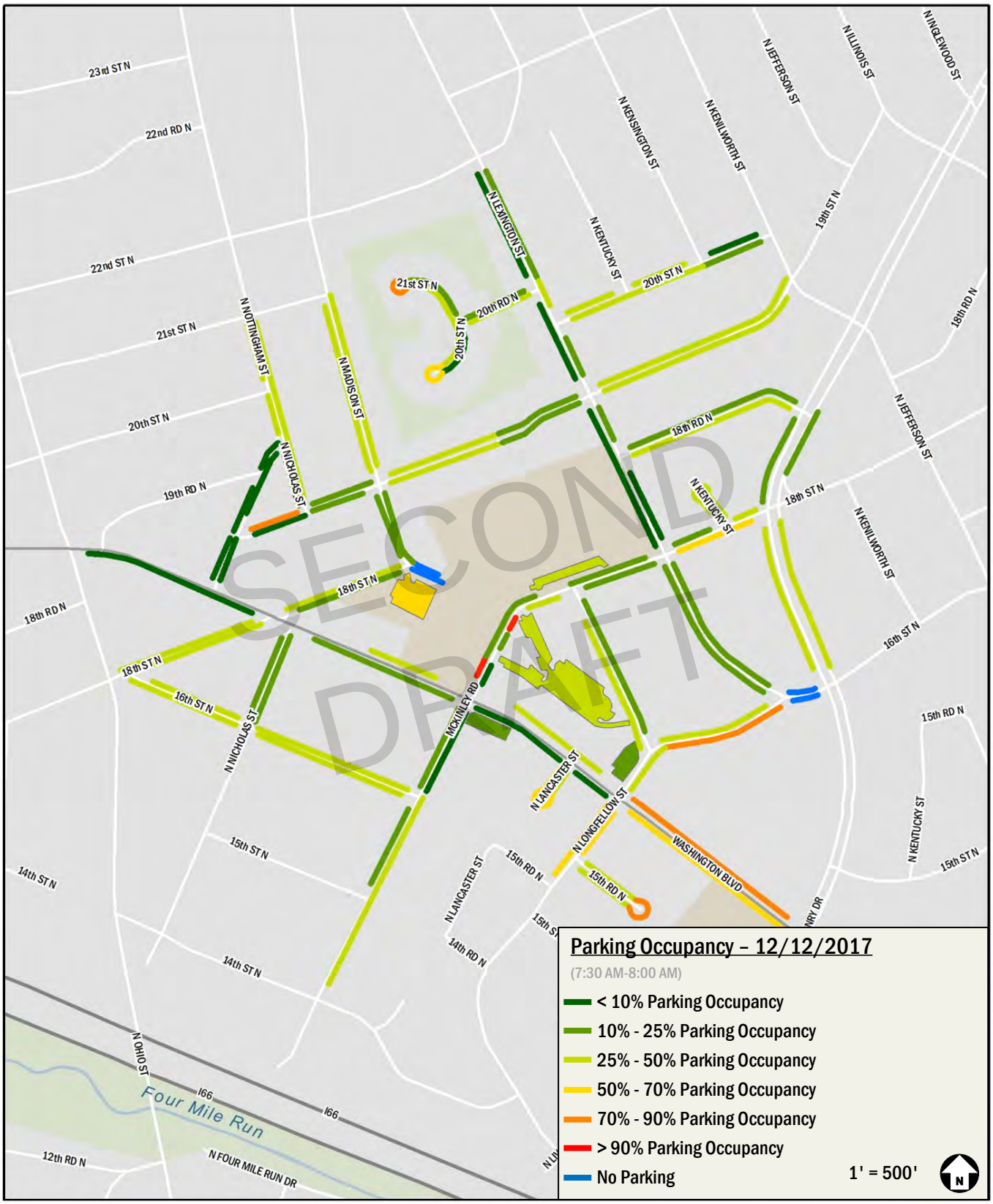
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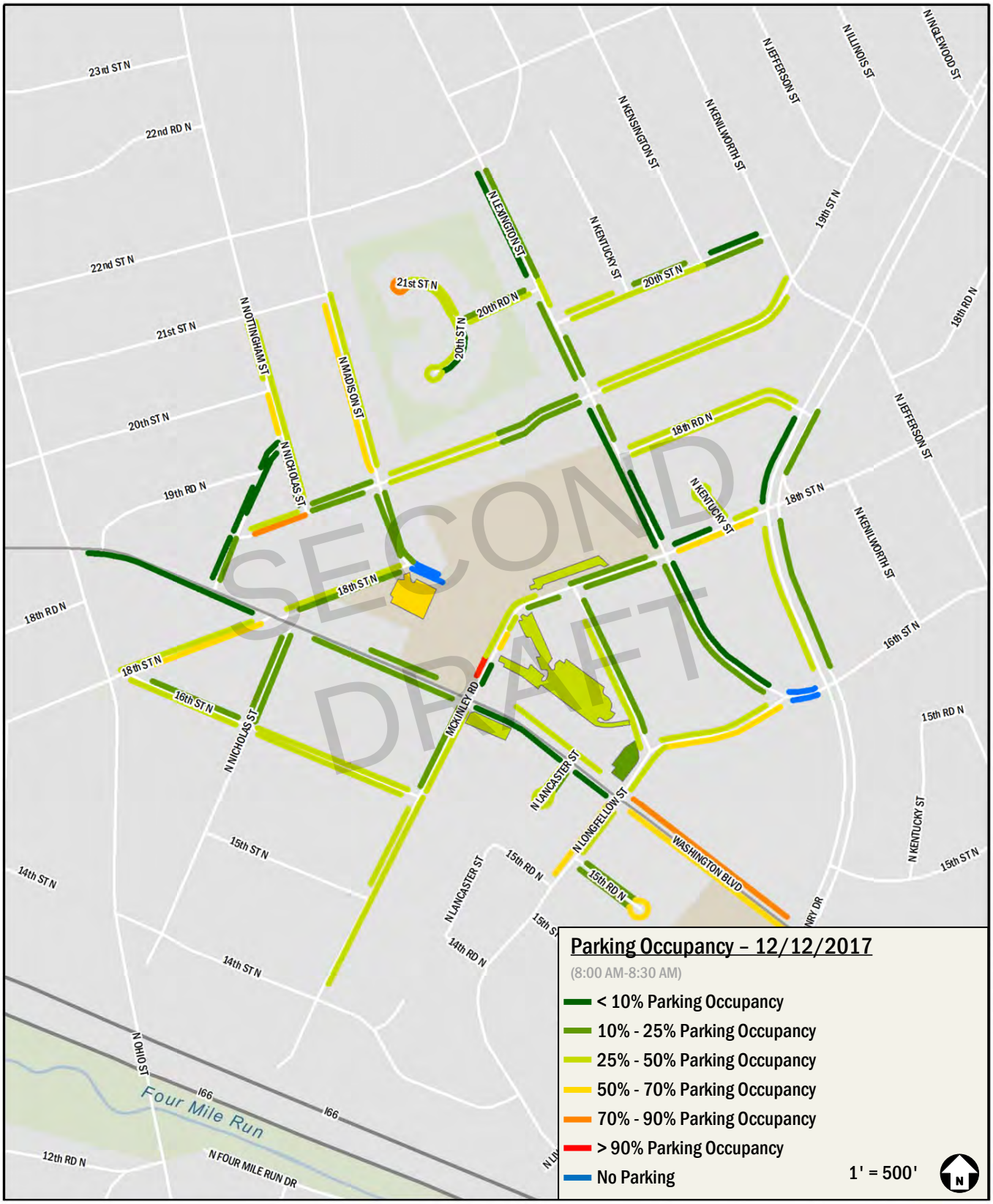
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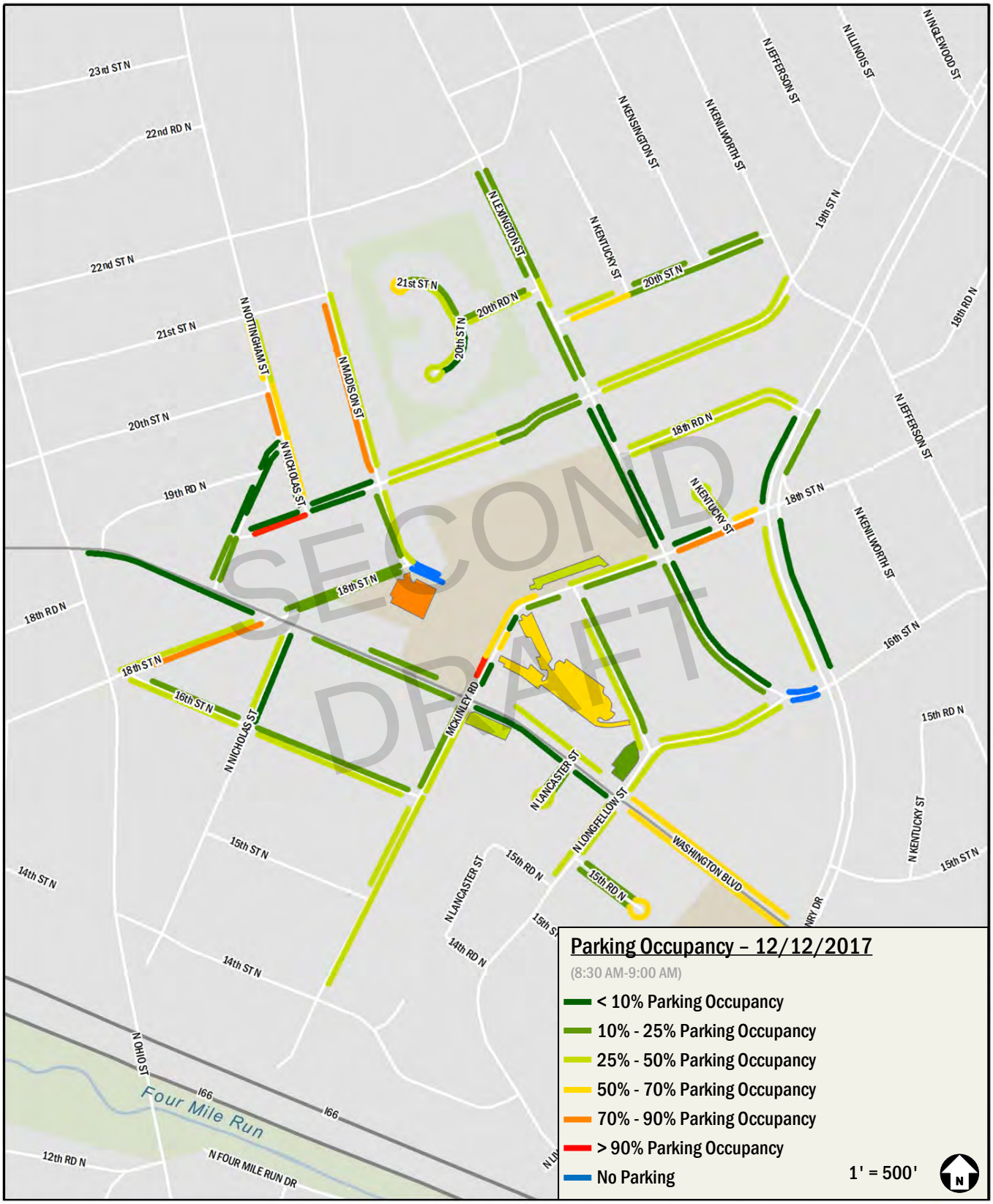
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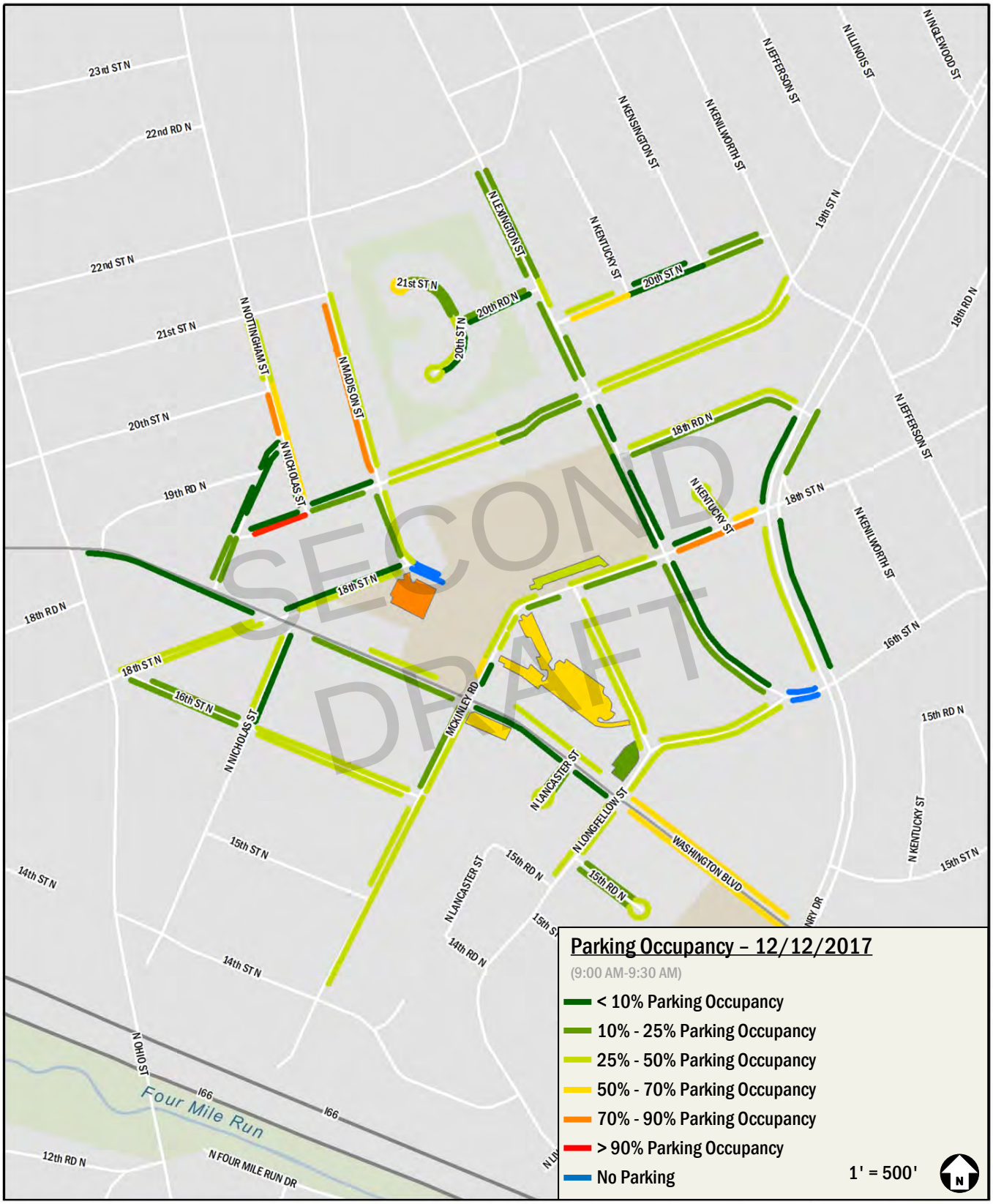
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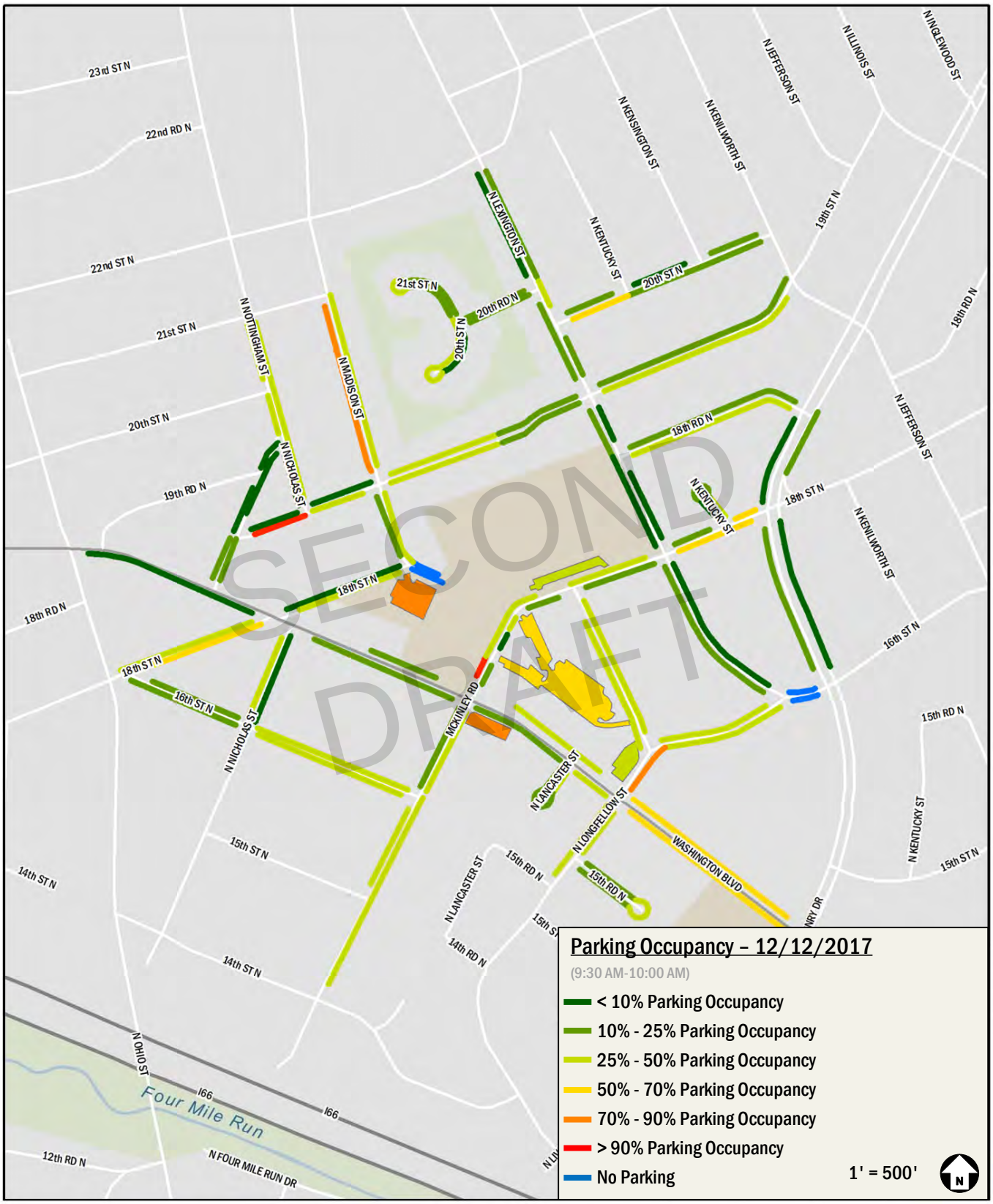
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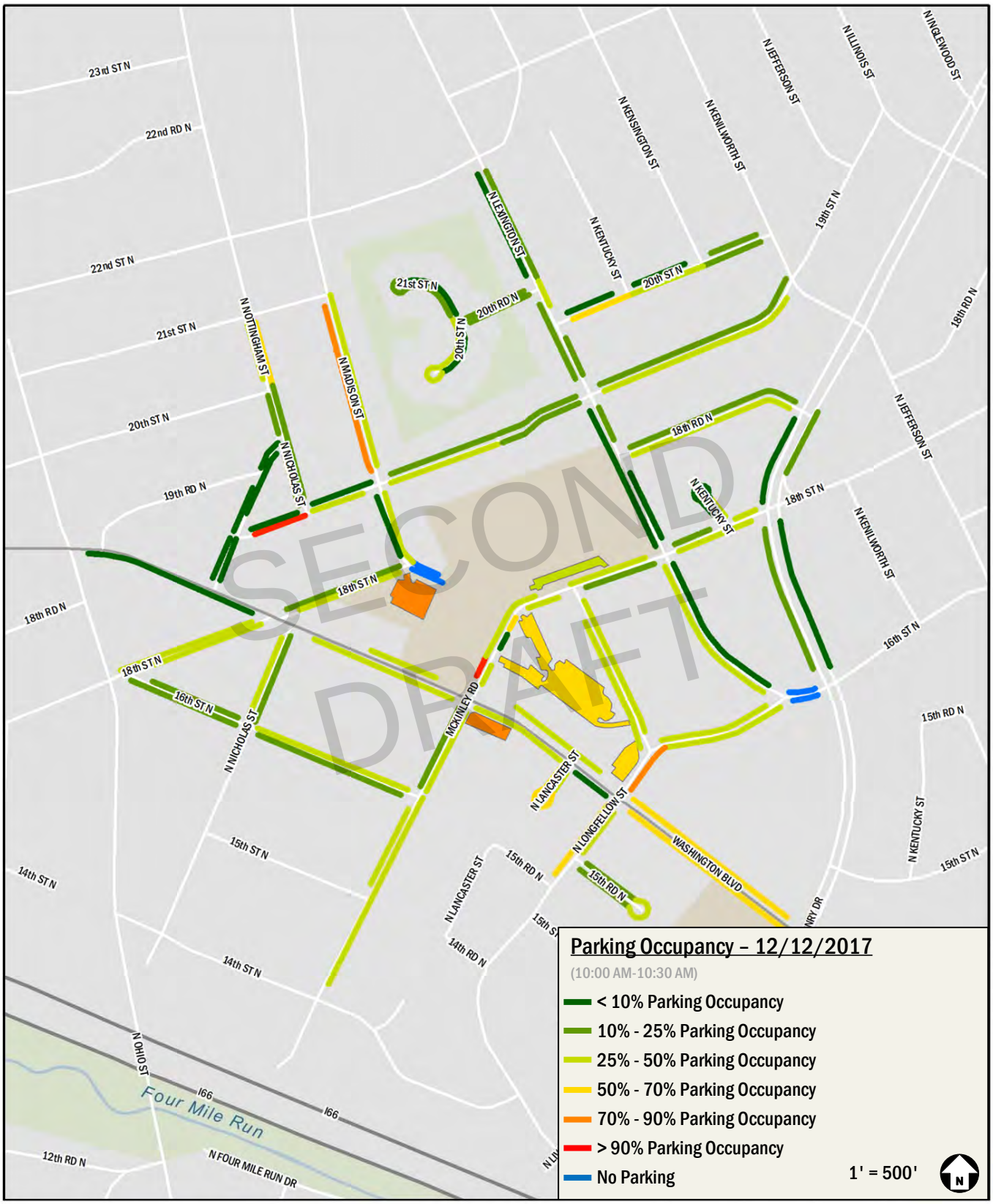
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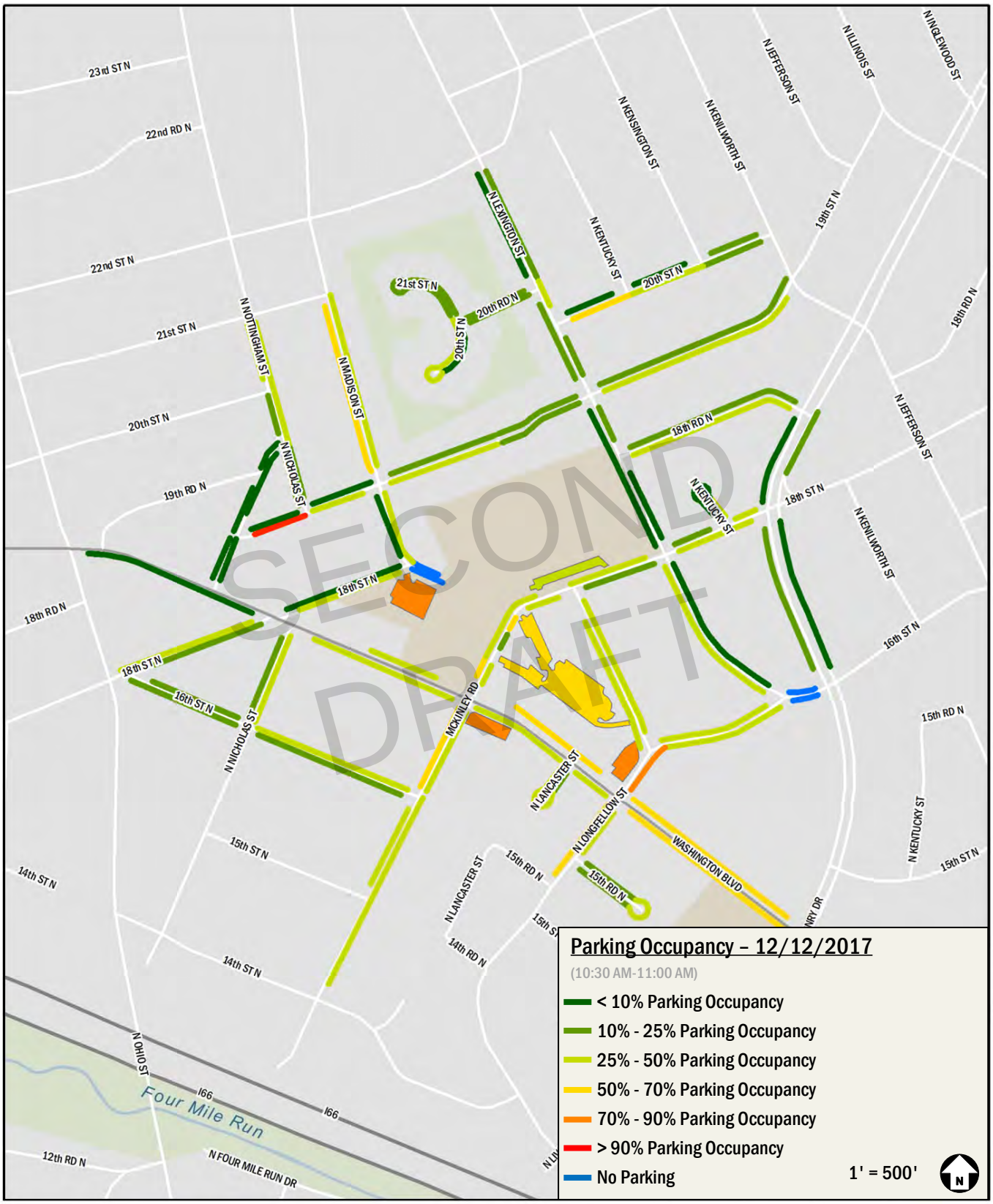
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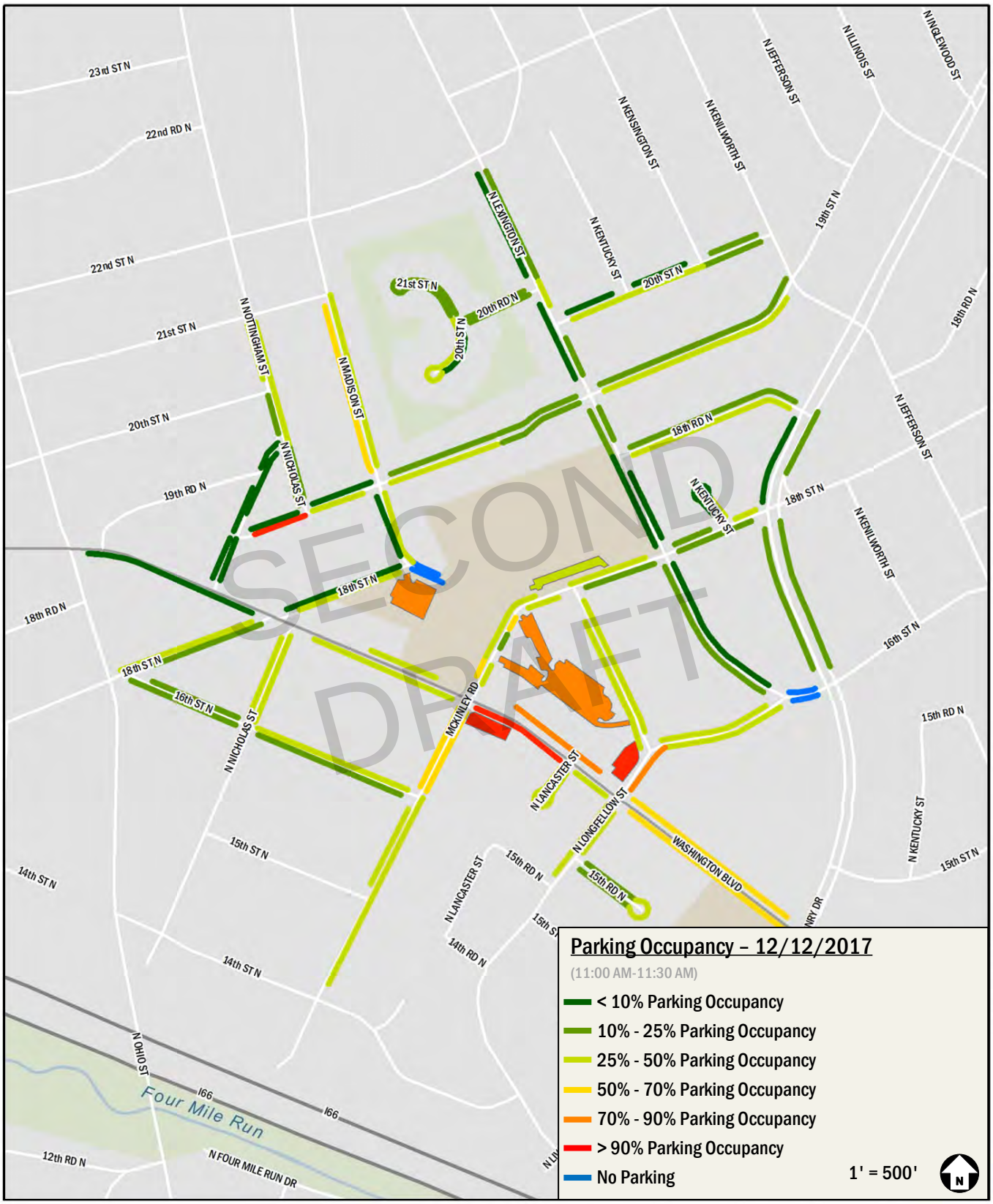
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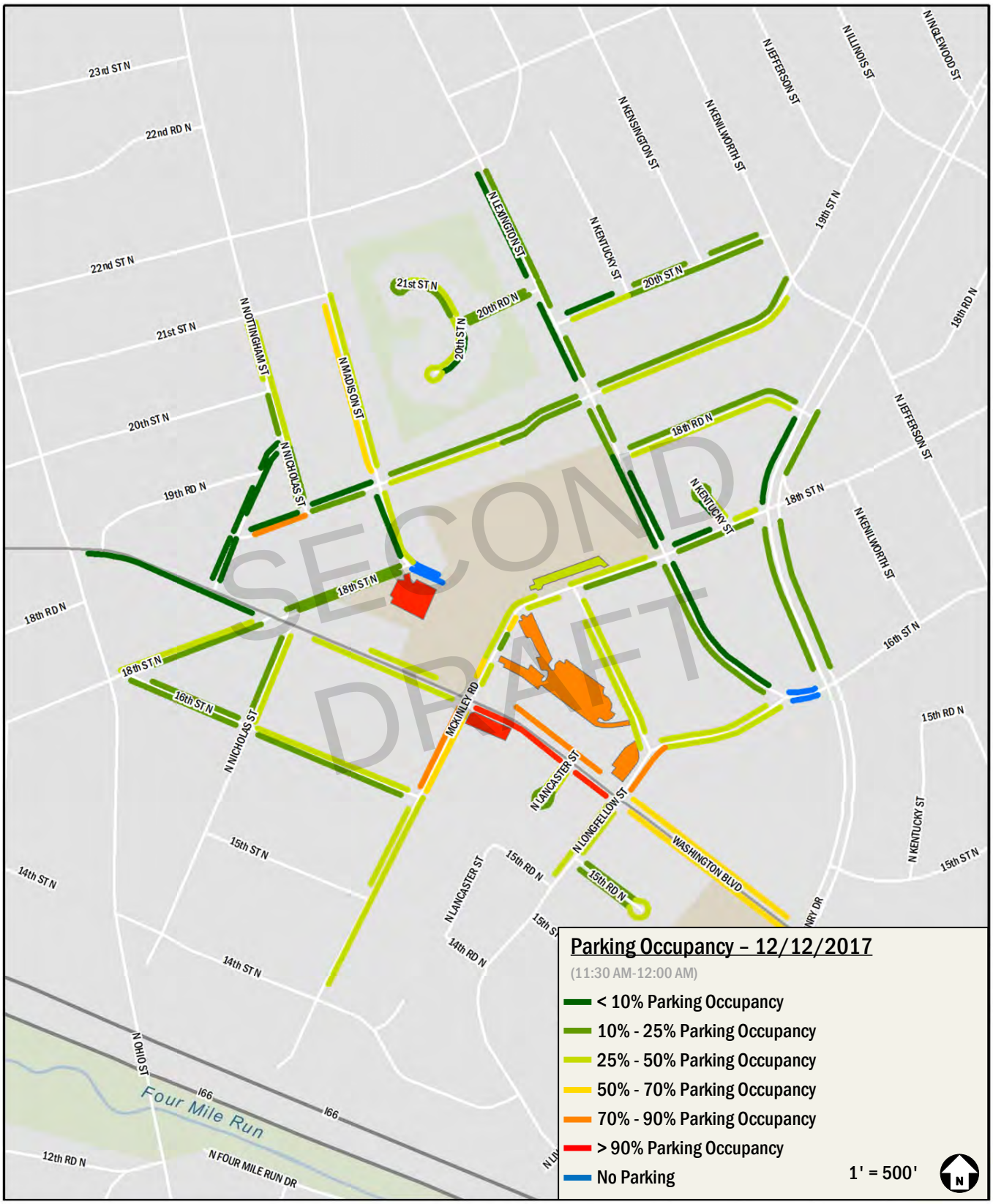
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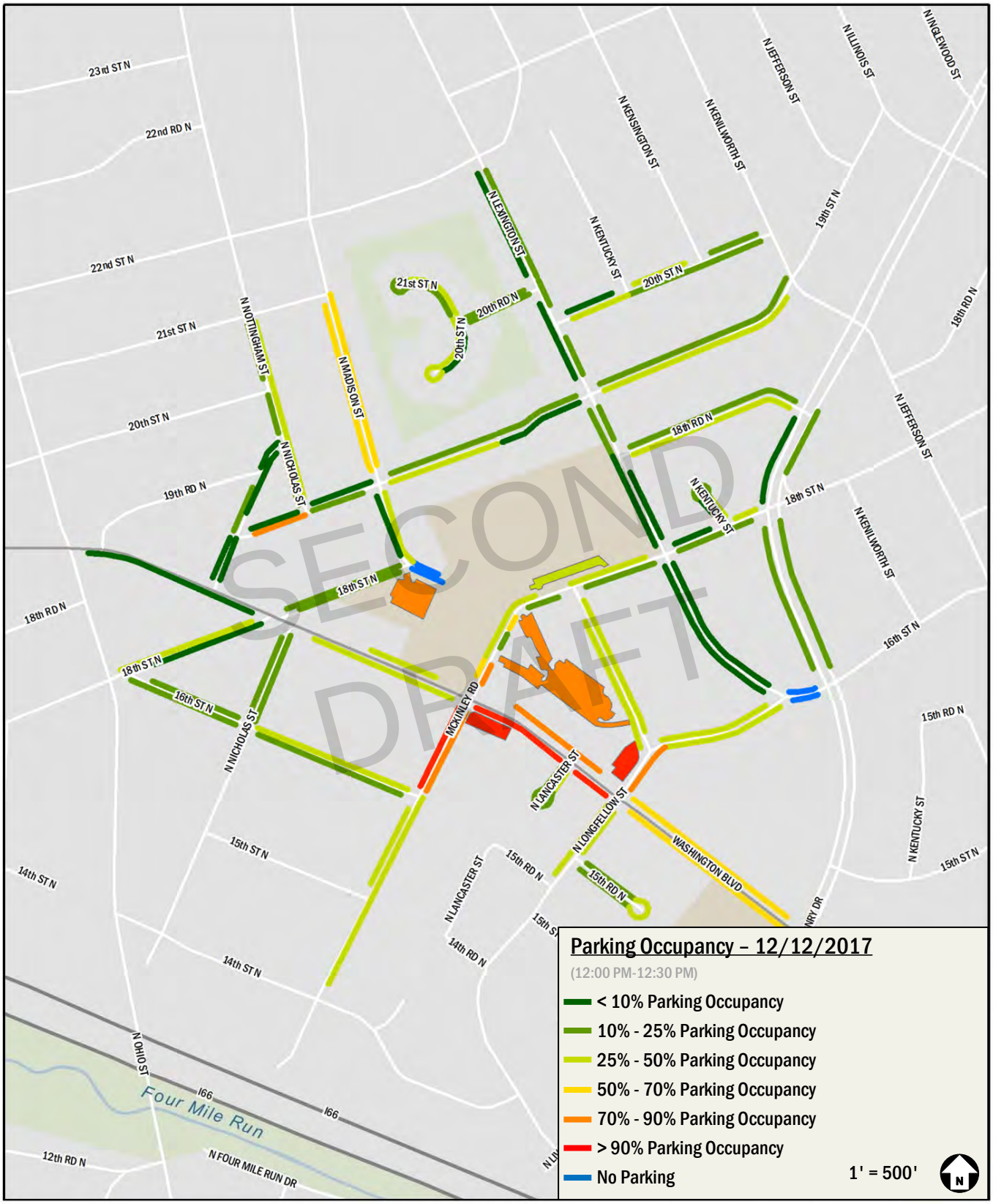
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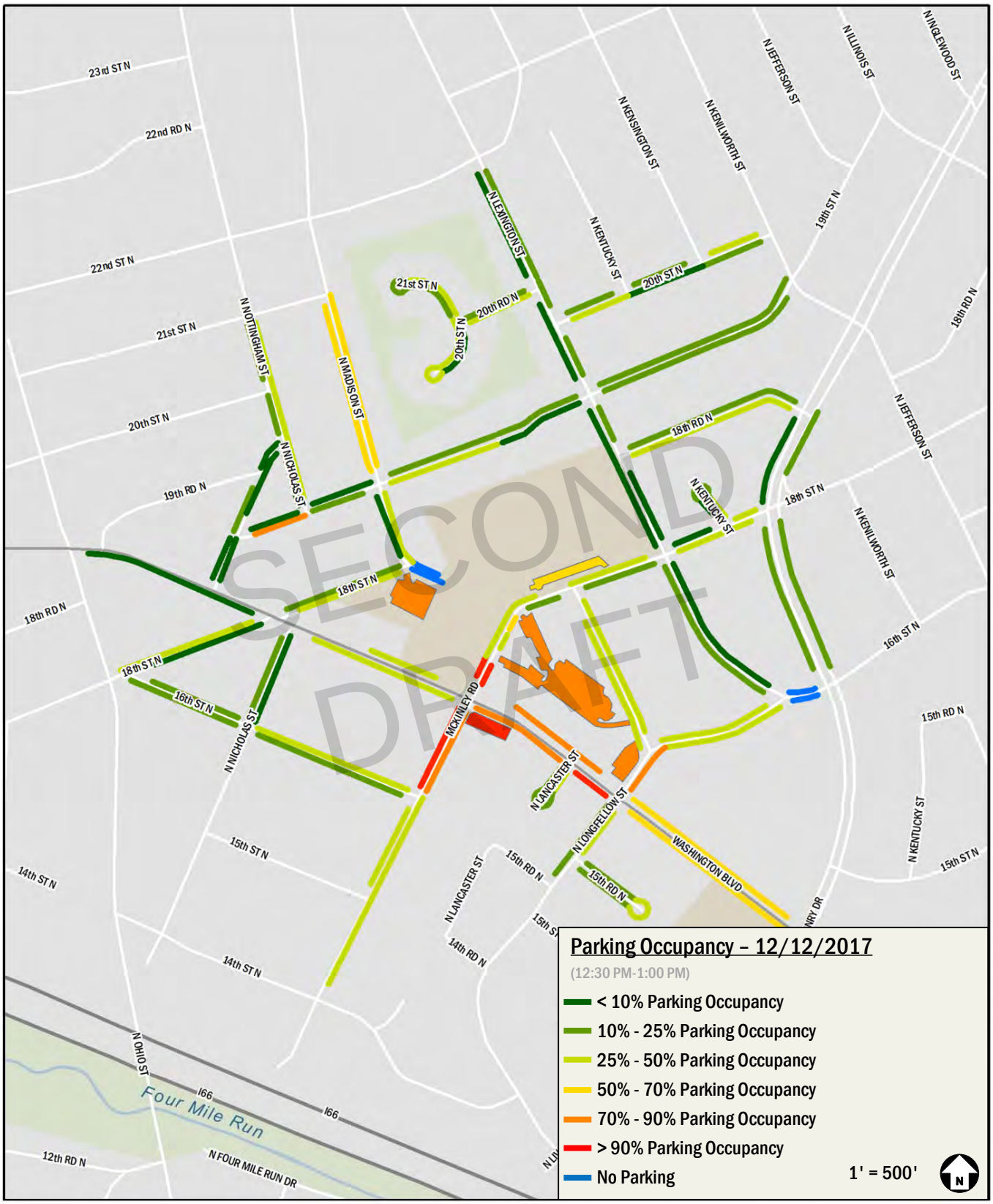
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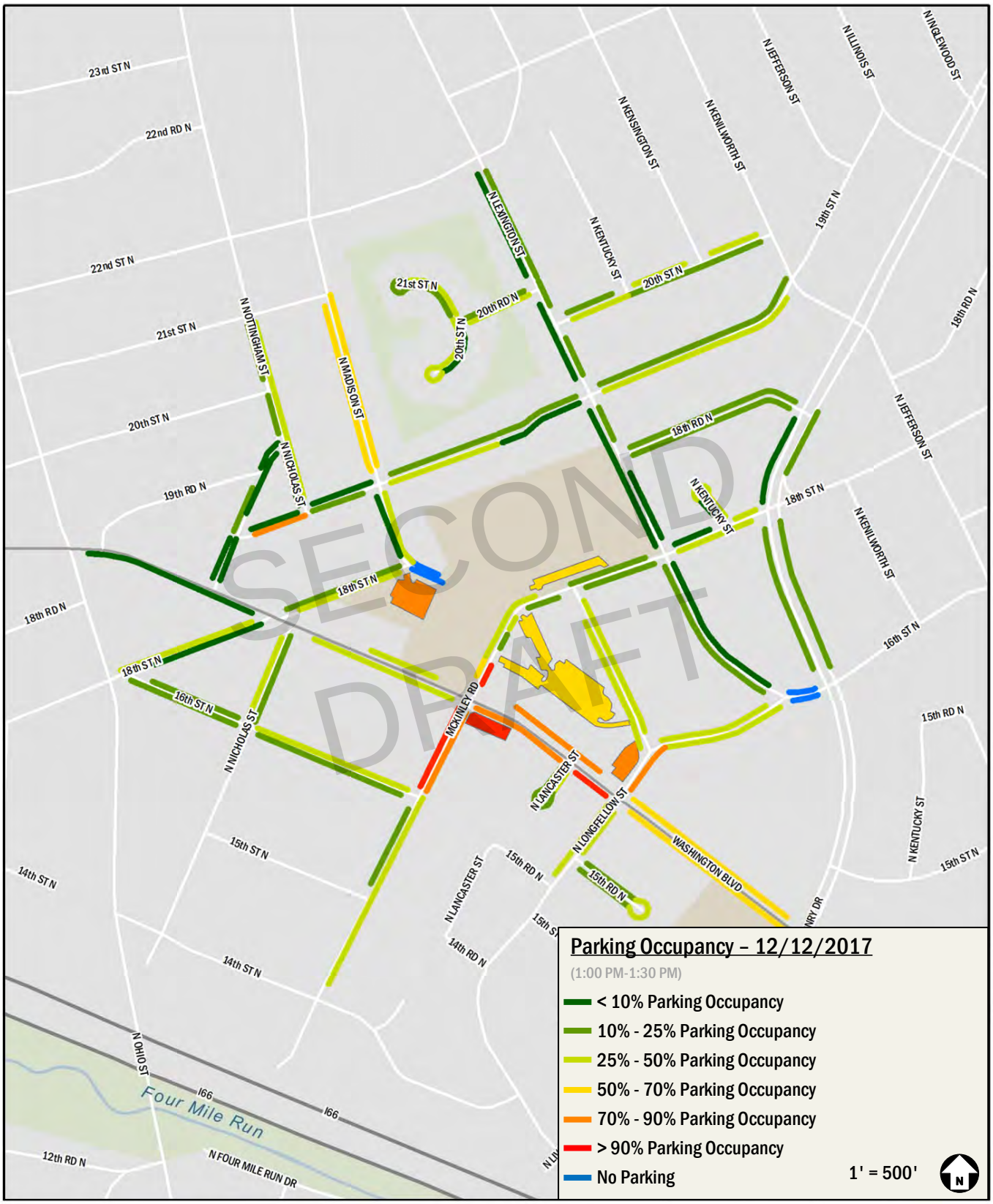
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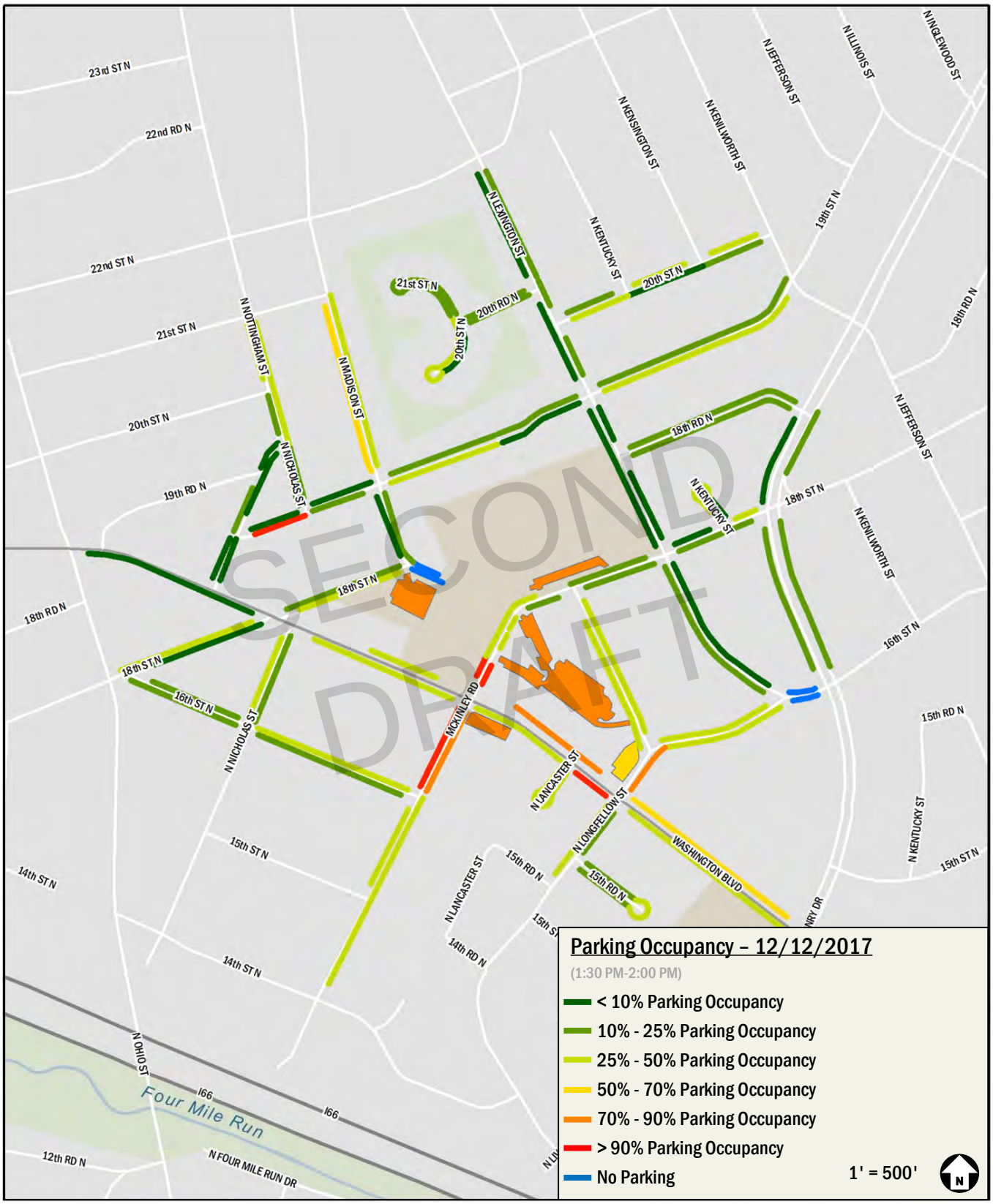
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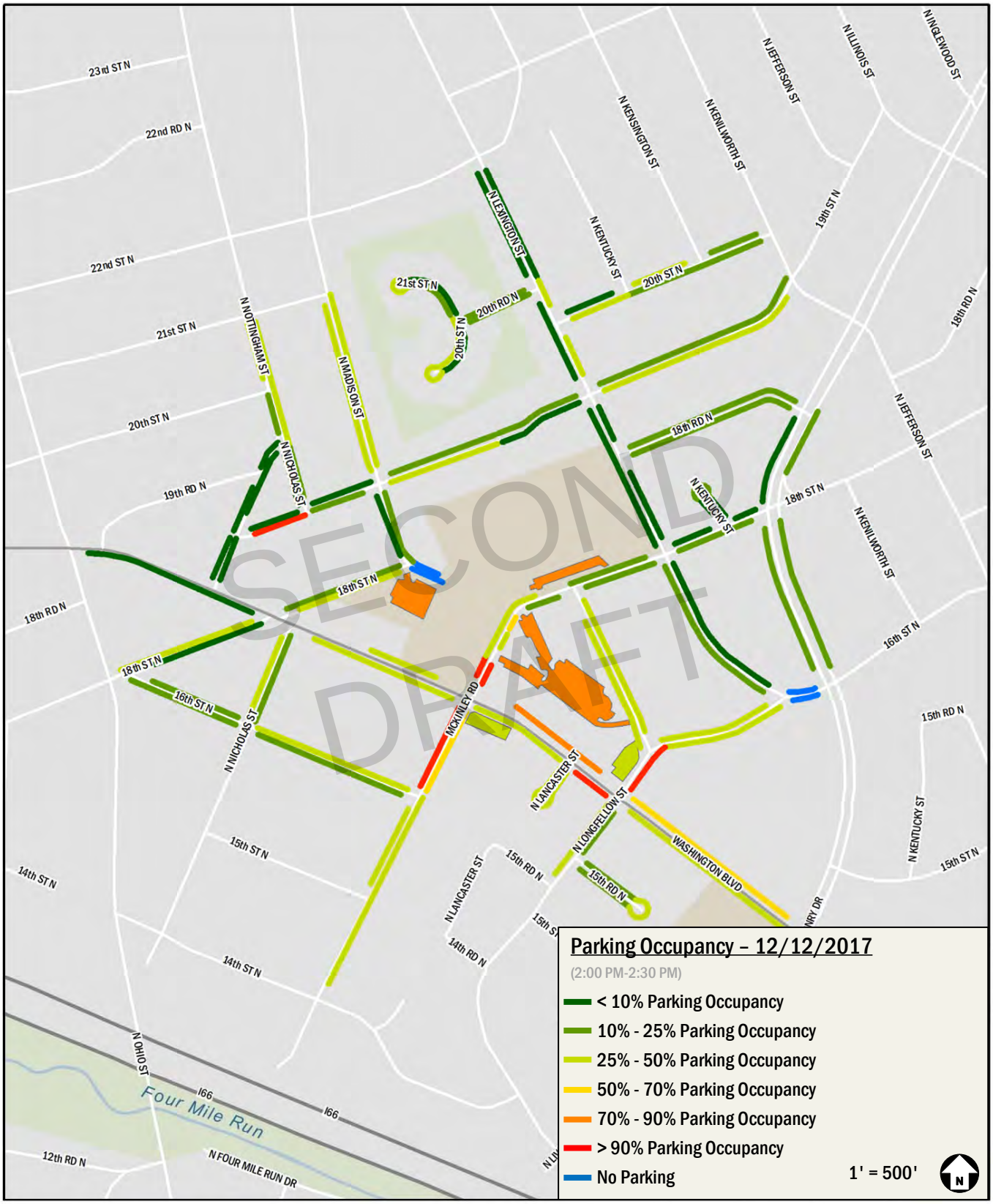
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Four Mile Run
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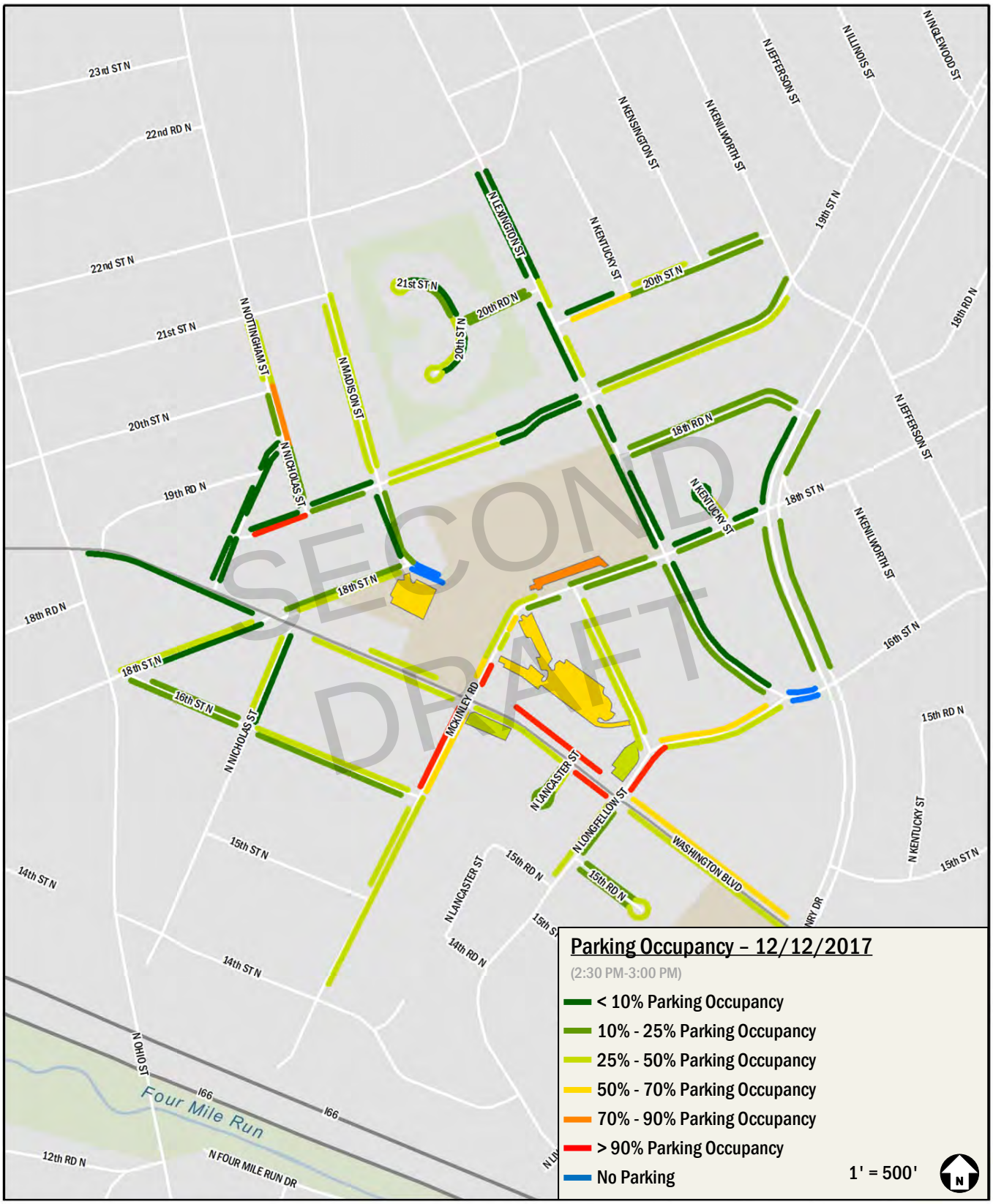
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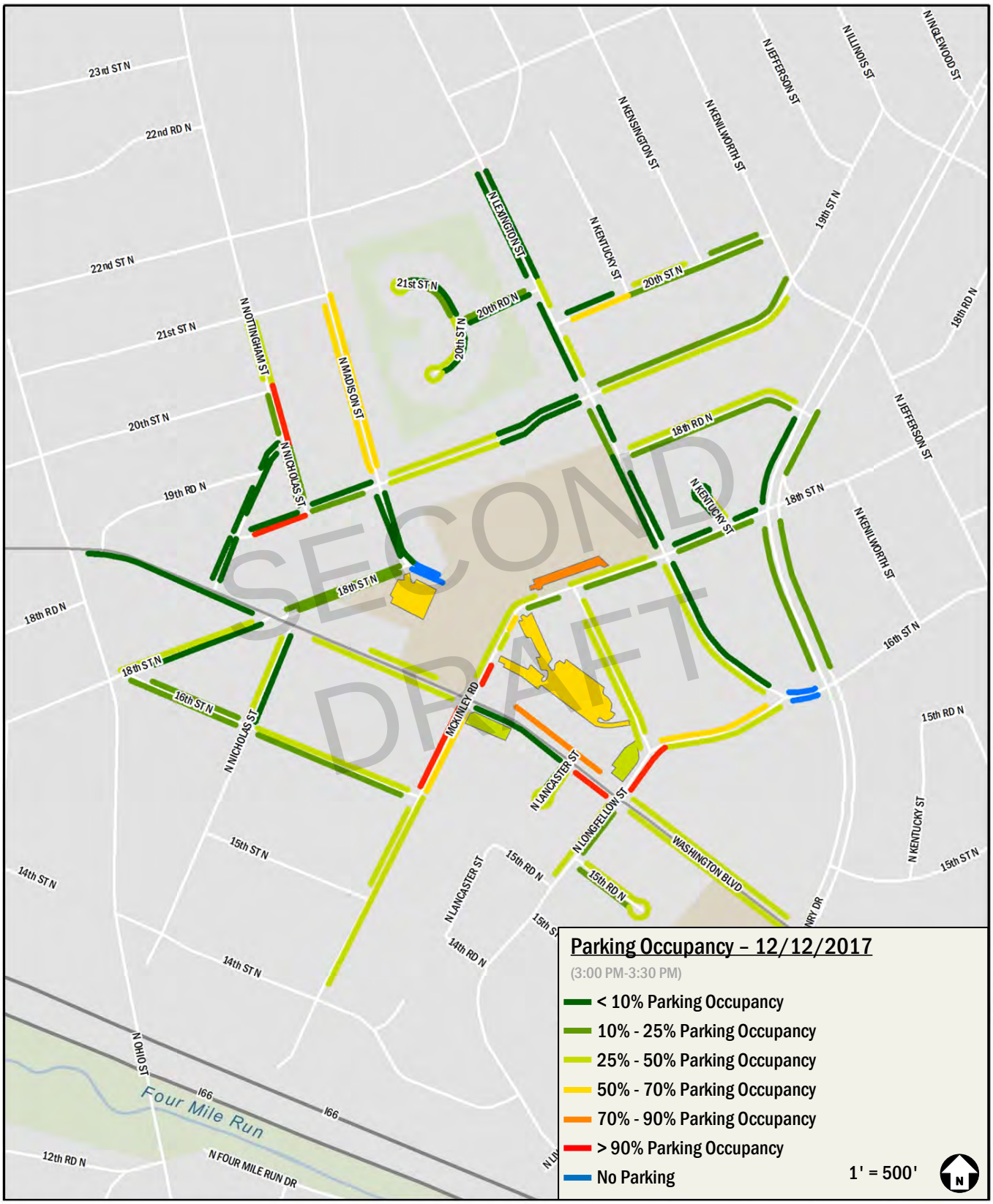
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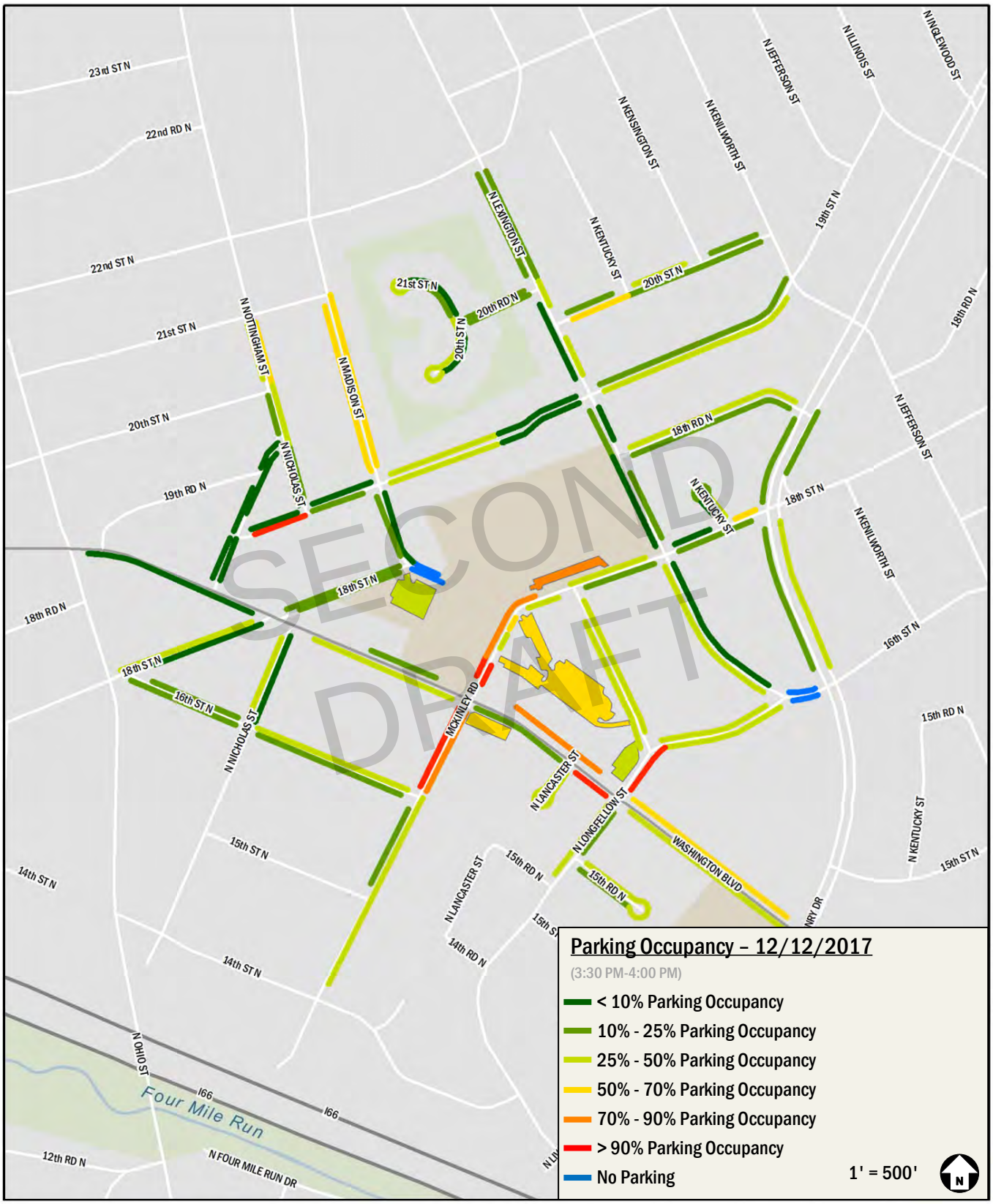
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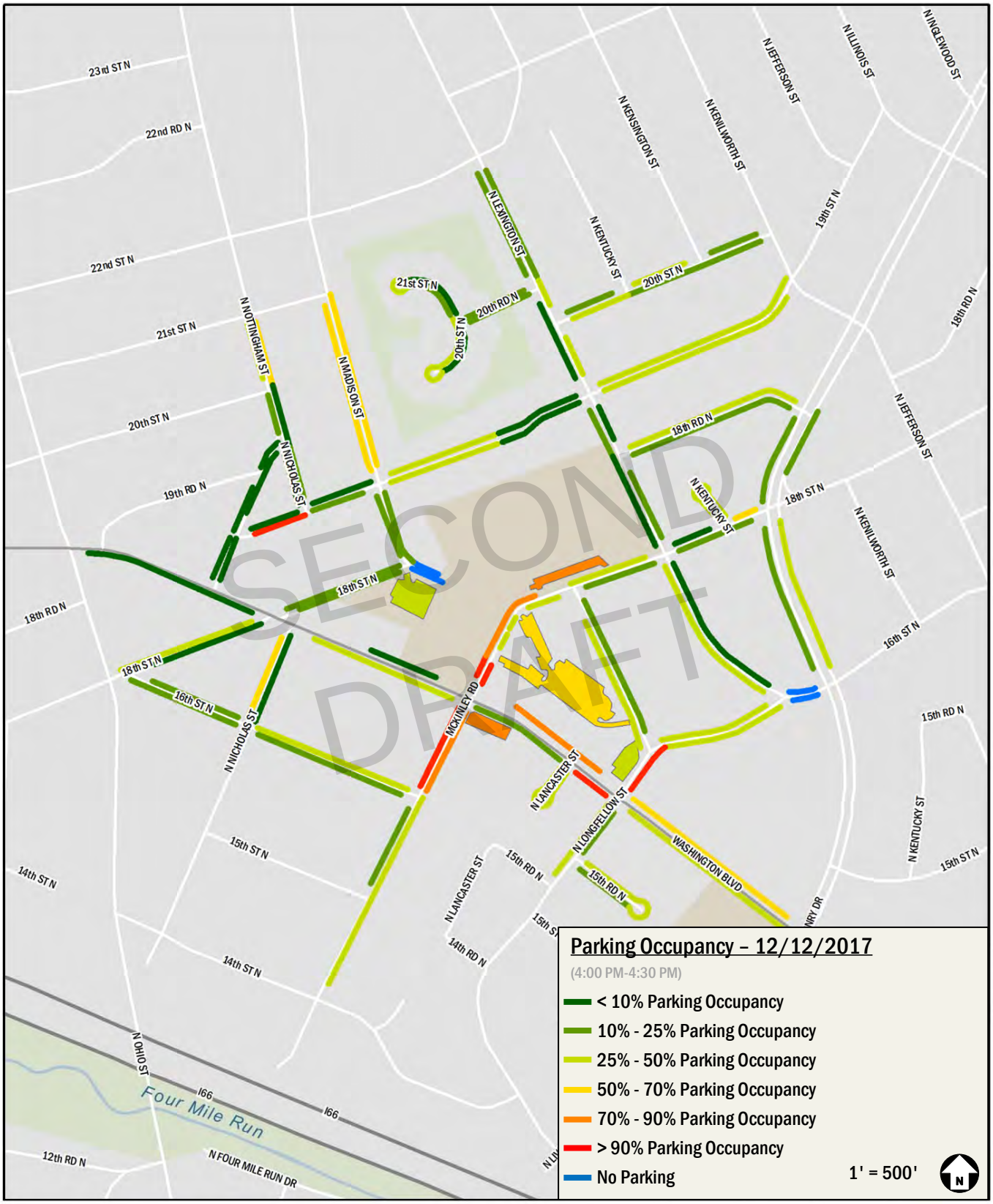
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Four Mile Run
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SECOND DRAFT
Parking Occupancy – 12/12/2017
(4:30 PM-5:00 PM)
< 10% Parking Occupancy
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Four Mile Run
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SECOND DRAFT
Parking Occupancy – 12/12/2017
(5:00 PM-5:30 PM)
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Four Mile Run
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SECOND DRAFT
Parking Occupancy – 12/12/2017
(5:30 PM-6:00 PM)
< 10% Parking Occupancy
10% - 25% Parking Occupancy
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> 90% Parking Occupancy
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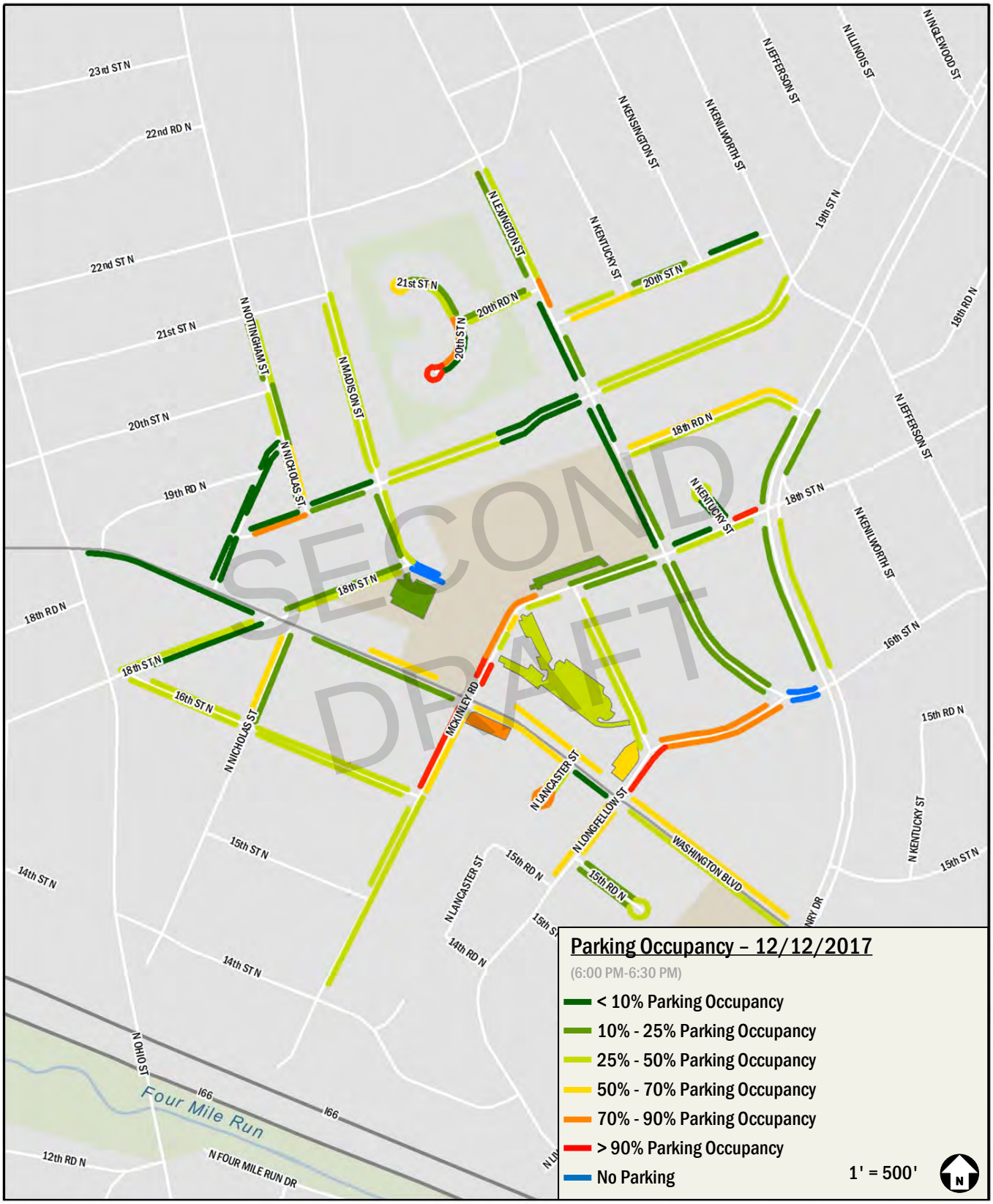
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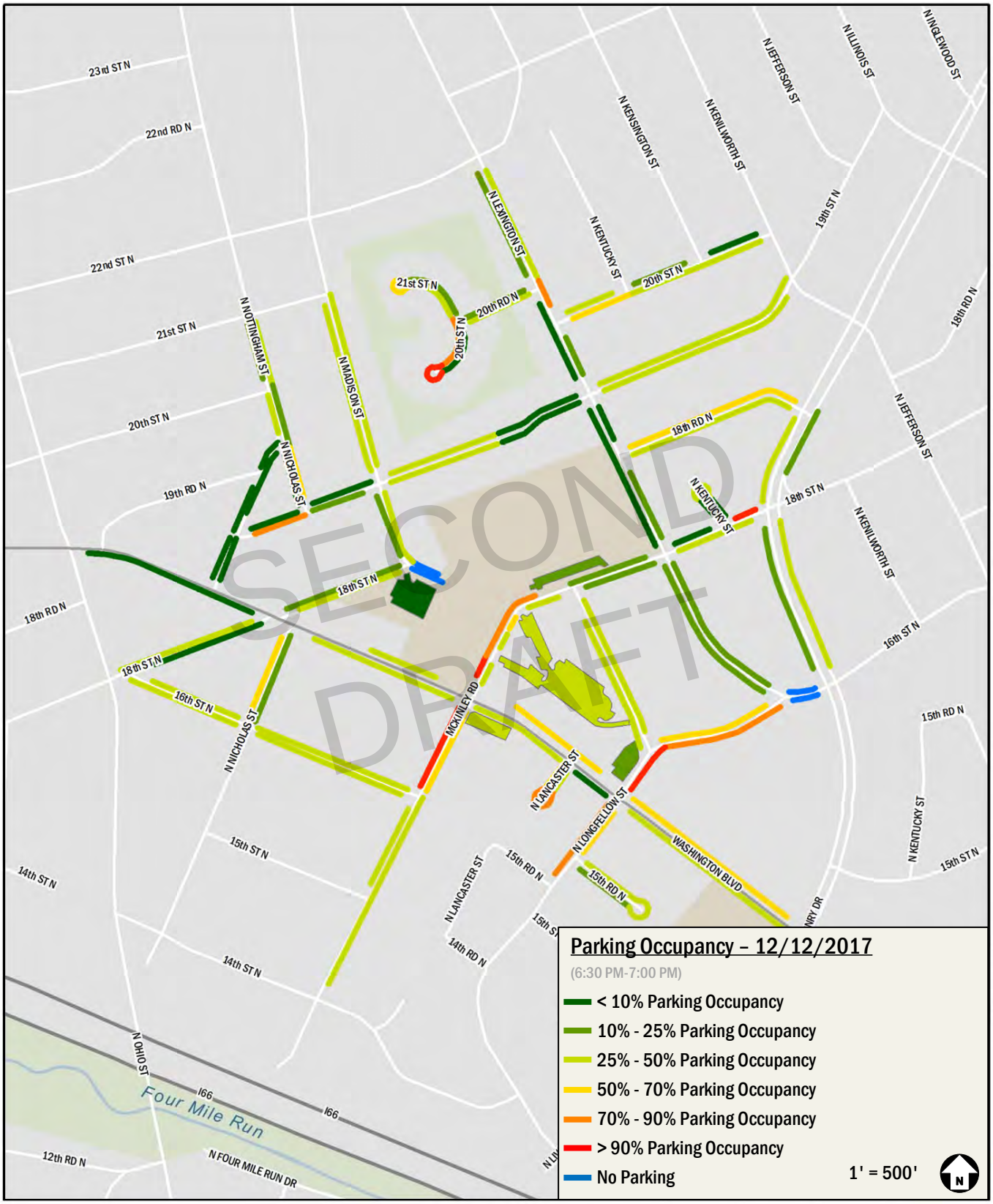
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70% - 90% Parking Occupancy
> 90% Parking Occupancy
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Four Mile Run
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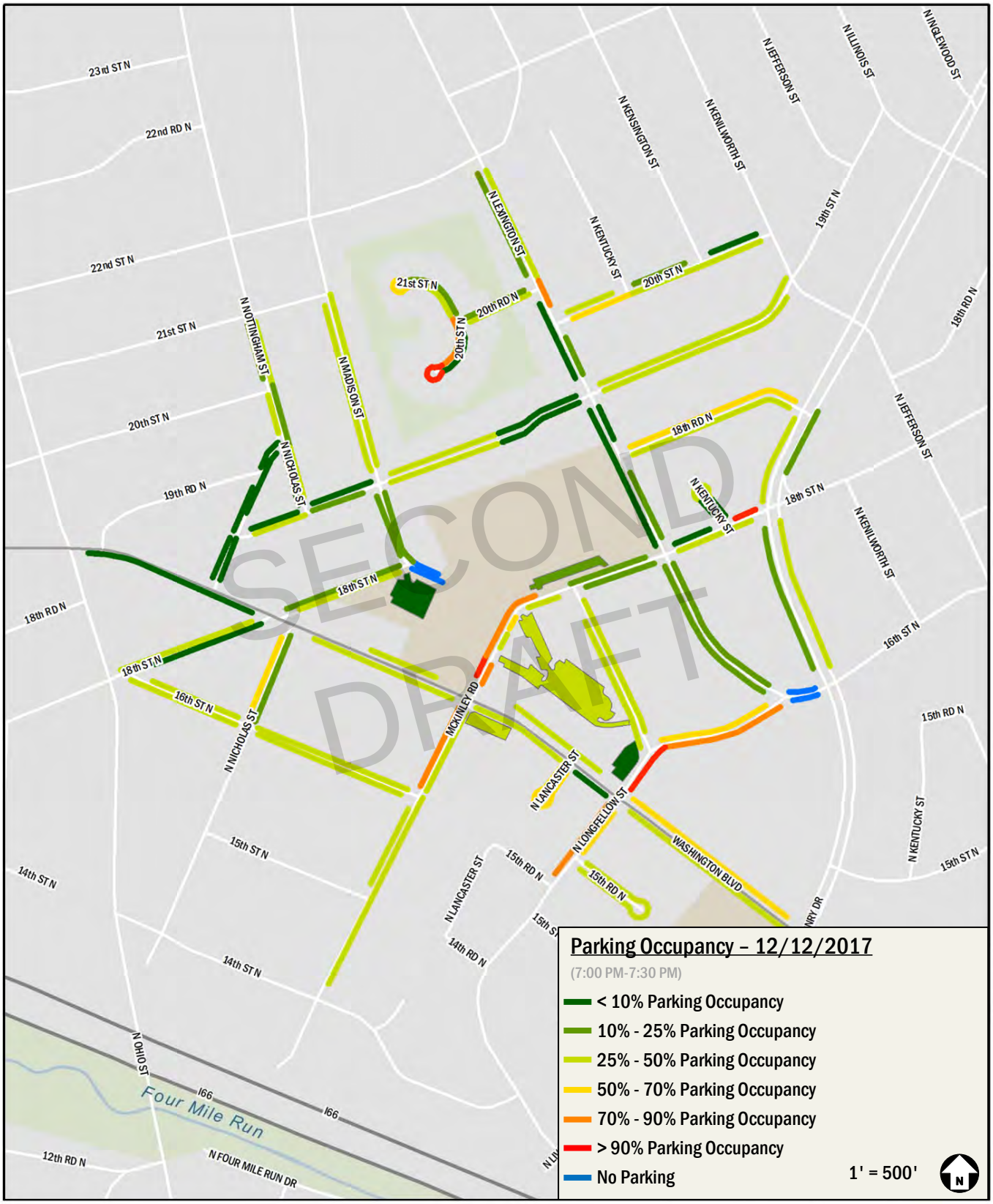
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Four Mile Run
N FOUR MILE RUN DR
SECOND DRAFT
Parking Occupancy – 12/12/2017
(7:00 PM-7:30 PM)
< 10% Parking Occupancy
10% - 25% Parking Occupancy
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70% - 90% Parking Occupancy
> 90% Parking Occupancy
No Parking
1' = 500'
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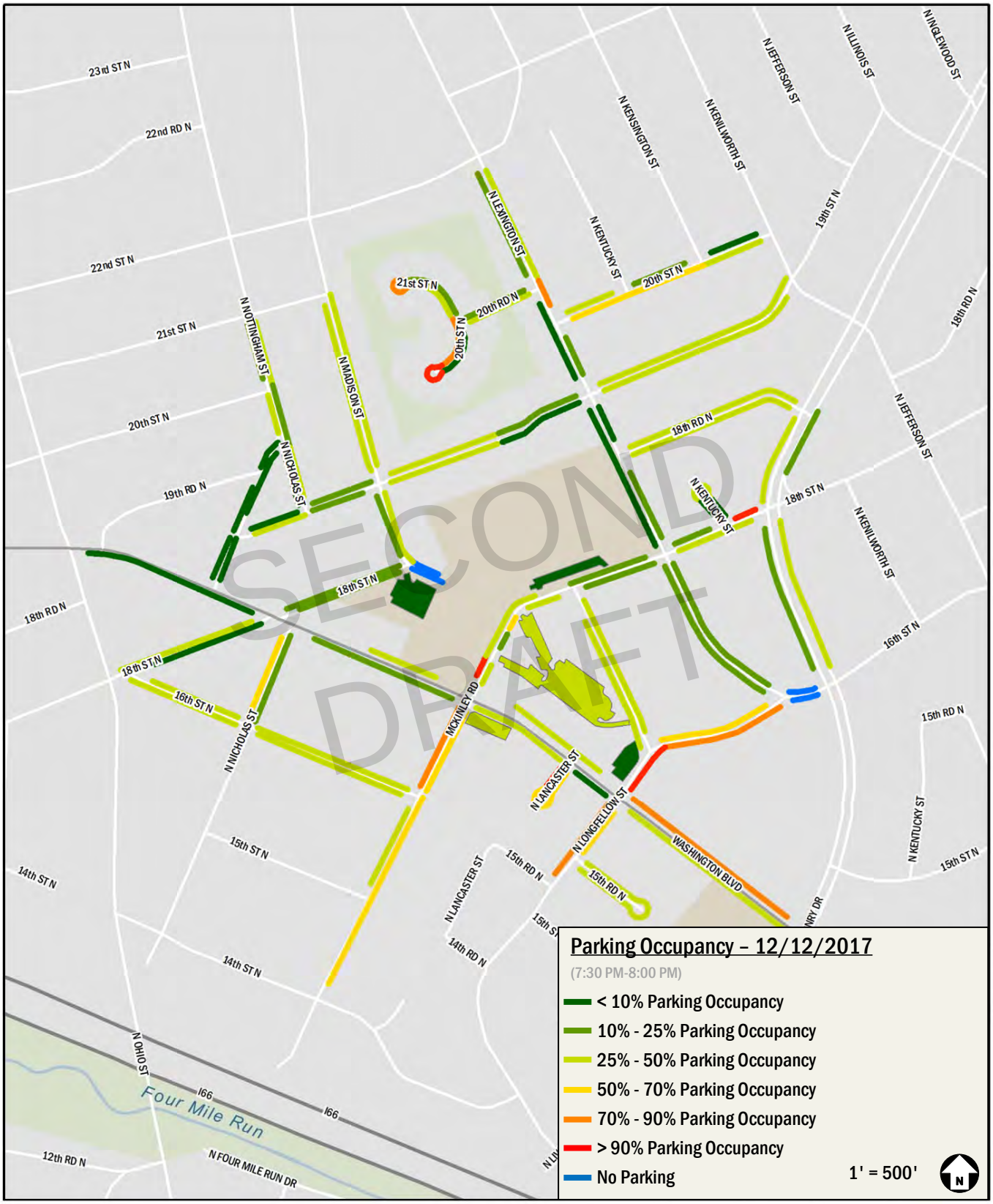
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Parking Occupancy – 12/12/2017
(7:30 PM-8:00 PM)
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70% - 90% Parking Occupancy
> 90% Parking Occupancy
No Parking
1' = 500'
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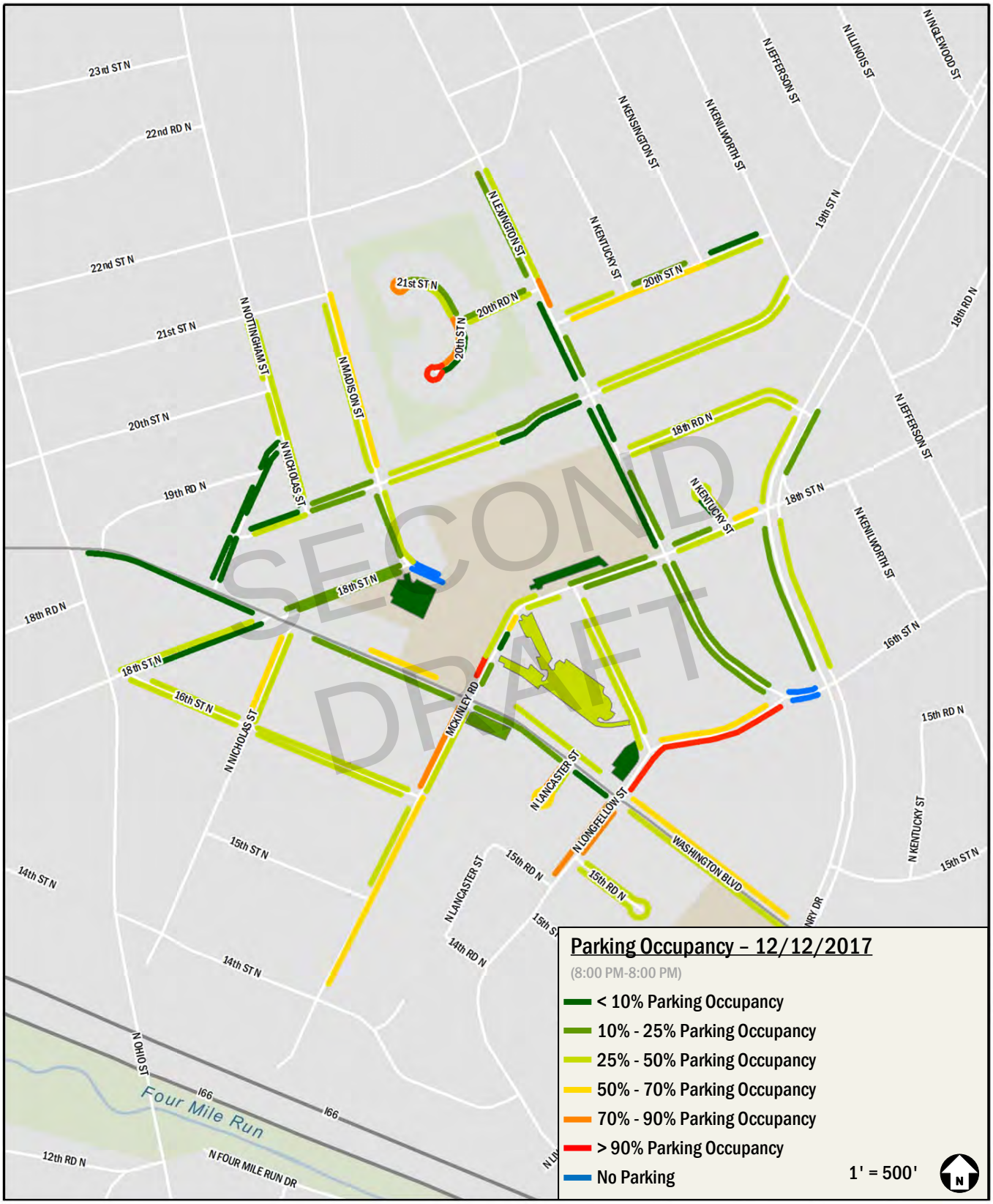
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Parking Occupancy – 12/12/2017
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Four Mile Run
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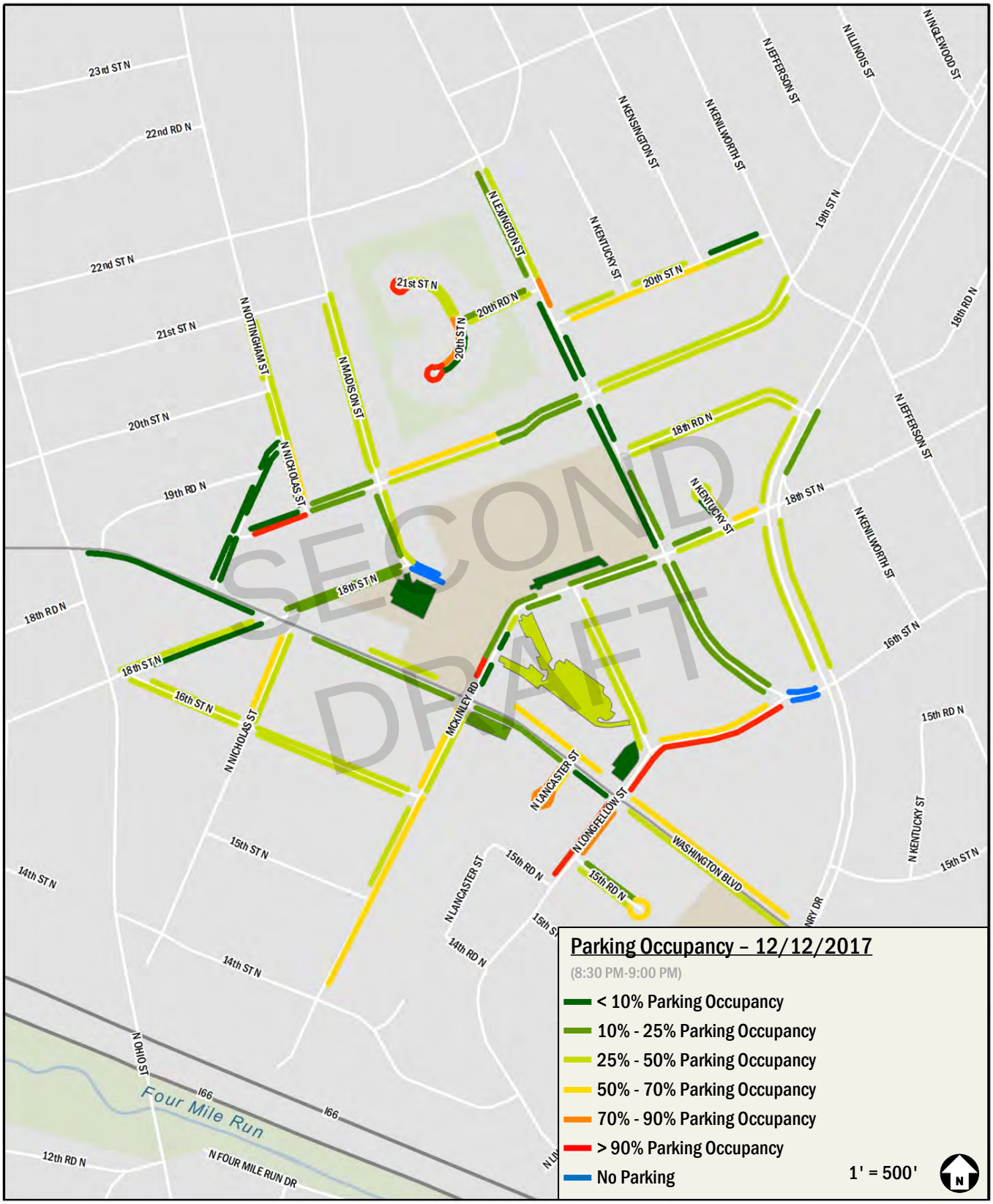
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Parking Occupancy – 12/12/2017
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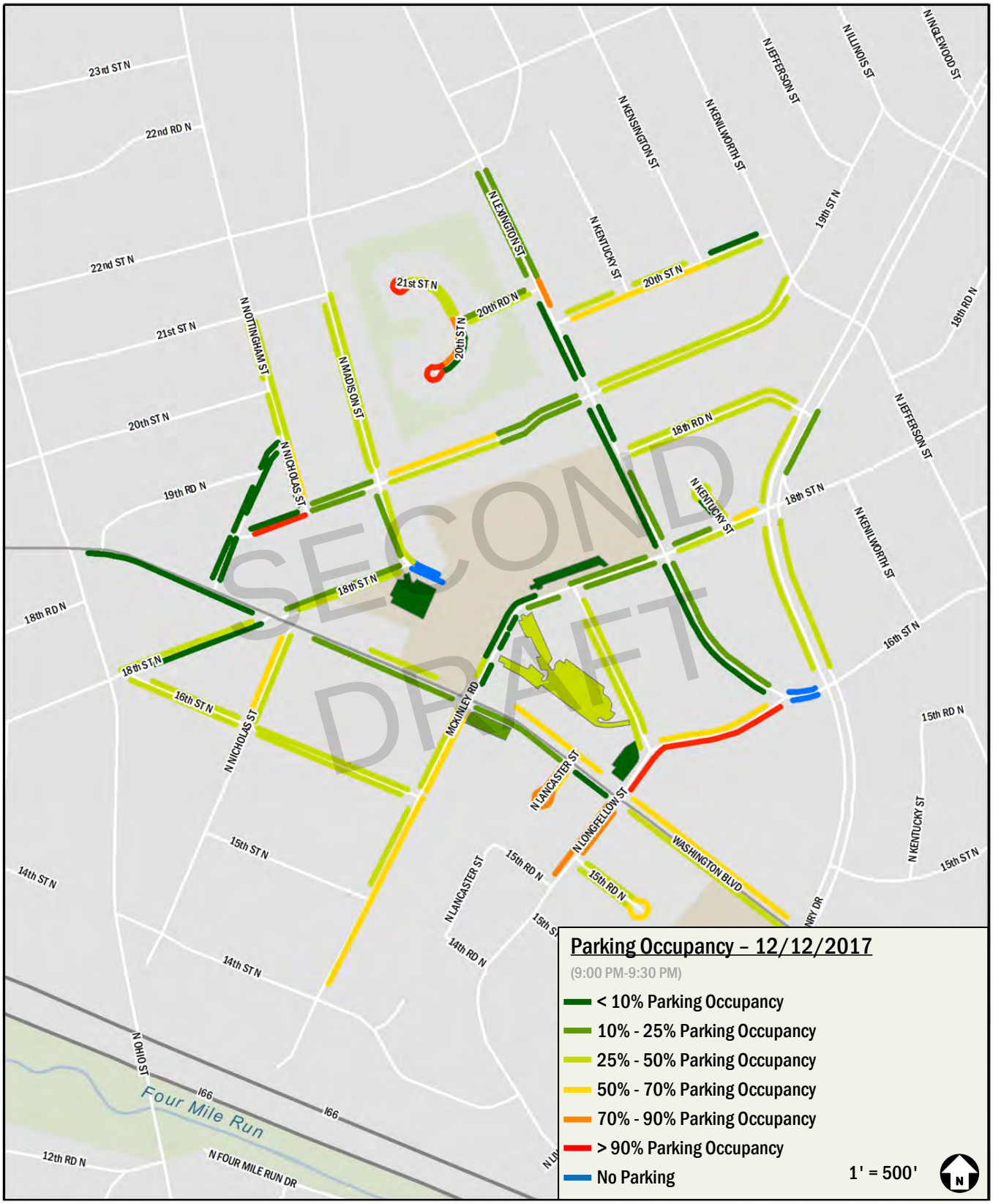
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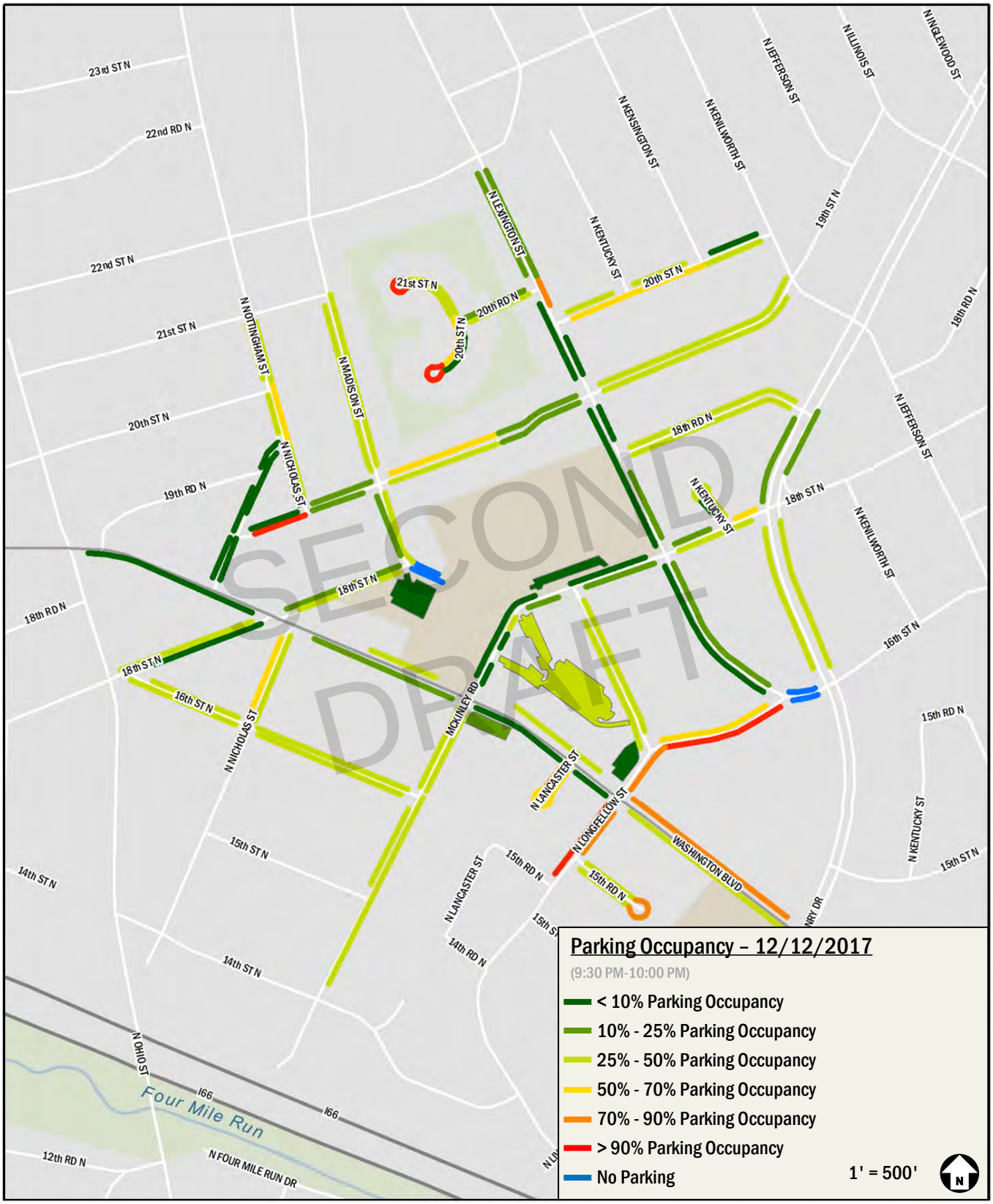
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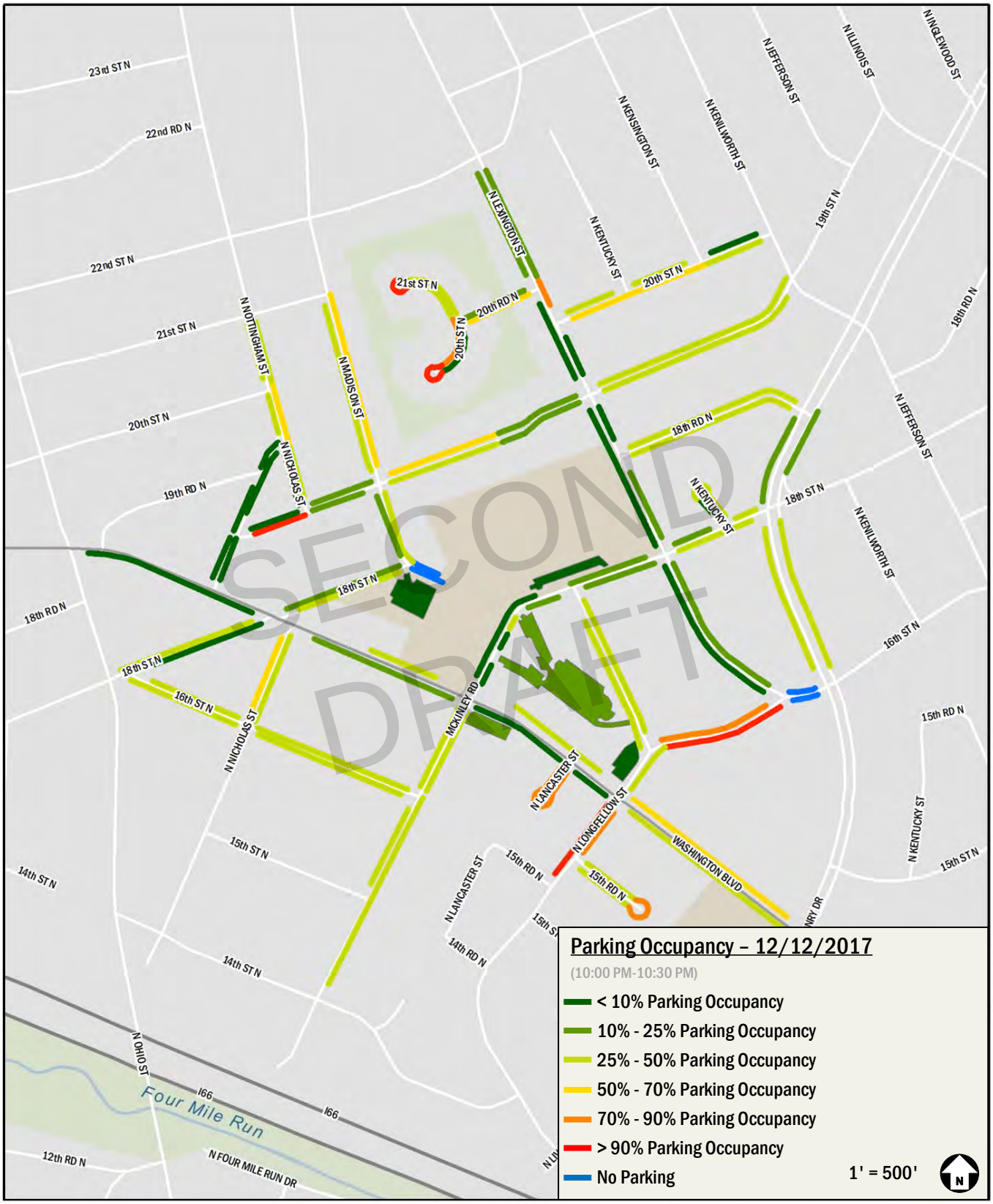
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MCKINLEY RD
N LANCASTER ST
N LONGFELLOW ST
WASHINGTON BLVD
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I66
Four Mile Run
N FOUR MILE RUN DR

Appendix C

Parking Occupancy Spot Count

SECOND DRAFT

REED SCHOOL PARKING STUDY
4/12/2018

OLD BLOCK NUMBER	RESTRICTIONS	BUS STOPS	HC SPACES	TOTAL SPACES	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30
3	No Restrictions		1	27	15	22	19	22	24	25	27	24
4	No Restrictions	YES		2	0	0	0	0	0	2	2	0
5	No Restrictions	YES		5	1	2	4	6	7	8	6	6
19	No Restrictions			7	7	8	7	7	9	8	7	7
14	No Restrictions			7	2	3	6	5	6	6	6	6
29	No Restrictions	YES		10	2	3	5	7	3	5	2	4
20	No Restrictions			20	6	8	7	8	8	9	12	11
88	No Restrictions			16	8	7	8	7	8	8	8	8
89	No Restrictions			14	1	1	1	1	1	1	1	1
87	No Parking			0	0	0	0	0	0	0	0	0
86	No Parking			0	0	0	0	0	0	0	0	0
91	No Restrictions			11	2	2	3	2	2	2	2	1
90	No Restrictions			8	1	1	1	1	1	1	1	1
83	No Restrictions			14	2	2	2	1	2	2	2	3
81	No Restrictions			13	1	1	2	1	2	2	2	3
82	No Restrictions			14	4	4	4	3	3	3	3	3
80	No Restrictions			9	2	2	2	2	1	1	1	1
84	No Restrictions			6	1	1	1	1	1	1	1	1
61	No Restrictions			6	0	1	0	0	0	0	0	0
85	No Restrictions			14	1	2	1	1	1	1	1	1
56	No Restrictions			6	1	0	0	0	0	0	1	0
44	South Block Is No Parking			8	0	0	0	0	1	1	1	1
42	No Restrictions			19	3	2	2	2	2	2	2	2
40	No Parking			0	0	0	0	0	0	0	0	0
45	No Parking			0	0	0	0	0	0	0	0	0
57	No Restrictions			24	4	4	5	5	5	6	6	6
58	No Restrictions			20	6	5	5	5	5	6	7	6
43	No Restrictions			8	1	1	1	1	1	1	1	1
34	No Restrictions			13	5	6	5	6	6	6	5	6
33	No Restrictions			0	0	0	0	0	0	0	0	0
32	No Parking 7:00AM to 12:30PM on Sundays			4	1	3	3	3	2	0	0	2
31	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			9	8	7	7	8	6	6	5	7
30	No Parking Except Vendors 7:00AM to 12:30PM on Sunday---1Hour Parking 8:00AM to 6:00PM Monday to Friday			10	7	10	10	6	6	4	3	5
38	No Restrictions			4	2	2	2	2	2	3	5	5
37	Travel Lanes			0	0	0	0	0	0	0	0	0
36	2 Hour Parking 8:00AM to 6:00PM Except Sundays & Holidays(2 Spaces)(East Corner)			18	3	3	3	4	5	6	5	5
35	No Restrictions			20	9	9	10	7	9	8	8	8
P-1	No Overnight Parking, Reserved for Patrons and Guests		1	21	7	9	9	10	20	25	21	10
P-2	Customers Only Parking		2	32	12	20	24	32	28	32	30	33
P-3	Westover Customers Only---16 spaces reserved for US postal Service---13 spaces (30 min Parking)		5	120	53	63	68	60	66	76	71	73
P-4	Also had 4 Car Pool Spaces		2	46	41	44	42	39	37	37	35	36
P-5	Also had 1 Carpool Space and 3 (15Min Parking)		2	22	16	18	15	11	13	13	11	19
			13	607	235	276	284	276	293	317	301	306

SECOND DRAFT

OLD BLOCK NUMBER	RESTRICTIONS	BUS STOPS	HC SPACES	TOTAL SPACES	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00
3	No Restrictions		1	27	20	21	22	22	17	25	22	24	25
4	No Restrictions	YES		2	0	0	0	0	0	0	0	0	0
5	No Restrictions	YES		5	5	4	3	2	1	0	1	5	6
19	No Restrictions			7	7	7	7	7	6	6	8	8	8
14	No Restrictions			7	5	5	5	5	3	3	3	4	4
29	No Restrictions	YES		10	3	5	5	5	5	5	5	5	4
20	No Restrictions			20	9	8	8	7	8	9	7	8	7
88	No Restrictions			16	8	8	8	7	6	6	5	5	5
89	No Restrictions			14	1	1	1	1	1	2	2	2	2
87	No Parking			0	0	0	0	0	0	0	0	0	0
86	No Parking			0	0	0	0	0	0	0	0	0	0
91	No Restrictions			11	1	1	1	2	2	2	2	3	3
90	No Restrictions			8	2	2	2	2	2	0	0	0	0
83	No Restrictions			14	3	3	4	4	5	5	5	5	4
81	No Restrictions			13	1	2	2	2	2	2	2	2	2
82	No Restrictions			14	2	2	2	2	3	3	3	4	2
80	No Restrictions			9	1	1	1	1	2	2	2	2	2
84	No Restrictions			6	1	1	2	2	2	2	2	2	2
61	No Restrictions			6	0	0	0	0	0	0	0	0	0
85	No Restrictions			14	1	2	2	2	1	3	2	3	11
56	No Restrictions			6	2	1	0	0	0	0	1	3	6
44	South Block Is No Parking			8	1	1	1	0	0	0	2	2	2
42	No Restrictions			19	2	2	2	3	4	6	4	3	4
40	No Parking			0	0	0	0	0	0	0	0	0	0
45	No Parking			0	0	0	0	0	0	0	0	0	0
57	No Restrictions			24	6	6	6	6	7	7	8	5	5
58	No Restrictions			20	6	6	6	7	7	7	9	8	8
43	No Restrictions			8	1	2	2	2	2	2	2	2	2
34	No Restrictions			13	5	5	5	5	5	4	4	4	7
33	No Restrictions			0	0	0	0	0	0	0	0	0	1
32	No Parking 7:00AM to 12:30PM on Sundays			4	2	2	2	2	3	4	3	1	2
31	1 Hour Parking 8:00AM to 6:00PM Monday to Friday---No Parking 7:00AM to 12:30PM on Sundays			9	6	6	5	7	8	7	8	8	7
30	No Parking Except Vendors 7:00AM to 12:30PM on Sunday---1Hour Parking 8:00AM to 6:00PM Monday to Friday			10	5	9	11	7	11	11	6	9	8
38	No Restrictions			4	5	5	5	5	5	5	5	5	5
37	Travel Lanes			0	0	0	0	0	0	0	0	0	0
36	2 Hour Parking 8:00AM to 6:00PM Except Sundays & Holidays(2 Spaces)(East Corner)			18	5	5	5	4	5	7	7	6	6
35	No Restrictions			20	7	9	10	10	8	9	10	9	9
P-1	No Overnight Parking, Reserved for Patrons and Guests		1	21	10	15	20	13	9	8	8	12	21
P-2	Customers Only Parking		2	32	24	22	20	20	19	22	31	32	32
P-3	Westover Customers Only---16 spaces reserved for US postal Service---13 spaces (30 min Parking)		5	120	64	71	75	83	84	82	85	80	81
P-4	Also had 4 Car Pool Spaces		2	46	38	33	29	26	19	16	9	6	2
P-5	Also had 1 Carpool Space and 3 (15Min Parking)		2	22	21	20	18	24	22	20	25	24	22
			13	607	280	293	297	297	284	292	298	301	317

SECOND DRAFT

Appendix D

Existing Turning Movement Counts

SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:45 AM to 08:45 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 18th Street & Washington Blvd

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					Washington Blvd					18th Street					Washington Blvd				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM to 06:15 AM	0	0	0	0	0	0	1	25	1	0	0	0	0	1	0	0	2	34	0	0
06:15 AM to 06:30 AM	0	0	0	1	1	0	1	25	1	1	0	0	0	0	2	0	0	58	0	0
06:30 AM to 06:45 AM	0	0	0	1	0	0	0	39	1	0	0	0	1	0	0	0	0	73	0	0
06:45 AM to 07:00 AM	0	0	1	0	0	0	1	48	1	0	0	0	0	0	0	0	5	113	0	0
07:00 AM to 07:15 AM	0	2	0	0	1	0	1	83	2	0	0	0	0	3	1	0	1	131	0	0
07:15 AM to 07:30 AM	0	0	0	0	12	0	3	91	5	1	0	0	1	5	11	0	4	173	1	0
07:30 AM to 07:45 AM	0	1	0	1	4	1	2	117	2	0	0	0	1	3	4	0	5	186	1	0
07:45 AM to 08:00 AM	0	1	0	2	1	0	4	148	4	0	0	0	1	6	0	0	6	170	0	0
08:00 AM to 08:15 AM	0	2	2	0	0	0	3	108	2	0	0	0	1	3	3	0	3	182	0	0
08:15 AM to 08:30 AM	0	2	1	1	0	0	2	143	5	0	0	0	2	4	0	0	1	191	0	0
08:30 AM to 08:45 AM	0	1	1	1	3	1	3	148	4	0	0	0	1	8	1	0	2	178	0	1
08:45 AM to 09:00 AM	0	1	0	1	1	0	4	119	2	2	0	0	2	4	1	0	3	191	1	0
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	13				5	541				0	21				7	745				0
07:30 AM to 08:30 AM	0	6	3	4		1	11	516	13		0	0	5	16		0	15	729	1	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
0.94	n/a	0.75	0.38	0.50	**0.81**	0.25	0.69	0.87	0.65	**0.87**	n/a	n/a	0.63	0.67	**0.75**	n/a	0.63	0.95	0.25	**0.97**

HEAVY VEHICLES (FHWA 4+)

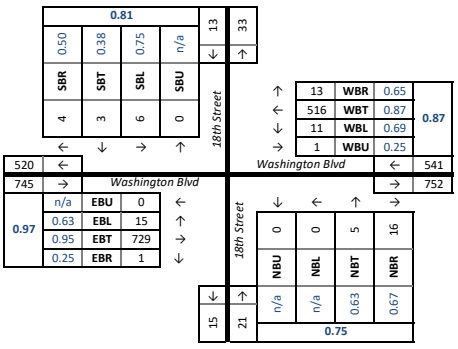
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				Washington Blvd				18th Street				Washington Blvd			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	4	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	7	1	0	0	0	0	0	0	6	0
07:15 AM to 07:30 AM	0	0	0	0	0	1	7	1	0	0	0	0	0	0	7	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
07:45 AM to 08:00 AM	0	0	0	0	0	1	5	0	0	0	0	0	0	0	6	0
08:00 AM to 08:15 AM	0	1	0	0	0	0	6	0	0	0	0	0	0	0	4	0
08:15 AM to 08:30 AM	0	0	1	0	0	0	2	1	0	0	0	0	0	0	4	0
08:30 AM to 08:45 AM	0	0	0	0	0	1	3	0	0	0	0	0	0	0	4	0
08:45 AM to 09:00 AM	0	1	0	0	0	0	3	0	0	0	1	0	0	0	12	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	2				17				0				16			
07:30 AM to 08:30 AM	0	1	1	0	0	1	15	1	0	0	0	0	0	0	16	0
Heavy Vehicle % (PHV):	0.0%	16.7%	33.3%	0.0%	**15.4%**	0.0%	9.1%	2.9%	7.7%	**3.1%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	2.2%	0.0%	**2.1%**
INT. PEAK HR (HV ONLY)	0				25				0				21			
07:00 AM to 08:00 AM	0	0	0	0	0	2	21	2	0	0	0	0	0	0	21	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	20.0%	4.8%	15.4%	**5.4%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	3.2%	0.0%	**3.1%**

BICYCLES

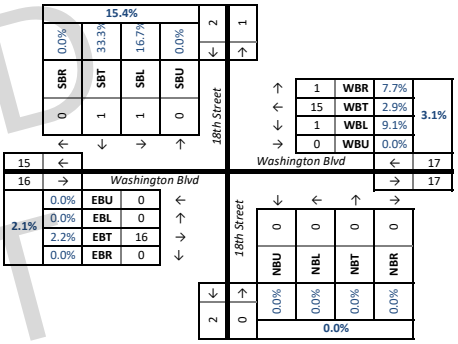
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				Washington Blvd				18th Street				Washington Blvd			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:15 AM to 08:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	1				0				0				2			
07:30 AM to 08:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0
INT. PEAK HR (BIKES)	1				1				0				2			
06:30 AM to 07:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	0

DATA COLLECTION NOTES :

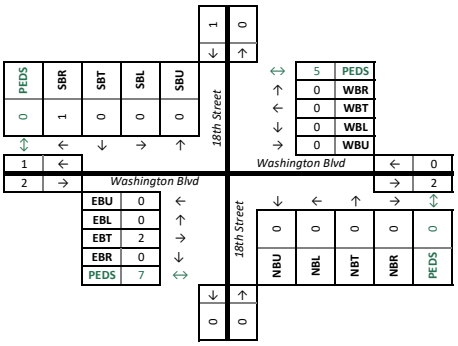
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 08:00 AM to 09:00 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. McKinley Road & Washington Blvd

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	McKinley Road					Washington Blvd					McKinley Road					Washington Blvd				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM to 06:15 AM	0	0	0	1	1	0	0	25	3	0	0	0	0	0	0	0	1	37	0	0
06:15 AM to 06:30 AM	0	4	0	0	1	0	0	52	2	6	0	0	0	3	4	0	2	109	1	2
06:30 AM to 06:45 AM	0	1	0	4	2	0	0	35	0	2	0	1	0	1	2	0	2	73	0	3
06:45 AM to 07:00 AM	0	2	4	5	1	0	0	45	3	1	0	0	0	2	0	0	3	110	0	3
07:00 AM to 07:15 AM	0	5	0	10	1	0	1	78	8	0	0	0	2	2	2	0	13	120	1	0
07:15 AM to 07:30 AM	0	13	2	10	21	0	1	83	4	0	0	4	2	6	10	0	14	163	1	1
07:30 AM to 07:45 AM	0	11	5	8	6	0	1	109	16	3	0	2	1	6	16	0	6	189	2	4
07:45 AM to 08:00 AM	0	9	2	8	6	0	4	145	12	2	0	1	2	5	3	0	8	166	2	3
08:00 AM to 08:15 AM	0	7	4	7	0	0	7	107	11	0	0	2	3	3	1	0	11	179	1	2
08:15 AM to 08:30 AM	0	5	7	12	0	0	1	135	3	0	0	4	4	6	0	0	10	176	2	0
08:30 AM to 08:45 AM	0	5	8	11	1	0	3	143	6	0	0	0	1	3	0	0	14	182	0	4
08:45 AM to 09:00 AM	0	14	6	10	0	0	3	119	15	1	0	1	5	6	1	0	14	176	2	0
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	85				12	551				5	39				20	752				9
07:30 AM to 08:30 AM	0	32	18	35		0	13	496	42		0	9	10	20		0	35	710	7	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.98**	n/a	0.73	0.64	0.73	**0.89**	n/a	0.46	0.86	0.66	**0.86**	n/a	0.56	0.63	0.83	**0.70**	n/a	0.80	0.94	0.88	**0.95**
INT. PEAK HR (ALL VEH)	96				1	553				1	38				2	767				6
08:00 AM to 09:00 AM	0	31	25	40		0	14	504	35		0	7	13	18		0	49	713	5	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.97**	n/a	0.55	0.78	0.83	**0.80**	n/a	0.50	0.88	0.58	**0.91**	n/a	0.44	0.65	0.75	**0.68**	n/a	0.88	0.98	0.63	**0.98**
SYSTEM PEAK HR (VEH.)	85				12	551				5	39				20	752				9
07:30 AM to 08:30 AM	0	32	18	35		0	13	496	42		0	9	10	20		0	35	710	7	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.98**	n/a	0.73	0.64	0.73	**0.89**	n/a	0.46	0.86	0.66	**0.86**	n/a	0.56	0.63	0.83	**0.70**	n/a	0.80	0.94	0.88	**0.95**
USER-DEFINED PEAK HR	83				34	462				5	33				31	685				8
07:00 AM to 08:00 AM	0	38	9	36		0	7	415	40		0	7	7	19		0	41	638	6	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.87**	n/a	0.73	0.45	0.90	**0.83**	n/a	0.44	0.72	0.63	**0.72**	n/a	0.44	0.88	0.79	**0.69**	n/a	0.73	0.84	0.75	**0.87**

HEAVY VEHICLES (FHWA 4+)

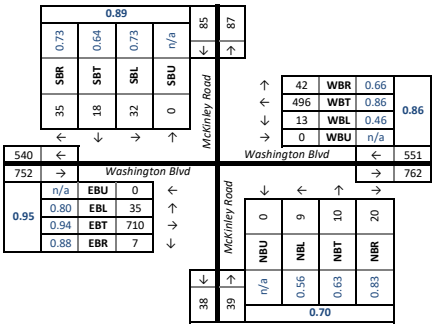
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	McKinley Road				Washington Blvd				McKinley Road				Washington Blvd			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	6	2	0	0	0	0	0	0	8	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
06:45 AM to 07:00 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	4	0
07:00 AM to 07:15 AM	0	0	0	1	0	0	6	1	0	0	0	0	0	1	4	1
07:15 AM to 07:30 AM	0	0	0	1	0	0	9	0	0	0	0	0	0	0	6	0
07:30 AM to 07:45 AM	0	0	2	0	0	0	1	1	0	0	0	0	0	0	4	0
07:45 AM to 08:00 AM	0	4	0	0	0	0	5	0	0	0	1	0	0	0	5	0
08:00 AM to 08:15 AM	0	2	0	1	0	1	3	0	0	1	0	0	0	2	4	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	1	3	0
08:30 AM to 08:45 AM	0	0	2	1	0	0	3	0	0	0	0	0	0	1	3	0
08:45 AM to 09:00 AM	0	1	0	0	0	0	2	1	0	0	0	1	0	1	12	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	9				14				2				19			
07:30 AM to 08:30 AM	0	6	2	1	0	1	12	1	0	1	1	0	0	3	16	0
Heavy Vehicle % (PHV):	0.0%	18.8%	11.1%	2.9%	**10.6%**	0.0%	7.7%	2.4%	2.4%	**2.5%**	0.0%	11.1%	10.0%	0.0%	**5.1%**	0.0%	8.6%	2.3%	0.0%	**2.5%**
INT. PEAK HR (HV ONLY)	8				23				1				21			
07:00 AM to 08:00 AM	0	4	2	2	0	0	21	2	0	0	1	0	0	1	19	1
Heavy Vehicle % (PHV):	0.0%	10.5%	22.2%	5.6%	**9.6%**	0.0%	0.0%	5.1%	5.0%	**5.0%**	0.0%	0.0%	14.3%	0.0%	**3.0%**	0.0%	2.4%	3.0%	16.7%	**3.1%**

BICYCLES

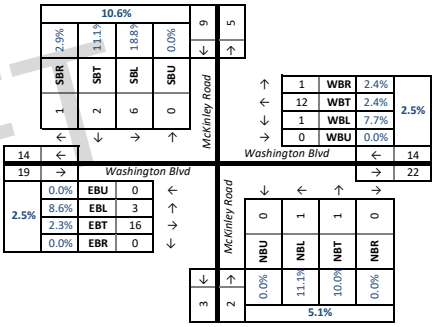
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	McKinley Road				Washington Blvd				McKinley Road				Washington Blvd			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	0				0				0				3			
07:30 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
INT. PEAK HR (BIKES)	0				1				0				4			
06:30 AM to 07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0

DATA COLLECTION NOTES :

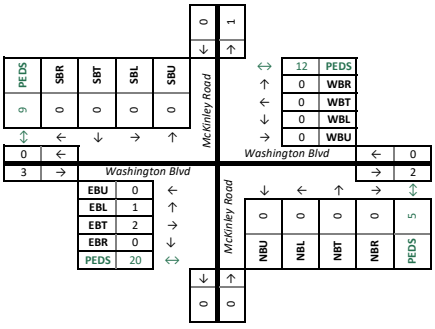
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 08:00 AM to 09:00 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 18th Street & /Parking Lot Exit

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street										18th Street					Parking Lot Exit				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM	to 06:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
06:15 AM	to 06:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
06:30 AM	to 06:45 AM	0	0	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
06:45 AM	to 07:00 AM	0	0	10	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	12	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	4	2
07:15 AM	to 07:30 AM	0	0	19	0	0	0	0	0	0	0	0	0	19	0	0	0	1	0	4	9
07:30 AM	to 07:45 AM	0	0	20	0	0	0	0	0	0	0	0	0	24	0	0	0	4	0	5	3
07:45 AM	to 08:00 AM	0	0	16	0	0	0	0	0	0	0	0	0	18	0	0	0	3	0	2	2
08:00 AM	to 08:15 AM	0	0	16	0	0	0	0	0	0	0	0	0	23	0	0	0	4	0	3	2
08:15 AM	to 08:30 AM	0	0	17	1	0	0	0	0	0	0	0	0	16	0	0	0	2	0	5	2
08:30 AM	to 08:45 AM	0	0	21	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	3	5
08:45 AM	to 09:00 AM	0	0	25	0	0	0	0	0	0	0	1	0	22	0	0	0	4	0	7	3
09:00 AM	to 09:15 AM																				
09:15 AM	to 09:30 AM																				
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
SYSTEM PEAK HR (VEH.)		70				0	0				0	81				0	28				9
07:30 AM	to 08:30 AM	0	0	69	1		0	0	0	0		0	0	81	0		0	13	0	15	
Peak Hour Factor (PHF)	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	0.84	n/a	n/a	0.86	0.25	**0.88**	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	0.84	n/a	**0.84**	n/a	0.81	n/a	0.75	**0.78**

HEAVY VEHICLES (FHWA 4+)

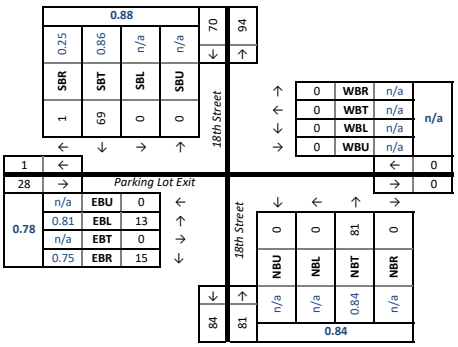
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	18th Street								18th Street				Parking Lot Exit			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM	to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	to 07:45 AM	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0
07:45 AM	to 08:00 AM	0	0	5	0	0	0	0	0	0	0	1	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0
08:45 AM	to 09:00 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
09:00 AM	to 09:15 AM																
09:15 AM	to 09:30 AM																
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
SYSTEM PEAK HR (VEH.)		8				0				5				0			
07:30 AM	to 08:30 AM	0	0	8	0	0	0	0	0	0	0	5	0	0	0	0	0
Heavy Vehicle % (PHV):		0.0%	0.0%	11.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	0.0%	0.0%	0.0%
INT. PEAK HR (HV ONLY)		8				0				5				0			
07:30 AM	to 08:30 AM	0	0	8	0	0	0	0	0	0	0	5	0	0	0	0	0
Heavy Vehicle % (PHV):		0.0%	0.0%	11.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	0.0%	0.0%	0.0%

BICYCLES

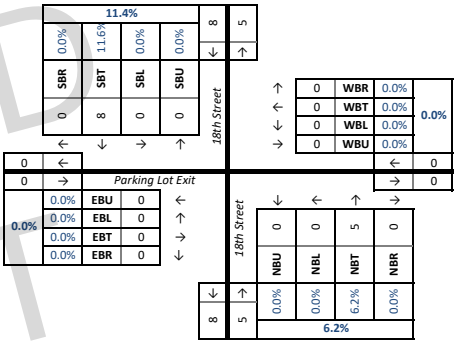
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	18th Street								18th Street				Parking Lot Exit			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM	to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM																
09:15 AM	to 09:30 AM																
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
SYSTEM PEAK HR (VEH.)		0				0				0				0			
07:30 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)		0				0				1				0			
06:00 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

DATA COLLECTION NOTES :

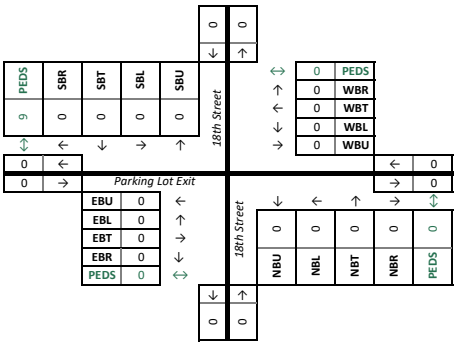
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:15 AM to 08:15 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 18th Street & N Longfellow Street/

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					N Longfellow Street					18th Street									
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM to 06:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	4	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	11	0	0	1	0	0	0	0	0	0	2	0	1	0	0	0	0	0
07:00 AM to 07:15 AM	0	3	8	0	0	0	3	0	1	0	1	0	12	1	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	17	0	0	0	3	0	3	1	0	0	20	0	3	0	0	0	0	0
07:30 AM to 07:45 AM	0	1	19	0	0	0	1	0	4	1	0	0	24	2	3	0	0	0	0	0
07:45 AM to 08:00 AM	0	2	12	0	0	0	4	0	6	1	0	0	19	3	2	0	0	0	0	0
08:00 AM to 08:15 AM	0	3	14	0	0	0	2	0	2	0	0	0	22	6	3	0	0	0	0	0
08:15 AM to 08:30 AM	0	3	13	0	0	0	4	0	2	0	0	0	18	1	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	1	18	0	0	0	4	0	4	0	0	0	13	2	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	4	21	0	0	0	3	0	2	0	0	0	22	4	2	0	0	0	0	0
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	67				0	25				2	95				8	0				0
07:30 AM to 08:30 AM	0	9	58	0		0	11	0	14		0	0	83	12		0	0	0	0	
Peak Hour Factor (PHF) Overall **0.92**	U n/a	Left 0.75	Thru 0.76	Right n/a	**SB 0.84**	U n/a	Left 0.69	Thru n/a	Right 0.58	**WB 0.63**	U n/a	Left n/a	Thru 0.86	Right 0.50	**NB 0.85**	U n/a	Left n/a	Thru n/a	Right n/a	**EB n/a**

HEAVY VEHICLES (FHWA 4+)

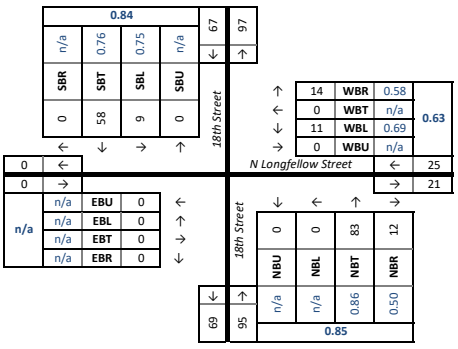
Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					N Longfellow Street					18th Street									
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:00 AM to 06:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 AM to 06:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 AM to 06:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 AM to 07:00 AM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:00 AM to 07:15 AM	0	0	0	0		0	1	0	0		0	0	0	0		0	0	0	0	
07:15 AM to 07:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:30 AM to 07:45 AM	0	0	2	0		0	0	0	0		0	0	1	0		0	0	0	0	
07:45 AM to 08:00 AM	0	0	4	0		0	1	0	0		0	0	1	0		0	0	0	0	
08:00 AM to 08:15 AM	0	1	1	0		0	0	0	0		0	0	2	0		0	0	0	0	
08:15 AM to 08:30 AM	0	1	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
08:30 AM to 08:45 AM	0	0	3	0		0	0	0	1		0	0	1	0		0	0	0	0	
08:45 AM to 09:00 AM	0	0	1	0		0	0	0	0		0	0	0	1		0	0	0	0	
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	9					1					5					0				
07:30 AM to 08:30 AM	0	2	7	0		0	1	0	0		0	0	5	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	22.2%	12.1%	0.0%	**13.4%**	0.0%	9.1%	0.0%	0.0%	**4.0%**	0.0%	0.0%	6.0%	0.0%	**5.3%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)	10					2					5					0				
07:45 AM to 08:45 AM	0	2	8	0		0	1	0	1		0	0	5	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	22.2%	14.0%	0.0%	**15.2%**	0.0%	7.1%	0.0%	7.1%	**7.1%**	0.0%	0.0%	6.9%	0.0%	**6.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

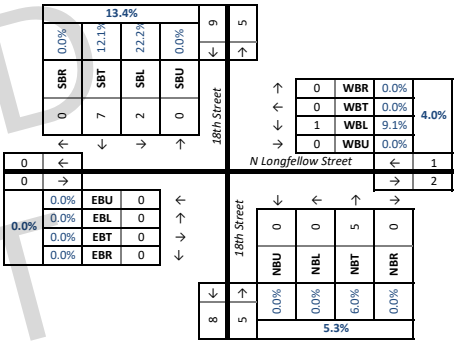
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				N Longfellow Street				18th Street							
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	1				0				0				0			
07:30 AM to 08:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	1				0				0				0			
06:45 AM to 07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DATA COLLECTION NOTES :

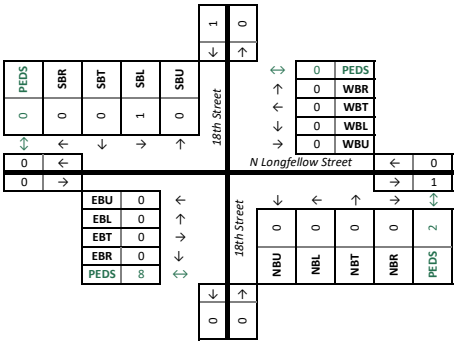
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:15 AM to 08:15 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 18th Street & /Parking Lot Entrance

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street										18th Street					Parking Lot Entrance				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM to 06:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1
06:15 AM to 06:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:45 AM to 07:00 AM	0	0	11	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1
07:00 AM to 07:15 AM	0	0	11	1	0	0	0	0	0	0	0	8	5	0	0	0	0	0	0	1
07:15 AM to 07:30 AM	0	0	17	1	0	0	0	0	0	0	0	5	18	0	0	0	0	0	0	1
07:30 AM to 07:45 AM	0	0	20	2	0	0	0	0	0	0	0	3	25	0	0	0	0	0	0	3
07:45 AM to 08:00 AM	0	0	14	2	0	0	0	0	0	0	0	6	19	0	0	0	0	0	0	8
08:00 AM to 08:15 AM	0	0	17	6	0	0	0	0	0	0	0	3	21	0	0	0	0	0	0	4
08:15 AM to 08:30 AM	0	0	16	1	0	0	0	0	0	0	0	2	18	0	0	0	0	0	0	4
08:30 AM to 08:45 AM	0	0	19	3	0	0	0	0	0	0	0	5	12	0	0	0	0	0	0	1
08:45 AM to 09:00 AM	0	0	25	2	0	0	0	0	0	0	0	8	16	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	78				0	0				0	97				0	0				19
07:30 AM to 08:30 AM	0	0	67	11		0	0	0	0		0	14	83	0		0	0	0	0	
Peak Hour Factor (PHF) Overall **0.88**	U	Left	Thru	Right	**SB 0.85**	U	Left	Thru	Right	**WB n/a**	U	Left	Thru	Right	**NB 0.87**	U	Left	Thru	Right	**EB n/a**
	n/a	n/a	0.84	0.46		n/a	n/a	n/a	n/a		n/a	0.58	0.83	n/a		n/a	n/a	n/a	n/a	

HEAVY VEHICLES (FHWA 4+)

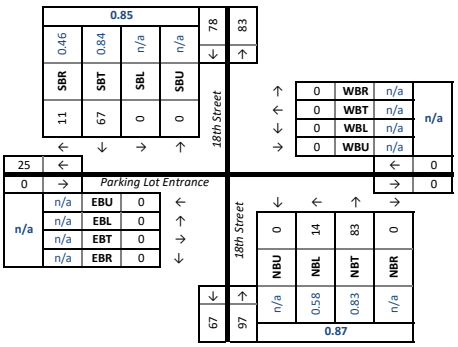
Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street										18th Street					Parking Lot Entrance				
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:00 AM to 06:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 AM to 06:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 AM to 06:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 AM to 07:00 AM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:00 AM to 07:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:15 AM to 07:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:30 AM to 07:45 AM	0	0	2	0		0	0	0	0		0	0	1	0		0	0	0	0	
07:45 AM to 08:00 AM	0	0	4	0		0	0	0	0		0	0	1	0		0	0	0	0	
08:00 AM to 08:15 AM	0	0	2	0		0	0	0	0		0	0	2	0		0	0	0	0	
08:15 AM to 08:30 AM	0	0	1	0		0	0	0	0		0	0	1	0		0	0	0	0	
08:30 AM to 08:45 AM	0	0	3	0		0	0	0	0		0	0	2	0		0	0	0	0	
08:45 AM to 09:00 AM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	9					0					5					0				
07:30 AM to 08:30 AM	0	0	9	0		0	0	0	0		0	0	5	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	13.4%	0.0%	**11.5%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	6.0%	0.0%	**5.2%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)	10					0					6					0				
07:45 AM to 08:45 AM	0	0	10	0		0	0	0	0		0	0	6	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	15.2%	0.0%	**12.8%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	8.6%	0.0%	**7.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

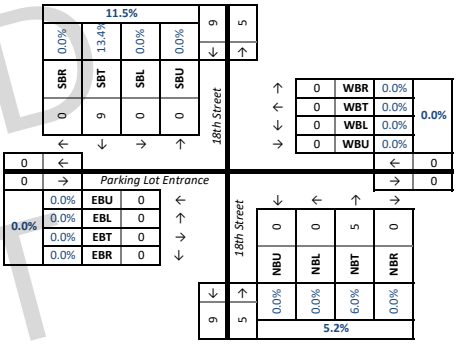
Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street										18th Street					Parking Lot Entrance				
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:00 AM to 06:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 AM to 06:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 AM to 06:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 AM to 07:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:00 AM to 07:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:15 AM to 07:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:30 AM to 07:45 AM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:45 AM to 08:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
08:00 AM to 08:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
08:15 AM to 08:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
08:30 AM to 08:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
08:45 AM to 09:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	1					0					0					0				
07:30 AM to 08:30 AM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
INT. PEAK HR (BIKES)	1					0					0					0				
06:45 AM to 07:45 AM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	

DATA COLLECTION NOTES :

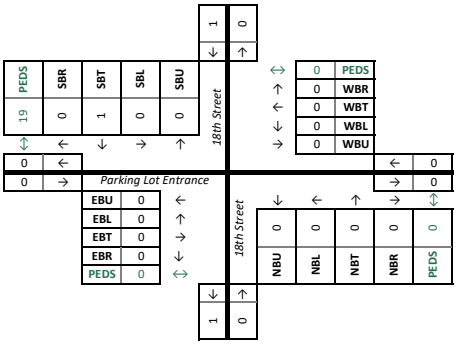
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:30 AM to 08:30 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 18th Street/18th Street & N Lexington Street

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street					N Lexington Street					18th Street					N Lexington Street				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM	to 06:15 AM	0	0	0	0	1	0	0	0	0	0	0	2	2	0	1	0	0	0	1	1
06:15 AM	to 06:30 AM	0	0	0	1	3	0	0	0	1	1	0	0	0	1	1	0	1	0	2	0
06:30 AM	to 06:45 AM	0	0	1	0	0	0	2	1	0	0	0	1	0	0	0	0	2	1	1	0
06:45 AM	to 07:00 AM	0	0	4	1	2	0	3	1	0	0	0	1	0	1	0	0	0	3	4	2
07:00 AM	to 07:15 AM	0	0	4	2	1	0	1	2	0	3	0	2	3	0	3	0	1	7	6	0
07:15 AM	to 07:30 AM	0	0	6	0	1	0	5	10	0	5	0	6	5	7	3	0	0	13	7	1
07:30 AM	to 07:45 AM	0	0	6	2	9	0	3	13	0	0	0	16	5	4	2	0	1	39	13	2
07:45 AM	to 08:00 AM	0	1	4	2	0	0	8	14	0	3	0	7	9	4	0	0	1	26	6	3
08:00 AM	to 08:15 AM	0	0	4	0	0	0	9	11	0	0	0	9	3	8	0	0	1	28	10	3
08:15 AM	to 08:30 AM	0	0	8	1	1	0	1	9	3	0	0	6	8	4	0	0	0	21	7	4
08:30 AM	to 08:45 AM	0	0	11	1	0	0	5	11	0	0	0	6	4	3	0	0	0	18	7	1
08:45 AM	to 09:00 AM	0	0	7	1	0	0	3	8	0	0	0	5	7	4	0	0	1	12	15	2
09:00 AM	to 09:15 AM																				
09:15 AM	to 09:30 AM																				
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
SYSTEM PEAK HR (VEH.)		28				10	71				3	83				2	153				12
07:30 AM	to 08:30 AM	0	1	22	5		0	21	47	3		0	38	25	20		0	3	114	36	
Peak Hour Factor (PHF)	Overall **0.82**	U n/a	Left 0.25	Thru 0.69	Right 0.63	**SB 0.78**	U n/a	Left 0.58	Thru 0.84	Right 0.25	**WB 0.81**	U n/a	Left 0.59	Thru 0.69	Right 0.63	**NB 0.83**	U n/a	Left 0.75	Thru 0.73	Right 0.69	**EB 0.72**

HEAVY VEHICLES (FHWA 4+)

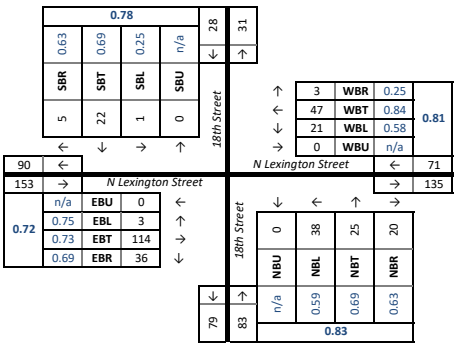
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	18th Street				N Lexington Street				18th Street				N Lexington Street			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM	to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
07:45 AM	to 08:00 AM	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	1
08:00 AM	to 08:15 AM	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	2
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
08:30 AM	to 08:45 AM	0	0	1	0	0	0	1	0	0	2	0	0	0	0	0	2
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:00 AM	to 09:15 AM																
09:15 AM	to 09:30 AM																
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
SYSTEM PEAK HR (VEH.)		0				4				5				6			
07:30 AM	to 08:30 AM	0	0	0	0	0	4	0	0	0	2	1	2	0	0	1	5
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	19.0%	0.0%	0.0% **5.6%**	0.0%	5.3%	4.0%	10.0% **6.0%**	0.0%	0.0%	0.9%	13.9% **3.9%**
INT. PEAK HR (HV ONLY)		1				5				6				6			
07:45 AM	to 08:45 AM	0	0	1	0	0	4	1	0	0	3	1	2	0	0	1	5
Heavy Vehicle % (PHV):		0.0%	0.0%	3.7%	0.0% **3.1%**	0.0%	17.4%	2.2%	0.0% **7.0%**	0.0%	10.7%	4.2%	10.5% **8.5%**	0.0%	0.0%	1.1%	16.7% **4.8%**

BICYCLES

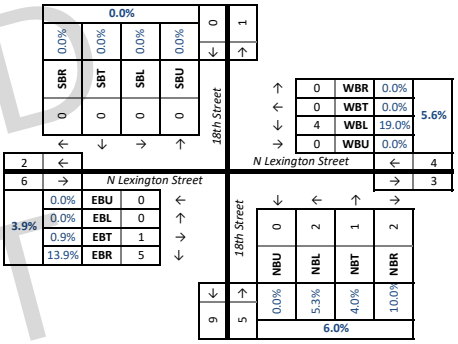
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	18th Street				N Lexington Street				18th Street				N Lexington Street			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM	to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
07:45 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM																
09:15 AM	to 09:30 AM																
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
SYSTEM PEAK HR (VEH.)		0				0				0				4			
07:30 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
INT. PEAK HR (BIKES)		0				0				0				5			
07:00 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3

DATA COLLECTION NOTES :

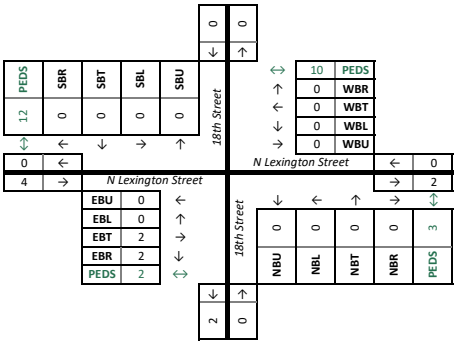
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:30 AM to 08:30 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 18th Street & Patrick Henry Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					Patrick Henry Drive					18th Street					Patrick Henry Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM to 06:15 AM	0	0	0	0	0	0	2	8	0	0	0	2	0	0	0	0	0	1	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	1	4	0	0	0	1	0	1	0	0	0	1	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	5	0	0	0	1	2	0	0	0	0	6	1	0
06:45 AM to 07:00 AM	0	0	1	0	0	0	1	12	0	0	0	1	0	0	0	0	0	13	4	0
07:00 AM to 07:15 AM	0	1	3	0	1	1	0	22	0	0	0	4	1	0	2	0	0	9	3	0
07:15 AM to 07:30 AM	0	0	1	0	2	1	0	26	0	3	0	4	1	0	1	0	0	18	5	0
07:30 AM to 07:45 AM	0	1	4	0	6	0	1	28	0	0	0	6	1	0	1	0	0	24	3	1
07:45 AM to 08:00 AM	0	0	3	0	1	0	0	40	1	1	0	7	2	0	1	0	0	20	3	1
08:00 AM to 08:15 AM	0	1	0	0	0	0	0	45	2	0	0	5	1	0	0	0	0	18	4	0
08:15 AM to 08:30 AM	0	0	1	0	2	0	0	36	0	2	0	9	2	0	0	0	1	22	8	5
08:30 AM to 08:45 AM	0	0	4	0	0	0	0	22	0	1	0	3	1	0	0	0	0	12	7	0
08:45 AM to 09:00 AM	0	0	1	0	1	0	1	35	0	0	0	6	2	0	0	0	1	25	5	2
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	10				9	153				3	33				2	103				7
07:30 AM to 08:30 AM	0	2	8	0		0	1	149	3		0	27	6	0		0	1	84	18	
Peak Hour Factor (PHF) Overall **0.95**	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	n/a	0.50	0.50	n/a	**0.50**	n/a	0.25	0.83	0.38	**0.81**	n/a	0.75	0.75	n/a	**0.75**	n/a	0.25	0.88	0.56	**0.83**

HEAVY VEHICLES (FHWA 4+)

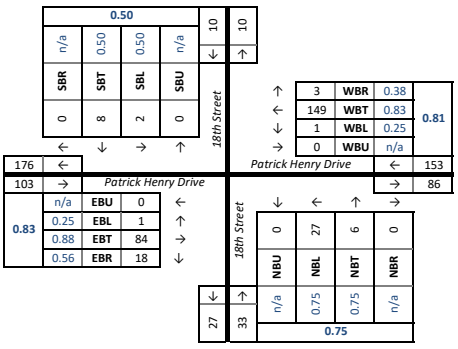
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				Patrick Henry Drive				18th Street				Patrick Henry Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
08:45 AM to 09:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	0				5				1				4			
07:30 AM to 08:30 AM	0	0	0	0	0	0	5	0	0	1	0	0	0	1	3	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	3.3%	3.7%	0.0%	0.0%	3.0%	0.0%	100.0%	3.6%	0.0%	3.9%
INT. PEAK HR (HV ONLY)	0				5				1				4			
07:15 AM to 08:15 AM	0	0	0	0	0	0	5	0	0	1	0	0	0	0	4	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	3.5%	4.5%	0.0%	0.0%	3.7%	0.0%	0.0%	5.0%	0.0%	4.2%

BICYCLES

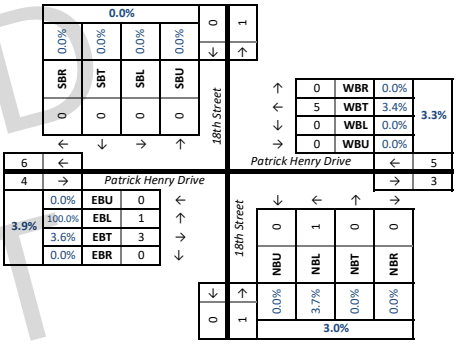
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				Patrick Henry Drive				18th Street				Patrick Henry Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	0				1				0				1			
07:30 AM to 08:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
INT. PEAK HR (BIKES)	0				1				1				2			
06:45 AM to 07:45 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0

DATA COLLECTION NOTES :

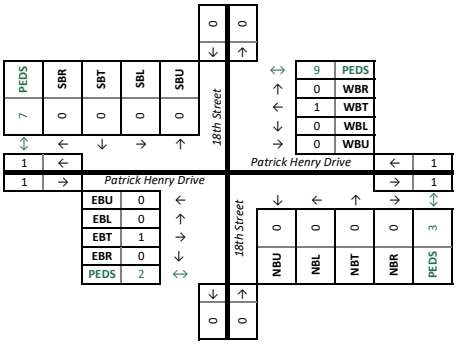
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:30 AM to 08:30 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 18th Road N/ & N Lexington Street

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Road N					N Lexington Street										N Lexington Street				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM	to 06:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
06:15 AM	to 06:30 AM	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4	0	2
06:45 AM	to 07:00 AM	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	7	0	0
07:00 AM	to 07:15 AM	0	1	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0	12	0	2
07:15 AM	to 07:30 AM	0	0	0	0	7	0	0	16	0	0	0	0	0	0	0	1	2	20	0	3
07:30 AM	to 07:45 AM	0	2	0	0	1	0	0	30	1	0	0	0	0	0	0	0	2	51	0	0
07:45 AM	to 08:00 AM	0	2	0	3	2	0	0	19	2	0	0	0	0	0	0	0	1	30	0	3
08:00 AM	to 08:15 AM	0	1	0	0	0	0	0	19	1	0	0	0	0	0	0	1	1	38	0	0
08:15 AM	to 08:30 AM	0	1	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	27	0	0
08:30 AM	to 08:45 AM	0	0	0	0	1	0	0	18	0	0	0	0	0	0	0	0	0	24	0	2
08:45 AM	to 09:00 AM	0	2	0	0	0	0	0	13	1	0	0	0	0	0	0	0	0	26	0	0
09:00 AM	to 09:15 AM																				
09:15 AM	to 09:30 AM																				
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
SYSTEM PEAK HR (VEH.)		9				3	89				0	0				0	151				3
07:30 AM	to 08:30 AM	0	6	0	3		0	0	85	4		0	0	0	0		1	4	146	0	
Peak Hour Factor (PHF)	Overall 0.72	U n/a	Left 0.75	Thru n/a	Right 0.25	SB 0.45	U n/a	Left n/a	Thru 0.71	Right 0.50	WB 0.72	U n/a	Left n/a	Thru n/a	Right n/a	NB n/a	U 0.25	Left 0.50	Thru 0.72	Right n/a	EB 0.71

HEAVY VEHICLES (FHWA 4+)

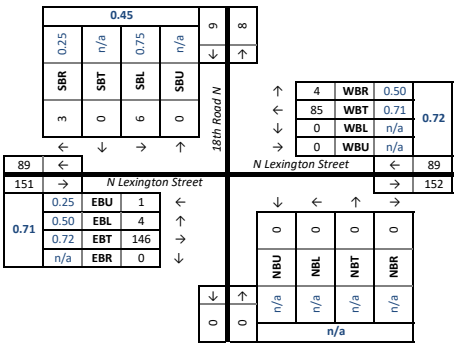
	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Road N					N Lexington Street										N Lexington Street				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:00 AM	to 06:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 AM	to 06:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 AM	to 06:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 AM	to 07:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
07:00 AM	to 07:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:15 AM	to 07:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
07:30 AM	to 07:45 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	2	0	
07:45 AM	to 08:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
08:00 AM	to 08:15 AM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	2	0	
08:15 AM	to 08:30 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	1	0	
08:30 AM	to 08:45 AM	0	0	0	0		0	0	3	0		0	0	0	0		0	0	2	0	
08:45 AM	to 09:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
09:00 AM	to 09:15 AM																				
09:15 AM	to 09:30 AM																				
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
SYSTEM PEAK HR (VEH.)		1					2					0					6				
07:30 AM	to 08:30 AM	0	1	0	0		0	0	2	0		0	0	0	0		0	0	6	0	
Heavy Vehicle % (PHV):		0.0%	16.7%	0.0%	0.0%	11.1%	0.0%	0.0%	2.4%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	0.0%	4.0%
INT. PEAK HR (HV ONLY)		1					4					0					6				
07:45 AM	to 08:45 AM	0	1	0	0		0	0	4	0		0	0	0	0		0	0	6	0	
Heavy Vehicle % (PHV):		0.0%	25.0%	0.0%	0.0%	14.3%	0.0%	0.0%	5.5%	0.0%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	4.9%

BICYCLES

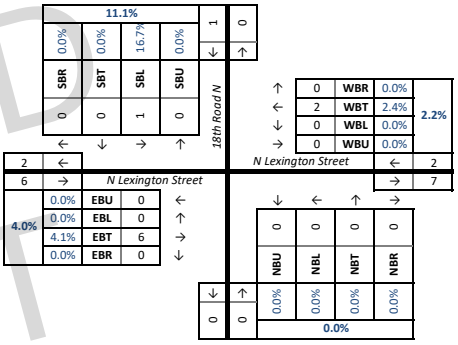
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	18th Road N				N Lexington Street								N Lexington Street			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM	to 06:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:15 AM	to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:45 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM																
09:15 AM	to 09:30 AM																
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
SYSTEM PEAK HR (VEH.)		0				0				0				2			
07:30 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
INT. PEAK HR (BIKES)		0				0				0				5			
07:00 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0

DATA COLLECTION NOTES :

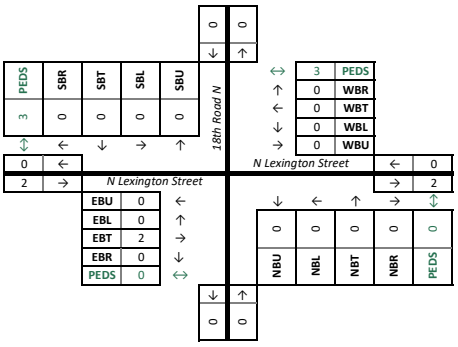
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:30 AM to 08:30 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 19th Street N & N Lexington Street

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	19th Street N					N Lexington Street					19th Street N					N Lexington Street				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0
06:15 AM to 06:30 AM	0	0	1	0	2	0	0	1	0	0	0	0	0	0	1	0	0	2	0	0
06:30 AM to 06:45 AM	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	2	4	0	0
06:45 AM to 07:00 AM	0	0	1	0	0	0	0	4	0	0	0	0	0	0	2	0	0	7	1	2
07:00 AM to 07:15 AM	0	1	1	1	1	0	0	4	0	0	0	1	0	0	3	0	0	11	0	1
07:15 AM to 07:30 AM	0	1	1	0	7	0	1	15	1	1	0	2	1	3	6	0	3	18	1	2
07:30 AM to 07:45 AM	0	0	2	1	1	0	2	24	3	0	0	1	0	9	0	0	0	44	1	0
07:45 AM to 08:00 AM	0	2	1	2	2	0	1	20	2	1	0	2	1	5	1	0	0	23	2	0
08:00 AM to 08:15 AM	0	0	2	3	0	0	1	17	2	0	0	2	2	9	0	0	0	32	1	2
08:15 AM to 08:30 AM	0	0	4	4	3	0	0	18	0	0	0	1	2	7	1	0	1	21	0	2
08:30 AM to 08:45 AM	0	4	1	2	0	0	0	18	0	1	0	4	2	2	0	0	2	18	2	14
08:45 AM to 09:00 AM	0	2	3	2	0	0	2	10	1	1	0	5	3	4	1	0	1	20	2	1
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	21				6	90				1	41				2	125				4
07:30 AM to 08:30 AM	0	2	9	10		0	4	79	7		0	6	5	30		0	1	120	4	
Peak Hour Factor (PHF) Overall 0.80	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	n/a	0.25	0.56	0.63	**0.66**	n/a	0.50	0.82	0.58	**0.78**	n/a	0.75	0.63	0.83	**0.79**	n/a	0.25	0.68	0.50	**0.69**

HEAVY VEHICLES (FHWA 4+)

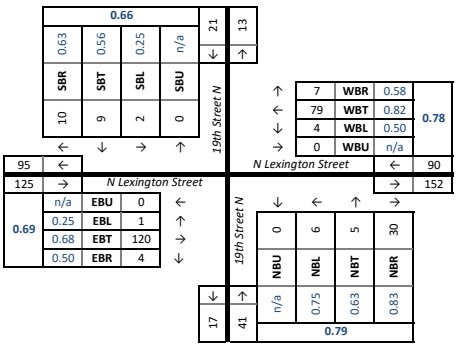
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	19th Street N				N Lexington Street				19th Street N				N Lexington Street			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
08:15 AM to 08:30 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0
08:30 AM to 08:45 AM	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	1				2				0				6			
07:30 AM to 08:30 AM	0	0	0	1	0	0	1	1	0	0	0	0	0	0	6	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	10.0% **4.8%**	0.0%	0.0%	1.3%	14.3% **2.2%**	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	0.0%	5.0%	0.0% **4.8%**
INT. PEAK HR (HV ONLY)	3				5				0				4			
07:45 AM to 08:45 AM	0	2	0	1	0	0	4	1	0	0	0	0	0	0	4	0
Heavy Vehicle % (PHV):	0.0%	33.3%	0.0%	9.1% **12.0%**	0.0%	0.0%	5.5%	25.0% **6.3%**	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	0.0%	4.3%	0.0% **3.9%**

BICYCLES

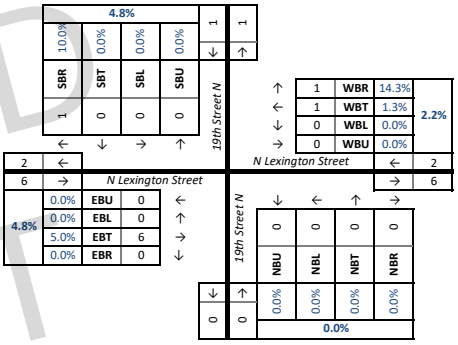
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	19th Street N				N Lexington Street				19th Street N				N Lexington Street			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	0				0				0				2			
07:30 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
INT. PEAK HR (BIKES)	1				0				0				4			
07:00 AM to 08:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0

DATA COLLECTION NOTES :

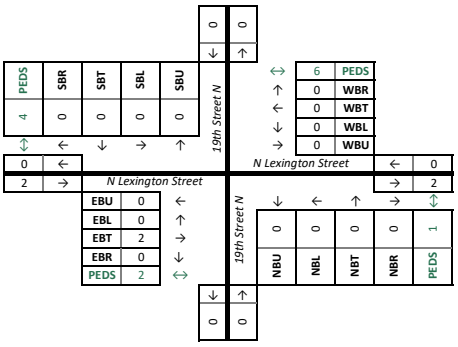
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 08:00 AM to 09:00 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 19th Street N & N Madison Street

ALL VEHICLES

Direction	Southbound					Westbound					Northbound					Eastbound				
Roadway	19th Street N					N Madison Street					19th Street N					N Madison Street				
Movement	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	1	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	0
07:15 AM to 07:30 AM	0	1	2	0	3	0	1	2	2	1	0	0	3	0	0	0	1	0	0	1
07:30 AM to 07:45 AM	0	0	4	1	1	0	0	1	0	1	0	0	5	0	2	0	4	0	0	1
07:45 AM to 08:00 AM	0	0	5	1	3	0	0	3	1	0	0	0	6	0	0	0	1	0	0	0
08:00 AM to 08:15 AM	0	1	2	1	0	0	0	1	5	2	0	1	6	1	0	0	1	3	1	1
08:15 AM to 08:30 AM	0	0	4	0	0	0	0	1	1	0	0	1	6	2	0	0	1	3	0	0
08:30 AM to 08:45 AM	0	0	4	0	1	0	1	1	2	1	0	0	4	0	0	0	0	1	1	0
08:45 AM to 09:00 AM	0	1	6	0	0	0	0	1	2	1	0	0	7	0	1	1	1	0	0	1
09:00 AM to 09:15 AM																				
09:15 AM to 09:30 AM																				
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
SYSTEM PEAK HR (VEH.)	19				4	13				3	28				2	14				2
07:30 AM to 08:30 AM	0	1	15	3		0	0	6	7		0	2	23	3		0	7	6	1	
Peak Hour Factor (PHF) Overall **0.80**	U n/a	Left 0.25	Thru 0.75	Right 0.75	**SB 0.79**	U n/a	Left n/a	Thru 0.50	Right 0.35	**WB 0.54**	U n/a	Left 0.50	Thru 0.96	Right 0.38	**NB 0.78**	U n/a	Left 0.44	Thru 0.50	Right 0.25	**EB 0.70**

HEAVY VEHICLES (FHWA 4+)

Direction	Southbound				Westbound				Northbound				Eastbound			
Roadway	19th Street N				N Madison Street				19th Street N				N Madison Street			
Movement	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																
09:15 AM to 09:30 AM																
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	0				0				0				1			
07:30 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	16.7%	0.0%	**7.1%**
INT. PEAK HR (HV ONLY)	0				1				0				1			
08:00 AM to 09:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	10.0%	**6.7%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	14.3%	0.0%	**7.7%**

BICYCLES

Direction	Southbound				Westbound				Northbound				Eastbound			
Roadway	19th Street N				N Madison Street				19th Street N				N Madison Street			
Movement	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM																
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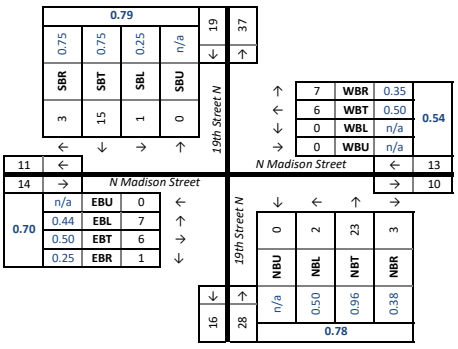
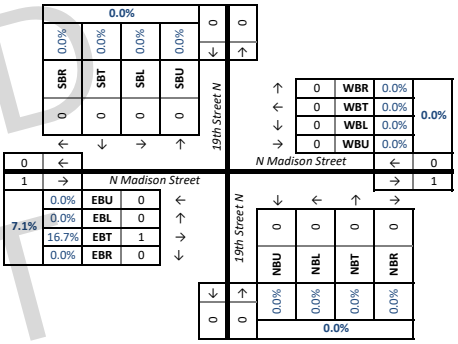
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
SYSTEM PEAK HR (VEH.)	0				0				0				0			
07:30 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				0				0				1			
06:00 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

DATA COLLECTION NOTES :

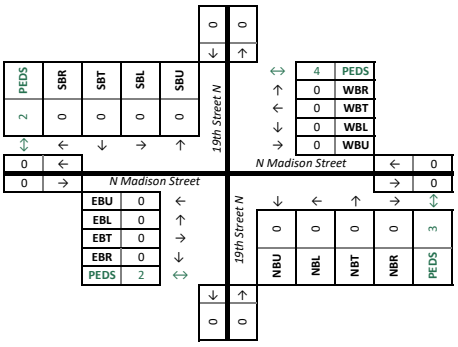
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:00 AM to 09:00 AM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:45 AM to 08:45 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:00 AM to 08:00 AM

Intersection: 1. 18th Street N & Parking Lot Entrance/ N Madison Street

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street N					Parking Lot Entrance					18th Street N					N Madison Street				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:00 AM	to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
06:15 AM	to 06:30 AM	0	0	1	0	1	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0
06:45 AM	to 07:00 AM	0	0	0	0	2	0	0	0	0	1	0	1	0	5	0	0	0	0	1	0
07:00 AM	to 07:15 AM	0	0	1	0	1	0	0	0	0	0	0	1	0	2	1	0	0	0	1	0
07:15 AM	to 07:30 AM	0	0	0	0	4	0	0	0	0	0	0	3	0	8	1	0	0	1	0	0
07:30 AM	to 07:45 AM	0	0	0	0	2	0	0	0	0	0	0	1	0	6	2	0	0	0	0	1
07:45 AM	to 08:00 AM	0	0	0	0	1	0	0	1	0	0	0	3	0	7	0	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	1	1	0	0	0	3	0	3	2	1	0	1	3	1
08:15 AM	to 08:30 AM	0	0	0	0	1	0	2	0	0	1	0	2	0	4	0	0	0	4	1	0
08:30 AM	to 08:45 AM	0	0	0	0	1	0	1	0	0	1	0	4	0	3	0	0	0	0	1	0
08:45 AM	to 09:00 AM	0	0	0	0	2	0	2	0	0	3	0	4	0	3	1	0	0	2	0	0
09:00 AM	to 09:15 AM																				
09:15 AM	to 09:30 AM																				
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
SYSTEM PEAK HR (VEH.)		0				4	5				1	29				4	10				2
07:30 AM	to 08:30 AM	0	0	0	0		0	3	2	0		0	9	0	20		1	0	5	4	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.85**	n/a	n/a	n/a	n/a	**n/a**	n/a	0.38	0.50	n/a	**0.63**	n/a	0.75	n/a	0.71	**0.73**	0.25	n/a	0.31	0.33	**0.50**

HEAVY VEHICLES (FHWA 4+)

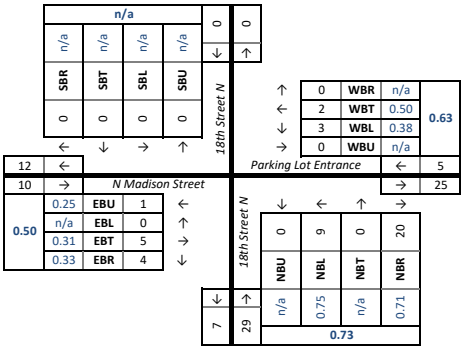
	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street N					Parking Lot Entrance					18th Street N					N Madison Street				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:00 AM	to 06:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 AM	to 06:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 AM	to 06:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 AM	to 07:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:00 AM	to 07:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
07:15 AM	to 07:30 AM	0	0	0	0		0	0	0	0		0	0	0	1		0	0	0	0	
07:30 AM	to 07:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
07:45 AM	to 08:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
08:00 AM	to 08:15 AM	0	0	0	0		0	1	0	0		0	0	0	0		0	0	0	0	
08:15 AM	to 08:30 AM	0	0	0	0		0	1	0	0		0	0	0	1		0	0	1	0	
08:30 AM	to 08:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
08:45 AM	to 09:00 AM	0	0	0	0		0	1	0	0		0	1	0	0		0	0	0	0	
09:00 AM	to 09:15 AM																				
09:15 AM	to 09:30 AM																				
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
SYSTEM PEAK HR (VEH.)		0					2					1					1				
07:30 AM	to 08:30 AM	0	0	0	0		0	2	0	0		0	0	0	1		0	0	1	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	66.7%	0.0%	0.0%	**40.0%**	0.0%	0.0%	0.0%	5.0%	**3.4%**	0.0%	0.0%	20.0%	0.0%	**10.0%**
INT. PEAK HR (HV ONLY)		0					3					2					1				
08:00 AM	to 09:00 AM	0	0	0	0		0	3	0	0		0	1	0	1		0	0	1	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	50.0%	0.0%	0.0%	**42.9%**	0.0%	7.7%	0.0%	7.7%	**7.7%**	0.0%	0.0%	14.3%	0.0%	**7.7%**

BICYCLES

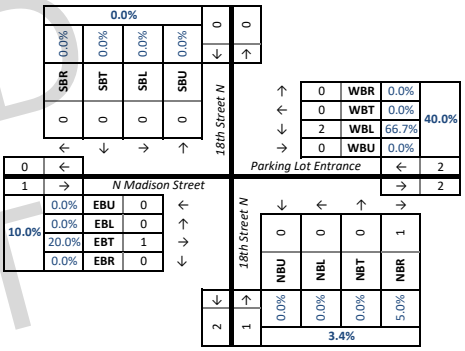
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	18th Street N				Parking Lot Entrance				18th Street N				N Madison Street			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:00 AM	to 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	to 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM																
09:15 AM	to 09:30 AM																
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
SYSTEM PEAK HR (VEH.)		0				0				0				0			
07:30 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)		0				0				0				2			
06:30 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

DATA COLLECTION NOTES :

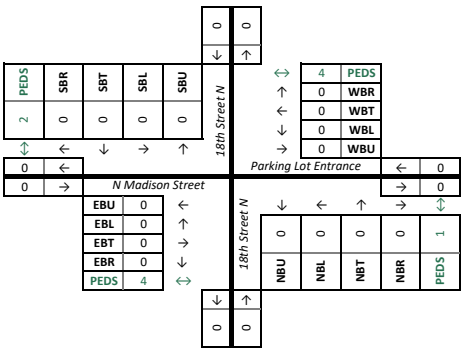
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:45 PM to 05:45 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 18th Street & Washington Blvd

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					Washington Blvd					18th Street					Washington Blvd				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM to 02:15 PM	0	1	1	0	0	0	5	82	1	0	0	0	2	2	2	0	0	65	0	0
02:15 PM to 02:30 PM	0	0	0	1	2	0	4	96	0	0	0	0	0	6	0	0	1	68	0	0
02:30 PM to 02:45 PM	0	0	0	1	35	0	2	100	1	0	0	0	0	1	14	0	0	75	1	0
02:45 PM to 03:00 PM	0	3	1	0	6	0	4	95	2	0	0	0	0	2	1	0	0	83	1	0
03:00 PM to 03:15 PM	0	0	1	3	1	0	12	123	0	0	0	0	1	2	2	0	0	81	3	0
03:15 PM to 03:30 PM	0	1	1	0	0	0	7	110	0	1	0	0	1	5	0	0	1	78	2	0
03:30 PM to 03:45 PM	0	1	0	2	8	0	9	160	1	0	0	1	0	2	1	0	3	76	2	0
03:45 PM to 04:00 PM	0	3	1	4	1	0	4	152	4	0	0	1	0	4	0	0	3	108	0	0
04:00 PM to 04:15 PM	0	3	1	4	6	0	2	157	1	0	0	0	2	4	3	0	1	107	2	0
04:15 PM to 04:30 PM	0	4	0	1	4	1	3	174	0	2	0	0	0	6	4	0	1	123	0	1
04:30 PM to 04:45 PM	0	1	0	4	2	1	2	169	1	2	0	1	1	5	2	0	0	120	0	0
04:45 PM to 05:00 PM	0	0	0	4	8	1	6	185	2	0	0	0	1	5	0	0	0	164	0	0
05:00 PM to 05:15 PM	0	1	0	3	3	0	9	162	2	0	0	0	1	4	1	0	2	154	0	0
05:15 PM to 05:30 PM	0	0	0	3	1	0	4	202	1	2	0	0	1	6	0	0	1	159	0	0
05:30 PM to 05:45 PM	0	3	1	1	4	0	7	177	3	0	0	0	1	7	2	0	1	162	0	0
05:45 PM to 06:00 PM	0	2	0	1	2	0	8	165	2	0	0	0	0	6	2	0	1	151	1	1
06:00 PM to 06:15 PM	0	0	1	2	3	0	8	157	1	0	0	1	0	6	2	0	1	151	2	0
06:15 PM to 06:30 PM	0	1	1	1	3	0	6	145	2	1	0	0	0	8	0	0	1	148	2	0
06:30 PM to 06:45 PM	0	0	0	0	2	0	6	150	3	1	0	0	0	4	1	0	2	146	1	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	7	129	5	0	0	0	2	5	0	0	1	141	0	0
SYSTEM PEAK HR (VEH.)	16				16	761				2	26				3	643				0
04:45 PM to 05:45 PM	0	4	1	11		1	26	726	8		0	0	4	22		0	4	639	0	
Peak Hour Factor (PHF) Overall **0.96**	U	Left	Thru	Right	**SB 0.80**	U	Left	Thru	Right	**WB 0.92**	U	Left	Thru	Right	**NB 0.81**	U	Left	Thru	Right	**EB 0.98**
	n/a	0.33	0.25	0.69		0.25	0.72	0.90	0.67		n/a	n/a	1.00	0.79		n/a	0.50	0.97	n/a	

HEAVY VEHICLES (FHWA 4+)

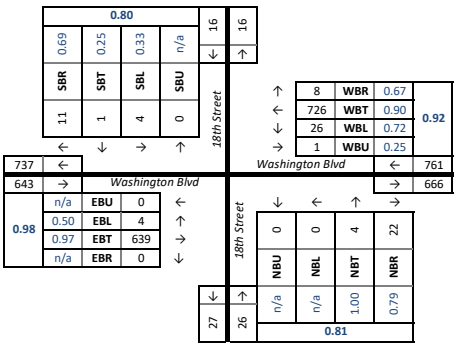
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				Washington Blvd				18th Street				Washington Blvd			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	7	0	0	0	0	0	0	0	1	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	8	0	0	0	0	0	0	0	7	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	10	0	0	0	0	1	0	0	3	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	2	0
04:00 PM to 04:15 PM	0	0	0	1	0	0	2	0	0	0	0	0	0	0	4	0
04:15 PM to 04:30 PM	0	0	0	1	0	0	3	0	0	0	0	0	0	0	6	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	7	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
05:00 PM to 05:15 PM	0	1	0	0	0	0	5	0	0	0	0	0	0	0	1	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
05:30 PM to 05:45 PM	0	0	0	1	0	0	4	0	0	0	0	0	0	0	3	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	2				12				0				9			
04:45 PM to 05:45 PM	0	1	0	1	0	0	12	0	0	0	0	0	0	0	9	0
Heavy Vehicle % (PHV):	0.0%	25.0%	0.0%	9.1% **12.5%**	0.0%	0.0%	1.7%	0.0% **1.6%**	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	0.0%	1.4%	0.0% **1.4%**
INT. PEAK HR (HV ONLY)	0				23				1				15			
02:30 PM to 03:30 PM	0	0	0	0	0	0	23	0	0	0	0	1	0	0	15	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	0.0%	5.4%	0.0% **5.0%**	0.0%	0.0%	0.0%	10.0% **8.3%**	0.0%	0.0%	4.7%	0.0% **4.6%**

BICYCLES

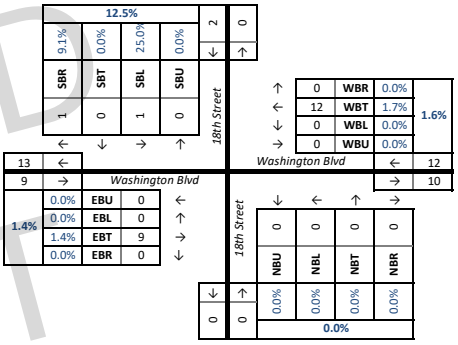
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				Washington Blvd				18th Street				Washington Blvd			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM to 04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
SYSTEM PEAK HR (VEH.)	0				0				0				0			
04:45 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				2				2				0			
02:15 PM to 03:15 PM	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0

DATA COLLECTION NOTES :

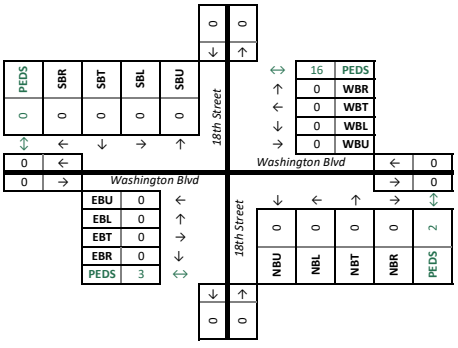
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:45 PM to 05:45 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. McKinley Road & Washington Blvd

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	McKinley Road					Washington Blvd					McKinley Road					Washington Blvd				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM	to 02:15 PM	0	2	1	13	7	0	2	72	11	2	0	3	3	7	11	0	9	61	1	1
02:15 PM	to 02:30 PM	0	4	5	17	9	0	7	77	8	12	0	2	3	5	8	0	8	68	0	14
02:30 PM	to 02:45 PM	0	8	4	13	58	0	5	92	15	7	0	1	4	4	28	0	10	65	0	12
02:45 PM	to 03:00 PM	0	5	5	9	17	0	3	90	10	4	0	1	8	3	5	0	10	76	0	1
03:00 PM	to 03:15 PM	0	4	8	10	4	0	2	128	10	4	0	2	5	6	4	0	10	73	4	1
03:15 PM	to 03:30 PM	0	5	4	13	12	0	7	114	12	1	0	0	3	4	2	0	14	71	2	1
03:30 PM	to 03:45 PM	0	9	9	15	20	0	5	147	15	6	0	2	3	4	4	0	9	72	1	3
03:45 PM	to 04:00 PM	0	8	6	18	9	0	7	145	20	5	0	0	6	3	5	0	12	94	3	3
04:00 PM	to 04:15 PM	0	9	6	18	12	0	2	141	18	0	0	2	5	4	9	0	12	104	2	6
04:15 PM	to 04:30 PM	0	17	2	22	15	0	5	155	20	1	0	2	4	5	3	0	21	110	3	7
04:30 PM	to 04:45 PM	0	11	9	17	17	0	4	163	11	11	0	0	2	6	7	0	11	116	3	3
04:45 PM	to 05:00 PM	0	13	5	18	22	0	6	175	8	7	0	2	5	4	3	0	15	156	6	4
05:00 PM	to 05:15 PM	0	9	10	21	7	0	3	150	14	2	0	1	4	6	3	0	18	146	2	0
05:15 PM	to 05:30 PM	0	9	8	11	13	0	2	199	12	9	0	5	5	3	5	0	6	144	5	0
05:30 PM	to 05:45 PM	0	14	6	16	5	0	7	169	10	5	0	2	5	6	17	0	10	157	3	11
05:45 PM	to 06:00 PM	0	14	8	11	7	0	9	165	9	5	0	2	7	4	5	0	7	160	2	5
06:00 PM	to 06:15 PM	0	13	10	11	8	0	5	156	19	3	0	2	5	7	2	0	4	150	3	5
06:15 PM	to 06:30 PM	0	7	6	8	3	0	9	145	13	8	0	2	1	5	5	0	10	145	5	6
06:30 PM	to 06:45 PM	0	10	3	6	1	0	7	150	11	4	0	2	7	3	4	0	13	140	2	8
06:45 PM	to 07:00 PM	0	7	4	8	8	2	11	136	13	4	0	2	2	5	0	0	7	142	3	6
SYSTEM PEAK HR (VEH.)			140			47		755			23		48			28		668			15
04:45 PM	to 05:45 PM	0	45	29	66		0	18	693	44		0	10	19	19		0	49	603	16	
Peak Hour Factor (PHF)	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	0.98	n/a	0.80	0.73	0.79	**0.88**	n/a	0.64	0.87	0.79	**0.89**	n/a	0.50	0.95	0.79	**0.92**	n/a	0.68	0.96	0.67	**0.94**

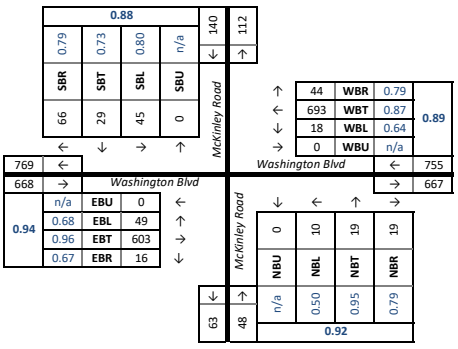
HEAVY VEHICLES (FHWA 4+)

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	McKinley Road					Washington Blvd					McKinley Road					Washington Blvd				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
02:00 PM	to 02:15 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	2	0	
02:15 PM	to 02:30 PM	0	0	0	0		0	0	6	0		0	0	0	0		0	0	1	0	
02:30 PM	to 02:45 PM	0	3	0	1		0	0	7	1		0	0	0	0		0	0	7	0	
02:45 PM	to 03:00 PM	0	0	0	0		0	0	3	0		0	0	1	0		0	0	3	0	
03:00 PM	to 03:15 PM	0	0	0	0		0	0	2	0		0	0	0	1		0	0	2	0	
03:15 PM	to 03:30 PM	0	0	0	1		0	1	9	0		0	0	0	0		0	0	4	0	
03:30 PM	to 03:45 PM	0	1	1	1		0	0	4	0		0	1	0	0		0	0	2	0	
03:45 PM	to 04:00 PM	0	0	0	0		0	0	4	0		0	0	2	1		0	0	1	1	
04:00 PM	to 04:15 PM	0	0	1	0		0	0	2	0		0	0	0	0		0	0	4	0	
04:15 PM	to 04:30 PM	0	0	0	0		0	0	3	0		0	0	0	0		0	1	5	0	
04:30 PM	to 04:45 PM	0	1	0	0		0	0	4	0		0	0	1	0		0	0	7	0	
04:45 PM	to 05:00 PM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	1	0	
05:00 PM	to 05:15 PM	0	0	0	0		0	0	4	0		0	1	0	0		0	0	2	1	
05:15 PM	to 05:30 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	3	0	
05:30 PM	to 05:45 PM	0	0	0	0		0	0	3	0		0	0	0	0		0	0	3	0	
05:45 PM	to 06:00 PM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	2	0	
06:00 PM	to 06:15 PM	0	0	0	0		0	0	4	0		0	0	0	0		0	0	1	0	
06:15 PM	to 06:30 PM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	2	0	
06:30 PM	to 06:45 PM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	3	0	
06:45 PM	to 07:00 PM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	0	0	
SYSTEM PEAK HR (VEH.)			0					10					1					10			
04:45 PM	to 05:45 PM	0	0	0	0		0	0	10	0		0	1	0	0		0	0	9	1	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	1.4%	0.0%	**1.3%**	0.0%	10.0%	0.0%	0.0%	**2.1%**	0.0%	0.0%	1.5%	6.3%	**1.5%**
INT. PEAK HR (HV ONLY)			5					23					2					16			
02:30 PM	to 03:30 PM	0	3	0	2		0	1	21	1		0	0	1	1		0	0	16	0	
Heavy Vehicle % (PHV):		0.0%	13.6%	0.0%	4.4%	**5.7%**	0.0%	5.9%	5.0%	2.1%	**4.7%**	0.0%	0.0%	5.0%	5.9%	**4.9%**	0.0%	0.0%	5.6%	0.0%	**4.8%**

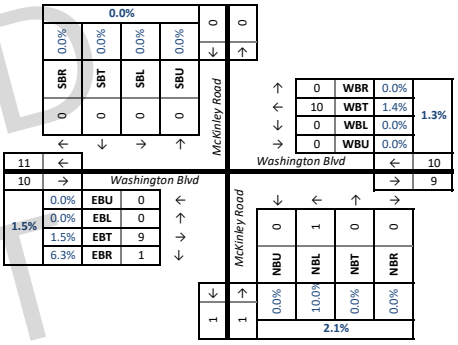
BICYCLES

	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	McKinley Road				Washington Blvd				McKinley Road				Washington Blvd			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM	to 02:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
02:15 PM	to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
02:30 PM	to 02:45 PM	0	0	0	0	0	1	2	4	0	0	0	0	0	1	0	0
02:45 PM	to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
03:00 PM	to 03:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
03:15 PM	to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	to 03:45 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	to 04:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	to 04:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
04:30 PM	to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	to 05:00 PM	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0
05:00 PM	to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
05:30 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:45 PM	to 06:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:00 PM	to 06:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
06:15 PM	to 06:30 PM	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0
06:30 PM	to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
SYSTEM PEAK HR (VEH.)			2				0				2				2		
04:45 PM	to 05:45 PM	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	0
INT. PEAK HR (BIKES)			1				7				1				4		
02:00 PM	to 03:00 PM	0	0	1	0	0	1	2	4	0	1	0	0	0	2	2	0

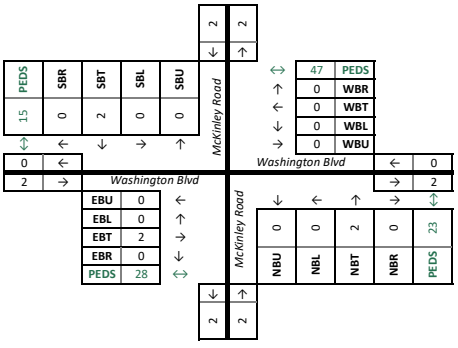
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



DATA COLLECTION NOTES :

SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:15 PM to 05:15 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 18th Street & /Parking Lot Exit

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street										18th Street					Parking Lot Exit				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM	to 02:15 PM	0	0	26	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	1	5
02:15 PM	to 02:30 PM	0	0	17	0	0	0	0	0	0	0	0	0	17	0	0	0	1	0	3	2
02:30 PM	to 02:45 PM	0	0	18	0	0	0	0	0	0	0	0	0	24	0	0	0	5	0	4	5
02:45 PM	to 03:00 PM	0	0	13	0	0	0	0	0	0	0	0	0	28	0	0	0	1	0	3	1
03:00 PM	to 03:15 PM	0	0	20	0	0	0	0	0	0	0	0	0	22	0	0	0	1	0	0	3
03:15 PM	to 03:30 PM	0	0	26	0	0	0	0	0	0	0	0	0	24	0	0	0	3	0	3	2
03:30 PM	to 03:45 PM	0	0	30	0	0	0	0	0	0	0	0	0	27	0	0	0	1	0	6	7
03:45 PM	to 04:00 PM	0	0	30	0	0	0	0	0	0	0	0	0	31	0	0	0	2	0	2	5
04:00 PM	to 04:15 PM	0	0	27	0	0	0	0	0	0	0	0	0	37	0	0	0	1	0	8	5
04:15 PM	to 04:30 PM	0	0	32	0	0	0	0	0	0	0	0	0	38	0	0	0	2	0	6	7
04:30 PM	to 04:45 PM	0	0	34	0	0	0	0	0	0	0	1	0	30	0	0	0	4	0	7	3
04:45 PM	to 05:00 PM	0	0	27	0	0	0	0	0	0	0	1	0	22	0	0	0	4	0	9	2
05:00 PM	to 05:15 PM	0	0	29	0	0	0	0	0	0	0	0	0	41	0	0	0	5	0	8	5
05:15 PM	to 05:30 PM	0	0	21	0	0	0	0	0	0	0	0	0	23	0	0	0	7	0	2	2
05:30 PM	to 05:45 PM	0	0	24	0	0	0	0	0	0	0	0	0	20	0	0	0	9	0	8	1
05:45 PM	to 06:00 PM	0	0	22	0	0	0	0	0	0	0	0	0	24	0	0	0	3	0	6	2
06:00 PM	to 06:15 PM	0	0	18	0	0	0	0	0	0	0	2	0	28	0	0	0	1	0	5	1
06:15 PM	to 06:30 PM	0	0	13	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	1
06:30 PM	to 06:45 PM	0	0	12	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	1
06:45 PM	to 07:00 PM	0	0	16	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)		101				0	0				0	107				0	52				10
04:45 PM	to 05:45 PM	0	0	101	0		0	0	0	0		1	0	106	0		0	25	0	27	
Peak Hour Factor (PHF)	Overall **0.78**	U n/a	Left n/a	Thru 0.87	Right n/a	**SB 0.87**	U n/a	Left n/a	Thru n/a	Right n/a	**WB n/a**	U 0.25	Left n/a	Thru 0.65	Right n/a	**NB 0.65**	U n/a	Left 0.69	Thru n/a	Right 0.75	**EB 0.76**

HEAVY VEHICLES (FHWA 4+)

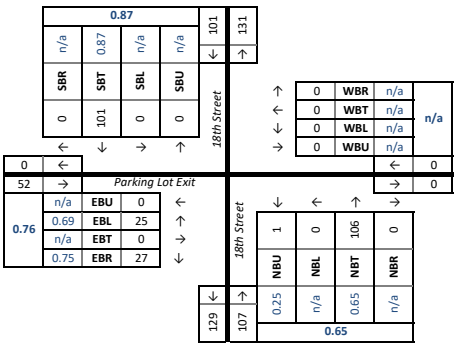
	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street										18th Street					Parking Lot Exit				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
02:00 PM	to 02:15 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:15 PM	to 02:30 PM	0	0	2	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:30 PM	to 02:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:45 PM	to 03:00 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
03:00 PM	to 03:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:15 PM	to 03:30 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:30 PM	to 03:45 PM	0	0	2	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:45 PM	to 04:00 PM	0	0	1	0		0	0	0	0		0	0	1	0		0	0	0	0	
04:00 PM	to 04:15 PM	0	0	1	0		0	0	0	0		0	0	1	0		0	0	0	0	
04:15 PM	to 04:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:30 PM	to 04:45 PM	0	0	1	0		0	0	0	0		0	0	1	0		0	0	0	0	
04:45 PM	to 05:00 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:00 PM	to 05:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:15 PM	to 05:30 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
05:30 PM	to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:45 PM	to 06:00 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
06:00 PM	to 06:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 PM	to 06:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 PM	to 06:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 PM	to 07:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
SYSTEM PEAK HR (VEH.)		1					0					1					0				
04:45 PM	to 05:45 PM	0	0	1	0		0	0	0	0		0	0	1	0		0	0	0	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	1.0%	0.0%	**1.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.9%	0.0%	**0.9%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)		5					0					2					0				
03:15 PM	to 04:15 PM	0	0	5	0		0	0	0	0		0	0	2	0		0	0	0	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	4.4%	0.0%	**4.4%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	1.7%	0.0%	**1.7%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

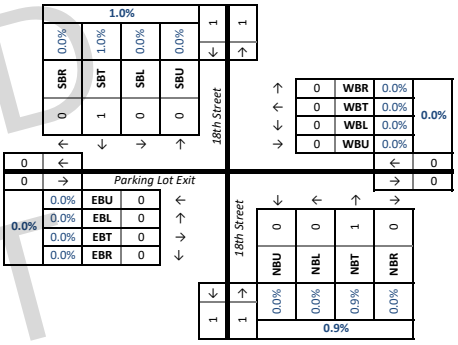
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	18th Street								18th Street				Parking Lot Exit			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM	to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	to 02:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
02:45 PM	to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	to 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	to 03:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	to 04:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:15 PM	to 04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:30 PM	to 04:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	to 05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:15 PM	to 05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:30 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:45 PM	to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	to 06:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)		0				0				3				0			
04:45 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
INT. PEAK HR (BIKES)		2				0				2				0			
03:30 PM	to 04:30 PM	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0

DATA COLLECTION NOTES :

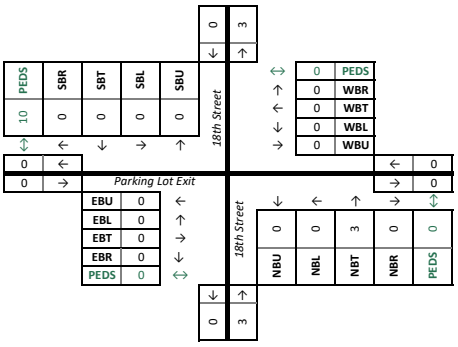
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:15 PM to 05:15 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 18th Street & N Longfellow Street/

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					N Longfellow Street					18th Street									
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM to 02:15 PM	0	2	23	0	0	0	4	0	3	0	0	0	21	3	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	1	15	0	0	0	2	0	3	0	1	0	15	3	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	3	15	0	0	0	1	0	4	0	2	0	25	0	4	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	12	0	0	0	0	0	3	0	0	0	27	3	2	0	0	0	0	0
03:00 PM to 03:15 PM	0	1	21	0	0	0	1	0	5	0	0	0	22	1	1	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	26	0	0	0	2	0	5	0	0	0	24	3	3	0	0	0	0	0
03:30 PM to 03:45 PM	0	2	20	0	1	0	8	0	4	1	0	0	21	6	2	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	27	0	0	0	1	0	3	0	0	0	27	4	4	0	0	0	0	0
04:00 PM to 04:15 PM	0	2	24	0	0	0	2	0	2	0	1	0	29	5	1	0	0	0	0	0
04:15 PM to 04:30 PM	0	5	25	0	0	0	9	0	6	0	1	0	38	4	4	0	0	0	0	0
04:30 PM to 04:45 PM	0	2	30	0	0	0	3	0	3	0	0	0	30	2	7	0	0	0	0	0
04:45 PM to 05:00 PM	0	2	23	0	0	0	5	0	1	0	0	0	24	2	1	0	0	0	0	0
05:00 PM to 05:15 PM	0	1	22	0	0	0	5	0	9	0	0	0	39	5	4	0	0	0	0	0
05:15 PM to 05:30 PM	0	3	21	0	0	0	2	0	7	0	0	0	28	3	3	0	0	0	0	0
05:30 PM to 05:45 PM	0	3	24	0	1	0	0	0	3	2	0	0	24	5	1	0	0	0	0	0
05:45 PM to 06:00 PM	0	1	21	0	0	0	0	0	4	0	0	0	22	5	3	0	0	0	0	0
06:00 PM to 06:15 PM	0	4	16	0	0	0	2	0	0	0	0	0	27	3	1	0	0	0	0	0
06:15 PM to 06:30 PM	0	6	15	0	0	0	1	0	3	0	0	0	18	4	3	0	0	0	0	0
06:30 PM to 06:45 PM	0	4	6	0	0	0	3	0	5	0	0	0	21	2	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	4	13	0	0	0	3	0	1	0	0	0	12	1	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	99				1	32				2	130				9	0				0
04:45 PM to 05:45 PM	0	9	90	0		0	12	0	20		0	0	115	15		0	0	0	0	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	SB	U	Left	Thru	Right	WB	U	Left	Thru	Right	NB	U	Left	Thru	Right	EB
0.81	n/a	0.75	0.94	n/a	**0.92**	n/a	0.60	n/a	0.56	**0.57**	n/a	n/a	0.74	0.75	**0.74**	n/a	n/a	n/a	n/a	**n/a**

HEAVY VEHICLES (FHWA 4+)

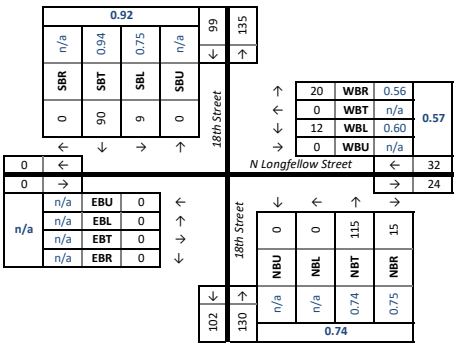
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				N Longfellow Street				18th Street							
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM to 03:45 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
04:00 PM to 04:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	1				0				0				0			
04:45 PM to 05:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle % (PHV):	0.0%	0.0%	1.1%	0.0%	**1.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)	3				1				2				0			
03:15 PM to 04:15 PM	0	0	3	0	0	1	0	0	0	0	2	0	0	0	0	0
Heavy Vehicle % (PHV):	0.0%	0.0%	3.1%	0.0%	**3.0%**	0.0%	7.7%	0.0%	0.0%	**3.7%**	0.0%	0.0%	2.0%	0.0%	**1.7%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

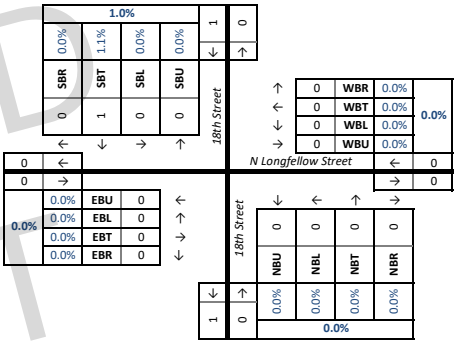
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				N Longfellow Street				18th Street							
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM to 03:45 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	0				1				3				0			
04:45 PM to 05:45 PM	0	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0
INT. PEAK HR (BIKES)	0				2				2				0			
04:00 PM to 05:00 PM	0	0	0	0	0	1	0	1	0	0	2	0	0	0	0	0

DATA COLLECTION NOTES :

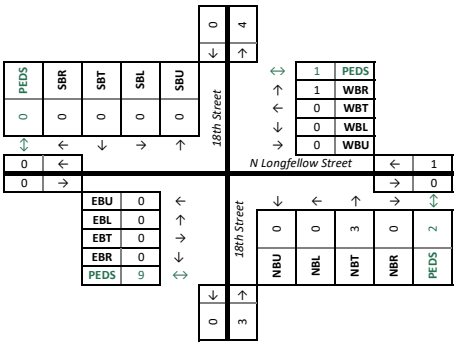
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:15 PM to 05:15 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 18th Street & /Parking Lot Entrance

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street										18th Street					Parking Lot Entrance				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM	to 02:15 PM	0	0	25	1	0	0	0	0	0	0	0	1	23	0	0	0	0	0	0	4
02:15 PM	to 02:30 PM	0	0	16	0	0	0	0	0	0	0	0	2	16	0	0	0	0	0	0	2
02:30 PM	to 02:45 PM	0	0	18	1	0	0	0	0	0	0	0	3	26	0	0	0	0	0	0	7
02:45 PM	to 03:00 PM	0	0	12	0	0	0	0	0	0	0	0	1	29	0	0	0	0	0	0	2
03:00 PM	to 03:15 PM	0	0	22	1	0	0	0	0	0	0	0	3	24	0	0	0	0	0	0	3
03:15 PM	to 03:30 PM	0	0	25	1	0	0	0	0	0	0	0	3	26	0	0	0	0	0	0	1
03:30 PM	to 03:45 PM	0	0	22	1	0	0	0	0	0	0	0	2	23	0	0	0	0	0	0	7
03:45 PM	to 04:00 PM	0	0	27	7	0	0	0	0	0	0	0	4	26	0	0	0	0	0	0	6
04:00 PM	to 04:15 PM	0	0	26	3	0	0	0	0	0	0	0	6	25	0	0	0	0	0	0	6
04:15 PM	to 04:30 PM	0	0	29	4	0	0	0	0	0	0	0	3	41	0	0	0	0	0	0	2
04:30 PM	to 04:45 PM	0	0	32	7	0	0	0	0	0	0	0	8	25	0	0	0	0	0	0	6
04:45 PM	to 05:00 PM	0	0	24	5	0	0	0	0	0	0	0	2	23	0	0	0	0	0	0	4
05:00 PM	to 05:15 PM	0	0	23	7	0	0	0	0	0	0	0	7	41	0	0	0	0	0	0	5
05:15 PM	to 05:30 PM	0	0	24	2	0	0	0	0	0	0	0	5	30	0	0	0	0	0	0	2
05:30 PM	to 05:45 PM	0	0	27	3	0	0	0	0	0	0	0	7	20	0	0	0	0	0	0	0
05:45 PM	to 06:00 PM	0	0	22	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	4
06:00 PM	to 06:15 PM	0	0	20	0	0	0	0	0	0	0	0	1	26	0	0	0	0	0	0	2
06:15 PM	to 06:30 PM	0	0	21	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	1
06:30 PM	to 06:45 PM	0	0	10	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0
06:45 PM	to 07:00 PM	0	0	17	1	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	1
SYSTEM PEAK HR (VEH.)		115				0	0				0	135				0	0				11
04:45 PM	to 05:45 PM	0	0	98	17		0	0	0	0		0	21	114	0		0	0	0	0	
Peak Hour Factor (PHF)	Overall **0.80**	U n/a	Left n/a	Thru 0.91	Right 0.61	**SB 0.96**	U n/a	Left n/a	Thru n/a	Right n/a	**WB n/a**	U n/a	Left 0.75	Thru 0.70	Right n/a	**NB 0.70**	U n/a	Left n/a	Thru n/a	Right n/a	**EB n/a**

HEAVY VEHICLES (FHWA 4+)

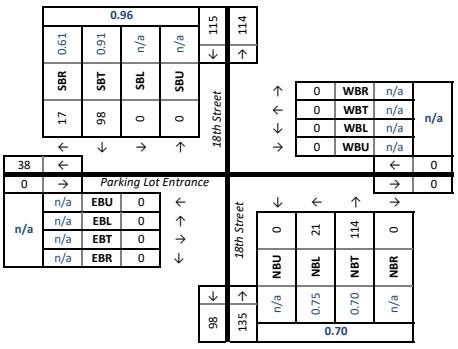
	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street										18th Street					Parking Lot Entrance				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
02:00 PM	to 02:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:15 PM	to 02:30 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
02:30 PM	to 02:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:45 PM	to 03:00 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
03:00 PM	to 03:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:15 PM	to 03:30 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:30 PM	to 03:45 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:45 PM	to 04:00 PM	0	0	0	0		0	0	0	0		0	0	2	0		0	0	0	0	
04:00 PM	to 04:15 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:15 PM	to 04:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:30 PM	to 04:45 PM	0	0	1	0		0	0	0	0		0	0	1	0		0	0	0	0	
04:45 PM	to 05:00 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:00 PM	to 05:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:15 PM	to 05:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:30 PM	to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:45 PM	to 06:00 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
06:00 PM	to 06:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 PM	to 06:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 PM	to 06:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 PM	to 07:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
SYSTEM PEAK HR (VEH.)		1					0					0					0				
04:45 PM	to 05:45 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	1.0%	0.0%	**0.9%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)		3					0					2					0				
03:15 PM	to 04:15 PM	0	0	3	0		0	0	0	0		0	0	2	0		0	0	0	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	3.0%	0.0%	**2.7%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	2.0%	0.0%	**1.7%**	0.0%	0.0%	0.0%	0.0%	**0.0%**

BICYCLES

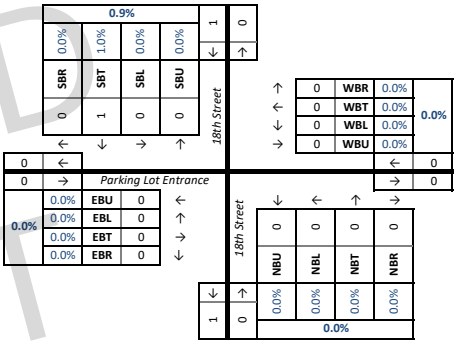
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	18th Street								18th Street				Parking Lot Entrance			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM	to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	to 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	to 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	to 03:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	to 04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:30 PM	to 04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:45 PM	to 05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:00 PM	to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	to 05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:30 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
05:45 PM	to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	to 06:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
06:30 PM	to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)		0				0				4				0			
04:45 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
INT. PEAK HR (BIKES)		0				0				4				0			
04:45 PM	to 05:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0

DATA COLLECTION NOTES :

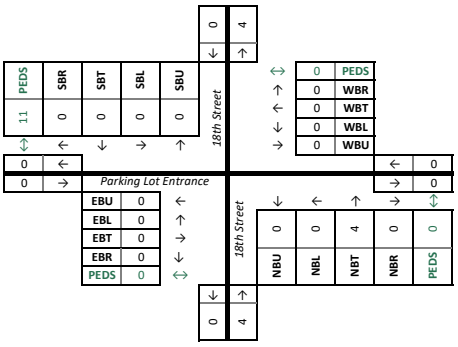
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:15 PM to 05:15 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 18th Street/18th Street & N Lexington Street

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					N Lexington Street					18th Street					N Lexington Street				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM to 02:15 PM	0	0	8	1	0	0	6	4	0	0	0	16	7	1	0	0	0	10	13	1
02:15 PM to 02:30 PM	0	0	5	1	0	0	1	9	0	0	0	6	5	2	0	0	0	14	7	1
02:30 PM to 02:45 PM	0	0	6	0	4	0	3	10	0	1	0	16	9	4	2	0	0	13	13	1
02:45 PM to 03:00 PM	0	0	4	3	0	0	1	6	0	0	0	13	12	5	0	0	2	8	5	0
03:00 PM to 03:15 PM	0	0	8	2	0	0	3	7	2	0	0	9	11	4	1	0	1	11	11	1
03:15 PM to 03:30 PM	0	0	9	3	0	0	6	8	1	0	0	10	11	2	0	0	1	11	13	0
03:30 PM to 03:45 PM	0	0	11	0	0	0	3	13	0	0	0	5	12	6	2	0	0	11	13	5
03:45 PM to 04:00 PM	0	0	13	1	0	0	4	8	0	0	0	10	9	7	0	0	0	14	18	4
04:00 PM to 04:15 PM	0	1	7	2	4	0	8	10	1	0	0	12	7	7	0	0	0	16	12	9
04:15 PM to 04:30 PM	0	0	9	2	1	1	8	14	0	2	0	16	17	7	1	0	0	14	20	1
04:30 PM to 04:45 PM	0	0	14	1	0	0	10	2	2	0	0	16	6	3	0	0	1	7	12	2
04:45 PM to 05:00 PM	0	0	12	0	0	0	4	13	0	0	0	10	8	6	0	0	0	14	11	0
05:00 PM to 05:15 PM	0	0	16	2	0	0	3	13	1	0	0	12	20	8	1	0	1	17	11	3
05:15 PM to 05:30 PM	0	0	5	1	0	0	10	18	0	1	0	12	13	6	3	1	1	16	13	0
05:30 PM to 05:45 PM	0	0	8	1	0	0	5	9	0	0	0	14	1	5	1	0	0	18	14	5
05:45 PM to 06:00 PM	0	2	9	2	2	0	3	14	0	3	0	8	12	5	4	0	1	18	10	3
06:00 PM to 06:15 PM	0	0	8	2	2	0	1	17	1	0	0	10	11	3	0	0	0	16	11	3
06:15 PM to 06:30 PM	0	1	7	1	0	0	0	14	1	1	0	10	7	5	0	0	1	29	11	0
06:30 PM to 06:45 PM	0	0	3	1	0	0	4	10	0	0	0	15	9	2	2	0	1	14	7	0
06:45 PM to 07:00 PM	0	1	7	0	0	0	1	4	1	0	0	3	8	2	2	0	3	9	8	0
SYSTEM PEAK HR (VEH.)	45				0	76				1	115				5	117				8
04:45 PM to 05:45 PM	0	0	41	4		0	22	53	1		0	48	42	25		1	2	65	49	
Peak Hour Factor (PHF) Overall **0.85**	U n/a	Left n/a	Thru 0.64	Right 0.50	**SB 0.63**	U n/a	Left 0.55	Thru 0.74	Right 0.25	**WB 0.68**	U n/a	Left 0.86	Thru 0.53	Right 0.78	**NB 0.72**	U 0.25	Left 0.50	Thru 0.90	Right 0.88	**EB 0.91**

HEAVY VEHICLES (FHWA 4+)

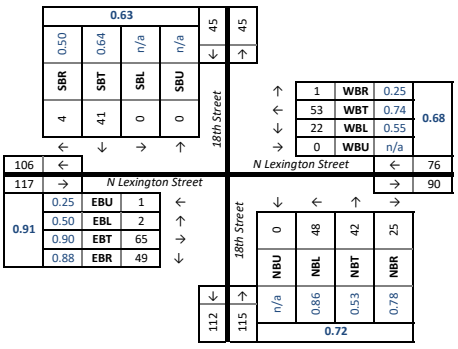
Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					N Lexington Street					18th Street					N Lexington Street				
Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
02:00 PM to 02:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:15 PM to 02:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:30 PM to 02:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:45 PM to 03:00 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
03:00 PM to 03:15 PM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	1	0	
03:15 PM to 03:30 PM	0	0	0	0		0	2	1	0		0	0	0	0		0	0	0	0	
03:30 PM to 03:45 PM	0	0	0	0		0	1	1	0		0	0	0	0		0	0	1	0	
03:45 PM to 04:00 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	1	1	
04:00 PM to 04:15 PM	0	0	0	0		0	0	0	0		0	1	0	0		0	0	2	0	
04:15 PM to 04:30 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
04:30 PM to 04:45 PM	0	0	0	0		0	1	0	0		0	1	0	0		0	0	0	0	
04:45 PM to 05:00 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:00 PM to 05:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
05:15 PM to 05:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:30 PM to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:45 PM to 06:00 PM	0	0	0	0		0	0	0	0		0	0	1	0		0	0	0	0	
06:00 PM to 06:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
06:15 PM to 06:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 PM to 06:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 PM to 07:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
SYSTEM PEAK HR (VEH.)	1					0					0					0				
04:45 PM to 05:45 PM	0	0	1	0		0	0	0	0		0	0	0	0		0	0	0	0	
Heavy Vehicle % (PHV):	0.0%	0.0%	2.4%	0.0%	**2.2%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
INT. PEAK HR (HV ONLY)	0					5					2					5				
03:15 PM to 04:15 PM	0	0	0	0		0	3	2	0		0	1	1	0		0	0	4	1	
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	14.3%	5.1%	0.0%	**8.1%**	0.0%	2.7%	2.6%	0.0%	**2.0%**	0.0%	0.0%	7.7%	1.8%	**4.6%**

BICYCLES

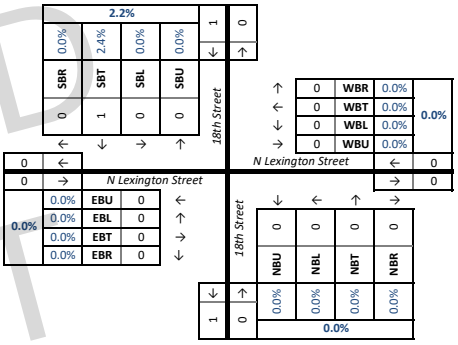
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				N Lexington Street				18th Street				N Lexington Street			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
03:30 PM to 03:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	1				1				2				0			
04:45 PM to 05:45 PM	0	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0
INT. PEAK HR (BIKES)	0				1				3				2			
02:30 PM to 03:30 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	0	2	0

DATA COLLECTION NOTES :

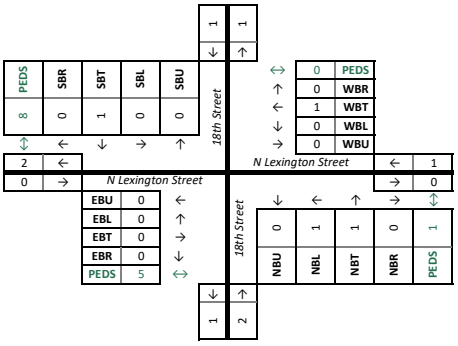
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:30 PM to 05:30 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 18th Street & Patrick Henry Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Street					Patrick Henry Drive					18th Street					Patrick Henry Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM to 02:15 PM	0	2	2	0	1	1	1	20	0	0	0	6	1	0	1	0	0	17	6	0
02:15 PM to 02:30 PM	0	0	0	0	0	1	0	22	0	0	0	2	2	0	0	0	0	14	6	0
02:30 PM to 02:45 PM	0	1	3	0	2	0	0	28	0	1	0	8	2	0	19	1	0	31	4	1
02:45 PM to 03:00 PM	0	0	0	0	0	0	2	28	0	0	0	9	4	0	1	0	0	19	5	0
03:00 PM to 03:15 PM	0	0	3	0	1	1	1	35	0	1	0	11	3	1	1	0	1	27	10	0
03:15 PM to 03:30 PM	0	0	1	0	0	0	2	20	0	0	0	7	6	2	0	0	0	27	9	0
03:30 PM to 03:45 PM	0	0	2	0	2	0	0	19	0	0	0	9	2	1	0	0	0	25	10	5
03:45 PM to 04:00 PM	0	0	2	0	2	0	5	17	0	3	0	5	3	1	1	0	0	25	8	3
04:00 PM to 04:15 PM	0	0	0	0	2	0	0	30	2	6	0	6	2	0	1	0	1	43	8	7
04:15 PM to 04:30 PM	0	0	2	1	0	0	3	27	0	0	0	10	6	1	1	0	0	28	8	1
04:30 PM to 04:45 PM	0	1	1	3	0	0	1	29	0	0	0	5	3	1	1	0	0	44	11	0
04:45 PM to 05:00 PM	0	0	1	0	0	2	0	30	1	0	0	7	0	3	0	0	0	40	13	0
05:00 PM to 05:15 PM	0	0	5	0	0	2	1	31	2	0	0	18	4	1	0	0	1	37	11	1
05:15 PM to 05:30 PM	0	0	1	0	0	0	1	40	0	1	0	9	2	1	1	0	0	42	6	1
05:30 PM to 05:45 PM	0	0	1	0	0	0	1	18	1	0	0	1	0	0	1	1	0	39	8	0
05:45 PM to 06:00 PM	0	0	5	1	2	0	1	23	1	2	0	9	2	1	0	0	1	54	8	0
06:00 PM to 06:15 PM	0	0	1	0	0	0	1	28	0	0	0	10	3	3	0	0	0	45	7	2
06:15 PM to 06:30 PM	1	0	1	0	0	0	4	31	1	0	0	5	2	2	0	0	1	29	6	0
06:30 PM to 06:45 PM	0	0	1	1	0	0	1	23	0	0	0	6	4	0	0	0	0	42	2	0
06:45 PM to 07:00 PM	0	0	0	0	0	1	0	25	1	0	0	10	2	0	0	0	0	35	7	0
SYSTEM PEAK HR (VEH.)	8				0	130				1	46				2	198				2
04:45 PM to 05:45 PM	0	0	8	0		4	3	119	4		0	35	6	5		1	1	158	38	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
0.85	n/a	n/a	0.40	n/a	**0.40**	0.50	0.75	0.74	0.50	**0.79**	n/a	0.49	0.38	0.42	**0.50**	0.25	0.25	0.94	0.73	**0.93**

HEAVY VEHICLES (FHWA 4+)

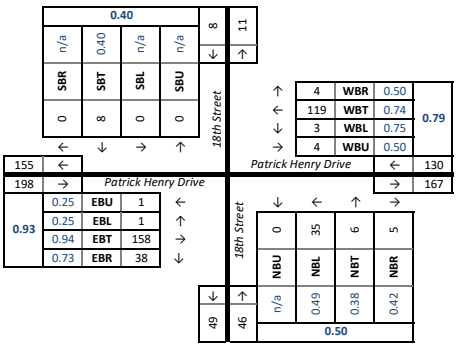
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				Patrick Henry Drive				18th Street				Patrick Henry Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
04:00 PM to 04:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
SYSTEM PEAK HR (VEH.)	0				0				0				2			
04:45 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.6%	2.6%	**1.0%**
INT. PEAK HR (HV ONLY)	0				3				1				4			
03:15 PM to 04:15 PM	0	0	0	0	0	0	3	0	0	1	0	0	0	1	3	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	3.5%	0.0%	**3.2%**	0.0%	3.7%	0.0%	0.0%	**2.3%**	0.0%	100.0%	2.5%	0.0%	**2.6%**

BICYCLES

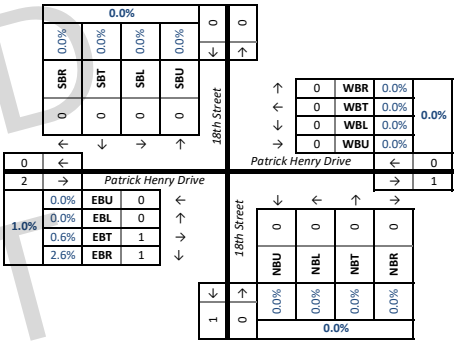
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Street				Patrick Henry Drive				18th Street				Patrick Henry Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM to 05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	0				2				1				2			
04:45 PM to 05:45 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	1
INT. PEAK HR (BIKES)	0				2				1				2			
04:30 PM to 05:30 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	1

DATA COLLECTION NOTES :

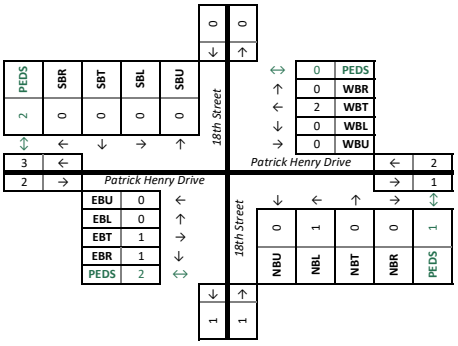
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:30 PM to 06:30 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 18th Road N/ & N Lexington Street

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	18th Road N					N Lexington Street										N Lexington Street				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM to 02:15 PM	0	1	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	22	0	0
02:15 PM to 02:30 PM	0	1	0	0	1	0	0	16	0	0	0	0	0	0	0	0	0	20	0	0
02:30 PM to 02:45 PM	0	1	0	1	3	0	0	26	0	0	0	0	0	0	0	0	1	25	0	1
02:45 PM to 03:00 PM	0	0	0	3	1	0	0	21	1	0	0	0	0	0	0	0	0	15	0	0
03:00 PM to 03:15 PM	0	1	0	1	0	0	0	17	0	0	0	0	0	0	0	0	0	22	0	0
03:15 PM to 03:30 PM	0	2	0	1	0	0	0	20	1	1	0	0	0	0	0	0	0	23	0	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	0	17	1	0	0	0	0	0	0	0	1	25	0	1
03:45 PM to 04:00 PM	0	0	0	1	0	0	0	17	1	0	0	0	0	0	0	0	0	31	0	0
04:00 PM to 04:15 PM	0	0	0	1	3	0	0	25	1	0	0	0	0	0	0	0	0	28	0	2
04:15 PM to 04:30 PM	0	2	0	0	0	0	0	32	1	0	0	0	0	0	0	0	0	32	0	0
04:30 PM to 04:45 PM	0	1	0	0	0	0	0	19	0	0	0	0	0	0	0	0	1	19	0	0
04:45 PM to 05:00 PM	0	1	0	0	0	0	0	24	0	0	0	0	0	0	0	0	1	25	0	2
05:00 PM to 05:15 PM	0	1	0	1	0	0	0	25	1	0	0	0	0	0	0	0	0	28	0	0
05:15 PM to 05:30 PM	0	0	0	1	0	1	0	29	2	0	0	0	0	0	0	0	1	31	0	0
05:30 PM to 05:45 PM	0	1	0	1	1	0	0	25	0	0	0	0	0	0	0	0	0	30	0	0
05:45 PM to 06:00 PM	0	1	0	0	0	0	0	24	0	0	0	0	0	0	0	0	1	28	0	0
06:00 PM to 06:15 PM	0	0	0	0	2	0	0	28	1	0	0	0	0	0	0	0	1	27	0	0
06:15 PM to 06:30 PM	0	1	0	1	0	0	0	25	0	0	0	0	0	0	0	0	0	42	0	0
06:30 PM to 06:45 PM	0	0	0	2	0	0	0	25	1	0	0	0	0	0	0	0	2	21	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	19	0	0
SYSTEM PEAK HR (VEH.)	6				1	107				0	0				0	116				2
04:45 PM to 05:45 PM	0	3	0	3		1	0	103	3		0	0	0	0		0	2	114	0	
Peak Hour Factor (PHF) Overall **0.88**	U n/a	Left 0.75	Thru n/a	Right 0.75	**SB 0.75**	U 0.25	Left n/a	Thru 0.89	Right 0.38	**WB 0.84**	U n/a	Left n/a	Thru n/a	Right n/a	**NB n/a**	U n/a	Left 0.50	Thru 0.92	Right n/a	**EB 0.91**

HEAVY VEHICLES (FHWA 4+)

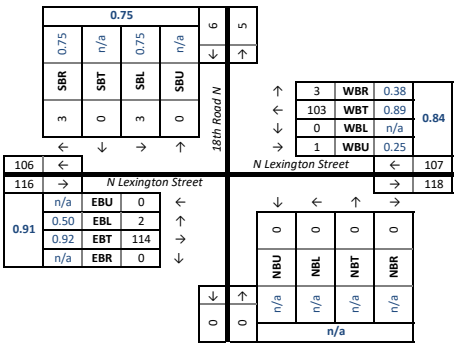
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Road N				N Lexington Street								N Lexington Street			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
04:00 PM to 04:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	0				0				0				1			
04:45 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	50.0%	0.0%	0.0% **0.9%**
INT. PEAK HR (HV ONLY)	0				3				0				4			
03:15 PM to 04:15 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	4	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	0.0%	2.5%	25.0% **3.6%**	0.0%	0.0%	0.0%	0.0% **0.0%**	0.0%	0.0%	3.7%	0.0% **3.7%**

BICYCLES

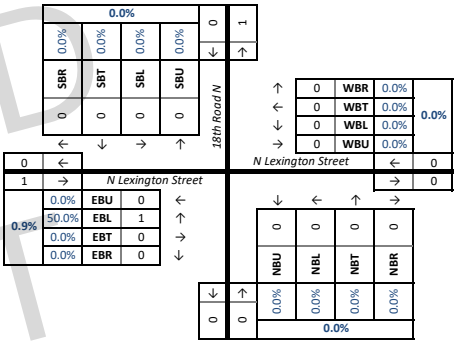
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	18th Road N				N Lexington Street								N Lexington Street			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
SYSTEM PEAK HR (VEH.)	0				2				0				0			
04:45 PM to 05:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				4				0				2			
02:30 PM to 03:30 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0

DATA COLLECTION NOTES :

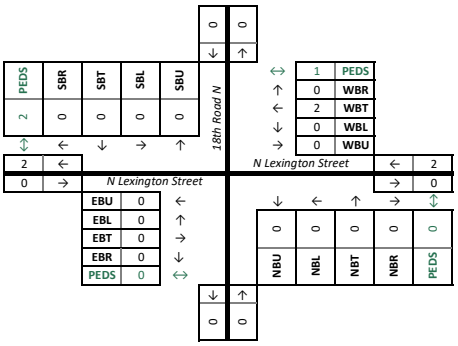
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:00 PM to 06:00 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 19th Street N & N Lexington Street

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	19th Street N					N Lexington Street					19th Street N					N Lexington Street				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM to 02:15 PM	0	0	0	2	0	0	2	18	1	0	0	1	1	5	0	0	1	17	1	1
02:15 PM to 02:30 PM	0	1	0	1	1	0	2	14	0	0	0	3	0	2	1	0	0	17	1	0
02:30 PM to 02:45 PM	0	0	0	0	2	0	2	26	0	5	0	3	2	4	1	0	1	22	1	3
02:45 PM to 03:00 PM	0	1	2	0	3	0	1	20	2	1	0	1	1	3	9	0	2	11	2	6
03:00 PM to 03:15 PM	0	0	1	0	1	0	0	17	3	1	0	3	0	4	1	0	0	19	2	0
03:15 PM to 03:30 PM	0	0	1	0	0	0	1	17	2	0	0	0	1	0	1	0	1	23	2	1
03:30 PM to 03:45 PM	0	2	2	1	3	0	1	17	0	2	0	4	2	1	6	0	0	22	0	4
03:45 PM to 04:00 PM	0	0	1	0	0	0	1	17	0	1	0	1	3	7	3	0	0	25	1	2
04:00 PM to 04:15 PM	1	3	1	1	2	0	4	21	1	1	0	0	1	1	3	0	0	25	2	6
04:15 PM to 04:30 PM	0	2	2	1	1	0	3	29	0	1	0	3	1	2	1	0	0	27	0	0
04:30 PM to 04:45 PM	0	2	1	1	0	0	1	17	2	1	0	1	1	4	3	0	0	15	2	2
04:45 PM to 05:00 PM	0	1	0	1	1	0	2	20	1	0	0	1	2	1	1	0	1	22	4	0
05:00 PM to 05:15 PM	0	1	1	3	0	0	3	19	3	1	0	4	5	3	1	0	0	25	3	0
05:15 PM to 05:30 PM	0	1	0	0	1	0	3	27	1	0	0	1	1	3	1	0	0	27	1	0
05:30 PM to 05:45 PM	0	2	1	0	2	0	5	19	1	2	0	2	3	3	1	0	2	25	4	0
05:45 PM to 06:00 PM	0	1	2	0	0	0	1	21	2	0	0	2	3	5	0	0	0	23	1	0
06:00 PM to 06:15 PM	0	0	1	1	1	0	3	25	1	0	0	2	2	2	0	0	0	26	1	1
06:15 PM to 06:30 PM	0	0	0	0	0	0	2	21	2	0	0	1	1	2	0	0	0	39	1	0
06:30 PM to 06:45 PM	0	0	1	0	0	0	3	20	5	0	0	2	1	4	1	0	0	20	5	1
06:45 PM to 07:00 PM	0	1	4	1	0	0	1	5	1	0	0	0	1	1	0	0	1	17	1	0
SYSTEM PEAK HR (VEH.)	11				4	104				3	29				4	114				0
04:45 PM to 05:45 PM	0	5	2	4		0	13	85	6		0	8	11	10		0	3	99	12	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
0.92	n/a	0.63	0.50	0.33	**0.55**	n/a	0.65	0.79	0.50	**0.84**	n/a	0.50	0.55	0.83	**0.60**	n/a	0.38	0.92	0.75	**0.92**

HEAVY VEHICLES (FHWA 4+)

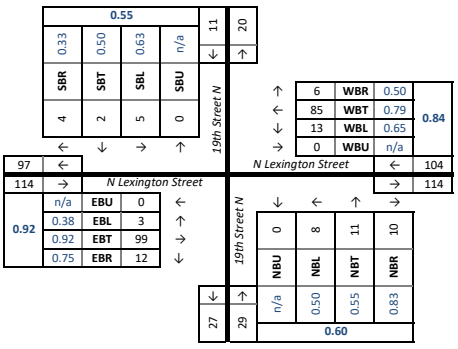
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	19th Street N				N Lexington Street				19th Street N				N Lexington Street			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
04:00 PM to 04:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0
04:15 PM to 04:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	3				0				0				2			
04:45 PM to 05:45 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Heavy Vehicle % (PHV):	0.0%	20.0%	0.0%	50.0%	**27.3%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	16.7%	**1.8%**
INT. PEAK HR (HV ONLY)	1				3				0				4			
03:30 PM to 04:30 PM	0	1	0	0	0	1	2	0	0	0	0	0	0	0	4	0
Heavy Vehicle % (PHV):	0.0%	14.3%	0.0%	0.0%	**5.9%**	0.0%	11.1%	2.4%	0.0%	**3.2%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	4.0%	0.0%	**3.9%**

BICYCLES

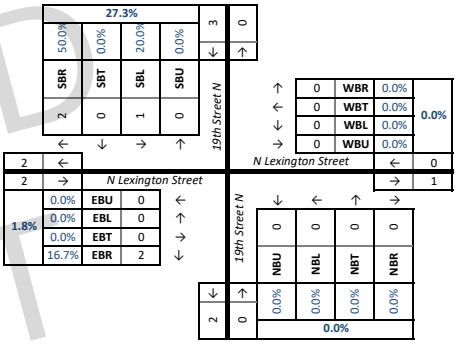
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	19th Street N				N Lexington Street				19th Street N				N Lexington Street			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	1	0	0	0	3	0	0	1	0	0	0	0	1	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	0				2				0				0			
04:45 PM to 05:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	1				4				2				1			
02:30 PM to 03:30 PM	0	0	1	0	0	0	4	0	0	1	0	1	0	0	1	0

DATA COLLECTION NOTES :

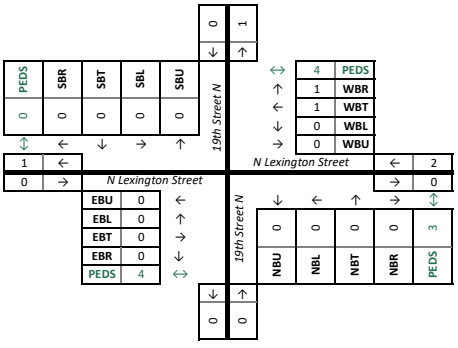
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:00 PM to 06:00 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 19th Street N & N Madison Street

ALL VEHICLES

Direction	Southbound					Westbound					Northbound					Eastbound				
Roadway	19th Street N					N Madison Street					19th Street N					N Madison Street				
Movement	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM to 02:15 PM	0	0	0	1	2	0	1	2	2	3	0	0	1	0	2	0	3	1	0	4
02:15 PM to 02:30 PM	0	1	3	0	0	0	0	1	0	0	0	0	2	1	0	0	1	0	0	1
02:30 PM to 02:45 PM	0	0	2	0	2	0	1	0	1	1	0	1	5	2	0	0	1	0	1	0
02:45 PM to 03:00 PM	0	0	3	1	2	0	0	0	1	0	0	0	2	0	0	0	0	2	0	0
03:00 PM to 03:15 PM	0	0	3	0	0	0	0	0	1	0	0	0	2	0	0	0	2	1	0	1
03:15 PM to 03:30 PM	0	1	3	0	2	0	1	2	0	0	0	0	2	0	3	0	0	1	3	0
03:30 PM to 03:45 PM	0	0	3	0	1	0	0	0	1	0	0	0	5	0	2	0	1	2	1	1
03:45 PM to 04:00 PM	0	0	1	0	0	1	0	0	3	1	0	0	6	0	0	0	1	0	0	2
04:00 PM to 04:15 PM	0	0	4	0	2	1	0	1	2	0	0	2	0	1	1	1	0	3	0	0
04:15 PM to 04:30 PM	0	2	1	0	0	0	1	1	0	0	0	0	3	1	0	0	2	1	1	0
04:30 PM to 04:45 PM	0	0	3	0	2	0	0	1	0	2	0	1	4	1	0	0	0	1	1	1
04:45 PM to 05:00 PM	0	0	2	1	3	0	0	1	2	2	0	1	1	0	1	0	1	1	0	0
05:00 PM to 05:15 PM	0	1	6	0	1	0	0	0	6	0	0	1	5	0	0	0	1	1	1	1
05:15 PM to 05:30 PM	0	0	4	1	3	0	1	1	1	4	0	1	3	0	0	0	2	2	1	1
05:30 PM to 05:45 PM	0	3	9	0	1	0	0	2	4	1	0	0	5	0	2	0	1	0	0	1
05:45 PM to 06:00 PM	0	1	4	1	1	0	0	1	1	0	0	0	8	1	0	0	0	0	1	0
06:00 PM to 06:15 PM	0	0	3	1	2	0	1	0	3	0	0	1	3	0	0	0	0	0	0	2
06:15 PM to 06:30 PM	0	0	1	0	0	0	0	1	1	2	0	1	3	0	0	0	0	1	0	0
06:30 PM to 06:45 PM	0	0	5	4	1	0	0	3	0	1	0	0	5	0	0	0	2	0	0	0
06:45 PM to 07:00 PM	0	0	4	1	0	0	0	3	0	0	0	0	1	0	0	0	0	2	1	0
SYSTEM PEAK HR (VEH.)	27				8	18				7	17				3	11				3
04:45 PM to 05:45 PM	0	4	21	2		0	1	4	13		0	3	14	0		0	5	4	2	
Peak Hour Factor (PHF) Overall **0.76**	U n/a	Left 0.33	Thru 0.58	Right 0.50	**SB 0.56**	U n/a	Left 0.25	Thru 0.50	Right 0.54	**WB 0.75**	U n/a	Left 0.75	Thru 0.70	Right n/a	**NB 0.71**	U n/a	Left 0.63	Thru 0.50	Right 0.50	**EB 0.55**

HEAVY VEHICLES (FHWA 4+)

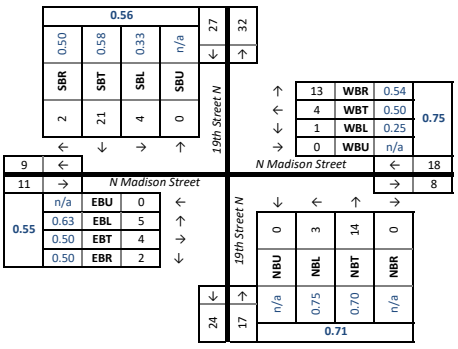
Direction	Southbound					Westbound					Northbound					Eastbound				
Roadway	19th Street N					N Madison Street					19th Street N					N Madison Street				
Movement	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
02:00 PM to 02:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:15 PM to 02:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:30 PM to 02:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:45 PM to 03:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:00 PM to 03:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:15 PM to 03:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:30 PM to 03:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:45 PM to 04:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:00 PM to 04:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
04:15 PM to 04:30 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:30 PM to 04:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:45 PM to 05:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:00 PM to 05:15 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:15 PM to 05:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
05:30 PM to 05:45 PM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:45 PM to 06:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:00 PM to 06:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 PM to 06:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 PM to 06:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 PM to 07:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
SYSTEM PEAK HR (VEH.)	2					0					0					1				
04:45 PM to 05:45 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
Heavy Vehicle % (PHV):	0.0%	50.0%	0.0%	0.0%	**7.4%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	50.0%	**9.1%**
INT. PEAK HR (HV ONLY)	2					0					0					1				
04:45 PM to 05:45 PM	0	2	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
Heavy Vehicle % (PHV):	0.0%	50.0%	0.0%	0.0%	**7.4%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	50.0%	**9.1%**

BICYCLES

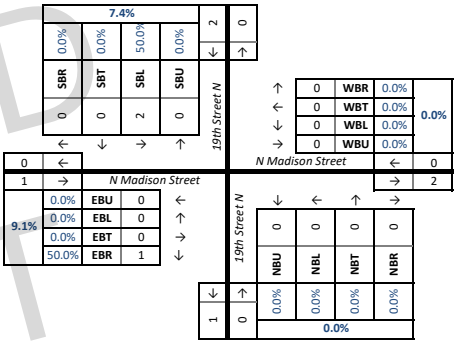
Direction	Southbound				Westbound				Northbound				Eastbound			
Roadway	19th Street N				N Madison Street				19th Street N				N Madison Street			
Movement	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
02:15 PM to 02:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SYSTEM PEAK HR (VEH.)	0				0				2				0			
04:45 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
INT. PEAK HR (BIKES)	1				0				2				0			
04:15 PM to 05:15 PM	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0

DATA COLLECTION NOTES :

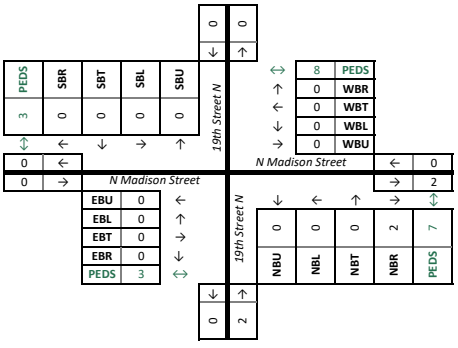
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



SECOND DRAFT

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : New Reed ES
Project # : 2769-001
Location Arlington VA
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 02:00 PM to 07:00 PM
Date of Counts: Thursday, February 1, 2018
Weather: Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 03:45 PM to 04:45 PM
System Peak Hour (all vehicles): 04:45 PM to 05:45 PM
User-Defined Peak Hour: 03:00 PM to 04:00 PM

Intersection: 1. 18th Street N & Parking Lot Entrance/ N Madison Street

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street N					Parking Lot Entrance					18th Street N					N Madison Street				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
02:00 PM	to 02:15 PM	0	0	0	0	0	0	0	1	0	0	0	4	0	0	2	0	0	0	1	0
02:15 PM	to 02:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	1	1	0
02:30 PM	to 02:45 PM	0	0	0	0	3	0	1	0	0	0	0	1	0	0	5	0	0	1	0	3
02:45 PM	to 03:00 PM	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	2	0
03:00 PM	to 03:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
03:15 PM	to 03:30 PM	0	0	0	0	1	0	0	1	0	0	0	2	0	0	4	0	0	1	1	1
03:30 PM	to 03:45 PM	0	0	0	0	1	0	2	1	0	1	0	0	0	2	1	0	1	0	1	0
03:45 PM	to 04:00 PM	0	0	0	1	0	0	8	1	0	0	0	5	0	2	1	0	0	0	0	2
04:00 PM	to 04:15 PM	0	0	0	0	1	0	5	1	0	0	0	1	0	2	1	1	0	0	4	0
04:15 PM	to 04:30 PM	0	0	0	1	0	0	2	0	0	1	0	1	0	0	1	0	0	1	3	0
04:30 PM	to 04:45 PM	0	0	0	0	1	0	3	0	0	0	0	1	1	0	4	0	0	1	2	3
04:45 PM	to 05:00 PM	0	0	0	0	3	0	3	0	0	1	0	3	0	0	1	0	0	1	0	2
05:00 PM	to 05:15 PM	0	0	0	0	1	0	3	3	0	1	0	3	0	2	1	0	0	1	1	0
05:15 PM	to 05:30 PM	0	0	0	0	2	0	1	1	0	0	0	2	0	0	2	1	0	0	1	1
05:30 PM	to 05:45 PM	0	0	1	0	0	0	1	1	0	0	0	5	0	0	3	0	0	0	3	2
05:45 PM	to 06:00 PM	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	2	0
06:00 PM	to 06:15 PM	0	0	0	0	2	0	3	2	0	0	0	1	0	0	0	0	0	0	0	0
06:15 PM	to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0
06:30 PM	to 06:45 PM	0	0	0	0	1	0	0	0	0	1	0	3	0	1	3	0	0	0	0	3
06:45 PM	to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	4	2	0	1	1	0	2
SYSTEM PEAK HR (VEH.)		1				6	13				2	15				7	8				5
04:45 PM	to 05:45 PM	0	0	1	0		0	8	5	0		0	13	0	2		1	0	2	5	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.71**	n/a	n/a	0.25	n/a	**0.25**	n/a	0.67	0.42	n/a	**0.54**	n/a	0.65	n/a	0.25	**0.75**	0.25	n/a	0.50	0.42	**0.67**

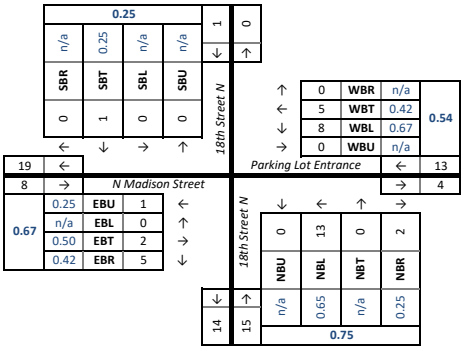
HEAVY VEHICLES (FHWA 4+)

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street N					Parking Lot Entrance					18th Street N					N Madison Street				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
02:00 PM	to 02:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:15 PM	to 02:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:30 PM	to 02:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:45 PM	to 03:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:00 PM	to 03:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:15 PM	to 03:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:30 PM	to 03:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:45 PM	to 04:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:00 PM	to 04:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
04:15 PM	to 04:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
04:30 PM	to 04:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:45 PM	to 05:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:00 PM	to 05:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
05:15 PM	to 05:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:30 PM	to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
05:45 PM	to 06:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:00 PM	to 06:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 PM	to 06:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 PM	to 06:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:45 PM	to 07:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
SYSTEM PEAK HR (VEH.)		0					0					0					2				
04:45 PM	to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	40.0%	**25.0%**
INT. PEAK HR (HV ONLY)		0					0					0					2				
03:30 PM	to 04:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	25.0%	**18.2%**

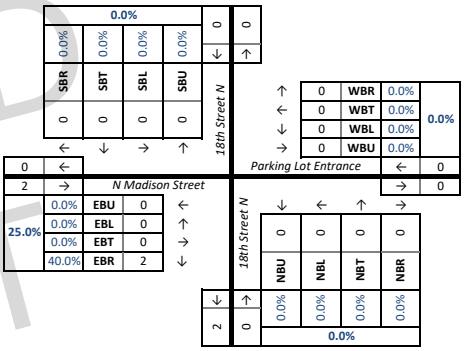
BICYCLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	18th Street N					Parking Lot Entrance					18th Street N					N Madison Street				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
02:00 PM	to 02:15 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
02:15 PM	to 02:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0	
02:30 PM	to 02:45 PM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
02:45 PM	to 03:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:00 PM	to 03:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:15 PM	to 03:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:30 PM	to 03:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
03:45 PM	to 04:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:00 PM	to 04:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:15 PM	to 04:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:30 PM	to 04:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
04:45 PM	to 05:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:00 PM	to 05:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:15 PM	to 05:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	2	0	
05:30 PM	to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
05:45 PM	to 06:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:00 PM	to 06:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:15 PM	to 06:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
06:30 PM	to 06:45 PM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	0	0	
06:45 PM	to 07:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
SYSTEM PEAK HR (VEH.)		0					0					0					2				
04:45 PM	to 05:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	2	0	
INT. PEAK HR (BIKES)		1					1					0					1				
02:00 PM	to 03:00 PM	0	0	0	1		0	0	1	0		0	0	0	0		0	1	0	0	

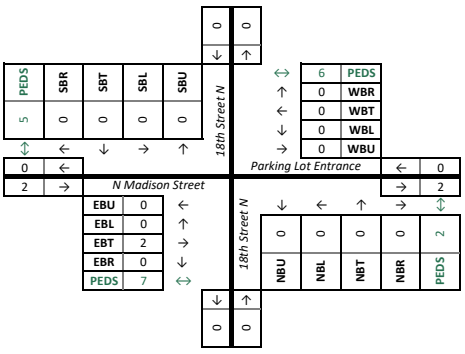
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



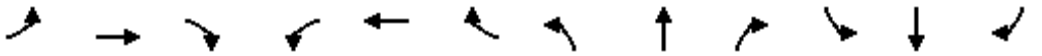
SECOND DRAFT

DATA COLLECTION NOTES :

Appendix E

Existing (2018) Capacity Analysis Worksheets

SECOND DRAFT

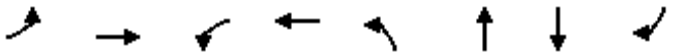


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	729	1	11	516	13	0	5	16	6	3	4
Future Volume (Veh/h)	15	729	1	11	516	13	0	5	16	6	3	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.87	0.87	0.87	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	15	752	1	13	593	15	0	6	19	7	4	5
Pedestrians								7			5	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								1			0	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					801							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	613			760			1420	1428	760	1436	1422	606
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	371			760			1399	1409	760	1419	1400	362
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			100	94	95	91	96	99
cM capacity (veh/h)	929			846			86	104	403	79	106	534

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	768	621	25	16
Volume Left	15	13	0	7
Volume Right	1	15	19	5
cSH	929	846	239	129
Volume to Capacity	0.02	0.02	0.10	0.12
Queue Length 95th (ft)	1	1	9	10
Control Delay (s)	0.4	0.4	21.8	39.0
Lane LOS	A	A	C	E
Approach Delay (s)	0.4	0.4	21.8	39.0
Approach LOS			C	E

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

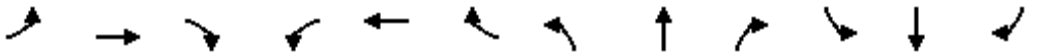
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	37	754	15	626	11	36	56	39
v/c Ratio	0.12	0.73	0.07	0.62	0.03	0.07	0.12	0.08
Control Delay	10.4	19.6	10.0	16.0	21.0	11.8	22.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	19.6	10.0	16.0	21.0	11.8	22.2	7.7
Queue Length 50th (ft)	9	281	3	208	4	4	21	0
Queue Length 95th (ft)	25	425	12	291	15	23	48	21
Internal Link Dist (ft)		596		1394		381	263	
Turn Bay Length (ft)					50			30
Base Capacity (vph)	305	1028	211	1017	404	519	471	493
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.73	0.07	0.62	0.03	0.07	0.12	0.08

Intersection Summary

SECOND DRAFT

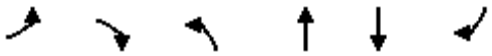


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	710	7	13	496	42	9	10	20	32	18	35
Future Volume (vph)	35	710	7	13	496	42	9	10	20	32	18	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98			1.00	0.96
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.98	1.00			0.99	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.90			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1758	1859		1757	1835		1742	1644			1795	1526
Flt Permitted	0.30	1.00		0.21	1.00		0.72	1.00			0.83	1.00
Satd. Flow (perm)	551	1859		382	1835		1321	1644			1543	1526
Peak-hour factor, PHF	0.95	0.95	0.95	0.86	0.86	0.86	0.85	0.85	0.85	0.89	0.89	0.89
Adj. Flow (vph)	37	747	7	15	577	49	11	12	24	36	20	39
RTOR Reduction (vph)	0	0	0	0	4	0	0	17	0	0	0	27
Lane Group Flow (vph)	37	754	0	15	622	0	11	19	0	0	56	12
Confl. Peds. (#/hr)	12		20	20		12	9		5	5		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	304	1027		211	1014		404	502			471	466
v/s Ratio Prot		c0.41			0.34			0.01				
v/s Ratio Perm	0.07			0.04			0.01				c0.04	0.01
v/c Ratio	0.12	0.73		0.07	0.61		0.03	0.04			0.12	0.03
Uniform Delay, d1	9.1	14.3		8.8	12.9		20.6	20.7			21.2	20.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.8	4.6		0.7	2.8		0.1	0.1			0.5	0.1
Delay (s)	9.9	18.9		9.5	15.6		20.8	20.9			21.8	20.7
Level of Service	A	B		A	B		C	C			C	C
Approach Delay (s)		18.5			15.5			20.8			21.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

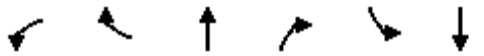


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	15	0	81	69	0
Future Volume (Veh/h)	13	15	0	81	69	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.88	0.88
Hourly flow rate (vph)	15	18	0	95	78	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				444		
pX, platoon unblocked						
vC, conflicting volume	173	78	78			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	173	78	78			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	100			
cM capacity (veh/h)	817	983	1520			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	33	95	78
Volume Left	15	0	0
Volume Right	18	0	0
cSH	900	1700	1700
Volume to Capacity	0.04	0.06	0.05
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.2	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.2	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	14.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	14	83	12	9	58
Future Volume (Veh/h)	11	14	83	12	9	58
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	13	16	98	14	11	68
Pedestrians	2		5			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			574			
pX, platoon unblocked						
vC, conflicting volume	202	107			114	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202	107			114	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	775	945			1472	

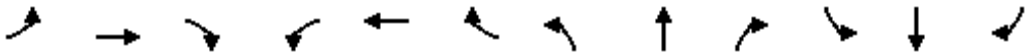
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	29	112	79
Volume Left	13	0	11
Volume Right	16	14	0
cSH	861	1700	1472
Volume to Capacity	0.03	0.07	0.01
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.3	0.0	1.1
Lane LOS	A		A
Approach Delay (s)	9.3	0.0	1.1
Approach LOS	A		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

Intersection Sign configuration not allowed in HCM analysis.

SECOND DRAFT

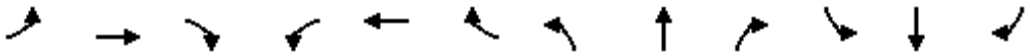


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	114	36	21	47	3	38	25	20	1	22	5
Future Volume (Veh/h)	3	114	36	21	47	3	38	25	20	1	22	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	134	42	25	55	4	45	29	24	1	26	6
Pedestrians		12			3			2			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	69			178			303	284	160	322	303	79
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	69			178			303	284	160	322	303	79
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			93	95	97	100	96	99
cM capacity (veh/h)	1517			1395			600	605	881	570	591	961

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	180	84	98	33
Volume Left	4	25	45	1
Volume Right	42	4	24	6
cSH	1517	1395	653	634
Volume to Capacity	0.00	0.02	0.15	0.05
Queue Length 95th (ft)	0	1	13	4
Control Delay (s)	0.2	2.4	11.5	11.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	2.4	11.5	11.0
Approach LOS			B	B

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	33.7%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

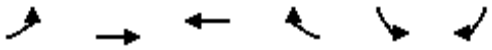


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	84	18	1	149	3	27	6	0	2	8	0
Future Volume (Veh/h)	1	84	18	1	149	3	27	6	0	2	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	99	21	1	175	4	32	7	0	2	9	0
Pedestrians		7			3			2			9	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	188			122			304	304	114	306	312	193
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	188			122			304	304	114	306	312	193
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			95	99	100	100	98	100
cM capacity (veh/h)	1374			1462			630	602	934	628	596	836

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	121	180	39	11
Volume Left	1	1	32	2
Volume Right	21	4	0	0
cSH	1374	1462	625	601
Volume to Capacity	0.00	0.00	0.06	0.02
Queue Length 95th (ft)	0	0	5	1
Control Delay (s)	0.1	0.0	11.1	11.1
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.0	11.1	11.1
Approach LOS			B	B

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	23.0%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

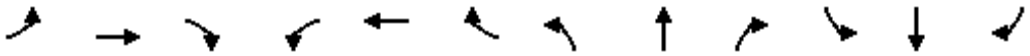


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	146	85	4	6	3
Future Volume (Veh/h)	4	146	85	4	6	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	5	172	100	5	7	4
Pedestrians		3			3	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	108				288	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108				288	108
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1478				699	940

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	177	105	11
Volume Left	5	0	7
Volume Right	0	5	4
cSH	1478	1700	770
Volume to Capacity	0.00	0.06	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.2	0.0	9.7
Lane LOS	A		A
Approach Delay (s)	0.2	0.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

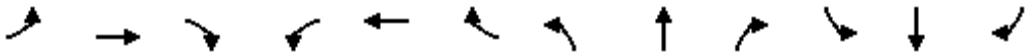


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	120	4	4	79	7	6	5	30	2	9	10
Future Volume (Veh/h)	1	120	4	4	79	7	6	5	30	2	9	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	141	5	5	93	8	7	6	35	2	11	12
Pedestrians		4			1			2			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	107			148			276	264	146	298	263	107
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	107			148			276	264	146	298	263	107
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	99	96	100	98	99
cM capacity (veh/h)	1475			1431			649	633	898	615	635	938

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	147	106	48	25
Volume Left	1	5	7	2
Volume Right	5	8	35	12
cSH	1475	1431	810	749
Volume to Capacity	0.00	0.00	0.06	0.03
Queue Length 95th (ft)	0	0	5	3
Control Delay (s)	0.1	0.4	9.7	10.0
Lane LOS	A	A	A	A
Approach Delay (s)	0.1	0.4	9.7	10.0
Approach LOS			A	A

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

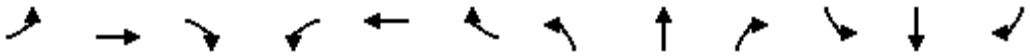


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	6	1	0	6	7	2	23	3	1	15	3
Future Volume (vph)	7	6	1	0	6	7	2	23	3	1	15	3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	8	7	1	0	7	8	2	27	4	1	18	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	16	15	33	23
Volume Left (vph)	8	0	2	1
Volume Right (vph)	1	8	4	4
Hadj (s)	0.10	-0.29	-0.03	-0.06
Departure Headway (s)	4.1	3.7	4.0	3.9
Degree Utilization, x	0.02	0.02	0.04	0.03
Capacity (veh/h)	854	941	889	902
Control Delay (s)	7.2	6.8	7.1	7.0
Approach Delay (s)	7.2	6.8	7.1	7.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.1		
Level of Service		A		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	5	4	3	2	0	9	0	20	0	0	0
Future Volume (Veh/h)	0	5	4	3	2	0	9	0	20	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	6	5	4	2	0	11	0	24	0	0	0
Pedestrians		1			2			4			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	40	49	5	48	37	18	1			26		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	40	49	5	48	37	18	1			26		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	100	100	99			100		
cM capacity (veh/h)	951	834	1073	931	847	1054	1620			1585		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	11	6	35	0
Volume Left	0	4	11	0
Volume Right	5	0	24	0
cSH	928	901	1620	1700
Volume to Capacity	0.01	0.01	0.01	0.00
Queue Length 95th (ft)	1	1	1	0
Control Delay (s)	8.9	9.0	2.3	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.9	9.0	2.3	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	15.2%	ICU Level of Service	A	
Analysis Period (min)	15			

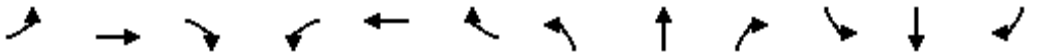
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	750	1	2	535	5	4
Future Volume (Veh/h)	750	1	2	535	5	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.92	0.92	0.85	0.85
Hourly flow rate (vph)	882	1	2	582	6	5
Pedestrians					21	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				676		
pX, platoon unblocked					0.78	
vC, conflicting volume			904		1490	904
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			904		1487	904
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	98
cM capacity (veh/h)			737		105	329

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	883	584	11
Volume Left	0	2	6
Volume Right	1	0	5
cSH	1700	737	152
Volume to Capacity	0.52	0.00	0.07
Queue Length 95th (ft)	0	0	6
Control Delay (s)	0.0	0.1	30.6
Lane LOS		A	D
Approach Delay (s)	0.0	0.1	30.6
Approach LOS			D

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

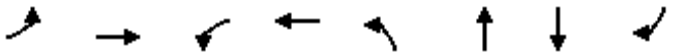


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	343	7	32	545	5	2	2	13	5	3	9
Future Volume (Veh/h)	7	343	7	32	545	5	2	2	13	5	3	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	8	404	8	37	634	6	2	2	15	6	4	11
Pedestrians					1			3			10	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			1	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					812							
pX, platoon unblocked	0.76						0.76	0.76		0.76	0.76	0.76
vC, conflicting volume	650			415			1146	1151	412	1162	1152	647
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	384			415			1034	1042	412	1056	1043	380
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			99	99	98	96	98	98
cM capacity (veh/h)	886			1141			147	166	637	142	165	503

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	420	677	19	21
Volume Left	8	37	2	6
Volume Right	8	6	15	11
cSH	886	1141	386	318
Volume to Capacity	0.01	0.03	0.05	0.07
Queue Length 95th (ft)	1	3	4	5
Control Delay (s)	0.3	0.9	14.8	21.0
Lane LOS	A	A	B	C
Approach Delay (s)	0.3	0.9	14.8	21.0
Approach LOS			B	C

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

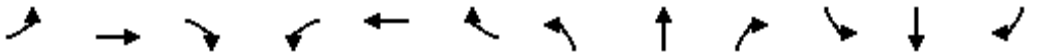
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	53	377	24	664	5	40	63	66
v/c Ratio	0.20	0.37	0.05	0.66	0.01	0.08	0.13	0.13
Control Delay	11.9	11.9	9.1	17.1	20.8	13.7	22.3	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	11.9	9.1	17.1	20.8	13.7	22.3	6.7
Queue Length 50th (ft)	13	104	6	229	2	7	24	0
Queue Length 95th (ft)	32	150	16	341	9	28	50	25
Internal Link Dist (ft)		577		1394		381	263	
Turn Bay Length (ft)			50		50			30
Base Capacity (vph)	271	1024	496	1008	401	525	486	511
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.37	0.05	0.66	0.01	0.08	0.13	0.13

Intersection Summary

SECOND DRAFT

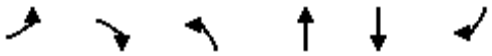


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	310	10	21	534	57	4	17	17	26	27	56
Future Volume (vph)	45	310	10	21	534	57	4	17	17	26	27	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.97			1.00	0.96
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.98	1.00			0.98	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1729	1851		1737	1814		1739	1674			1786	1522
Flt Permitted	0.27	1.00		0.49	1.00		0.72	1.00			0.87	1.00
Satd. Flow (perm)	492	1851		898	1814		1311	1674			1592	1522
Peak-hour factor, PHF	0.85	0.85	0.85	0.89	0.89	0.89	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	53	365	12	24	600	64	5	20	20	31	32	66
RTOR Reduction (vph)	0	1	0	0	4	0	0	14	0	0	0	46
Lane Group Flow (vph)	53	376	0	24	660	0	5	26	0	0	63	20
Confl. Peds. (#/hr)	45		15	15		45	8		16	16		8
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	272	1023		496	1003		401	512			486	465
v/s Ratio Prot		0.20			c0.36			0.02				
v/s Ratio Perm	0.11			0.03			0.00				c0.04	0.01
v/c Ratio	0.19	0.37		0.05	0.66		0.01	0.05			0.13	0.04
Uniform Delay, d1	9.5	10.7		8.7	13.3		20.6	20.8			21.3	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.6	1.0		0.2	3.4		0.1	0.2			0.6	0.2
Delay (s)	11.1	11.7		8.9	16.7		20.6	21.0			21.9	20.9
Level of Service	B	B		A	B		C	C			C	C
Approach Delay (s)		11.6			16.4			20.9			21.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

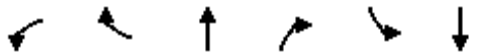


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	11	0	104	106	0
Future Volume (Veh/h)	7	11	0	104	106	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.88	0.88
Hourly flow rate (vph)	8	13	0	122	120	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				444		
pX, platoon unblocked						
vC, conflicting volume	242	120	120			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	242	120	120			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	746	931	1468			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	21	122	120
Volume Left	8	0	0
Volume Right	13	0	0
cSH	851	1700	1700
Volume to Capacity	0.02	0.07	0.07
Queue Length 95th (ft)	2	0	0
Control Delay (s)	9.3	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.3	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	15.6%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	17	94	14	3	94
Future Volume (Veh/h)	12	17	94	14	3	94
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.87	0.87	0.90	0.90
Hourly flow rate (vph)	14	20	108	16	3	104
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			574			
pX, platoon unblocked						
vC, conflicting volume	227	117			125	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	227	117			125	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	759	934			1460	

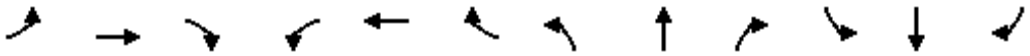
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	34	124	107
Volume Left	14	0	3
Volume Right	20	16	0
cSH	853	1700	1460
Volume to Capacity	0.04	0.07	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.4	0.0	0.2
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	0.2
Approach LOS	A		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

Intersection Sign configuration not allowed in HCM analysis.

SECOND DRAFT

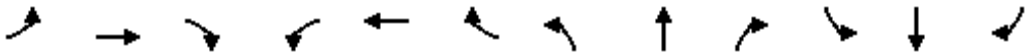


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	55	16	36	3	34	43	19	0	41	6
Future Volume (Veh/h)	2	47	55	16	36	3	34	43	19	0	41	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.86	0.86	0.86	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	2	55	65	19	42	3	37	47	21	0	48	7
Pedestrians		10						3				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	45			123			217	178	90	218	208	54
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	45			123			217	178	90	218	208	54
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			95	93	98	100	93	99
cM capacity (veh/h)	1563			1460			677	704	964	677	677	1004

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	122	64	105	55
Volume Left	2	19	37	0
Volume Right	65	3	21	7
cSH	1563	1460	733	706
Volume to Capacity	0.00	0.01	0.14	0.08
Queue Length 95th (ft)	0	1	12	6
Control Delay (s)	0.1	2.3	10.7	10.5
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.3	10.7	10.5
Approach LOS			B	B

Intersection Summary				
Average Delay	5.4			
Intersection Capacity Utilization	28.3%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

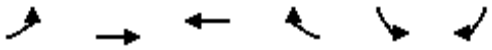


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	104	37	8	91	0	32	14	5	0	8	0
Future Volume (Veh/h)	1	104	37	8	91	0	32	14	5	0	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	112	40	9	107	0	38	16	6	0	9	0
Pedestrians		8			4			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	112			154			274	266	138	282	286	120
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	112			154			274	266	138	282	286	120
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			94	97	99	100	99	100
cM capacity (veh/h)	1471			1424			658	631	905	641	615	920

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	153	116	60	9
Volume Left	1	9	38	0
Volume Right	40	0	6	0
cSH	1471	1424	669	615
Volume to Capacity	0.00	0.01	0.09	0.01
Queue Length 95th (ft)	0	0	7	1
Control Delay (s)	0.1	0.6	10.9	10.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.6	10.9	10.9
Approach LOS			B	B

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

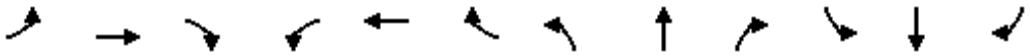


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	101	71	3	3	3
Future Volume (Veh/h)	1	101	71	3	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	1	119	81	3	4	4
Pedestrians		1	1			
Lane Width (ft)		12.0	12.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84				204	84
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84				204	84
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1513				783	975

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	120	84	8
Volume Left	1	0	4
Volume Right	0	3	4
cSH	1513	1700	868
Volume to Capacity	0.00	0.05	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.2
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

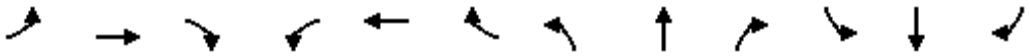


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	89	5	3	68	5	8	6	12	2	5	1
Future Volume (Veh/h)	1	89	5	3	68	5	8	6	12	2	5	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	98	5	3	72	5	9	7	14	2	6	1
Pedestrians		7			4			11			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	81			114			205	200	116	208	200	86
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	81			114			205	200	116	208	200	86
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	99	98	100	99	100
cM capacity (veh/h)	1511			1460			725	684	924	717	684	963

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	104	80	30	9
Volume Left	1	3	9	2
Volume Right	5	5	14	1
cSH	1511	1460	793	714
Volume to Capacity	0.00	0.00	0.04	0.01
Queue Length 95th (ft)	0	0	3	1
Control Delay (s)	0.1	0.3	9.7	10.1
Lane LOS	A	A	A	B
Approach Delay (s)	0.1	0.3	9.7	10.1
Approach LOS			A	B

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	19.9%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

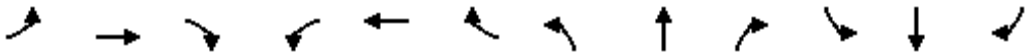


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	4	4	1	2	5	0	15	0	1	10	0
Future Volume (vph)	4	4	4	1	2	5	0	15	0	1	10	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	5	5	5	1	2	6	0	18	0	1	12	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	15	9	18	13
Volume Left (vph)	5	1	0	1
Volume Right (vph)	5	6	0	0
Hadj (s)	-0.10	-0.34	0.03	0.05
Departure Headway (s)	3.9	3.6	4.0	4.0
Degree Utilization, x	0.02	0.01	0.02	0.01
Capacity (veh/h)	915	975	882	886
Control Delay (s)	6.9	6.7	7.1	7.1
Approach Delay (s)	6.9	6.7	7.1	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	3	0	3	0	8	0	4	0	0	1
Future Volume (Veh/h)	0	1	3	0	3	0	8	0	4	0	0	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.85	0.85	0.92	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	1	4	0	4	0	9	0	5	0	0	1
Pedestrians		3			1			2			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	28	28	6	28	26	6	4			6		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	28	28	6	28	26	6	4			6		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	99			100		
cM capacity (veh/h)	966	857	1072	966	860	1074	1613			1613		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	5	4	14	1
Volume Left	0	0	9	0
Volume Right	4	0	5	1
cSH	1021	860	1613	1613
Volume to Capacity	0.00	0.00	0.01	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	8.5	9.2	4.7	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.5	9.2	4.7	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	18.2%	ICU Level of Service	A	
Analysis Period (min)	15			

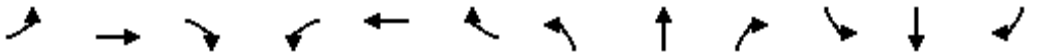
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	356	5	6	579	3	2
Future Volume (Veh/h)	356	5	6	579	3	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	387	5	7	629	3	2
Pedestrians					5	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				657		
pX, platoon unblocked					0.75	
vC, conflicting volume			397		1038	394
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			397		887	394
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1156		235	651

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	392	636	5
Volume Left	0	7	3
Volume Right	5	0	2
cSH	1700	1156	316
Volume to Capacity	0.23	0.01	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.2	16.6
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	16.6
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

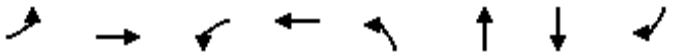


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	639	0	26	726	8	0	4	22	4	11	0
Future Volume (Veh/h)	4	639	0	26	726	8	0	4	22	4	11	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	652	0	28	789	9	0	5	26	5	13	0
Pedestrians					2			2			16	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			2	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					770							
pX, platoon unblocked	0.61						0.61	0.61		0.61	0.61	0.61
vC, conflicting volume	814			654			1518	1532	656	1556	1528	810
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	377			654			1529	1552	656	1592	1545	369
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			100	92	94	89	80	100
cM capacity (veh/h)	711			931			48	66	464	44	66	407

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	656	826	31	18
Volume Left	4	28	0	5
Volume Right	0	9	26	0
cSH	711	931	234	57
Volume to Capacity	0.01	0.03	0.13	0.31
Queue Length 95th (ft)	0	2	11	28
Control Delay (s)	0.2	0.8	22.7	94.6
Lane LOS	A	A	C	F
Approach Delay (s)	0.2	0.8	22.7	94.6
Approach LOS			C	F

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			

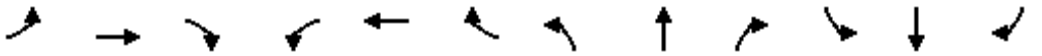
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	52	658	20	828	11	42	84	75
v/c Ratio	0.33	0.64	0.07	0.82	0.03	0.08	0.19	0.15
Control Delay	17.5	16.8	9.8	23.7	21.1	13.6	23.1	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	16.8	9.8	23.7	21.1	13.6	23.1	6.4
Queue Length 50th (ft)	14	226	5	333	4	8	33	0
Queue Length 95th (ft)	43	341	15	499	16	31	66	28
Internal Link Dist (ft)		591		1394		381	263	
Turn Bay Length (ft)					50			30
Base Capacity (vph)	159	1024	279	1015	387	522	453	509
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.64	0.07	0.82	0.03	0.08	0.19	0.15

Intersection Summary

SECOND DRAFT

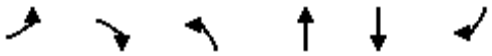


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	603	16	18	693	44	10	19	19	45	29	66
Future Volume (vph)	49	603	16	18	693	44	10	19	19	45	29	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.96			1.00	0.95
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.97	1.00			0.97	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	1851		1743	1832		1714	1660			1752	1497
Flt Permitted	0.16	1.00		0.27	1.00		0.70	1.00			0.82	1.00
Satd. Flow (perm)	289	1851		504	1832		1267	1660			1482	1497
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.92	0.92	0.92	0.88	0.88	0.88
Adj. Flow (vph)	52	641	17	20	779	49	11	21	21	51	33	75
RTOR Reduction (vph)	0	1	0	0	3	0	0	15	0	0	0	52
Lane Group Flow (vph)	52	657	0	20	825	0	11	27	0	0	84	23
Confl. Peds. (#/hr)	47		28	28		47	15		23	23		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	159	1023		278	1012		387	507			453	457
v/s Ratio Prot		0.35			c0.45			0.02				
v/s Ratio Perm	0.18			0.04			0.01				c0.06	0.02
v/c Ratio	0.33	0.64		0.07	0.82		0.03	0.05			0.19	0.05
Uniform Delay, d1	10.4	13.2		8.8	15.5		20.7	20.8			21.7	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	5.4	3.1		0.5	7.2		0.1	0.2			0.9	0.2
Delay (s)	15.8	16.3		9.3	22.7		20.8	21.0			22.6	21.0
Level of Service	B	B		A	C		C	C			C	C
Approach Delay (s)		16.2			22.4			21.0			21.9	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

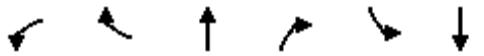


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	27	0	106	101	0
Future Volume (Veh/h)	25	27	0	106	101	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.87	0.87
Hourly flow rate (vph)	29	32	0	125	116	0
Pedestrians				10	10	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				444		
pX, platoon unblocked						
vC, conflicting volume	251	126	116			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	251	126	116			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	97	100			
cM capacity (veh/h)	731	916	1473			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	61	125	116
Volume Left	29	0	0
Volume Right	32	0	0
cSH	817	1700	1700
Volume to Capacity	0.07	0.07	0.07
Queue Length 95th (ft)	6	0	0
Control Delay (s)	9.8	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.8	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	20	115	15	9	90
Future Volume (Veh/h)	12	20	115	15	9	90
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.92	0.92
Hourly flow rate (vph)	14	24	135	18	10	98
Pedestrians	2		9			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			574			
pX, platoon unblocked						
vC, conflicting volume	273	147			155	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	273	147			155	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	97			99	
cM capacity (veh/h)	704	897			1422	

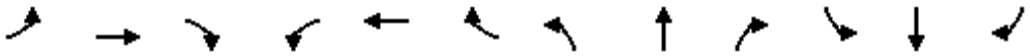
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	153	108
Volume Left	14	0	10
Volume Right	24	18	0
cSH	815	1700	1422
Volume to Capacity	0.05	0.09	0.01
Queue Length 95th (ft)	4	0	1
Control Delay (s)	9.6	0.0	0.8
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	0.8
Approach LOS	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

Intersection Sign configuration not allowed in HCM analysis.

SECOND DRAFT

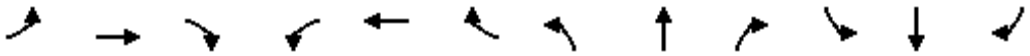


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	65	49	22	53	1	48	42	25	0	41	4
Future Volume (Veh/h)	2	65	49	22	53	1	48	42	25	0	41	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	71	54	26	62	1	56	49	29	0	48	5
Pedestrians		8			1			5				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		1			0			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	63			130			258	222	104	271	248	70
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	63			130			258	222	104	271	248	70
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			91	93	97	100	92	99
cM capacity (veh/h)	1540			1449			632	660	945	611	639	985

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	127	89	134	53
Volume Left	2	26	56	0
Volume Right	54	1	29	5
cSH	1540	1449	692	660
Volume to Capacity	0.00	0.02	0.19	0.08
Queue Length 95th (ft)	0	1	18	7
Control Delay (s)	0.1	2.3	11.4	10.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.3	11.4	10.9
Approach LOS			B	B

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

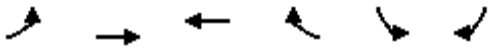


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	158	38	3	119	4	35	6	5	0	8	0
Future Volume (Veh/h)	1	158	38	3	119	4	35	6	5	0	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	170	41	4	140	5	41	7	6	0	9	0
Pedestrians		2			1			2				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	145			213			352	348	194	354	366	144
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	145			213			352	348	194	354	366	144
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			93	99	99	100	98	100
cM capacity (veh/h)	1437			1355			591	573	846	589	560	901

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	212	149	54	9
Volume Left	1	4	41	0
Volume Right	41	5	6	0
cSH	1437	1355	609	560
Volume to Capacity	0.00	0.00	0.09	0.02
Queue Length 95th (ft)	0	0	7	1
Control Delay (s)	0.0	0.2	11.5	11.5
Lane LOS	A	A	B	B
Approach Delay (s)	0.0	0.2	11.5	11.5
Approach LOS			B	B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

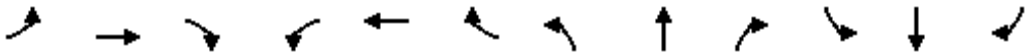


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	114	103	3	3	3
Future Volume (Veh/h)	2	114	103	3	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	2	125	121	4	4	4
Pedestrians		2			1	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	126				253	126
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	126				253	126
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1459				734	922

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	127	125	8
Volume Left	2	0	4
Volume Right	0	4	4
cSH	1459	1700	817
Volume to Capacity	0.00	0.07	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.4
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.4
Approach LOS			A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

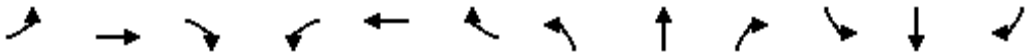


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	99	12	13	85	6	8	11	10	5	2	4
Future Volume (Veh/h)	3	99	12	13	85	6	8	11	10	5	2	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	3	108	13	15	100	7	9	13	12	6	2	5
Pedestrians					3			4			4	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	111			125			264	266	122	280	268	108
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	111			125			264	266	122	280	268	108
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	98	99	99	100	99
cM capacity (veh/h)	1473			1456			671	627	924	639	625	943

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	124	122	34	13
Volume Left	3	15	9	6
Volume Right	13	7	12	5
cSH	1473	1456	721	727
Volume to Capacity	0.00	0.01	0.05	0.02
Queue Length 95th (ft)	0	1	4	1
Control Delay (s)	0.2	1.0	10.2	10.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	1.0	10.2	10.0
Approach LOS			B	B

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	22.6%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

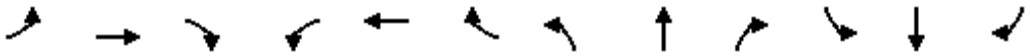


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	4	2	1	4	13	3	14	0	4	21	2
Future Volume (vph)	5	4	2	1	4	13	3	14	0	4	21	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	6	5	2	1	5	15	4	16	0	5	25	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	13	21	20	32
Volume Left (vph)	6	1	4	5
Volume Right (vph)	2	15	0	2
Hadj (s)	0.03	-0.39	0.07	0.03
Departure Headway (s)	4.1	3.6	4.1	4.0
Degree Utilization, x	0.01	0.02	0.02	0.04
Capacity (veh/h)	868	969	863	883
Control Delay (s)	7.1	6.7	7.2	7.2
Approach Delay (s)	7.1	6.7	7.2	7.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.0		
Level of Service		A		
Intersection Capacity Utilization		17.8%	ICU Level of Service	A
Analysis Period (min)		15		

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	5	8	5	0	13	0	2	0	1	0
Future Volume (Veh/h)	0	2	5	8	5	0	13	0	2	0	1	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	2	6	9	6	0	15	0	2	0	1	0
Pedestrians		5			2			7			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	46	40	13	48	39	9	6			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	46	40	13	48	39	9	6			4		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	99	99	100	99			100		
cM capacity (veh/h)	929	839	1055	926	840	1065	1607			1615		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	15	17	1
Volume Left	0	9	15	0
Volume Right	6	0	2	0
cSH	991	889	1607	1615
Volume to Capacity	0.01	0.02	0.01	0.00
Queue Length 95th (ft)	1	1	1	0
Control Delay (s)	8.7	9.1	6.4	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.7	9.1	6.4	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	7.7			
Intersection Capacity Utilization	23.0%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	3	7	759	1	5
Future Volume (Veh/h)	662	3	7	759	1	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	720	3	8	825	1	5
Pedestrians					6	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				671		
pX, platoon unblocked					0.61	
vC, conflicting volume			729		1568	728
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			729		1612	728
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			870		69	421

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	723	833	6
Volume Left	0	8	1
Volume Right	3	0	5
cSH	1700	870	228
Volume to Capacity	0.43	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.3	21.3
Lane LOS		A	C
Approach Delay (s)	0.0	0.3	21.3
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

SECOND DRAFT

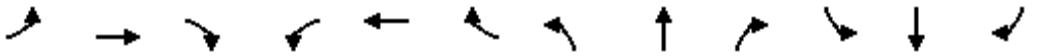
Appendix F

Background Capacity Analysis Worksheets

SECOND DRAFT

HCM Unsignalized Intersection Capacity Analysis
1: 18th St & Washington Blvd

05/03/2018

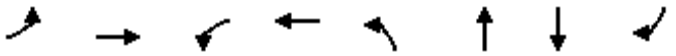


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	735	1	11	501	13	0	5	16	6	3	4
Future Volume (Veh/h)	15	735	1	11	501	13	0	5	16	6	3	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	758	1	12	545	14	0	5	17	7	3	4
Pedestrians								7			5	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								1			0	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					809							
pX, platoon unblocked	0.81						0.81	0.81		0.81	0.81	0.81
vC, conflicting volume	564			766			1368	1383	765	1382	1370	550
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	350			766			1337	1356	765	1354	1340	333
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			100	96	96	92	97	99
cM capacity (veh/h)	979			842			99	116	401	92	119	574

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	773	1	557	14	22	14
Volume Left	15	0	12	0	0	7
Volume Right	0	1	0	14	17	4
cSH	979	1700	842	1700	258	140
Volume to Capacity	0.02	0.00	0.01	0.01	0.09	0.10
Queue Length 95th (ft)	1	0	1	0	7	8
Control Delay (s)	0.4	0.0	0.4	0.0	20.3	35.3
Lane LOS	A		A		C	E
Approach Delay (s)	0.4		0.4		20.3	35.3
Approach LOS					C	E

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	62.8%	ICU Level of Service	B	
Analysis Period (min)	15			

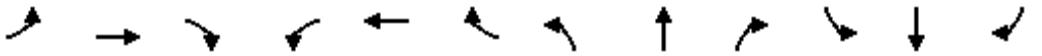
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	37	761	14	589	10	33	55	38
v/c Ratio	0.11	0.74	0.07	0.58	0.02	0.06	0.12	0.08
Control Delay	10.2	19.9	10.0	15.2	21.0	12.1	22.2	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	19.9	10.0	15.2	21.0	12.1	22.2	7.6
Queue Length 50th (ft)	9	286	3	190	4	4	21	0
Queue Length 95th (ft)	24	432	13	288	15	24	48	21
Internal Link Dist (ft)		542		1394		381	263	
Turn Bay Length (ft)					50			30
Base Capacity (vph)	332	1028	206	1017	404	518	474	493
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.74	0.07	0.58	0.02	0.06	0.12	0.08

Intersection Summary

SECOND DRAFT

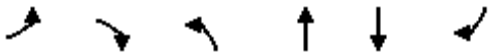


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	716	7	13	500	42	9	10	20	32	18	35
Future Volume (vph)	35	716	7	13	500	42	9	10	20	32	18	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98			1.00	0.96
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.98	1.00			0.99	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.90			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1757	1859		1758	1835		1742	1644			1795	1526
Flt Permitted	0.32	1.00		0.20	1.00		0.72	1.00			0.84	1.00
Satd. Flow (perm)	601	1859		373	1835		1323	1644			1551	1526
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	754	7	14	543	46	10	11	22	35	20	38
RTOR Reduction (vph)	0	0	0	0	4	0	0	15	0	0	0	26
Lane Group Flow (vph)	37	761	0	14	585	0	10	18	0	0	55	12
Confl. Peds. (#/hr)	12		20	20		12	9		5	5		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	332	1027		206	1014		404	502			474	466
v/s Ratio Prot		c0.41			0.32			0.01				
v/s Ratio Perm	0.06			0.04			0.01				c0.04	0.01
v/c Ratio	0.11	0.74		0.07	0.58		0.02	0.04			0.12	0.02
Uniform Delay, d1	9.1	14.4		8.8	12.5		20.6	20.7			21.2	20.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.7	4.8		0.6	2.4		0.1	0.1			0.5	0.1
Delay (s)	9.7	19.2		9.5	14.9		20.7	20.8			21.7	20.7
Level of Service	A	B		A	B		C	C			C	C
Approach Delay (s)		18.8			14.7			20.8			21.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

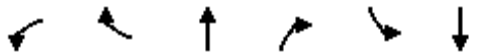


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	15	0	82	70	0
Future Volume (Veh/h)	13	15	0	82	70	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	16	0	89	76	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				444		
pX, platoon unblocked						
vC, conflicting volume	165	76	76			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	165	76	76			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	100			
cM capacity (veh/h)	826	985	1523			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	30	89	76
Volume Left	14	0	0
Volume Right	16	0	0
cSH	904	1700	1700
Volume to Capacity	0.03	0.05	0.04
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	14.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	14	84	12	9	68
Future Volume (Veh/h)	11	14	84	12	9	68
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	15	91	13	10	74
Pedestrians	2		5			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			574			
pX, platoon unblocked						
vC, conflicting volume	198	100			106	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198	100			106	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	780	954			1482	

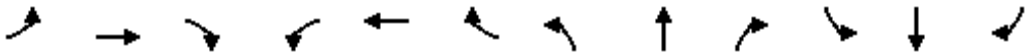
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	27	104	84
Volume Left	12	0	10
Volume Right	15	13	0
cSH	868	1700	1482
Volume to Capacity	0.03	0.06	0.01
Queue Length 95th (ft)	2	0	1
Control Delay (s)	9.3	0.0	0.9
Lane LOS	A		A
Approach Delay (s)	9.3	0.0	0.9
Approach LOS	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

Intersection Sign configuration not allowed in HCM analysis.

SECOND DRAFT

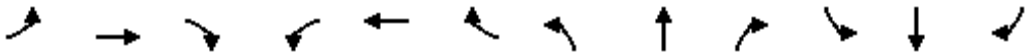


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	115	36	21	47	3	38	25	20	1	22	5
Future Volume (Veh/h)	3	115	36	21	47	3	38	25	20	1	22	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	125	39	23	51	3	41	27	22	1	24	5
Pedestrians		12			3			2			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	64			166			280	262	150	298	280	74
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	64			166			280	262	150	298	280	74
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			93	96	98	100	96	99
cM capacity (veh/h)	1524			1409			626	624	893	596	609	966

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	167	77	90	30
Volume Left	3	23	41	1
Volume Right	39	3	22	5
cSH	1524	1409	674	649
Volume to Capacity	0.00	0.02	0.13	0.05
Queue Length 95th (ft)	0	1	11	4
Control Delay (s)	0.1	2.4	11.2	10.8
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.4	11.2	10.8
Approach LOS			B	B

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	33.8%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

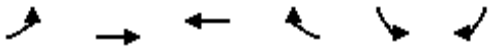


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	85	18	1	150	3	27	6	0	2	8	0
Future Volume (Veh/h)	1	85	18	1	150	3	27	6	0	2	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	92	20	1	163	3	29	7	0	2	9	0
Pedestrians		7			3			2			9	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	175			114			284	283	107	286	292	180
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	175			114			284	283	107	286	292	180
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	99	100	100	99	100
cM capacity (veh/h)	1389			1472			649	618	943	647	612	849

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	113	167	36	11
Volume Left	1	1	29	2
Volume Right	20	3	0	0
cSH	1389	1472	643	618
Volume to Capacity	0.00	0.00	0.06	0.02
Queue Length 95th (ft)	0	0	4	1
Control Delay (s)	0.1	0.1	10.9	10.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.1	10.9	10.9
Approach LOS			B	B

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	23.1%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

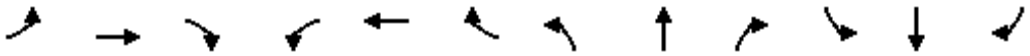


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	147	86	4	6	3
Future Volume (Veh/h)	4	147	86	4	6	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	160	93	4	7	3
Pedestrians		3			3	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100				266	101
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100				266	101
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1488				719	949

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	164	97	10
Volume Left	4	0	7
Volume Right	0	4	3
cSH	1488	1700	775
Volume to Capacity	0.00	0.06	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.2	0.0	9.7
Lane LOS	A		A
Approach Delay (s)	0.2	0.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

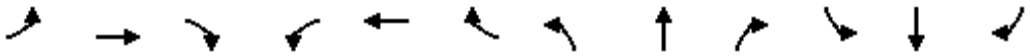


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	121	4	4	80	7	6	5	30	2	9	10
Future Volume (Veh/h)	1	121	4	4	80	7	6	5	30	2	9	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	132	4	4	87	8	7	5	33	2	10	11
Pedestrians		4			1			2			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	101			138			257	247	137	278	245	101
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	101			138			257	247	137	278	245	101
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	99	96	100	98	99
cM capacity (veh/h)	1483			1443			670	648	909	637	650	945

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	137	99	45	23
Volume Left	1	4	7	2
Volume Right	4	8	33	11
cSH	1483	1443	826	762
Volume to Capacity	0.00	0.00	0.05	0.03
Queue Length 95th (ft)	0	0	4	2
Control Delay (s)	0.1	0.3	9.6	9.9
Lane LOS	A	A	A	A
Approach Delay (s)	0.1	0.3	9.6	9.9
Approach LOS			A	A

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	19.7%	ICU Level of Service		A
Analysis Period (min)	15			

SECOND DRAFT

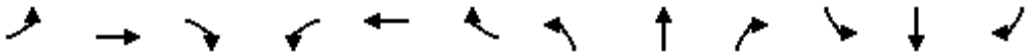


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	6	1	0	6	7	2	23	3	1	15	3
Future Volume (vph)	7	6	1	0	6	7	2	23	3	1	15	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	7	1	0	7	8	2	25	3	1	16	3

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	16	15	30	20
Volume Left (vph)	8	0	2	1
Volume Right (vph)	1	8	3	3
Hadj (s)	0.10	-0.29	-0.01	-0.05
Departure Headway (s)	4.1	3.7	4.0	3.9
Degree Utilization, x	0.02	0.02	0.03	0.02
Capacity (veh/h)	858	945	886	899
Control Delay (s)	7.2	6.8	7.1	7.0
Approach Delay (s)	7.2	6.8	7.1	7.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	18.1%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	5	4	3	2	0	9	0	20	0	0	0
Future Volume (Veh/h)	0	5	4	3	2	0	9	0	20	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	4	3	2	0	10	0	22	0	0	0
Pedestrians		1			2			4			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	37	45	5	44	34	17	1			24		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	37	45	5	44	34	17	1			24		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	100	100	100	99			100		
cM capacity (veh/h)	955	839	1073	939	851	1056	1620			1588		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	5	32	0
Volume Left	0	3	10	0
Volume Right	4	0	22	0
cSH	929	902	1620	1700
Volume to Capacity	0.01	0.01	0.01	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	8.9	9.0	2.3	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.9	9.0	2.3	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	15.2%	ICU Level of Service	A	
Analysis Period (min)	15			

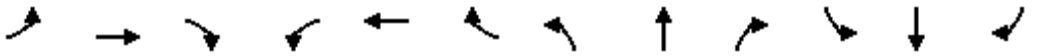
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	756	1	2	520	5	4
Future Volume (Veh/h)	756	1	2	520	5	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	822	1	2	565	5	4
Pedestrians					21	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				622		
pX, platoon unblocked					0.80	
vC, conflicting volume			844		1412	844
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			844		1391	844
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			776		123	356

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	823	567	9
Volume Left	0	2	5
Volume Right	1	0	4
cSH	1700	776	173
Volume to Capacity	0.48	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.1	27.0
Lane LOS		A	D
Approach Delay (s)	0.0	0.1	27.0
Approach LOS			D

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

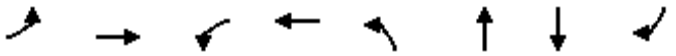


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	346	7	32	549	5	2	2	13	5	3	9
Future Volume (Veh/h)	7	346	7	32	549	5	2	2	13	5	3	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	376	8	35	597	5	2	2	14	5	3	10
Pedestrians					1			3			10	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			1	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					824							
pX, platoon unblocked	0.77						0.77	0.77		0.77	0.77	0.77
vC, conflicting volume	612			387			1068	1077	380	1085	1080	607
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	341			387			937	948	380	959	952	335
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			99	99	98	97	98	98
cM capacity (veh/h)	924			1168			174	190	664	168	189	537

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	384	8	632	5	18	18
Volume Left	8	0	35	0	2	5
Volume Right	0	8	0	5	14	10
cSH	924	1700	1168	1700	418	395
Volume to Capacity	0.01	0.00	0.03	0.00	0.04	0.05
Queue Length 95th (ft)	1	0	2	0	3	4
Control Delay (s)	0.3	0.0	0.8	0.0	14.0	18.3
Lane LOS	A		A		B	C
Approach Delay (s)	0.3		0.8		14.0	18.3
Approach LOS					B	C

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	62.6%	ICU Level of Service		B
Analysis Period (min)	15			

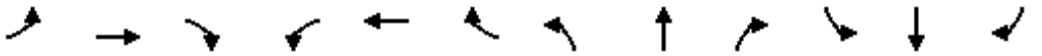
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	49	350	23	647	4	36	57	61
v/c Ratio	0.17	0.34	0.04	0.64	0.01	0.07	0.12	0.12
Control Delay	11.4	11.5	9.1	16.6	20.8	13.8	22.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	11.5	9.1	16.6	20.8	13.8	22.1	6.8
Queue Length 50th (ft)	12	95	5	220	2	7	22	0
Queue Length 95th (ft)	32	149	16	333	9	28	50	27
Internal Link Dist (ft)		577		1394		381	263	
Turn Bay Length (ft)	50		50		50			30
Base Capacity (vph)	283	1024	518	1008	403	524	489	507
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.34	0.04	0.64	0.01	0.07	0.12	0.12

Intersection Summary

SECOND DRAFT

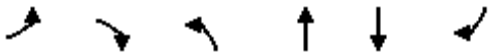


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	312	10	21	538	57	4	17	17	26	27	56
Future Volume (vph)	45	312	10	21	538	57	4	17	17	26	27	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.97			1.00	0.96
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.98	1.00			0.98	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1726	1851		1734	1814		1739	1674			1786	1522
Flt Permitted	0.28	1.00		0.51	1.00		0.72	1.00			0.88	1.00
Satd. Flow (perm)	513	1851		938	1814		1317	1674			1602	1522
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	339	11	23	585	62	4	18	18	28	29	61
RTOR Reduction (vph)	0	1	0	0	4	0	0	12	0	0	0	42
Lane Group Flow (vph)	49	349	0	23	643	0	4	24	0	0	57	19
Confl. Peds. (#/hr)	45		15	15		45	8		16	16		8
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	283	1023		518	1003		402	512			490	465
v/s Ratio Prot		0.19			c0.35			0.01				
v/s Ratio Perm	0.10			0.02			0.00				c0.04	0.01
v/c Ratio	0.17	0.34		0.04	0.64		0.01	0.05			0.12	0.04
Uniform Delay, d1	9.4	10.5		8.7	13.2		20.5	20.8			21.2	20.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.3	0.9		0.2	3.1		0.0	0.2			0.5	0.2
Delay (s)	10.7	11.4		8.9	16.3		20.6	20.9			21.7	20.9
Level of Service	B	B		A	B		C	C			C	C
Approach Delay (s)		11.3			16.0			20.9			21.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

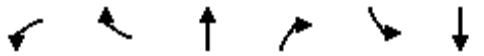


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	11	0	105	107	0
Future Volume (Veh/h)	7	11	0	105	107	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	12	0	114	116	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				444		
pX, platoon unblocked						
vC, conflicting volume	230	116	116			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	230	116	116			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	758	936	1473			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	20	114	116
Volume Left	8	0	0
Volume Right	12	0	0
cSH	856	1700	1700
Volume to Capacity	0.02	0.07	0.07
Queue Length 95th (ft)	2	0	0
Control Delay (s)	9.3	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.3	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	15.6%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	17	95	14	3	95
Future Volume (Veh/h)	12	17	95	14	3	95
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	18	103	15	3	103
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			574			
pX, platoon unblocked						
vC, conflicting volume	220	112			119	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	220	112			119	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	765	941			1468	

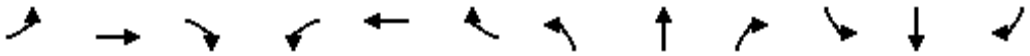
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	31	118	106
Volume Left	13	0	3
Volume Right	18	15	0
cSH	858	1700	1468
Volume to Capacity	0.04	0.07	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.4	0.0	0.2
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	0.2
Approach LOS	A		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

Intersection Sign configuration not allowed in HCM analysis.

SECOND DRAFT

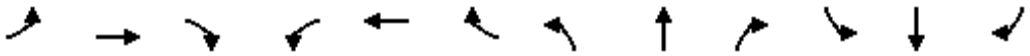


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	55	16	36	3	34	43	19	0	41	6
Future Volume (Veh/h)	2	47	55	16	36	3	34	43	19	0	41	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	51	60	17	39	3	37	47	21	0	45	7
Pedestrians		10						3				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	42			114			202	164	84	204	192	50
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	42			114			202	164	84	204	192	50
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			95	93	98	100	93	99
cM capacity (veh/h)	1567			1471			697	717	972	692	692	1008

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	113	59	105	52
Volume Left	2	17	37	0
Volume Right	60	3	21	7
cSH	1567	1471	749	722
Volume to Capacity	0.00	0.01	0.14	0.07
Queue Length 95th (ft)	0	1	12	6
Control Delay (s)	0.1	2.2	10.6	10.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.2	10.6	10.4
Approach LOS			B	B

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

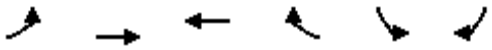


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	105	37	8	92	0	32	14	5	0	8	0
Future Volume (Veh/h)	1	105	37	8	92	0	32	14	5	0	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	113	40	9	100	0	35	15	5	0	9	0
Pedestrians		8			4			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105			155			268	260	139	274	280	113
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105			155			268	260	139	274	280	113
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			95	98	99	100	99	100
cM capacity (veh/h)	1479			1422			664	636	904	650	620	928

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	154	109	55	9
Volume Left	1	9	35	0
Volume Right	40	0	5	0
cSH	1479	1422	672	620
Volume to Capacity	0.00	0.01	0.08	0.01
Queue Length 95th (ft)	0	0	7	1
Control Delay (s)	0.1	0.7	10.8	10.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.7	10.8	10.9
Approach LOS			B	B

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	27.5%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

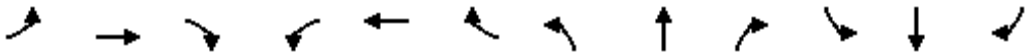


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	102	72	3	3	3
Future Volume (Veh/h)	1	102	72	3	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	111	78	3	3	3
Pedestrians		1	1			
Lane Width (ft)		12.0	12.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	81				194	80
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	81				194	80
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1517				794	979

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	112	81	6
Volume Left	1	0	3
Volume Right	0	3	3
cSH	1517	1700	877
Volume to Capacity	0.00	0.05	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.5%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

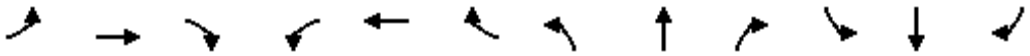


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	90	5	3	69	5	8	6	12	2	5	1
Future Volume (Veh/h)	1	90	5	3	69	5	8	6	12	2	5	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	98	5	3	73	5	9	7	13	2	5	1
Pedestrians		7			4			11			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	82			114			206	202	116	208	202	86
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	82			114			206	202	116	208	202	86
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	99	99	100	99	100
cM capacity (veh/h)	1510			1460			725	683	924	718	683	962

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	104	81	29	8
Volume Left	1	3	9	2
Volume Right	5	5	13	1
cSH	1510	1460	789	718
Volume to Capacity	0.00	0.00	0.04	0.01
Queue Length 95th (ft)	0	0	3	1
Control Delay (s)	0.1	0.3	9.7	10.1
Lane LOS	A	A	A	B
Approach Delay (s)	0.1	0.3	9.7	10.1
Approach LOS			A	B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

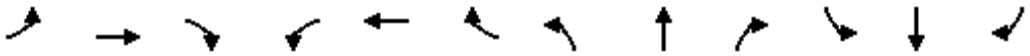


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	4	4	1	2	5	0	15	0	1	10	0
Future Volume (vph)	4	4	4	1	2	5	0	15	0	1	10	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	4	4	1	2	5	0	16	0	1	11	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	12	8	16	12
Volume Left (vph)	4	1	0	1
Volume Right (vph)	4	5	0	0
Hadj (s)	-0.10	-0.32	0.03	0.05
Departure Headway (s)	3.9	3.7	4.0	4.0
Degree Utilization, x	0.01	0.01	0.02	0.01
Capacity (veh/h)	917	971	885	888
Control Delay (s)	6.9	6.7	7.1	7.1
Approach Delay (s)	6.9	6.7	7.1	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	3	11	3	0	8	0	4	0	0	1
Future Volume (Veh/h)	1	1	3	11	3	0	8	0	4	0	0	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	3	12	3	0	9	0	4	0	0	1
Pedestrians		3			1			6			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	31	26	10	31	25	9	4			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	31	26	10	31	25	9	4			5		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	99			100		
cM capacity (veh/h)	959	859	1063	960	860	1066	1613			1615		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	5	15	13	1
Volume Left	1	12	9	0
Volume Right	3	0	4	1
cSH	994	938	1613	1615
Volume to Capacity	0.01	0.02	0.01	0.00
Queue Length 95th (ft)	0	1	0	0
Control Delay (s)	8.6	8.9	5.0	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.6	8.9	5.0	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	7.1			
Intersection Capacity Utilization	18.2%	ICU Level of Service	A	
Analysis Period (min)	15			

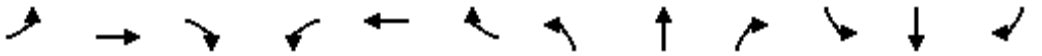
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	359	5	6	580	3	2
Future Volume (Veh/h)	359	5	6	580	3	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	390	5	7	630	3	2
Pedestrians					5	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				657		
pX, platoon unblocked					0.76	
vC, conflicting volume			400		1042	398
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			400		895	398
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1153		233	649

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	395	637	5
Volume Left	0	7	3
Volume Right	5	0	2
cSH	1700	1153	314
Volume to Capacity	0.23	0.01	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.2	16.7
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	16.7
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

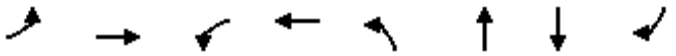


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	644	0	26	732	8	0	4	22	4	11	0
Future Volume (Veh/h)	4	644	0	26	732	8	0	4	22	4	11	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	657	0	28	796	9	0	4	24	4	12	0
Pedestrians					2			2			16	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			2	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					820							
pX, platoon unblocked	0.62						0.62	0.62		0.62	0.62	0.62
vC, conflicting volume	821			659			1525	1544	661	1561	1535	812
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	408			659			1540	1571	661	1598	1556	394
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			100	94	95	91	82	100
cM capacity (veh/h)	705			927			48	65	461	45	66	401

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	661	0	824	9	28	16
Volume Left	4	0	28	0	0	4
Volume Right	0	0	0	9	24	0
cSH	705	1700	927	1700	247	58
Volume to Capacity	0.01	0.00	0.03	0.01	0.11	0.27
Queue Length 95th (ft)	0	0	2	0	9	24
Control Delay (s)	0.2	0.0	0.8	0.0	21.5	88.7
Lane LOS	A		A		C	F
Approach Delay (s)	0.2		0.8		21.5	88.7
Approach LOS					C	F

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	70.3%	ICU Level of Service	C	
Analysis Period (min)	15			

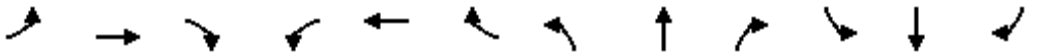
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	52	664	20	808	11	42	81	72
v/c Ratio	0.30	0.65	0.07	0.80	0.03	0.08	0.18	0.14
Control Delay	16.0	16.9	9.8	22.5	21.1	13.6	23.0	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	16.9	9.8	22.5	21.1	13.6	23.0	6.5
Queue Length 50th (ft)	14	229	5	319	4	8	32	0
Queue Length 95th (ft)	41	346	15	487	16	31	66	29
Internal Link Dist (ft)		591		1394		381	263	
Turn Bay Length (ft)					50			30
Base Capacity (vph)	174	1024	274	1015	388	522	454	507
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.65	0.07	0.80	0.03	0.08	0.18	0.14

Intersection Summary

SECOND DRAFT

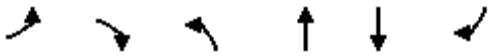


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	608	16	18	699	44	10	19	19	45	29	66
Future Volume (vph)	49	608	16	18	699	44	10	19	19	45	29	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.96			1.00	0.95
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.97	1.00			0.97	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	1852		1744	1832		1714	1660			1752	1497
Flt Permitted	0.17	1.00		0.27	1.00		0.70	1.00			0.82	1.00
Satd. Flow (perm)	315	1852		496	1832		1271	1660			1487	1497
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	647	17	20	760	48	11	21	21	49	32	72
RTOR Reduction (vph)	0	1	0	0	3	0	0	15	0	0	0	50
Lane Group Flow (vph)	52	663	0	20	805	0	11	27	0	0	81	22
Confl. Peds. (#/hr)	47		28	28		47	15		23	23		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	174	1024		274	1012		388	507			454	457
v/s Ratio Prot		0.36			c0.44			0.02				
v/s Ratio Perm	0.16			0.04			0.01				c0.05	0.01
v/c Ratio	0.30	0.65		0.07	0.80		0.03	0.05			0.18	0.05
Uniform Delay, d1	10.2	13.2		8.9	15.2		20.7	20.8			21.7	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	4.3	3.2		0.5	6.5		0.1	0.2			0.9	0.2
Delay (s)	14.5	16.4		9.4	21.6		20.8	21.0			22.5	21.0
Level of Service	B	B		A	C		C	C			C	C
Approach Delay (s)		16.3			21.3			21.0			21.8	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

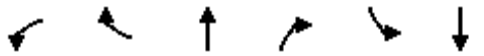


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	27	0	107	102	0
Future Volume (Veh/h)	25	27	0	107	102	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	29	0	116	111	0
Pedestrians				10	10	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				444		
pX, platoon unblocked						
vC, conflicting volume	237	121	111			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	237	121	111			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	97	100			
cM capacity (veh/h)	744	921	1479			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	56	116	111
Volume Left	27	0	0
Volume Right	29	0	0
cSH	826	1700	1700
Volume to Capacity	0.07	0.07	0.07
Queue Length 95th (ft)	5	0	0
Control Delay (s)	9.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.7	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	20	116	15	9	91
Future Volume (Veh/h)	12	20	116	15	9	91
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	22	126	16	10	99
Pedestrians	2		9			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			574			
pX, platoon unblocked						
vC, conflicting volume	264	137			144	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	264	137			144	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	712	909			1436	

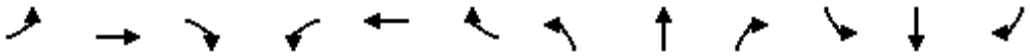
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	35	142	109
Volume Left	13	0	10
Volume Right	22	16	0
cSH	824	1700	1436
Volume to Capacity	0.04	0.08	0.01
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.6	0.0	0.7
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	0.7
Approach LOS	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

Intersection Sign configuration not allowed in HCM analysis.

SECOND DRAFT

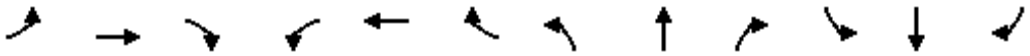


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	66	49	22	53	1	48	42	25	0	41	4
Future Volume (Veh/h)	2	66	49	22	53	1	48	42	25	0	41	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	72	53	24	58	1	52	46	27	0	45	4
Pedestrians		8			1			5				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		1			0			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	59			130			248	214	104	260	240	66
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	59			130			248	214	104	260	240	66
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			92	93	97	100	93	100
cM capacity (veh/h)	1545			1449			645	668	945	626	646	990

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	127	83	125	49
Volume Left	2	24	52	0
Volume Right	53	1	27	4
cSH	1545	1449	702	665
Volume to Capacity	0.00	0.02	0.18	0.07
Queue Length 95th (ft)	0	1	16	6
Control Delay (s)	0.1	2.3	11.2	10.8
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.3	11.2	10.8
Approach LOS			B	B

Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	30.5%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

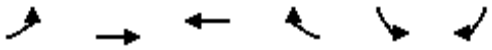


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	159	38	3	120	4	35	6	5	0	8	0
Future Volume (Veh/h)	1	159	38	3	120	4	35	6	5	0	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	171	41	3	130	4	38	7	5	0	9	0
Pedestrians		2			1			2				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	134			214			340	336	194	341	354	134
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	134			214			340	336	194	341	354	134
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			94	99	99	100	98	100
cM capacity (veh/h)	1451			1354			602	582	844	601	569	913

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	213	137	50	9
Volume Left	1	3	38	0
Volume Right	41	4	5	0
cSH	1451	1354	617	569
Volume to Capacity	0.00	0.00	0.08	0.02
Queue Length 95th (ft)	0	0	7	1
Control Delay (s)	0.0	0.2	11.4	11.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.0	0.2	11.4	11.4
Approach LOS			B	B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

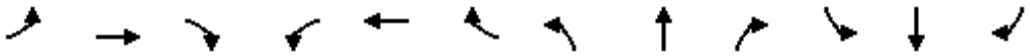


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	115	104	3	3	3
Future Volume (Veh/h)	2	115	104	3	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	125	113	3	3	3
Pedestrians		2			1	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	117				244	118
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	117				244	118
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1470				742	932

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	127	116	6
Volume Left	2	0	3
Volume Right	0	3	3
cSH	1470	1700	826
Volume to Capacity	0.00	0.07	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.4
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.4
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	18.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

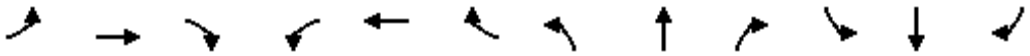


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	100	12	13	86	6	8	11	10	5	2	4
Future Volume (Veh/h)	3	100	12	13	86	6	8	11	10	5	2	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	109	13	14	93	7	9	12	11	5	2	4
Pedestrians					3			4			4	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	104			126			255	258	122	270	260	100
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	104			126			255	258	122	270	260	100
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	98	99	99	100	100
cM capacity (veh/h)	1482			1455			681	634	922	651	632	951

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	125	114	32	11
Volume Left	3	14	9	5
Volume Right	13	7	11	4
cSH	1482	1455	726	731
Volume to Capacity	0.00	0.01	0.04	0.02
Queue Length 95th (ft)	0	1	3	1
Control Delay (s)	0.2	1.0	10.2	10.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	1.0	10.2	10.0
Approach LOS			B	B

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	22.6%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

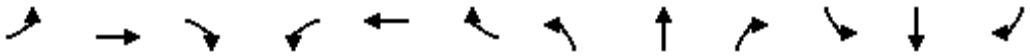


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	4	2	1	4	13	3	14	0	4	21	2
Future Volume (vph)	5	4	2	1	4	13	3	14	0	4	21	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	4	2	1	4	14	3	15	0	4	23	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	11	19	18	29
Volume Left (vph)	5	1	3	4
Volume Right (vph)	2	14	0	2
Hadj (s)	0.02	-0.40	0.07	0.02
Departure Headway (s)	4.0	3.6	4.1	4.0
Degree Utilization, x	0.01	0.02	0.02	0.03
Capacity (veh/h)	875	978	868	888
Control Delay (s)	7.1	6.7	7.1	7.1
Approach Delay (s)	7.1	6.7	7.1	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.0		
Level of Service		A		
Intersection Capacity Utilization		17.8%	ICU Level of Service	A
Analysis Period (min)		15		

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	5	8	5	0	13	0	2	0	1	0
Future Volume (Veh/h)	0	2	5	8	5	0	13	0	2	0	1	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	5	9	5	0	14	0	2	0	1	0
Pedestrians		5			2			7			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	44	38	13	45	37	9	6			4		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	44	38	13	45	37	9	6			4		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	99	100	99			100		
cM capacity (veh/h)	934	841	1055	932	842	1065	1607			1615		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	14	16	1
Volume Left	0	9	14	0
Volume Right	5	0	2	0
cSH	984	898	1607	1615
Volume to Capacity	0.01	0.02	0.01	0.00
Queue Length 95th (ft)	1	1	1	0
Control Delay (s)	8.7	9.1	6.4	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.7	9.1	6.4	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	7.6			
Intersection Capacity Utilization	23.0%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	666	3	7	763	1	5
Future Volume (Veh/h)	666	3	7	763	1	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	724	3	8	829	1	5
Pedestrians					6	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				671		
pX, platoon unblocked					0.62	
vC, conflicting volume			733		1576	732
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			733		1623	732
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			867		69	419

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	727	837	6
Volume Left	0	8	1
Volume Right	3	0	5
cSH	1700	867	227
Volume to Capacity	0.43	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.3	21.3
Lane LOS		A	C
Approach Delay (s)	0.0	0.3	21.3
Approach LOS			C

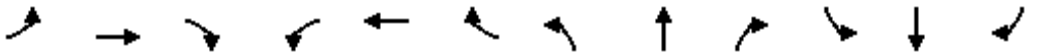
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

SECOND DRAFT

Appendix G

Future (2021) Conditions with Development Capacity Analysis Worksheets

SECOND DRAFT

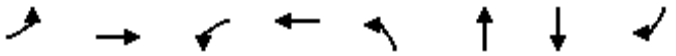


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	755	1	11	557	15	0	5	16	6	3	2
Future Volume (Veh/h)	29	755	1	11	557	15	0	5	16	6	3	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	778	1	12	605	16	0	5	17	7	3	2
Pedestrians								7			5	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								1			0	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					794							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	626			786			1476	1495	785	1492	1480	610
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	400			786			1470	1494	785	1489	1475	380
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			100	95	96	90	97	100
cM capacity (veh/h)	916			827			77	92	390	71	95	528

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	808	1	617	16	22	12
Volume Left	30	0	12	0	0	7
Volume Right	0	1	0	16	17	2
cSH	916	1700	827	1700	225	94
Volume to Capacity	0.03	0.00	0.01	0.01	0.10	0.13
Queue Length 95th (ft)	3	0	1	0	8	11
Control Delay (s)	0.9	0.0	0.4	0.0	22.7	50.2
Lane LOS	A		A		C	F
Approach Delay (s)	0.9		0.4		22.7	50.2
Approach LOS					C	F

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

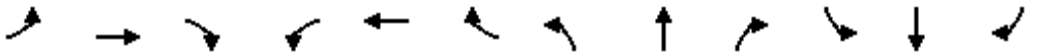
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	58	761	14	624	10	37	113	78
v/c Ratio	0.19	0.74	0.07	0.62	0.03	0.07	0.27	0.15
Control Delay	11.5	19.9	10.0	15.9	21.0	12.7	24.4	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	19.9	10.0	15.9	21.0	12.7	24.4	6.3
Queue Length 50th (ft)	14	286	3	206	4	6	45	0
Queue Length 95th (ft)	36	432	13	312	15	27	88	30
Internal Link Dist (ft)		573		1394		381	263	
Turn Bay Length (ft)					50			30
Base Capacity (vph)	305	1028	206	1011	384	525	424	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.74	0.07	0.62	0.03	0.07	0.27	0.15

Intersection Summary

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	716	7	13	502	72	9	14	20	83	21	72
Future Volume (vph)	55	716	7	13	502	72	9	14	20	83	21	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98			1.00	0.96
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00			0.99	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1758	1859		1758	1818		1744	1667			1779	1526
Flt Permitted	0.30	1.00		0.20	1.00		0.68	1.00			0.75	1.00
Satd. Flow (perm)	554	1859		373	1818		1256	1667			1387	1526
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	754	7	14	546	78	10	15	22	90	23	78
RTOR Reduction (vph)	0	0	0	0	6	0	0	15	0	0	0	54
Lane Group Flow (vph)	58	761	0	14	618	0	10	22	0	0	113	24
Confl. Peds. (#/hr)	12		20	20		12	9		5	5		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	306	1027		206	1005		384	509			424	466
v/s Ratio Prot		c0.41			0.34			0.01				
v/s Ratio Perm	0.10			0.04			0.01				c0.08	0.02
v/c Ratio	0.19	0.74		0.07	0.61		0.03	0.04			0.27	0.05
Uniform Delay, d1	9.5	14.4		8.8	12.9		20.6	20.7			22.3	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.4	4.8		0.6	2.8		0.1	0.2			1.5	0.2
Delay (s)	10.9	19.2		9.5	15.7		20.8	20.9			23.8	21.0
Level of Service	B	B		A	B		C	C			C	C
Approach Delay (s)		18.6			15.5			20.9			22.7	
Approach LOS		B			B			C			C	

SECOND DRAFT

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

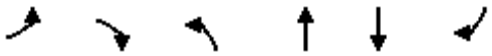
c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	18	127	11	13	164
Future Volume (Veh/h)	11	18	127	11	13	164
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	20	138	12	14	178
Pedestrians	2		5			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			573			
pX, platoon unblocked						
vC, conflicting volume	357	146			152	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	357	146			152	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	631	899			1426	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	150	192
Volume Left	12	0	14
Volume Right	20	12	0
cSH	776	1700	1426
Volume to Capacity	0.04	0.09	0.01
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.8	0.0	0.6
Lane LOS	A		A
Approach Delay (s)	9.8	0.0	0.6
Approach LOS	A		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

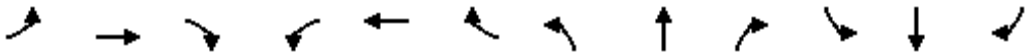


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	93	110	72	73	164	13
Future Volume (Veh/h)	93	110	72	73	164	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	101	120	78	79	178	14
Pedestrians	19					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				703		
pX, platoon unblocked						
vC, conflicting volume	439	204	211			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	439	204	211			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	85	94			
cM capacity (veh/h)	532	822	1335			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	221	157	192
Volume Left	101	78	0
Volume Right	120	0	14
cSH	658	1335	1700
Volume to Capacity	0.34	0.06	0.11
Queue Length 95th (ft)	37	5	0
Control Delay (s)	13.2	4.1	0.0
Lane LOS	B	A	
Approach Delay (s)	13.2	4.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

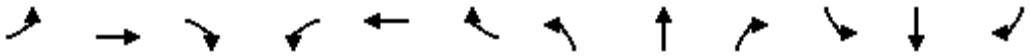


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	115	104	27	47	3	76	66	23	1	90	5
Future Volume (Veh/h)	3	115	104	27	47	3	76	66	23	1	90	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	125	113	29	51	3	83	72	25	1	98	5
Pedestrians		12			3			2			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	64			240			366	312	186	372	366	74
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	64			240			366	312	186	372	366	74
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			83	88	97	100	82	99
cM capacity (veh/h)	1524			1324			486	582	852	494	542	966

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	241	83	180	104
Volume Left	3	29	83	1
Volume Right	113	3	25	5
cSH	1524	1324	556	554
Volume to Capacity	0.00	0.02	0.32	0.19
Queue Length 95th (ft)	0	2	35	17
Control Delay (s)	0.1	2.8	14.5	13.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.8	14.5	13.0
Approach LOS			B	B

Intersection Summary				
Average Delay	7.0			
Intersection Capacity Utilization	43.7%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

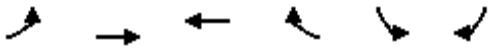


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	85	47	1	150	3	40	34	0	2	47	0
Future Volume (Veh/h)	1	85	47	1	150	3	40	34	0	2	47	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	92	51	1	163	3	43	37	0	2	51	0
Pedestrians		7			3			2			9	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	175			145			320	298	122	316	322	180
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	175			145			320	298	122	316	322	180
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			93	94	100	100	91	100
cM capacity (veh/h)	1389			1434			580	606	924	594	588	849

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	144	167	80	53
Volume Left	1	1	43	2
Volume Right	51	3	0	0
cSH	1389	1434	592	588
Volume to Capacity	0.00	0.00	0.14	0.09
Queue Length 95th (ft)	0	0	12	7
Control Delay (s)	0.1	0.1	12.0	11.7
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.1	12.0	11.7
Approach LOS			B	B

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

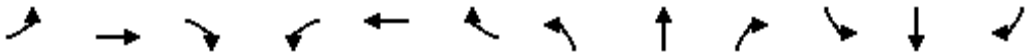


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	215	124	4	6	3
Future Volume (Veh/h)	4	215	124	4	6	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	234	135	4	7	3
Pedestrians		3			3	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	142				382	143
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	142				382	143
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1437				617	899

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	238	139	10
Volume Left	4	0	7
Volume Right	0	4	3
cSH	1437	1700	681
Volume to Capacity	0.00	0.08	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.2	0.0	10.4
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	10.4
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.5%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

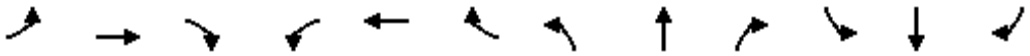


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	159	7	16	100	13	5	4	50	12	8	10
Future Volume (Veh/h)	1	159	7	16	100	13	5	4	50	12	8	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	173	8	17	109	14	5	4	54	13	9	11
Pedestrians		4			1			2			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	129			183			350	344	180	392	341	126
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	129			183			350	344	180	392	341	126
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	99	94	97	98	99
cM capacity (veh/h)	1448			1389			577	567	860	517	569	916

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	182	140	63	33
Volume Left	1	17	5	13
Volume Right	8	14	54	11
cSH	1448	1389	803	623
Volume to Capacity	0.00	0.01	0.08	0.05
Queue Length 95th (ft)	0	1	6	4
Control Delay (s)	0.0	1.0	9.9	11.1
Lane LOS	A	A	A	B
Approach Delay (s)	0.0	1.0	9.9	11.1
Approach LOS			A	B

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	30.7%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

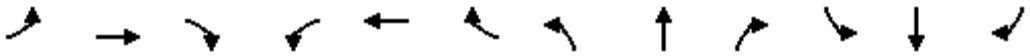


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	5	1	0	6	5	2	33	3	3	21	9
Future Volume (vph)	17	5	1	0	6	5	2	33	3	3	21	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	5	1	0	7	5	2	36	3	3	23	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	24	12	41	36
Volume Left (vph)	18	0	2	3
Volume Right (vph)	1	5	3	10
Hadj (s)	0.16	-0.22	0.00	-0.12
Departure Headway (s)	4.2	3.9	4.0	3.9
Degree Utilization, x	0.03	0.01	0.05	0.04
Capacity (veh/h)	830	906	876	908
Control Delay (s)	7.4	6.9	7.2	7.1
Approach Delay (s)	7.4	6.9	7.2	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.2		
Level of Service		A		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	3	4	1	0	0	9	0	36	0	0	0
Future Volume (Veh/h)	0	3	4	1	0	0	9	0	36	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	4	1	0	0	10	0	39	0	0	0
Pedestrians		1			2			4			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	44	62	5	51	42	26	1			41		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	44	62	5	51	42	26	1			41		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	99			100		
cM capacity (veh/h)	947	821	1073	930	842	1044	1620			1565		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	1	49	0
Volume Left	0	1	10	0
Volume Right	4	0	39	0
cSH	948	930	1620	1700
Volume to Capacity	0.01	0.00	0.01	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	8.8	8.9	1.5	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.8	8.9	1.5	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	15.2%	ICU Level of Service	A	
Analysis Period (min)	15			

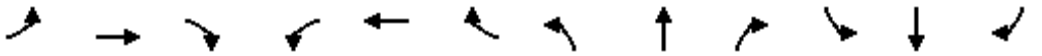
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	776	1	2	578	5	4
Future Volume (Veh/h)	776	1	2	578	5	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	843	1	2	628	5	4
Pedestrians					21	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				653		
pX, platoon unblocked					0.78	
vC, conflicting volume			865		1496	864
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			865		1496	864
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			762		103	346

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	844	630	9
Volume Left	0	2	5
Volume Right	1	0	4
cSH	1700	762	150
Volume to Capacity	0.50	0.00	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.1	30.5
Lane LOS		A	D
Approach Delay (s)	0.0	0.1	30.5
Approach LOS			D

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

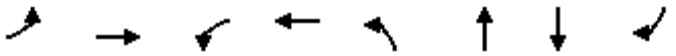


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	356	7	32	562	5	2	2	13	13	3	32
Future Volume (Veh/h)	4	356	7	32	562	5	2	2	13	13	3	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	387	8	35	611	5	2	2	14	14	3	35
Pedestrians					1			3			10	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			1	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					790							
pX, platoon unblocked	0.76						0.76	0.76		0.76	0.76	0.76
vC, conflicting volume	626			398			1098	1094	391	1102	1097	621
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	346			398			969	964	391	974	968	339
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			99	99	98	91	98	93
cM capacity (veh/h)	910			1157			156	184	655	162	183	527

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	391	8	646	5	18	52
Volume Left	4	0	35	0	2	14
Volume Right	0	8	0	5	14	35
cSH	910	1700	1157	1700	400	507
Volume to Capacity	0.00	0.00	0.03	0.00	0.05	0.10
Queue Length 95th (ft)	0	0	2	0	4	9
Control Delay (s)	0.1	0.0	0.8	0.0	14.4	17.8
Lane LOS	A		A		B	C
Approach Delay (s)	0.1		0.8		14.4	17.8
Approach LOS					B	C

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	64.3%	ICU Level of Service	C	
Analysis Period (min)	15			

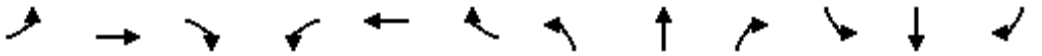
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	60	359	23	665	4	41	88	75
v/c Ratio	0.22	0.35	0.05	0.66	0.01	0.08	0.19	0.15
Control Delay	12.3	11.7	9.1	17.2	20.8	14.4	23.2	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	11.7	9.1	17.2	20.8	14.4	23.2	6.4
Queue Length 50th (ft)	15	98	5	229	2	9	34	0
Queue Length 95th (ft)	39	154	16	349	9	31	70	29
Internal Link Dist (ft)		549		1394		381	263	
Turn Bay Length (ft)	50		50		50			30
Base Capacity (vph)	271	1024	510	1002	392	531	453	517
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.35	0.05	0.66	0.01	0.08	0.19	0.15

Intersection Summary

SECOND DRAFT

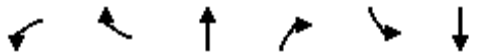


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	320	10	21	538	74	4	21	17	51	30	69
Future Volume (vph)	55	320	10	21	538	74	4	21	17	51	30	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.97			1.00	0.96
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.98	1.00			0.98	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1729	1851		1735	1802		1740	1697			1766	1522
Flt Permitted	0.27	1.00		0.51	1.00		0.70	1.00			0.81	1.00
Satd. Flow (perm)	490	1851		925	1802		1282	1697			1482	1522
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	348	11	23	585	80	4	23	18	55	33	75
RTOR Reduction (vph)	0	1	0	0	6	0	0	12	0	0	0	52
Lane Group Flow (vph)	60	358	0	23	659	0	4	29	0	0	88	23
Confl. Peds. (#/hr)	45		15	15		45	8		16	16		8
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	270	1023		511	996		392	519			453	465
v/s Ratio Prot		0.19			c0.37			0.02				
v/s Ratio Perm	0.12			0.02			0.00				c0.06	0.02
v/c Ratio	0.22	0.35		0.05	0.66		0.01	0.05			0.19	0.05
Uniform Delay, d1	9.7	10.5		8.7	13.4		20.5	20.8			21.8	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.9	0.9		0.2	3.5		0.0	0.2			1.0	0.2
Delay (s)	11.6	11.5		8.9	16.9		20.6	21.0			22.7	21.0
Level of Service	B	B		A	B		C	C			C	C
Approach Delay (s)		11.5			16.6			21.0			21.9	
Approach LOS		B			B			C			C	

SECOND DRAFT

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

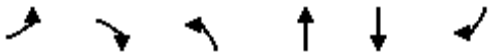


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	20	119	14	6	147
Future Volume (Veh/h)	12	20	119	14	6	147
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	22	129	15	7	160
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			573			
pX, platoon unblocked						
vC, conflicting volume	312	138			145	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	312	138			145	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	677	910			1436	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	35	144	167
Volume Left	13	0	7
Volume Right	22	15	0
cSH	807	1700	1436
Volume to Capacity	0.04	0.08	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.7	0.0	0.4
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	0.4
Approach LOS	A		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

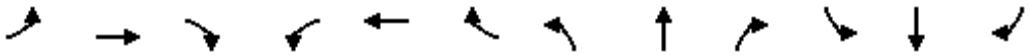


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	55	46	93	97	110
Future Volume (Veh/h)	120	55	46	93	97	110
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	130	60	49	100	105	120
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				703		
pX, platoon unblocked						
vC, conflicting volume	380	182	242			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	380	182	242			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	78	93	96			
cM capacity (veh/h)	589	847	1303			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	149	225
Volume Left	130	49	0
Volume Right	60	0	120
cSH	652	1303	1700
Volume to Capacity	0.29	0.04	0.13
Queue Length 95th (ft)	30	3	0
Control Delay (s)	12.8	2.8	0.0
Lane LOS	B	A	
Approach Delay (s)	12.8	2.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

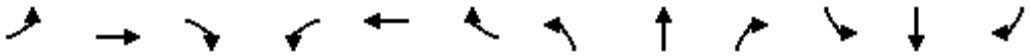


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	104	20	36	3	85	98	26	0	88	6
Future Volume (Veh/h)	2	47	104	20	36	3	85	98	26	0	88	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	51	113	22	39	3	92	107	28	0	96	7
Pedestrians		10						3				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	42			167			264	200	110	278	256	50
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	42			167			264	200	110	278	256	50
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			84	84	97	100	85	99
cM capacity (veh/h)	1567			1407			588	682	940	567	636	1008

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	166	64	227	103
Volume Left	2	22	92	0
Volume Right	113	3	28	7
cSH	1567	1407	662	652
Volume to Capacity	0.00	0.02	0.34	0.16
Queue Length 95th (ft)	0	1	38	14
Control Delay (s)	0.1	2.7	13.3	11.6
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.7	13.3	11.6
Approach LOS			B	B

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

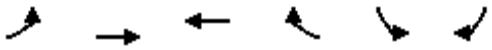


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	105	54	8	92	0	57	46	5	0	38	0
Future Volume (Veh/h)	1	105	54	8	92	0	57	46	5	0	38	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	113	58	9	100	0	62	50	5	0	41	0
Pedestrians		8			4			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105			173			292	269	148	301	298	113
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105			173			292	269	148	301	298	113
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			90	92	99	100	93	100
cM capacity (veh/h)	1479			1401			613	628	894	597	606	928

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	172	109	117	41
Volume Left	1	9	62	0
Volume Right	58	0	5	0
cSH	1479	1401	628	606
Volume to Capacity	0.00	0.01	0.19	0.07
Queue Length 95th (ft)	0	0	17	5
Control Delay (s)	0.0	0.7	12.0	11.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.0	0.7	12.0	11.4
Approach LOS			B	B

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

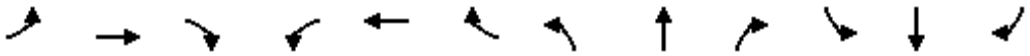


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	151	124	3	3	3
Future Volume (Veh/h)	1	151	124	3	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	164	135	3	3	3
Pedestrians		1	1			
Lane Width (ft)		12.0	12.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	138				304	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	138				304	138
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1446				687	910

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	165	138	6
Volume Left	1	0	3
Volume Right	0	3	3
cSH	1446	1700	783
Volume to Capacity	0.00	0.08	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.6
Approach LOS			A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

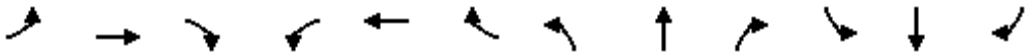


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	118	7	17	100	12	9	6	26	9	5	1
Future Volume (Veh/h)	1	118	7	17	100	12	9	6	26	9	5	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	128	8	18	105	13	10	7	28	10	5	1
Pedestrians		7			4			11			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	122			147			303	303	147	321	300	122
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	122			147			303	303	147	321	300	122
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	99	97	98	99	100
cM capacity (veh/h)	1460			1420			620	593	887	589	595	919

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	137	136	45	16
Volume Left	1	18	10	10
Volume Right	8	13	28	1
cSH	1460	1420	756	605
Volume to Capacity	0.00	0.01	0.06	0.03
Queue Length 95th (ft)	0	1	5	2
Control Delay (s)	0.1	1.1	10.1	11.1
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	1.1	10.1	11.1
Approach LOS			B	B

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

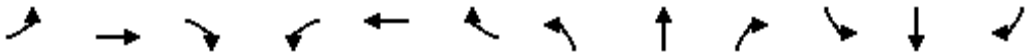


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	4	4	2	2	6	0	22	1	3	17	7
Future Volume (vph)	11	4	4	2	2	6	0	22	1	3	17	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	4	4	2	2	7	0	24	1	3	18	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	20	11	25	29
Volume Left (vph)	12	2	0	3
Volume Right (vph)	4	7	1	8
Hadj (s)	0.03	-0.31	0.01	-0.11
Departure Headway (s)	4.1	3.7	4.0	3.9
Degree Utilization, x	0.02	0.01	0.03	0.03
Capacity (veh/h)	869	948	879	915
Control Delay (s)	7.2	6.8	7.1	7.0
Approach Delay (s)	7.2	6.8	7.1	7.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.0		
Level of Service		A		
Intersection Capacity Utilization		16.7%	ICU Level of Service	A
Analysis Period (min)		15		

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	4	3	34	5	0	8	0	1	0	0	0
Future Volume (Veh/h)	1	4	3	34	5	0	8	0	1	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	4	3	37	5	0	9	0	1	0	0	0
Pedestrians		3			1			6			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	30	23	9	30	22	8	3			2		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	30	23	9	30	22	8	3			2		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	96	99	100	99			100		
cM capacity (veh/h)	959	862	1064	958	863	1068	1614			1619		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	42	10	0
Volume Left	1	37	9	0
Volume Right	3	0	1	0
cSH	941	946	1614	1700
Volume to Capacity	0.01	0.04	0.01	0.00
Queue Length 95th (ft)	1	3	0	0
Control Delay (s)	8.9	9.0	6.5	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.9	9.0	6.5	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	8.6			
Intersection Capacity Utilization	20.1%	ICU Level of Service	A	
Analysis Period (min)	15			

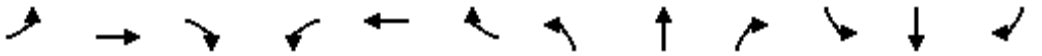
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	377	5	6	596	3	2
Future Volume (Veh/h)	377	5	6	596	3	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	410	5	7	648	3	2
Pedestrians					5	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				629		
pX, platoon unblocked					0.75	
vC, conflicting volume			420		1080	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			420		938	418
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1134		217	632

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	415	655	5
Volume Left	0	7	3
Volume Right	5	0	2
cSH	1700	1134	295
Volume to Capacity	0.24	0.01	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.2	17.4
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	17.4
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

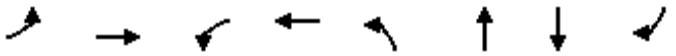


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	651	0	27	733	8	0	4	22	7	1	15
Future Volume (Veh/h)	3	651	0	27	733	8	0	4	22	7	1	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	664	0	29	797	9	0	4	24	8	1	16
Pedestrians					2			2			16	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			2	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					806							
pX, platoon unblocked	0.62						0.62	0.62		0.62	0.62	0.62
vC, conflicting volume	822			666			1536	1552	668	1569	1543	813
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	411			666			1557	1584	668	1611	1569	396
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			100	94	95	82	98	96
cM capacity (veh/h)	704			922			52	64	456	45	65	400

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	667	0	826	9	28	25
Volume Left	3	0	29	0	0	8
Volume Right	0	0	0	9	24	16
cSH	704	1700	922	1700	243	130
Volume to Capacity	0.00	0.00	0.03	0.01	0.12	0.19
Queue Length 95th (ft)	0	0	2	0	10	17
Control Delay (s)	0.1	0.0	0.8	0.0	21.7	44.9
Lane LOS	A		A		C	E
Approach Delay (s)	0.1		0.8		21.7	44.9
Approach LOS					C	E

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	73.1%	ICU Level of Service	D	
Analysis Period (min)	15			

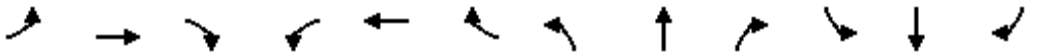
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	60	667	20	809	11	42	122	79
v/c Ratio	0.34	0.65	0.07	0.80	0.03	0.08	0.29	0.15
Control Delay	17.5	17.0	9.8	22.6	21.1	13.6	24.8	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	17.0	9.8	22.6	21.1	13.6	24.8	6.3
Queue Length 50th (ft)	16	231	5	320	4	8	49	0
Queue Length 95th (ft)	49	348	15	489	16	31	94	30
Internal Link Dist (ft)		539		1394		381	263	
Turn Bay Length (ft)					50			30
Base Capacity (vph)	174	1024	272	1015	375	522	421	512
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.65	0.07	0.80	0.03	0.08	0.29	0.15

Intersection Summary

SECOND DRAFT

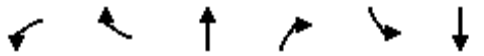


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	611	16	18	699	45	10	19	19	80	32	73
Future Volume (vph)	56	611	16	18	699	45	10	19	19	80	32	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.96			1.00	0.95
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.97	1.00			0.96	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	1852		1744	1831		1717	1660			1733	1497
Flt Permitted	0.17	1.00		0.27	1.00		0.68	1.00			0.77	1.00
Satd. Flow (perm)	314	1852		492	1831		1226	1660			1379	1497
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	650	17	20	760	49	11	21	21	87	35	79
RTOR Reduction (vph)	0	1	0	0	3	0	0	15	0	0	0	55
Lane Group Flow (vph)	60	666	0	20	806	0	11	27	0	0	122	24
Confl. Peds. (#/hr)	47		28	28		47	15		23	23		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	173	1024		272	1012		375	507			421	457
v/s Ratio Prot		0.36			c0.44			0.02				
v/s Ratio Perm	0.19			0.04			0.01				c0.09	0.02
v/c Ratio	0.35	0.65		0.07	0.80		0.03	0.05			0.29	0.05
Uniform Delay, d1	10.5	13.3		8.9	15.2		20.7	20.8			22.5	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	5.4	3.2		0.5	6.5		0.1	0.2			1.7	0.2
Delay (s)	15.9	16.5		9.4	21.7		20.8	21.0			24.2	21.0
Level of Service	B	B		A	C		C	C			C	C
Approach Delay (s)		16.4			21.4			21.0			23.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

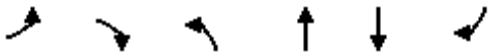


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	21	98	15	10	109
Future Volume (Veh/h)	12	21	98	15	10	109
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	23	107	16	11	118
Pedestrians	2		9			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			573			
pX, platoon unblocked						
vC, conflicting volume	266	118			125	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	266	118			125	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	710	931			1459	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	36	123	129
Volume Left	13	0	11
Volume Right	23	16	0
cSH	837	1700	1459
Volume to Capacity	0.04	0.07	0.01
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.5	0.0	0.7
Lane LOS	A		A
Approach Delay (s)	9.5	0.0	0.7
Approach LOS	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	23.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

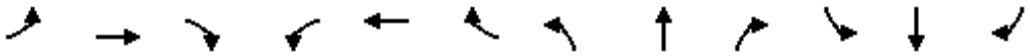


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	19	30	90	99	25
Future Volume (Veh/h)	40	19	30	90	99	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.96	0.96
Hourly flow rate (vph)	43	21	33	98	103	26
Pedestrians	11					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				703		
pX, platoon unblocked						
vC, conflicting volume	291	127	140			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	291	127	140			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	98	98			
cM capacity (veh/h)	676	914	1428			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	64	131	129
Volume Left	43	33	0
Volume Right	21	0	26
cSH	739	1428	1700
Volume to Capacity	0.09	0.02	0.08
Queue Length 95th (ft)	7	2	0
Control Delay (s)	10.3	2.0	0.0
Lane LOS	B	A	
Approach Delay (s)	10.3	2.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	28.7%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

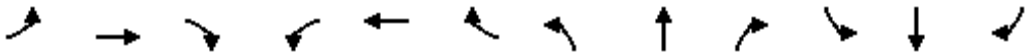


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	66	55	23	53	1	58	48	24	0	42	4
Future Volume (Veh/h)	3	66	55	23	53	1	58	48	24	0	42	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	72	60	25	58	1	63	52	26	0	46	4
Pedestrians		8			1			5				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		1			0			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	59			137			256	222	108	270	252	66
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	59			137			256	222	108	270	252	66
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			90	92	97	100	93	100
cM capacity (veh/h)	1545			1440			636	660	940	612	636	990

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	135	84	141	50
Volume Left	3	25	63	0
Volume Right	60	1	26	4
cSH	1545	1440	686	655
Volume to Capacity	0.00	0.02	0.21	0.08
Queue Length 95th (ft)	0	1	19	6
Control Delay (s)	0.2	2.3	11.6	11.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	2.3	11.6	11.0
Approach LOS			B	B

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	36.2%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

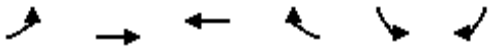


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	159	36	7	120	4	34	13	5	0	11	0
Future Volume (Veh/h)	2	159	36	7	120	4	34	13	5	0	11	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	171	39	8	130	4	37	14	5	0	12	0
Pedestrians		2			1			2				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	134			212			352	346	194	356	364	134
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	134			212			352	346	194	356	364	134
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			94	98	99	100	98	100
cM capacity (veh/h)	1451			1356			586	572	846	580	559	913

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	212	142	56	12
Volume Left	2	8	37	0
Volume Right	39	4	5	0
cSH	1451	1356	599	559
Volume to Capacity	0.00	0.01	0.09	0.02
Queue Length 95th (ft)	0	0	8	2
Control Delay (s)	0.1	0.5	11.6	11.6
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.5	11.6	11.6
Approach LOS			B	B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

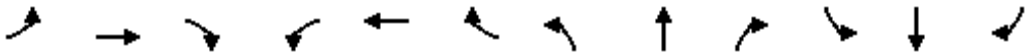


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	121	114	3	3	3
Future Volume (Veh/h)	2	121	114	3	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	132	124	3	3	3
Pedestrians		2			1	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	128				262	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	128				262	128
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1457				725	919

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	134	127	6
Volume Left	2	0	3
Volume Right	0	3	3
cSH	1457	1700	810
Volume to Capacity	0.00	0.07	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.5
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.5
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

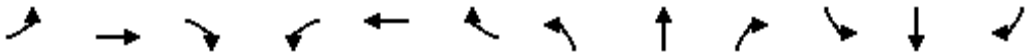


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	103	12	17	92	7	9	9	13	5	1	4
Future Volume (Veh/h)	3	103	12	17	92	7	9	9	13	5	1	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	112	13	18	100	8	10	10	14	5	1	4
Pedestrians					3			4			4	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	112			129			273	276	126	290	279	108
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	112			129			273	276	126	290	279	108
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	98	98	99	100	100
cM capacity (veh/h)	1472			1451			662	617	919	629	615	942

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	128	126	34	10
Volume Left	3	18	10	5
Volume Right	13	8	14	4
cSH	1472	1451	730	723
Volume to Capacity	0.00	0.01	0.05	0.01
Queue Length 95th (ft)	0	1	4	1
Control Delay (s)	0.2	1.2	10.2	10.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	1.2	10.2	10.0
Approach LOS			B	B

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

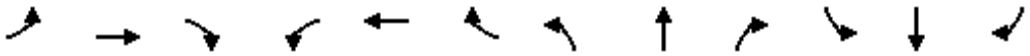


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	5	2	2	3	12	3	15	0	3	23	4
Future Volume (vph)	7	5	2	2	3	12	3	15	0	3	23	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	5	2	2	3	13	3	16	0	3	25	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	15	18	19	32
Volume Left (vph)	8	2	3	3
Volume Right (vph)	2	13	0	4
Hadj (s)	0.06	-0.38	0.07	-0.02
Departure Headway (s)	4.1	3.6	4.1	4.0
Degree Utilization, x	0.02	0.02	0.02	0.04
Capacity (veh/h)	864	968	865	895
Control Delay (s)	7.2	6.7	7.2	7.1
Approach Delay (s)	7.2	6.7	7.2	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.0		
Level of Service		A		
Intersection Capacity Utilization		17.8%	ICU Level of Service	A
Analysis Period (min)		15		

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	5	15	4	0	13	0	1	0	1	0
Future Volume (Veh/h)	0	2	5	15	4	0	13	0	1	0	1	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	5	16	4	0	14	0	1	0	1	0
Pedestrians		5			2			7			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	42	37	13	44	36	8	6			3		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	42	37	13	44	36	8	6			3		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	100	100	99			100		
cM capacity (veh/h)	936	842	1055	932	843	1065	1607			1616		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	20	15	1
Volume Left	0	16	14	0
Volume Right	5	0	1	0
cSH	984	913	1607	1616
Volume to Capacity	0.01	0.02	0.01	0.00
Queue Length 95th (ft)	1	2	1	0
Control Delay (s)	8.7	9.0	6.8	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.7	9.0	6.8	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	8.0			
Intersection Capacity Utilization	23.2%	ICU Level of Service	A	
Analysis Period (min)	15			

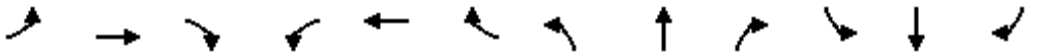
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	677	3	7	767	1	5
Future Volume (Veh/h)	677	3	7	767	1	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	736	3	8	834	1	5
Pedestrians					6	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				619		
pX, platoon unblocked					0.62	
vC, conflicting volume			745		1594	744
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			745		1650	744
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	99
cM capacity (veh/h)			858		67	412

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	739	842	6
Volume Left	0	8	1
Volume Right	3	0	5
cSH	1700	858	221
Volume to Capacity	0.43	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.3	21.7
Lane LOS		A	C
Approach Delay (s)	0.0	0.3	21.7
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

SECOND DRAFT

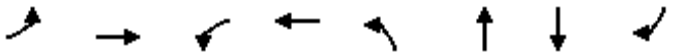


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	761	1	11	557	15	0	5	16	6	3	2
Future Volume (Veh/h)	29	761	1	11	557	15	0	5	16	6	3	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	785	1	12	605	16	0	5	17	7	3	2
Pedestrians								7			5	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								1			0	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					794							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	626			793			1484	1502	792	1498	1487	610
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	402			793			1479	1503	792	1498	1484	382
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			100	95	96	90	97	100
cM capacity (veh/h)	916			822			76	91	386	70	94	527

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	815	1	617	16	22	12
Volume Left	30	0	12	0	0	7
Volume Right	0	1	0	16	17	2
cSH	916	1700	822	1700	223	92
Volume to Capacity	0.03	0.00	0.01	0.01	0.10	0.13
Queue Length 95th (ft)	3	0	1	0	8	11
Control Delay (s)	0.9	0.0	0.4	0.0	22.9	50.8
Lane LOS	A		A		C	F
Approach Delay (s)	0.9		0.4		22.9	50.8
Approach LOS					C	F

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	75.7%	ICU Level of Service	D	
Analysis Period (min)	15			

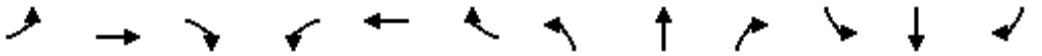
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	64	761	14	629	10	37	122	84
v/c Ratio	0.21	0.74	0.07	0.62	0.03	0.07	0.29	0.16
Control Delay	12.0	19.9	10.0	16.1	21.0	12.7	24.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	19.9	10.0	16.1	21.0	12.7	24.9	6.1
Queue Length 50th (ft)	16	286	3	209	4	6	49	0
Queue Length 95th (ft)	40	432	13	317	15	27	94	31
Internal Link Dist (ft)		573		1394		381	263	
Turn Bay Length (ft)					50			30
Base Capacity (vph)	301	1028	206	1009	381	525	419	525
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.74	0.07	0.62	0.03	0.07	0.29	0.16

Intersection Summary

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	716	7	13	502	76	9	14	20	91	21	77
Future Volume (vph)	61	716	7	13	502	76	9	14	20	91	21	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98			1.00	0.96
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00			0.99	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1758	1859		1758	1816		1745	1667			1777	1526
Flt Permitted	0.30	1.00		0.20	1.00		0.68	1.00			0.74	1.00
Satd. Flow (perm)	547	1859		373	1816		1246	1667			1370	1526
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	754	7	14	546	83	10	15	22	99	23	84
RTOR Reduction (vph)	0	0	0	0	6	0	0	15	0	0	0	58
Lane Group Flow (vph)	64	761	0	14	623	0	10	22	0	0	122	26
Confl. Peds. (#/hr)	12		20	20		12	9		5	5		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	302	1027		206	1004		381	509			419	466
v/s Ratio Prot		c0.41			0.34			0.01				
v/s Ratio Perm	0.12			0.04			0.01				c0.09	0.02
v/c Ratio	0.21	0.74		0.07	0.62		0.03	0.04			0.29	0.06
Uniform Delay, d1	9.6	14.4		8.8	12.9		20.6	20.7			22.5	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.6	4.8		0.6	2.9		0.1	0.2			1.8	0.2
Delay (s)	11.2	19.2		9.5	15.8		20.8	20.9			24.2	21.1
Level of Service	B	B		A	B		C	C			C	C
Approach Delay (s)		18.6			15.7			20.9			22.9	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

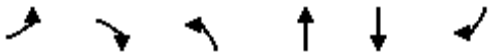
SECOND DRAFT

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	19	137	11	13	177
Future Volume (Veh/h)	11	19	137	11	13	177
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	21	149	12	14	192
Pedestrians	2		5			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			573			
pX, platoon unblocked						
vC, conflicting volume	382	157			163	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	382	157			163	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	610	887			1413	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	33	161	206
Volume Left	12	0	14
Volume Right	21	12	0
cSH	761	1700	1413
Volume to Capacity	0.04	0.09	0.01
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.9	0.0	0.6
Lane LOS	A		A
Approach Delay (s)	9.9	0.0	0.6
Approach LOS	A		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

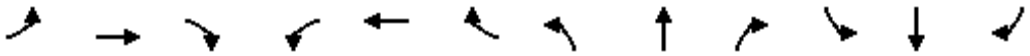


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	106	123	83	73	171	13
Future Volume (Veh/h)	106	123	83	73	171	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	115	134	90	79	186	14
Pedestrians	19					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				703		
pX, platoon unblocked						
vC, conflicting volume	471	212	219			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	471	212	219			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	84	93			
cM capacity (veh/h)	505	813	1326			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	249	169	200
Volume Left	115	90	0
Volume Right	134	0	14
cSH	634	1326	1700
Volume to Capacity	0.39	0.07	0.12
Queue Length 95th (ft)	47	5	0
Control Delay (s)	14.3	4.5	0.0
Lane LOS	B	A	
Approach Delay (s)	14.3	4.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

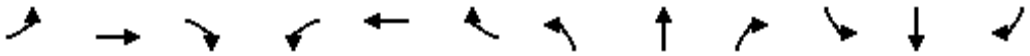


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	115	112	28	47	3	81	73	24	1	99	5
Future Volume (Veh/h)	3	115	112	28	47	3	81	73	24	1	99	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	125	122	30	51	3	88	79	26	1	108	5
Pedestrians		12			3			2			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	64			249			378	318	191	383	378	74
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	64			249			378	318	191	383	378	74
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			81	86	97	100	80	99
cM capacity (veh/h)	1524			1314			468	577	847	480	534	966

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	250	84	193	114
Volume Left	3	30	88	1
Volume Right	122	3	26	5
cSH	1524	1314	543	544
Volume to Capacity	0.00	0.02	0.36	0.21
Queue Length 95th (ft)	0	2	40	20
Control Delay (s)	0.1	2.9	15.3	13.4
Lane LOS	A	A	C	B
Approach Delay (s)	0.1	2.9	15.3	13.4
Approach LOS			C	B

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

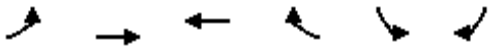


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	85	51	1	150	3	43	48	0	2	52	0
Future Volume (Veh/h)	1	85	51	1	150	3	43	48	0	2	52	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	92	55	1	163	3	47	52	0	2	57	0
Pedestrians		7			3			2			9	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	175			149			326	300	124	326	326	180
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	175			149			326	300	124	326	326	180
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			92	91	100	100	90	100
cM capacity (veh/h)	1389			1430			571	605	922	574	585	849

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	148	167	99	59
Volume Left	1	1	47	2
Volume Right	55	3	0	0
cSH	1389	1430	588	584
Volume to Capacity	0.00	0.00	0.17	0.10
Queue Length 95th (ft)	0	0	15	8
Control Delay (s)	0.1	0.1	12.4	11.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.1	12.4	11.9
Approach LOS			B	B

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	28.3%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

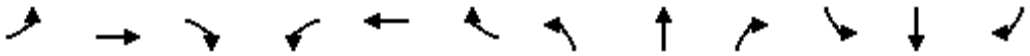


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	223	129	4	6	3
Future Volume (Veh/h)	4	223	129	4	6	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	242	140	4	7	3
Pedestrians		3			3	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	147				395	148
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	147				395	148
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1431				606	894

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	246	144	10
Volume Left	4	0	7
Volume Right	0	4	3
cSH	1431	1700	671
Volume to Capacity	0.00	0.08	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	10.4
Lane LOS	A		B
Approach Delay (s)	0.1	0.0	10.4
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

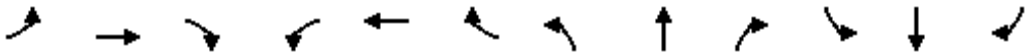


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	164	7	17	103	14	5	4	52	13	8	10
Future Volume (Veh/h)	1	164	7	17	103	14	5	4	52	13	8	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	178	8	18	112	15	5	4	57	14	9	11
Pedestrians		4			1			2			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	133			188			361	355	185	406	352	130
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	133			188			361	355	185	406	352	130
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	99	93	97	98	99
cM capacity (veh/h)	1444			1384			568	558	855	504	561	912

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	187	145	66	34
Volume Left	1	18	5	14
Volume Right	8	15	57	11
cSH	1444	1384	799	608
Volume to Capacity	0.00	0.01	0.08	0.06
Queue Length 95th (ft)	0	1	7	4
Control Delay (s)	0.0	1.0	9.9	11.3
Lane LOS	A	A	A	B
Approach Delay (s)	0.0	1.0	9.9	11.3
Approach LOS			A	B

Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	32.2%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

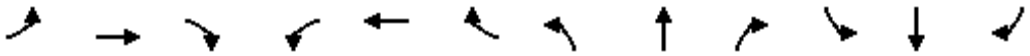


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	18	5	1	0	6	5	2	34	3	3	21	10
Future Volume (vph)	18	5	1	0	6	5	2	34	3	3	21	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	5	1	0	7	5	2	37	3	3	23	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	26	12	42	37
Volume Left (vph)	20	0	2	3
Volume Right (vph)	1	5	3	11
Hadj (s)	0.16	-0.22	0.00	-0.13
Departure Headway (s)	4.2	3.9	4.0	3.9
Degree Utilization, x	0.03	0.01	0.05	0.04
Capacity (veh/h)	828	904	874	909
Control Delay (s)	7.4	6.9	7.2	7.1
Approach Delay (s)	7.4	6.9	7.2	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.2		
Level of Service		A		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	3	4	1	0	0	9	0	36	0	0	0
Future Volume (Veh/h)	0	3	4	1	0	0	9	0	36	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	4	1	0	0	10	0	39	0	0	0
Pedestrians		1			2			4			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	44	62	5	51	42	26	1			41		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	44	62	5	51	42	26	1			41		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	99			100		
cM capacity (veh/h)	947	821	1073	930	842	1044	1620			1565		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	1	49	0
Volume Left	0	1	10	0
Volume Right	4	0	39	0
cSH	948	930	1620	1700
Volume to Capacity	0.01	0.00	0.01	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	8.8	8.9	1.5	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.8	8.9	1.5	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	15.2%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	782	1	2	578	5	4
Future Volume (Veh/h)	782	1	2	578	5	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	850	1	2	628	5	4
Pedestrians					21	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				653		
pX, platoon unblocked					0.78	
vC, conflicting volume			872		1504	872
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			872		1504	872
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			758		102	343

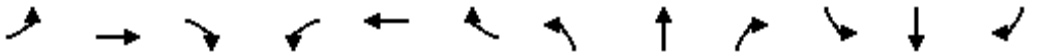
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	851	630	9
Volume Left	0	2	5
Volume Right	1	0	4
cSH	1700	758	148
Volume to Capacity	0.50	0.00	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.1	30.8
Lane LOS		A	D
Approach Delay (s)	0.0	0.1	30.8
Approach LOS			D

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

HCM Unsignalized Intersection Capacity Analysis
1: Washington Blvd

05/08/2018

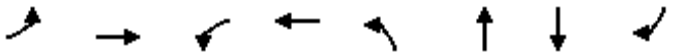


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	358	7	32	564	5	2	2	13	13	3	35
Future Volume (Veh/h)	4	358	7	32	564	5	2	2	13	13	3	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	389	8	35	613	5	2	2	14	14	3	38
Pedestrians					1			3			10	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			1	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					790							
pX, platoon unblocked	0.76						0.76	0.76		0.76	0.76	0.76
vC, conflicting volume	628			400			1104	1098	393	1106	1101	623
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	346			400			975	968	393	979	972	339
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			99	99	98	91	98	93
cM capacity (veh/h)	908			1155			154	183	653	161	182	526

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	393	8	648	5	18	55
Volume Left	4	0	35	0	2	14
Volume Right	0	8	0	5	14	38
cSH	908	1700	1155	1700	397	532
Volume to Capacity	0.00	0.00	0.03	0.00	0.05	0.10
Queue Length 95th (ft)	0	0	2	0	4	9
Control Delay (s)	0.1	0.0	0.8	0.0	14.5	17.6
Lane LOS	A		A		B	C
Approach Delay (s)	0.1		0.8		14.5	17.6
Approach LOS					B	C

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	64.5%	ICU Level of Service	C	
Analysis Period (min)	15			

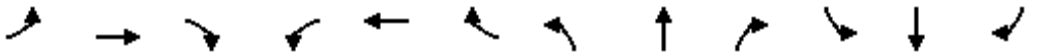
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	62	359	23	669	4	41	92	77
v/c Ratio	0.23	0.35	0.05	0.67	0.01	0.08	0.21	0.15
Control Delay	12.6	11.7	9.1	17.3	20.8	14.4	23.4	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	11.7	9.1	17.3	20.8	14.4	23.4	6.3
Queue Length 50th (ft)	16	98	5	231	2	9	36	0
Queue Length 95th (ft)	40	154	16	352	9	31	74	30
Internal Link Dist (ft)		549		1394		381	263	
Turn Bay Length (ft)	50		50		50			30
Base Capacity (vph)	268	1024	510	1001	390	531	448	519
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.35	0.05	0.67	0.01	0.08	0.21	0.15

Intersection Summary

SECOND DRAFT

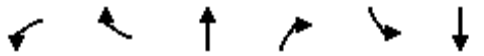


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	320	10	21	538	77	4	21	17	54	30	71
Future Volume (vph)	57	320	10	21	538	77	4	21	17	54	30	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.97			1.00	0.96
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.98	1.00			0.98	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1729	1851		1735	1799		1740	1697			1764	1522
Flt Permitted	0.27	1.00		0.51	1.00		0.70	1.00			0.81	1.00
Satd. Flow (perm)	485	1851		925	1799		1277	1697			1468	1522
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	348	11	23	585	84	4	23	18	59	33	77
RTOR Reduction (vph)	0	1	0	0	6	0	0	12	0	0	0	53
Lane Group Flow (vph)	62	358	0	23	663	0	4	29	0	0	92	24
Confl. Peds. (#/hr)	45		15	15		45	8		16	16		8
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	268	1023		511	994		390	519			449	465
v/s Ratio Prot		0.19			c0.37			0.02				
v/s Ratio Perm	0.13			0.02			0.00				c0.06	0.02
v/c Ratio	0.23	0.35		0.05	0.67		0.01	0.05			0.20	0.05
Uniform Delay, d1	9.7	10.5		8.7	13.5		20.5	20.8			21.8	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	2.0	0.9		0.2	3.5		0.0	0.2			1.0	0.2
Delay (s)	11.7	11.5		8.9	17.0		20.6	21.0			22.9	21.0
Level of Service	B	B		A	B		C	C			C	C
Approach Delay (s)		11.5			16.7			21.0			22.0	
Approach LOS		B			B			C			C	

SECOND DRAFT

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

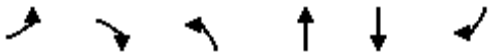


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	20	124	14	6	152
Future Volume (Veh/h)	12	20	124	14	6	152
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	22	135	15	7	165
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			573			
pX, platoon unblocked						
vC, conflicting volume	322	144			151	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	322	144			151	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	667	903			1429	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	35	150	172
Volume Left	13	0	7
Volume Right	22	15	0
cSH	798	1700	1429
Volume to Capacity	0.04	0.09	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.7	0.0	0.3
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	0.3
Approach LOS	A		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

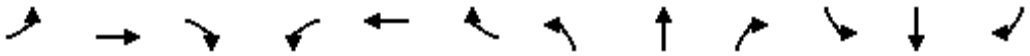


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	136	60	51	93	97	124
Future Volume (Veh/h)	136	60	51	93	97	124
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	148	65	55	100	105	135
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				703		
pX, platoon unblocked						
vC, conflicting volume	400	190	257			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	400	190	257			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	74	92	96			
cM capacity (veh/h)	571	839	1287			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	213	155	240
Volume Left	148	55	0
Volume Right	65	0	135
cSH	632	1287	1700
Volume to Capacity	0.34	0.04	0.14
Queue Length 95th (ft)	37	3	0
Control Delay (s)	13.6	3.0	0.0
Lane LOS	B	A	
Approach Delay (s)	13.6	3.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

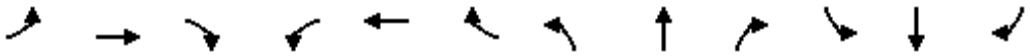


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	110	21	36	3	91	107	27	0	95	6
Future Volume (Veh/h)	2	47	110	21	36	3	91	107	27	0	95	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	51	120	23	39	3	99	116	29	0	103	7
Pedestrians		10						3				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	42			174			273	206	114	288	264	50
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	42			174			273	206	114	288	264	50
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			83	83	97	100	84	99
cM capacity (veh/h)	1567			1399			574	676	936	550	628	1008

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	173	65	244	110
Volume Left	2	23	99	0
Volume Right	120	3	29	7
cSH	1567	1399	651	643
Volume to Capacity	0.00	0.02	0.38	0.17
Queue Length 95th (ft)	0	1	44	15
Control Delay (s)	0.1	2.8	13.8	11.7
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.8	13.8	11.7
Approach LOS			B	B

Intersection Summary			
Average Delay	8.2		
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

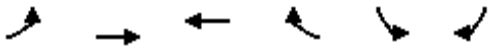


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	105	57	8	92	0	60	52	5	0	42	0
Future Volume (Veh/h)	1	105	57	8	92	0	60	52	5	0	42	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	113	61	9	100	0	65	57	5	0	46	0
Pedestrians		8			4			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105			176			296	270	150	306	301	113
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105			176			296	270	150	306	301	113
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			89	91	99	100	92	100
cM capacity (veh/h)	1479			1398			605	627	892	587	603	928

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	175	109	127	46
Volume Left	1	9	65	0
Volume Right	61	0	5	0
cSH	1479	1398	623	603
Volume to Capacity	0.00	0.01	0.20	0.08
Queue Length 95th (ft)	0	0	19	6
Control Delay (s)	0.0	0.7	12.3	11.5
Lane LOS	A	A	B	B
Approach Delay (s)	0.0	0.7	12.3	11.5
Approach LOS			B	B

Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	30.7%	ICU Level of Service		A
Analysis Period (min)	15			

SECOND DRAFT

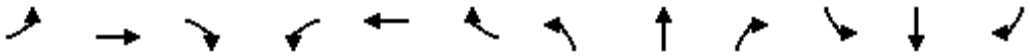


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	157	130	3	3	3
Future Volume (Veh/h)	1	157	130	3	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	171	141	3	3	3
Pedestrians		1	1			
Lane Width (ft)		12.0	12.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	144				316	144
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	144				316	144
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1438				675	903

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	172	144	6
Volume Left	1	0	3
Volume Right	0	3	3
cSH	1438	1700	773
Volume to Capacity	0.00	0.08	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.7
Lane LOS	A		A
Approach Delay (s)	0.0	0.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		19.4%	ICU Level of Service A
Analysis Period (min)		15	

SECOND DRAFT

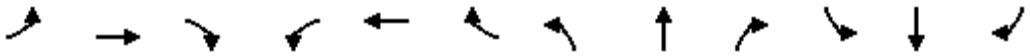


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	121	7	19	103	13	9	6	28	10	5	1
Future Volume (Veh/h)	1	121	7	19	103	13	9	6	28	10	5	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	132	8	20	108	14	10	7	30	11	5	1
Pedestrians		7			4			11			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	126			151			314	315	151	334	312	126
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	126			151			314	315	151	334	312	126
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	99	97	98	99	100
cM capacity (veh/h)	1455			1415			609	583	883	575	586	915

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	141	142	47	17
Volume Left	1	20	10	11
Volume Right	8	14	30	1
cSH	1455	1415	753	591
Volume to Capacity	0.00	0.01	0.06	0.03
Queue Length 95th (ft)	0	1	5	2
Control Delay (s)	0.1	1.2	10.1	11.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	1.2	10.1	11.3
Approach LOS			B	B

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	31.9%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

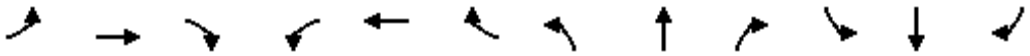


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	12	4	4	2	2	6	0	23	1	3	18	8
Future Volume (vph)	12	4	4	2	2	6	0	23	1	3	18	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	4	4	2	2	7	0	25	1	3	20	9

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	21	11	26	32
Volume Left (vph)	13	2	0	3
Volume Right (vph)	4	7	1	9
Hadj (s)	0.04	-0.31	0.01	-0.12
Departure Headway (s)	4.1	3.7	4.0	3.9
Degree Utilization, x	0.02	0.01	0.03	0.03
Capacity (veh/h)	865	944	877	915
Control Delay (s)	7.2	6.8	7.1	7.0
Approach Delay (s)	7.2	6.8	7.1	7.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.1		
Level of Service		A		
Intersection Capacity Utilization		16.8%	ICU Level of Service	A
Analysis Period (min)		15		

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	4	3	37	5	0	8	0	1	0	0	0
Future Volume (Veh/h)	1	4	3	37	5	0	8	0	1	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	4	3	40	5	0	9	0	1	0	0	0
Pedestrians		3			1			6			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	30	23	9	30	22	8	3			2		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	30	23	9	30	22	8	3			2		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	96	99	100	99			100		
cM capacity (veh/h)	959	862	1064	958	863	1068	1614			1619		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	45	10	0
Volume Left	1	40	9	0
Volume Right	3	0	1	0
cSH	941	947	1614	1700
Volume to Capacity	0.01	0.05	0.01	0.00
Queue Length 95th (ft)	1	4	0	0
Control Delay (s)	8.9	9.0	6.5	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.9	9.0	6.5	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	8.6			
Intersection Capacity Utilization	20.2%	ICU Level of Service	A	
Analysis Period (min)	15			

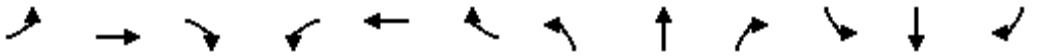
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	379	5	6	598	3	2
Future Volume (Veh/h)	379	5	6	598	3	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	412	5	7	650	3	2
Pedestrians					5	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				629		
pX, platoon unblocked					0.75	
vC, conflicting volume			422		1084	420
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			422		942	420
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1132		215	631

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	417	657	5
Volume Left	0	7	3
Volume Right	5	0	2
cSH	1700	1132	292
Volume to Capacity	0.25	0.01	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.2	17.5
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	17.5
Approach LOS			C

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		46.3%	ICU Level of Service
Analysis Period (min)		15	

SECOND DRAFT

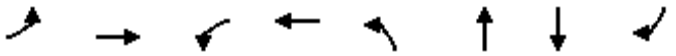


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	752	1	11	552	13	0	5	16	6	3	2
Future Volume (Veh/h)	27	752	1	11	552	13	0	5	16	6	3	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	775	1	12	600	14	0	5	17	7	3	2
Pedestrians								7			5	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								1			0	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					794							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	619			783			1464	1481	782	1480	1468	605
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	400			783			1456	1476	782	1474	1460	382
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			100	95	96	90	97	100
cM capacity (veh/h)	924			830			80	95	392	73	98	530

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	803	1	612	14	22	12
Volume Left	28	0	12	0	0	7
Volume Right	0	1	0	14	17	2
cSH	924	1700	830	1700	230	97
Volume to Capacity	0.03	0.00	0.01	0.01	0.10	0.12
Queue Length 95th (ft)	2	0	1	0	8	10
Control Delay (s)	0.8	0.0	0.4	0.0	22.3	48.5
Lane LOS	A		A		C	E
Approach Delay (s)	0.8		0.4		22.3	48.5
Approach LOS					C	E

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

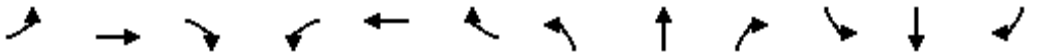
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	55	761	14	616	10	36	104	82
v/c Ratio	0.18	0.74	0.07	0.61	0.03	0.07	0.24	0.16
Control Delay	11.3	19.9	10.0	15.7	21.0	12.4	24.1	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	19.9	10.0	15.7	21.0	12.4	24.1	6.2
Queue Length 50th (ft)	14	286	3	202	4	5	41	0
Queue Length 95th (ft)	34	432	13	307	15	26	82	31
Internal Link Dist (ft)		573		1394		381	263	
Turn Bay Length (ft)					50			30
Base Capacity (vph)	311	1028	206	1012	387	523	428	523
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.74	0.07	0.61	0.03	0.07	0.24	0.16

Intersection Summary

SECOND DRAFT

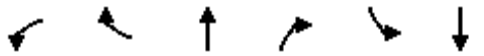


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	716	7	13	500	67	9	13	20	75	20	75
Future Volume (vph)	52	716	7	13	500	67	9	13	20	75	20	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98			1.00	0.96
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00			0.99	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1758	1859		1758	1821		1744	1662			1780	1526
Flt Permitted	0.30	1.00		0.20	1.00		0.69	1.00			0.76	1.00
Satd. Flow (perm)	564	1859		373	1821		1266	1662			1401	1526
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	754	7	14	543	73	10	14	22	82	22	82
RTOR Reduction (vph)	0	0	0	0	6	0	0	15	0	0	0	57
Lane Group Flow (vph)	55	761	0	14	610	0	10	21	0	0	104	25
Confl. Peds. (#/hr)	12		20	20		12	9		5	5		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	311	1027		206	1006		387	508			428	466
v/s Ratio Prot		c0.41			0.34			0.01				
v/s Ratio Perm	0.10			0.04			0.01				c0.07	0.02
v/c Ratio	0.18	0.74		0.07	0.61		0.03	0.04			0.24	0.05
Uniform Delay, d1	9.4	14.4		8.8	12.8		20.6	20.7			22.1	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.2	4.8		0.6	2.7		0.1	0.2			1.3	0.2
Delay (s)	10.7	19.2		9.5	15.5		20.8	20.9			23.5	21.0
Level of Service	B	B		A	B		C	C			C	C
Approach Delay (s)		18.6			15.4			20.9			22.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

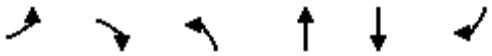


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	18	118	11	12	150
Future Volume (Veh/h)	11	18	118	11	12	150
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	20	128	12	13	163
Pedestrians	2		5			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			573			
pX, platoon unblocked						
vC, conflicting volume	330	136			142	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	330	136			142	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	654	911			1438	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	140	176
Volume Left	12	0	13
Volume Right	20	12	0
cSH	794	1700	1438
Volume to Capacity	0.04	0.08	0.01
Queue Length 95th (ft)	3	0	1
Control Delay (s)	9.7	0.0	0.6
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	0.6
Approach LOS	A		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

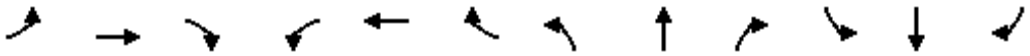


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	95	62	73	136	13
Future Volume (Veh/h)	81	95	62	73	136	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	88	103	67	79	148	14
Pedestrians	19					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				703		
pX, platoon unblocked						
vC, conflicting volume	387	174	181			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	387	174	181			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	88	95			
cM capacity (veh/h)	576	854	1369			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	191	146	162
Volume Left	88	67	0
Volume Right	103	0	14
cSH	698	1369	1700
Volume to Capacity	0.27	0.05	0.10
Queue Length 95th (ft)	28	4	0
Control Delay (s)	12.1	3.8	0.0
Lane LOS	B	A	
Approach Delay (s)	12.1	3.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

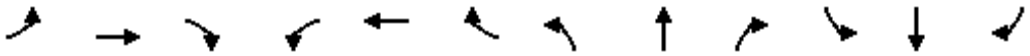


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	115	97	26	47	3	72	59	22	1	81	5
Future Volume (Veh/h)	3	115	97	26	47	3	72	59	22	1	81	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	125	105	28	51	3	78	64	24	1	88	5
Pedestrians		12			3			2			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	64			232			355	306	182	361	356	74
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	64			232			355	306	182	361	356	74
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			85	89	97	100	84	99
cM capacity (veh/h)	1524			1333			504	587	856	510	550	966

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	233	82	166	94
Volume Left	3	28	78	1
Volume Right	105	3	24	5
cSH	1524	1333	569	562
Volume to Capacity	0.00	0.02	0.29	0.17
Queue Length 95th (ft)	0	2	30	15
Control Delay (s)	0.1	2.8	13.9	12.7
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.8	13.9	12.7
Approach LOS			B	B

Intersection Summary				
Average Delay	6.5			
Intersection Capacity Utilization	42.2%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

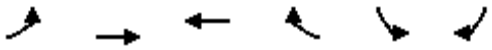


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	85	43	1	150	3	37	30	0	2	42	0
Future Volume (Veh/h)	1	85	43	1	150	3	37	30	0	2	42	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	92	47	1	163	3	40	33	0	2	46	0
Pedestrians		7			3			2			9	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	175			141			316	296	120	312	318	180
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	175			141			316	296	120	312	318	180
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			93	95	100	100	92	100
cM capacity (veh/h)	1389			1439			588	608	926	601	591	849

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	140	167	73	48
Volume Left	1	1	40	2
Volume Right	47	3	0	0
cSH	1389	1439	597	591
Volume to Capacity	0.00	0.00	0.12	0.08
Queue Length 95th (ft)	0	0	10	7
Control Delay (s)	0.1	0.1	11.9	11.6
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.1	11.9	11.6
Approach LOS			B	B

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	27.2%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

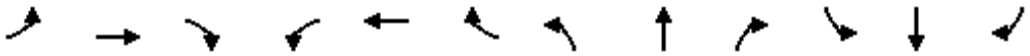


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	208	120	4	6	3
Future Volume (Veh/h)	4	208	120	4	6	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	226	130	4	7	3
Pedestrians		3			3	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		3.5			3.5	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	137				369	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137				369	138
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1443				628	905

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	230	134	10
Volume Left	4	0	7
Volume Right	0	4	3
cSH	1443	1700	691
Volume to Capacity	0.00	0.08	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.2	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.1%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

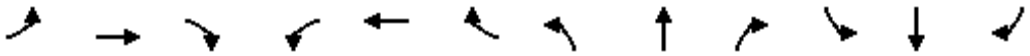


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	154	7	15	98	12	5	4	49	11	8	10
Future Volume (Veh/h)	1	154	7	15	98	12	5	4	49	11	8	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	167	8	16	107	13	5	4	53	12	9	11
Pedestrians		4			1			2			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	126			177			340	333	174	380	330	124
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	126			177			340	333	174	380	330	124
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	99	94	98	98	99
cM capacity (veh/h)	1452			1396			587	575	867	528	577	919

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	176	136	62	32
Volume Left	1	16	5	12
Volume Right	8	13	53	11
cSH	1452	1396	809	636
Volume to Capacity	0.00	0.01	0.08	0.05
Queue Length 95th (ft)	0	1	6	4
Control Delay (s)	0.0	1.0	9.8	11.0
Lane LOS	A	A	A	B
Approach Delay (s)	0.0	1.0	9.8	11.0
Approach LOS			A	B

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	29.4%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

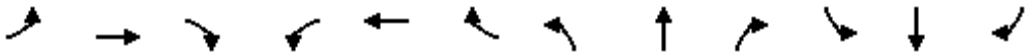


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	5	1	0	6	5	2	33	3	3	21	8
Future Volume (vph)	16	5	1	0	6	5	2	33	3	3	21	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	5	1	0	7	5	2	36	3	3	23	9

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	23	12	41	35
Volume Left (vph)	17	0	2	3
Volume Right (vph)	1	5	3	9
Hadj (s)	0.16	-0.22	0.00	-0.10
Departure Headway (s)	4.2	3.9	4.0	3.9
Degree Utilization, x	0.03	0.01	0.05	0.04
Capacity (veh/h)	831	907	877	906
Control Delay (s)	7.3	6.9	7.2	7.1
Approach Delay (s)	7.3	6.9	7.2	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	19.2%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	3	4	1	0	0	9	0	32	0	0	0
Future Volume (Veh/h)	0	3	4	1	0	0	9	0	32	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	4	1	0	0	10	0	35	0	0	0
Pedestrians		1			2			4			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	42	58	5	49	40	24	1			37		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	42	58	5	49	40	24	1			37		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	99			100		
cM capacity (veh/h)	949	826	1073	933	844	1047	1620			1571		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	1	45	0
Volume Left	0	1	10	0
Volume Right	4	0	35	0
cSH	951	933	1620	1700
Volume to Capacity	0.01	0.00	0.01	0.00
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	8.8	8.9	1.6	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.8	8.9	1.6	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	15.2%	ICU Level of Service	A	
Analysis Period (min)	15			

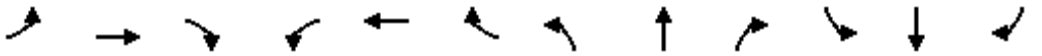
SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	773	1	2	571	5	4
Future Volume (Veh/h)	773	1	2	571	5	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	840	1	2	621	5	4
Pedestrians					21	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				653		
pX, platoon unblocked					0.79	
vC, conflicting volume			862		1486	862
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			862		1483	862
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			764		106	348

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	841	623	9
Volume Left	0	2	5
Volume Right	1	0	4
cSH	1700	764	153
Volume to Capacity	0.49	0.00	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.1	29.9
Lane LOS		A	D
Approach Delay (s)	0.0	0.1	29.9
Approach LOS			D

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

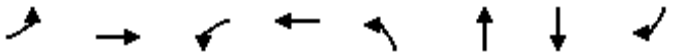


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	354	7	32	560	5	2	2	13	11	3	29
Future Volume (Veh/h)	4	354	7	32	560	5	2	2	13	11	3	29
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	385	8	35	609	5	2	2	14	12	3	32
Pedestrians					1			3			10	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			1	
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					790							
pX, platoon unblocked	0.76						0.76	0.76		0.76	0.76	0.76
vC, conflicting volume	624			396			1092	1090	389	1098	1093	619
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	345			396			963	959	389	970	963	338
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			99	99	98	93	98	94
cM capacity (veh/h)	912			1159			159	186	657	163	185	529

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	389	8	644	5	18	47
Volume Left	4	0	35	0	2	12
Volume Right	0	8	0	5	14	32
cSH	912	1700	1159	1700	403	525
Volume to Capacity	0.00	0.00	0.03	0.00	0.04	0.09
Queue Length 95th (ft)	0	0	2	0	3	7
Control Delay (s)	0.1	0.0	0.8	0.0	14.3	17.5
Lane LOS	A		A		B	C
Approach Delay (s)	0.1		0.8		14.3	17.5
Approach LOS					B	C

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	63.5%	ICU Level of Service		B
Analysis Period (min)	15			

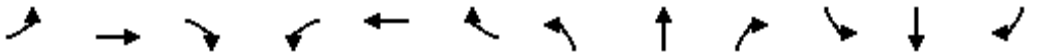
SECOND DRAFT



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	58	357	23	662	4	41	85	73
v/c Ratio	0.21	0.35	0.04	0.66	0.01	0.08	0.19	0.14
Control Delay	12.2	11.6	9.1	17.1	20.8	14.4	23.1	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	11.6	9.1	17.1	20.8	14.4	23.1	6.4
Queue Length 50th (ft)	15	98	5	228	2	9	33	0
Queue Length 95th (ft)	38	153	16	346	9	31	69	29
Internal Link Dist (ft)		549		1394		381	263	
Turn Bay Length (ft)	50		50		50			30
Base Capacity (vph)	273	1024	513	1003	393	531	456	516
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.35	0.04	0.66	0.01	0.08	0.19	0.14

Intersection Summary

SECOND DRAFT

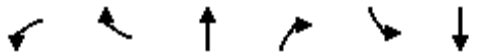


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	318	10	21	538	71	4	21	17	48	30	67
Future Volume (vph)	53	318	10	21	538	71	4	21	17	48	30	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.97			1.00	0.96
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.98	1.00			0.98	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1728	1851		1735	1804		1740	1697			1768	1522
Flt Permitted	0.27	1.00		0.51	1.00		0.70	1.00			0.82	1.00
Satd. Flow (perm)	494	1851		928	1804		1285	1697			1494	1522
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	346	11	23	585	77	4	23	18	52	33	73
RTOR Reduction (vph)	0	1	0	0	5	0	0	12	0	0	0	51
Lane Group Flow (vph)	58	356	0	23	657	0	4	29	0	0	85	22
Confl. Peds. (#/hr)	45		15	15		45	8		16	16		8
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Effective Green, g (s)	47.0	47.0		47.0	47.0		26.0	26.0			26.0	26.0
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.31	0.31			0.31	0.31
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Grp Cap (vph)	273	1023		513	997		393	519			456	465
v/s Ratio Prot		0.19			c0.36			0.02				
v/s Ratio Perm	0.12			0.02			0.00				c0.06	0.01
v/c Ratio	0.21	0.35		0.04	0.66		0.01	0.05			0.19	0.05
Uniform Delay, d1	9.6	10.5		8.7	13.4		20.5	20.8			21.7	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.8	0.9		0.2	3.4		0.0	0.2			0.9	0.2
Delay (s)	11.4	11.5		8.9	16.8		20.6	21.0			22.6	21.0
Level of Service	B	B		A	B		C	C			C	C
Approach Delay (s)		11.4			16.5			21.0			21.9	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

SECOND DRAFT

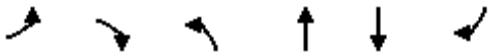


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	19	114	14	5	142
Future Volume (Veh/h)	12	19	114	14	5	142
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	21	124	15	5	154
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			573			
pX, platoon unblocked						
vC, conflicting volume	296	132			140	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	296	132			140	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	692	916			1442	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	34	139	159
Volume Left	13	0	5
Volume Right	21	15	0
cSH	815	1700	1442
Volume to Capacity	0.04	0.08	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.6	0.0	0.3
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	0.3
Approach LOS	A		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

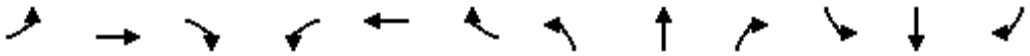


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	49	40	93	97	95
Future Volume (Veh/h)	105	49	40	93	97	95
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.92	0.92
Hourly flow rate (vph)	114	53	43	100	105	103
Pedestrians	17					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				703		
pX, platoon unblocked						
vC, conflicting volume	360	174	225			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	360	174	225			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	94	97			
cM capacity (veh/h)	608	856	1322			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	167	143	208
Volume Left	114	43	0
Volume Right	53	0	103
cSH	670	1322	1700
Volume to Capacity	0.25	0.03	0.12
Queue Length 95th (ft)	25	3	0
Control Delay (s)	12.1	2.5	0.0
Lane LOS	B	A	
Approach Delay (s)	12.1	2.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

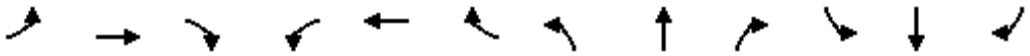


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	97	19	36	3	78	91	25	0	81	6
Future Volume (Veh/h)	2	47	97	19	36	3	78	91	25	0	81	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	51	105	21	39	3	85	99	27	0	88	7
Pedestrians		10						3				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		3.5						3.5				
Percent Blockage		1						0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	42			159			254	194	106	266	246	50
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	42			159			254	194	106	266	246	50
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			86	86	97	100	86	99
cM capacity (veh/h)	1567			1416			605	688	945	585	644	1008

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	158	63	211	95
Volume Left	2	21	85	0
Volume Right	105	3	27	7
cSH	1567	1416	674	662
Volume to Capacity	0.00	0.01	0.31	0.14
Queue Length 95th (ft)	0	1	33	12
Control Delay (s)	0.1	2.6	12.8	11.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	2.6	12.8	11.3
Approach LOS			B	B

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

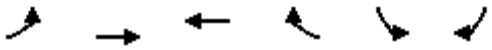


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	105	51	8	92	0	54	42	5	0	34	0
Future Volume (Veh/h)	1	105	51	8	92	0	54	42	5	0	34	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	113	55	9	100	0	59	46	5	0	37	0
Pedestrians		8			4			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	105			170			289	268	146	298	295	113
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	105			170			289	268	146	298	295	113
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			90	93	99	100	94	100
cM capacity (veh/h)	1479			1405			620	630	895	603	608	928

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	169	109	110	37
Volume Left	1	9	59	0
Volume Right	55	0	5	0
cSH	1479	1405	633	608
Volume to Capacity	0.00	0.01	0.17	0.06
Queue Length 95th (ft)	0	0	16	5
Control Delay (s)	0.0	0.7	11.9	11.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.0	0.7	11.9	11.3
Approach LOS			B	B

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

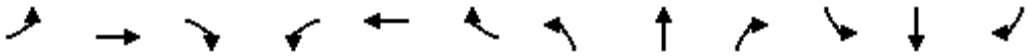


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	144	117	3	3	3
Future Volume (Veh/h)	1	144	117	3	3	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	157	127	3	3	3
Pedestrians		1	1			
Lane Width (ft)		12.0	12.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	130				288	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130				288	130
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1455				701	919

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	158	130	6
Volume Left	1	0	3
Volume Right	0	3	3
cSH	1455	1700	795
Volume to Capacity	0.00	0.08	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.6
Approach LOS			A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	18.7%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

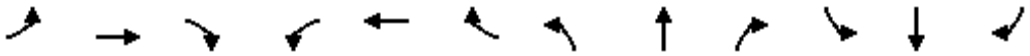


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	114	7	15	96	11	9	6	24	8	5	1
Future Volume (Veh/h)	1	114	7	15	96	11	9	6	24	8	5	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	124	8	16	101	12	10	7	26	9	5	1
Pedestrians		7			4			11			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	117			143			290	290	143	306	288	118
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	117			143			290	290	143	306	288	118
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	99	97	99	99	100
cM capacity (veh/h)	1466			1425			633	604	892	605	606	924

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	133	129	43	15
Volume Left	1	16	10	9
Volume Right	8	12	26	1
cSH	1466	1425	760	619
Volume to Capacity	0.00	0.01	0.06	0.02
Queue Length 95th (ft)	0	1	4	2
Control Delay (s)	0.1	1.0	10.0	11.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	1.0	10.0	11.0
Approach LOS			B	B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

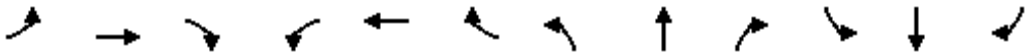


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	4	4	2	2	6	0	21	1	3	16	6
Future Volume (vph)	10	4	4	2	2	6	0	21	1	3	16	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	4	4	2	2	7	0	23	1	3	17	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	19	11	24	27
Volume Left (vph)	11	2	0	3
Volume Right (vph)	4	7	1	7
Hadj (s)	0.02	-0.31	0.01	-0.10
Departure Headway (s)	4.0	3.7	4.0	3.9
Degree Utilization, x	0.02	0.01	0.03	0.03
Capacity (veh/h)	874	950	880	913
Control Delay (s)	7.1	6.8	7.1	7.0
Approach Delay (s)	7.1	6.8	7.1	7.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.0		
Level of Service		A		
Intersection Capacity Utilization		16.6%	ICU Level of Service	A
Analysis Period (min)		15		

SECOND DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	4	3	29	5	0	8	0	1	0	0	0
Future Volume (Veh/h)	1	4	3	29	5	0	8	0	1	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	4	3	32	5	0	9	0	1	0	0	0
Pedestrians		3			1			6			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	30	23	9	30	22	8	3			2		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	30	23	9	30	22	8	3			2		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	97	99	100	99			100		
cM capacity (veh/h)	959	862	1064	958	863	1068	1614			1619		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	37	10	0
Volume Left	1	32	9	0
Volume Right	3	0	1	0
cSH	941	944	1614	1700
Volume to Capacity	0.01	0.04	0.01	0.00
Queue Length 95th (ft)	1	3	0	0
Control Delay (s)	8.9	9.0	6.5	0.0
Lane LOS	A	A	A	
Approach Delay (s)	8.9	9.0	6.5	0.0
Approach LOS	A	A		

Intersection Summary				
Average Delay	8.5			
Intersection Capacity Utilization	19.8%	ICU Level of Service	A	
Analysis Period (min)	15			

SECOND DRAFT

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	373	5	6	594	3	2
Future Volume (Veh/h)	373	5	6	594	3	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	405	5	7	646	3	2
Pedestrians					5	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				629		
pX, platoon unblocked					0.75	
vC, conflicting volume			415		1072	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			415		930	412
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1139		220	636

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	410	653	5
Volume Left	0	7	3
Volume Right	5	0	2
cSH	1700	1139	298
Volume to Capacity	0.24	0.01	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.2	17.3
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	17.3
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

SECOND DRAFT

Appendix H

Trip Generation Demand Assumptions

SECOND DRAFT

Metrics	ES at Reed		18th Street Lot		NW Lot	
School Profile						
Jurisdiction	Arlington, VA		Arlington, VA		Arlington, VA	
School Type	Public School		Public School		Public School	
	Elementary		PK2-K		PK0-PK4	
Proximity to Metro (miles)	1		1		1	
Bus Stops Within 1/4 mile	10					
Student Population						
Total Students	732					
Population Breakdown (Day Students)						
PK0						
PK1						
PK2						
PK3						
PK4						
K	122					
1	122					
2	122					
3	122					
4	122					
5	122					
6						
7						
8						
Total	732		0		0	
4% Abesnteeism	703					
Residence						
D.C.						
Virginia	100.0%		100.0%		100.0%	
Maryland						
	100.0%		100.0%		100.0%	
Student Transportation Demand						
School Day						
Before Care Start Time	-	REF	-	REF	-	REF
School Start Time	9:00 AM	11	8:15 AM	8	8:15 AM	8
School End time	3:45 PM	38	3:15 PM	36	3:15 PM	36
After Care/Activities End Time	-					

SECOND DRAFT

AM Mode Split (based on Student Tally)	% of Students	# of Students	% of Students	# of Students	% of Students	# of Students
Drive and Park	0%	0	0%	0	0%	0
Drive in Drop-Off	38%	267	0%	0	0%	0
Passenger in Car that Parks	0%	0	0%	0	0%	0
Public Transportation	0%	0	0%	0	0%	0
Walk	24%	169	0%	0	0%	0
Bike	2%	14	0%	0	0%	0
School Bus	36%	253	0%	0	0%	0
	100.0%	703	0.0%	0	0.0%	0
Average number of students in drop-off ve	1.2					
Number of vehicles	223		109	*based on actual counts	57	*based on actual counts
	PU/DO	Park	IB	OB	IB	OB
	223	0	58	51	49	8

Arrival	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB
75 - 90 minutes before bell time	7:30 AM	0%	0%	5	0	0	6:45 AM	5%	0%	2	0	0	6:45 AM	5%	0%	2	5	0
60 - 75 minutes before bell time	7:45 AM	3%	3%	6	7	7	7:00 AM	10%	7%	3	9	4	7:00 AM	10%	7%	3	2	0
45 - 60 minues before bell time	8:00 AM	7%	7%	7	16	16	7:15 AM	14%	8%	4	6	5	7:15 AM	14%	8%	4	9	0
30 - 45 minutes before bell time	8:15 AM	10%	10%	8	22	22	7:30 AM	10%	15%	5	5	9	7:30 AM	10%	15%	5	6	0
15 - 30 minutes before bell time	8:30 AM	35%	35%	9	78	78	7:45 AM	14%	10%	6	8	5	7:45 AM	14%	10%	6	7	1
0 - 15 minutes before bell time	8:45 AM	39%	39%	10	87	87	8:00 AM	13%	15%	7	9	7	8:00 AM	13%	15%	7	4	2
0 - 15 minutes after bell time	9:00 AM	5%	5%	11	11	11	8:15 AM	10%	15%	8	3	7	8:15 AM	10%	15%	8	8	2
15 - 30 minutes after bell time	9:15 AM	1%	1%	12	2	2	8:30 AM	10%	7%	9	8	3	8:30 AM	10%	7%	9	3	1
30 - 45 minutes after bell time	9:30 AM	0%	0%	13	0	0	8:45 AM	14%	23%	10	10	11	8:45 AM	14%	23%	10	5	2
		100%	100%		223	223		100%	100%					100%	100%			
		91%	91%					51%	48%					51%	48%			

PM Mode Split (Based on Student Tally)	% of Students	# of Students	% of Students	# of Students	% of Students	# of Students
Drive and Park	0%	0	0%	0	0%	0
Drive in Drop-Off	38%	278	0%	0	0%	0
Passenger in Car that Parks	0%	0	0%	0	0%	0
Public Transportation	0%	0	0%	0	0%	0
Walk	24%	176	0%	0	0%	0
Bike	2%	15	0%	0	0%	0
School Bus	36%	264	0%	0	0%	0
	100.0%	732	0.0%	0	0.0%	0
Average number of students in drop-off ve	1.2					
Number of vehicles	232		224	*based on actual counts	71	*based on actual counts
	PU/DO	Park	IB	OB	IB	OB
	232	0	98	126	20	51

Departure	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB
30 - 45 minutes before bell time	3:00 PM	1%	0%	35	2	0	2:30 PM	4%	6%	33	4	9	2:30 PM	4%	6%	33	1	1
15 - 30 minutes before bell time	3:15 PM	8%	4%	36	19	9	2:45 PM	1%	6%	34	1	4	2:45 PM	1%	6%	34	0	6
0 - 15 minutes before bell time	3:30 PM	30%	5%	37	70	12	3:00 PM	3%	1%	35	4	1	3:00 PM	3%	1%	35	0	1
0 - 15 minutes after bell time	3:45 PM	22%	30%	38	51	70	3:15 PM	4%	4%	36	4	6	3:15 PM	4%	4%	36	1	1
15 - 30 minutes after bell time	4:00 PM	6%	22%	39	14	51	3:30 PM	4%	6%	37	3	7	3:30 PM	4%	6%	37	2	3
30 - 45 minutes after bell time	4:15 PM	5%	6%	40	12	14	3:45 PM	11%	7%	38	11	4	3:45 PM	11%	7%	38	2	9
45 - 60 minutes after bell time	4:30 PM	2%	5%	41	5	12	4:00 PM	10%	7%	39	9	9	4:00 PM	10%	7%	39	2	6
60 - 75 minutes after bell time	4:45 PM	2%	2%	42	5	5	4:15 PM	7%	6%	40	7	8	4:15 PM	7%	6%	40	1	2
75 - 90 minutes after bell time	5:00 PM	2%	2%	43	5	5	4:30 PM	14%	8%	41	15	11	4:30 PM	14%	8%	41	1	3
90 - 105 minutes after bell time	5:15 PM	5%	2%	44	12	5	4:45 PM	7%	9%	42	7	13	4:45 PM	7%	9%	42	1	3
105 - 120 minutes after bell time	5:30 PM	6%	5%	45	14	12	5:00 PM	14%	11%	43	14	13	5:00 PM	14%	11%	43	3	6
120 - 135 minutes after bell time	5:45 PM	6%	6%	46	14	14	5:15 PM	6%	6%	44	7	9	5:15 PM	6%	6%	44	0	2
135 - 150 minutes after bell time	6:00 PM	5%	6%	47	12	14	5:30 PM	8%	11%	45	10	17	5:30 PM	8%	11%	45	0	2
150 - 165 minutes after bell time	6:15 PM	0%	5%	48	0	12	5:45 PM	0%	6%	46	0	9	5:45 PM	0%	6%	46	0	1
165 - 180 minutes after bell time	6:30 PM	0%	0%	49	0	0	6:00 PM	1%	6%	47	1	6	6:00 PM	1%	6%	47	0	5
180 - 195 minutes after bell time	6:45 PM	0%	0%	50	0	0	6:15 PM	0%	0%	48	0	0	6:15 PM	0%	0%	48	0	0
195 - 210 minutes after bell time	7:00 PM	0%	0%	51	0	0	6:30 PM	1%	0%	49	0	0	6:30 PM	1%	0%	49	1	0
210 - 225 minutes after bell time	7:15 PM	0%	0%	52	0	0	6:45 PM	5%	0%	50	1	0	6:45 PM	5%	0%	50	5	0
225 - 240 minutes after bell time	7:30 PM	0%	0%	53	0	0	7:00 PM	0%	0%	51	0	0	7:00 PM	0%	0%	51	0	0
240 - 255 minutes after bell time	7:45 PM	0%	0%	54	0	0	7:15 PM	0%	0%	52	0	0	7:15 PM	0%	0%	52	0	0
255 - 270 minutes after bell time	8:00 PM	0%	0%	55	0	0	7:30 PM	0%	0%	53	0	0	7:30 PM	0%	0%	53	0	0
		100%	100%		235	235		100%	100%					100%	100%			
% Arriving During PM Peak Hour		63%	63%					22%	18%					22%	18%			
		5%	11%					9%	23%					5%	11%			

SECOND DRAFT

Employee Population

Population Breakdown

| | | |

Visitor Transportation Demand

Visitor Population

Population Breakdown

Visitors	26		
Total	26		

School Day

School Start time	9:00 AM	11	
School End time	3:45 PM	38	

Visitor Mode Split

Drive and Park	81.0%	21
Drop-off (Alone)	0.0%	0
Public Transportation	3.0%	1
Walk	12.0%	3
Bike	2.0%	1
Other	2.0%	1
	100.0%	26

Average number of people in car	1
Number of vehicles	21

Distribution of Arrivals/Departures

	Time	IB	OB	REF	IB	OB
105 - 120 minutes before bell time	7:00 AM	0%	0%	3	0	0
90 - 105 minutes before bell time	7:15 AM	0%	0%	4	0	0
75 - 90 minutes before bell time	7:30 AM	4%	0%	5	1	0
60 - 75 minutes before bell time	7:45 AM	0%	0%	6	0	0
45 - 60 minues before bell time	8:00 AM	0%	0%	7	0	0
30 - 45 minutes before bell time	8:15 AM	4%	0%	8	1	0
15 - 30 minutes before bell time	8:30 AM	4%	0%	9	1	0
0 - 15 minutes before bell time	8:45 AM	4%	0%	10	1	0
0 - 15 minutes after bell time	9:00 AM	8%	0%	11	2	0
15 - 30 minutes after bell time	9:15 AM	0%	0%	12	0	0
30 - 45 minutes after bell time	9:30 AM	2%	3%	13	0	1
	9:45 AM	5%	4%	14	1	1
	10:00 AM	0%	0%	15	0	0
	10:15 AM	4%	4%	16	1	1
	10:30 AM	0%	4%	17	0	1
	10:45 AM	4%	0%	18	1	0
	11:00 AM	0%	0%	19	0	0
	11:15 AM	4%	3%	20	1	1
	11:30 AM	2%	4%	21	0	1
	11:45 AM	2%	0%	22	0	0
	12:00 PM	0%	0%	23	0	0
	12:15 PM	5%	0%	24	1	0
	12:30 PM	6%	3%	25	1	1
	12:45 PM	5%	0%	26	1	0
	1:00 PM	0%	0%	27	0	0
	1:15 PM	6%	7%	28	1	1
	1:30 PM	0%	3%	29	0	1
	1:45 PM	0%	0%	30	0	0
	2:00 PM	4%	0%	31	1	0
	2:15 PM	4%	0%	32	1	0
	2:30 PM	4%	4%	33	1	1
	2:45 PM	0%	4%	34	0	1
30 - 45 minutes before bell time	3:00 PM	0%	0%	35	0	0
15 - 30 minutes before bell time	3:15 PM	6%	7%	36	1	1
0 - 15 minutes before bell time	3:30 PM	6%	0%	37	1	0
0 - 15 minutes after bell time	3:45 PM	4%	0%	38	1	0
15 - 30 minutes after bell time	4:00 PM	3%	7%	39	1	1
30 - 45 minutes after bell time	4:15 PM	0%	16%	40	0	3
45 - 60 minutes after bell time	4:30 PM	0%	10%	41	0	2
60 - 75 minutes after bell time	4:45 PM	0%	7%	42	0	1
75 - 90 minutes after bell time	5:00 PM	0%	5%	43	0	1
90 - 105 minutes after bell time	5:15 PM	0%	5%	44	0	1
105 - 120 minutes after bell time	5:30 PM	0%	0%	45	0	0
120 - 135 minutes after bell time	5:45 PM	0%	0%	46	0	0
135 - 150 minutes after bell time	6:00 PM	0%	0%	47	0	0
150 - 165 minutes after bell time	6:15 PM	0%	0%	48	0	0
165 - 180 minutes after bell time	6:30 PM	0%	0%	49	0	0
180 - 195 minutes after bell time	6:45 PM	0%	0%	50	0	0
195 - 210 minutes after bell time	7:00 PM	0%	0%	51	0	0
210 - 225 minutes after bell time	7:15 PM	0%	0%	52	0	0
225 - 240 minutes after bell time	7:30 PM	0%	0%	53	0	0
240 - 255 minutes after bell time	7:45 PM	0%	0%	54	0	0
255 - 270 minutes after bell time	8:00 PM	0%	0%	55	0	0
		100%	100%			

SECOND DRAFT

Metrics	ES at Reed		18th Street Lot		NW Lot	
School Profile						
Jurisdiction	Arlington, VA		Arlington, VA		Arlington, VA	
School Type	Public School		Public School		Public School	
	Elementary		PK2-K		PK0-PK4	
Proximity to Metro (miles)	1		1		1	
Bus Stops Within 1/4 mile	10					
Student Population						
Total Students	732					
Population Breakdown (Day Students)						
PK0						
PK1						
PK2						
PK3						
PK4						
K	122					
1	122					
2	122					
3	122					
4	122					
5	122					
6						
7						
8						
Total	732		0		0	
4% Abesnteeism	703					
Residence						
D.C.						
Virginia	100.0%		100.0%		100.0%	
Maryland						
	100.0%		100.0%		100.0%	
Student Transportation Demand						
School Day						
Before Care Start Time	-	REF	-	REF	-	REF
School Start Time	9:00 AM	11	8:15 AM	8	8:15 AM	8
School End time	3:45 PM	38	3:15 PM	36	3:15 PM	36
After Care/Activities End Time	-					

SECOND DRAFT

AM Mode Split (based on Student Tally)	% of Students	# of Students	% of Students	# of Students	% of Students	# of Students
Drive and Park	0%	0	0%	0	0%	0
Drive in Drop-Off	33%	232	0%	0	0%	0
Passenger in Car that Parks	0%	0	0%	0	0%	0
Public Transportation	0%	0	0%	0	0%	0
Walk	27%	190	0%	0	0%	0
Bike	4%	28	0%	0	0%	0
School Bus	36%	253	0%	0	0%	0
	100.0%	703	0.0%	0	0.0%	0
Average number of students in drop-off veh	1.2					
Number of vehicles	193		109	*based on actual counts	57	*based on actual counts
	PU/DO	Park	IB	OB	IB	OB
	193	0	58	51	49	8

Arrival	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB
75 - 90 minutes before bell time	7:30 AM	0%	0%	5	0	0	6:45 AM	5%	0%	2	0	0	6:45 AM	5%	0%	2	5	0
60 - 75 minutes before bell time	7:45 AM	3%	3%	6	6	6	7:00 AM	10%	7%	3	9	4	7:00 AM	10%	7%	3	2	0
45 - 60 minues before bell time	8:00 AM	7%	7%	7	14	14	7:15 AM	14%	8%	4	6	5	7:15 AM	14%	8%	4	9	0
30 - 45 minutes before bell time	8:15 AM	10%	10%	8	19	19	7:30 AM	10%	15%	5	5	9	7:30 AM	10%	15%	5	6	0
15 - 30 minutes before bell time	8:30 AM	35%	35%	9	68	68	7:45 AM	14%	10%	6	8	5	7:45 AM	14%	10%	6	7	1
0 - 15 minutes before bell time	8:45 AM	39%	39%	10	75	75	8:00 AM	13%	15%	7	9	7	8:00 AM	13%	15%	7	4	2
0 - 15 minutes after bell time	9:00 AM	5%	5%	11	10	10	8:15 AM	10%	15%	8	3	7	8:15 AM	10%	15%	8	8	2
15 - 30 minutes after bell time	9:15 AM	1%	1%	12	2	2	8:30 AM	10%	7%	9	8	3	8:30 AM	10%	7%	9	3	1
30 - 45 minutes after bell time	9:30 AM	0%	0%	13	0	0	8:45 AM	14%	23%	10	10	11	8:45 AM	14%	23%	10	5	2
		100%	100%		194	194		100%	100%					100%	100%			
		91%	91%					51%	48%					51%	48%			

PM Mode Split (Based on Student Tally)	% of Students	# of Students	% of Students	# of Students	% of Students	# of Students
Drive and Park	0%	0	0%	0	0%	0
Drive in Drop-Off	33%	242	0%	0	0%	0
Passenger in Car that Parks	0%	0	0%	0	0%	0
Public Transportation	0%	0	0%	0	0%	0
Walk	27%	198	0%	0	0%	0
Bike	4%	29	0%	0	0%	0
School Bus	36%	264	0%	0	0%	0
	100.0%	732	0.0%	0	0.0%	0
Average number of students in drop-off veh	1.2					
Number of vehicles	201		224	*based on actual counts	71	*based on actual counts
	PU/DO	Park	IB	OB	IB	OB
	201	0	98	126	20	51

Departure	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB
30 - 45 minutes before bell time	3:00 PM	1%	0%	35	2	0	2:30 PM	4%	6%	33	4	9	2:30 PM	4%	6%	33	1	1
15 - 30 minutes before bell time	3:15 PM	8%	4%	36	16	8	2:45 PM	1%	6%	34	1	4	2:45 PM	1%	6%	34	0	6
0 - 15 minutes before bell time	3:30 PM	30%	5%	37	60	10	3:00 PM	3%	1%	35	4	1	3:00 PM	3%	1%	35	0	1
0 - 15 minutes after bell time	3:45 PM	22%	30%	38	44	60	3:15 PM	4%	4%	36	4	6	3:15 PM	4%	4%	36	1	1
15 - 30 minutes after bell time	4:00 PM	6%	22%	39	12	44	3:30 PM	4%	6%	37	3	7	3:30 PM	4%	6%	37	2	3
30 - 45 minutes after bell time	4:15 PM	5%	6%	40	10	12	3:45 PM	11%	7%	38	11	4	3:45 PM	11%	7%	38	2	9
45 - 60 minutes after bell time	4:30 PM	2%	5%	41	4	10	4:00 PM	10%	7%	39	9	9	4:00 PM	10%	7%	39	2	6
60 - 75 minutes after bell time	4:45 PM	2%	2%	42	4	4	4:15 PM	7%	6%	40	7	8	4:15 PM	7%	6%	40	1	2
75 - 90 minutes after bell time	5:00 PM	2%	2%	43	4	4	4:30 PM	14%	8%	41	15	11	4:30 PM	14%	8%	41	1	3
90 - 105 minutes after bell time	5:15 PM	5%	2%	44	10	4	4:45 PM	7%	9%	42	7	13	4:45 PM	7%	9%	42	1	3
105 - 120 minutes after bell time	5:30 PM	6%	5%	45	12	10	5:00 PM	14%	11%	43	14	13	5:00 PM	14%	11%	43	3	6
120 - 135 minutes after bell time	5:45 PM	6%	6%	46	12	12	5:15 PM	6%	6%	44	7	9	5:15 PM	6%	6%	44	0	2
135 - 150 minutes after bell time	6:00 PM	5%	6%	47	10	12	5:30 PM	8%	11%	45	10	17	5:30 PM	8%	11%	45	0	2
150 - 165 minutes after bell time	6:15 PM	0%	5%	48	0	10	5:45 PM	0%	6%	46	0	9	5:45 PM	0%	6%	46	0	1
165 - 180 minutes after bell time	6:30 PM	0%	0%	49	0	0	6:00 PM	1%	6%	47	1	6	6:00 PM	1%	6%	47	0	5
180 - 195 minutes after bell time	6:45 PM	0%	0%	50	0	0	6:15 PM	0%	0%	48	0	0	6:15 PM	0%	0%	48	0	0
195 - 210 minutes after bell time	7:00 PM	0%	0%	51	0	0	6:30 PM	1%	0%	49	0	0	6:30 PM	1%	0%	49	1	0
210 - 225 minutes after bell time	7:15 PM	0%	0%	52	0	0	6:45 PM	5%	0%	50	1	0	6:45 PM	5%	0%	50	5	0
225 - 240 minutes after bell time	7:30 PM	0%	0%	53	0	0	7:00 PM	0%	0%	51	0	0	7:00 PM	0%	0%	51	0	0
240 - 255 minutes after bell time	7:45 PM	0%	0%	54	0	0	7:15 PM	0%	0%	52	0	0	7:15 PM	0%	0%	52	0	0
255 - 270 minutes after bell time	8:00 PM	0%	0%	55	0	0	7:30 PM	0%	0%	53	0	0	7:30 PM	0%	0%	53	0	0
		100%	100%		200	200		100%	100%					100%	100%			
% Arriving During PM Peak Hour		63%	63%					22%	18%					22%	18%			
		5%	11%					9%	23%					5%	11%			

SECOND DRAFT

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Visitor Transportation Demand

Visitor Population

Population Breakdown

Visitors	26
Total	26

School Day

School Start time	9:00 AM	11
School End time	3:45 PM	38

Visitor Mode Split

Drive and Park	81.0%	21
Drop-off (Alone)	0.0%	0
Public Transportation	3.0%	1
Walk	12.0%	3
Bike	2.0%	1
Other	2.0%	1
	100.0%	26

Average number of people in car	1
Number of vehicles	21

Distribution of Arrivals/Departures

	Time	IB	OB	REF	IB	OB
105 - 120 minutes before bell time	7:00 AM	0%	0%	3	0	0
90 - 105 minutes before bell time	7:15 AM	0%	0%	4	0	0
75 - 90 minutes before bell time	7:30 AM	4%	0%	5	1	0
60 - 75 minutes before bell time	7:45 AM	0%	0%	6	0	0
45 - 60 minues before bell time	8:00 AM	0%	0%	7	0	0
30 - 45 minutes before bell time	8:15 AM	4%	0%	8	1	0
15 - 30 minutes before bell time	8:30 AM	4%	0%	9	1	0
0 - 15 minutes before bell time	8:45 AM	4%	0%	10	1	0
0 - 15 minutes after bell time	9:00 AM	8%	0%	11	2	0
15 - 30 minutes after bell time	9:15 AM	0%	0%	12	0	0
30 - 45 minutes after bell time	9:30 AM	2%	3%	13	0	1
	9:45 AM	5%	4%	14	1	1
	10:00 AM	0%	0%	15	0	0
	10:15 AM	4%	4%	16	1	1
	10:30 AM	0%	4%	17	0	1
	10:45 AM	4%	0%	18	1	0
	11:00 AM	0%	0%	19	0	0
	11:15 AM	4%	3%	20	1	1
	11:30 AM	2%	4%	21	0	1
	11:45 AM	2%	0%	22	0	0
	12:00 PM	0%	0%	23	0	0
	12:15 PM	5%	0%	24	1	0
	12:30 PM	6%	3%	25	1	1
	12:45 PM	5%	0%	26	1	0
	1:00 PM	0%	0%	27	0	0
	1:15 PM	6%	7%	28	1	1
	1:30 PM	0%	3%	29	0	1
	1:45 PM	0%	0%	30	0	0
	2:00 PM	4%	0%	31	1	0
	2:15 PM	4%	0%	32	1	0
	2:30 PM	4%	4%	33	1	1
	2:45 PM	0%	4%	34	0	1
30 - 45 minutes before bell time	3:00 PM	0%	0%	35	0	0
15 - 30 minutes before bell time	3:15 PM	6%	7%	36	1	1
0 - 15 minutes before bell time	3:30 PM	6%	0%	37	1	0
0 - 15 minutes after bell time	3:45 PM	4%	0%	38	1	0
15 - 30 minutes after bell time	4:00 PM	3%	7%	39	1	1
30 - 45 minutes after bell time	4:15 PM	0%	16%	40	0	3
45 - 60 minutes after bell time	4:30 PM	0%	10%	41	0	2
60 - 75 minutes after bell time	4:45 PM	0%	7%	42	0	1
75 - 90 minutes after bell time	5:00 PM	0%	5%	43	0	1
90 - 105 minutes after bell time	5:15 PM	0%	5%	44	0	1
105 - 120 minutes after bell time	5:30 PM	0%	0%	45	0	0
120 - 135 minutes after bell time	5:45 PM	0%	0%	46	0	0
135 - 150 minutes after bell time	6:00 PM	0%	0%	47	0	0
150 - 165 minutes after bell time	6:15 PM	0%	0%	48	0	0
165 - 180 minutes after bell time	6:30 PM	0%	0%	49	0	0
180 - 195 minutes after bell time	6:45 PM	0%	0%	50	0	0
195 - 210 minutes after bell time	7:00 PM	0%	0%	51	0	0
210 - 225 minutes after bell time	7:15 PM	0%	0%	52	0	0
225 - 240 minutes after bell time	7:30 PM	0%	0%	53	0	0
240 - 255 minutes after bell time	7:45 PM	0%	0%	54	0	0
255 - 270 minutes after bell time	8:00 PM	0%	0%	55	0	0
		100%	100%			

SECOND DRAFT

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Metrics	ES at Reed		18th Street Lot		NW Lot	
School Profile						
Jurisdiction	Arlington, VA		Arlington, VA		Arlington, VA	
School Type	Public School		Public School		Public School	
	Elementary		PK2-K		PK0-PK4	
Proximity to Metro (miles)	1		1		1	
Bus Stops Within 1/4 mile	10					
Student Population						
Total Students	732					
Population Breakdown (Day Students)						
PK0						
PK1						
PK2						
PK3						
PK4						
K	122					
1	122					
2	122					
3	122					
4	122					
5	122					
6						
7						
8						
Total	732		0		0	
4% Abesnteeism	703					
Residence						
D.C.						
Virginia	100.0%		100.0%		100.0%	
Maryland						
	100.0%		100.0%		100.0%	
Student Transportation Demand						
School Day						
Before Care Start Time	-	REF	-	REF	-	REF
School Start Time	9:00 AM	11	8:15 AM	8	8:15 AM	8
School End time	3:45 PM	38	3:15 PM	36	3:15 PM	36
After Care/Activities End Time	-					

SECOND DRAFT

AM Mode Split (based on Student Tally)	% of Students	# of Students	% of Students	# of Students	% of Students	# of Students
Drive and Park	0%	0	0%	0	0%	0
Drive in Drop-Off	43%	302	0%	0	0%	0
Passenger in Car that Parks	0%	0	0%	0	0%	0
Public Transportation	0%	0	0%	0	0%	0
Walk	19%	134	0%	0	0%	0
Bike	2%	14	0%	0	0%	0
School Bus	36%	253	0%	0	0%	0
	100.0%	703	0.0%	0	0.0%	0
Average number of students in drop-off veh	1.2					
Number of vehicles	252		109	*based on actual counts	57	*based on actual counts
	PU/DO	Park	IB	OB	IB	OB
	252	0	58	51	49	8

Arrival	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB
75 - 90 minutes before bell time	7:30 AM	0%	0%	5	0	0	6:45 AM	5%	0%	2	0	0	6:45 AM	5%	0%	2	5	0
60 - 75 minutes before bell time	7:45 AM	3%	3%	6	8	8	7:00 AM	10%	7%	3	9	4	7:00 AM	10%	7%	3	2	0
45 - 60 minues before bell time	8:00 AM	7%	7%	7	18	18	7:15 AM	14%	8%	4	6	5	7:15 AM	14%	8%	4	9	0
30 - 45 minutes before bell time	8:15 AM	10%	10%	8	25	25	7:30 AM	10%	15%	5	5	9	7:30 AM	10%	15%	5	6	0
15 - 30 minutes before bell time	8:30 AM	35%	35%	9	88	88	7:45 AM	14%	10%	6	8	5	7:45 AM	14%	10%	6	7	1
0 - 15 minutes before bell time	8:45 AM	39%	39%	10	98	98	8:00 AM	13%	15%	7	9	7	8:00 AM	13%	15%	7	4	2
0 - 15 minutes after bell time	9:00 AM	5%	5%	11	13	13	8:15 AM	10%	15%	8	3	7	8:15 AM	10%	15%	8	8	2
15 - 30 minutes after bell time	9:15 AM	1%	1%	12	3	3	8:30 AM	10%	7%	9	8	3	8:30 AM	10%	7%	9	3	1
30 - 45 minutes after bell time	9:30 AM	0%	0%	13	0	0	8:45 AM	14%	23%	10	10	11	8:45 AM	14%	23%	10	5	2
		100%	100%		253	253		100%	100%					100%	100%			
		91%	91%					51%	48%					51%	48%			

PM Mode Split (Based on Student Tally)	% of Students	# of Students	% of Students	# of Students	% of Students	# of Students
Drive and Park	0%	0	0%	0	0%	0
Drive in Drop-Off	43%	315	0%	0	0%	0
Passenger in Car that Parks	0%	0	0%	0	0%	0
Public Transportation	0%	0	0%	0	0%	0
Walk	19%	139	0%	0	0%	0
Bike	2%	15	0%	0	0%	0
School Bus	36%	264	0%	0	0%	0
	100.0%	732	0.0%	0	0.0%	0
Average number of students in drop-off veh	1.2					
Number of vehicles	262		224	*based on actual counts	71	*based on actual counts
	PU/DO	Park	IB	OB	IB	OB
	262	0	98	126	20	51

Departure	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB	Time	IB	OB	REF	IB	OB
30 - 45 minutes before bell time	3:00 PM	1%	0%	35	3	0	2:30 PM	4%	6%	33	4	9	2:30 PM	4%	6%	33	1	1
15 - 30 minutes before bell time	3:15 PM	8%	4%	36	21	10	2:45 PM	1%	6%	34	1	4	2:45 PM	1%	6%	34	0	6
0 - 15 minutes before bell time	3:30 PM	30%	5%	37	79	13	3:00 PM	3%	1%	35	4	1	3:00 PM	3%	1%	35	0	1
0 - 15 minutes after bell time	3:45 PM	22%	30%	38	58	79	3:15 PM	4%	4%	36	4	6	3:15 PM	4%	4%	36	1	1
15 - 30 minutes after bell time	4:00 PM	6%	22%	39	16	58	3:30 PM	4%	6%	37	3	7	3:30 PM	4%	6%	37	2	3
30 - 45 minutes after bell time	4:15 PM	5%	6%	40	13	16	3:45 PM	11%	7%	38	11	4	3:45 PM	11%	7%	38	2	9
45 - 60 minutes after bell time	4:30 PM	2%	5%	41	5	13	4:00 PM	10%	7%	39	9	9	4:00 PM	10%	7%	39	2	6
60 - 75 minutes after bell time	4:45 PM	2%	2%	42	5	5	4:15 PM	7%	6%	40	7	8	4:15 PM	7%	6%	40	1	2
75 - 90 minutes after bell time	5:00 PM	2%	2%	43	5	5	4:30 PM	14%	8%	41	15	11	4:30 PM	14%	8%	41	1	3
90 - 105 minutes after bell time	5:15 PM	5%	2%	44	13	5	4:45 PM	7%	9%	42	7	13	4:45 PM	7%	9%	42	1	3
105 - 120 minutes after bell time	5:30 PM	6%	5%	45	16	13	5:00 PM	14%	11%	43	14	13	5:00 PM	14%	11%	43	3	6
120 - 135 minutes after bell time	5:45 PM	6%	6%	46	16	16	5:15 PM	6%	6%	44	7	9	5:15 PM	6%	6%	44	0	2
135 - 150 minutes after bell time	6:00 PM	5%	6%	47	13	16	5:30 PM	8%	11%	45	10	17	5:30 PM	8%	11%	45	0	2
150 - 165 minutes after bell time	6:15 PM	0%	5%	48	0	13	5:45 PM	0%	6%	46	0	9	5:45 PM	0%	6%	46	0	1
165 - 180 minutes after bell time	6:30 PM	0%	0%	49	0	0	6:00 PM	1%	6%	47	1	6	6:00 PM	1%	6%	47	0	5
180 - 195 minutes after bell time	6:45 PM	0%	0%	50	0	0	6:15 PM	0%	0%	48	0	0	6:15 PM	0%	0%	48	0	0
195 - 210 minutes after bell time	7:00 PM	0%	0%	51	0	0	6:30 PM	1%	0%	49	0	0	6:30 PM	1%	0%	49	1	0
210 - 225 minutes after bell time	7:15 PM	0%	0%	52	0	0	6:45 PM	5%	0%	50	1	0	6:45 PM	5%	0%	50	5	0
225 - 240 minutes after bell time	7:30 PM	0%	0%	53	0	0	7:00 PM	0%	0%	51	0	0	7:00 PM	0%	0%	51	0	0
240 - 255 minutes after bell time	7:45 PM	0%	0%	54	0	0	7:15 PM	0%	0%	52	0	0	7:15 PM	0%	0%	52	0	0
255 - 270 minutes after bell time	8:00 PM	0%	0%	55	0	0	7:30 PM	0%	0%	53	0	0	7:30 PM	0%	0%	53	0	0
		100%	100%		263	262		100%	100%					100%	100%			
% Arriving During PM Peak Hour		63%	63%					22%	18%					22%	18%			
		5%	11%					9%	23%					5%	11%			

SECOND DRAFT

| | | |

Visitor Transportation Demand

Visitor Population

Population Breakdown

Visitors	26
Total	26

School Day

School Start time	9:00 AM	11
School End time	3:45 PM	38

Visitor Mode Split

Drive and Park	86.0%	22
Drop-off (Alone)	0.0%	0
Public Transportation	3.0%	1
Walk	7.0%	2
Bike	2.0%	1
Other	2.0%	1
	100.0%	26

Average number of people in car	1
Number of vehicles	22

Distribution of Arrivals/Departures

	Time	IB	OB	REF	IB	OB
105 - 120 minutes before bell time	7:00 AM	0%	0%	3	0	0
90 - 105 minutes before bell time	7:15 AM	0%	0%	4	0	0
75 - 90 minutes before bell time	7:30 AM	4%	0%	5	1	0
60 - 75 minutes before bell time	7:45 AM	0%	0%	6	0	0
45 - 60 minues before bell time	8:00 AM	0%	0%	7	0	0
30 - 45 minutes before bell time	8:15 AM	4%	0%	8	1	0
15 - 30 minutes before bell time	8:30 AM	4%	0%	9	1	0
0 - 15 minutes before bell time	8:45 AM	4%	0%	10	1	0
0 - 15 minutes after bell time	9:00 AM	8%	0%	11	2	0
15 - 30 minutes after bell time	9:15 AM	0%	0%	12	0	0
30 - 45 minutes after bell time	9:30 AM	2%	3%	13	0	1
	9:45 AM	5%	4%	14	1	1
	10:00 AM	0%	0%	15	0	0
	10:15 AM	4%	4%	16	1	1
	10:30 AM	0%	4%	17	0	1
	10:45 AM	4%	0%	18	1	0
	11:00 AM	0%	0%	19	0	0
	11:15 AM	4%	3%	20	1	1
	11:30 AM	2%	4%	21	0	1
	11:45 AM	2%	0%	22	0	0
	12:00 PM	0%	0%	23	0	0
	12:15 PM	5%	0%	24	1	0
	12:30 PM	6%	3%	25	1	1
	12:45 PM	5%	0%	26	1	0
	1:00 PM	0%	0%	27	0	0
	1:15 PM	6%	7%	28	1	2
	1:30 PM	0%	3%	29	0	1
	1:45 PM	0%	0%	30	0	0
	2:00 PM	4%	0%	31	1	0
	2:15 PM	4%	0%	32	1	0
	2:30 PM	4%	4%	33	1	1
	2:45 PM	0%	4%	34	0	1
30 - 45 minutes before bell time	3:00 PM	0%	0%	35	0	0
15 - 30 minutes before bell time	3:15 PM	6%	7%	36	1	2
0 - 15 minutes before bell time	3:30 PM	6%	0%	37	1	0
0 - 15 minutes after bell time	3:45 PM	4%	0%	38	1	0
15 - 30 minutes after bell time	4:00 PM	3%	7%	39	1	2
30 - 45 minutes after bell time	4:15 PM	0%	16%	40	0	4
45 - 60 minutes after bell time	4:30 PM	0%	10%	41	0	2
60 - 75 minutes after bell time	4:45 PM	0%	7%	42	0	2
75 - 90 minutes after bell time	5:00 PM	0%	5%	43	0	1
90 - 105 minutes after bell time	5:15 PM	0%	5%	44	0	1
105 - 120 minutes after bell time	5:30 PM	0%	0%	45	0	0
120 - 135 minutes after bell time	5:45 PM	0%	0%	46	0	0
135 - 150 minutes after bell time	6:00 PM	0%	0%	47	0	0
150 - 165 minutes after bell time	6:15 PM	0%	0%	48	0	0
165 - 180 minutes after bell time	6:30 PM	0%	0%	49	0	0
180 - 195 minutes after bell time	6:45 PM	0%	0%	50	0	0
195 - 210 minutes after bell time	7:00 PM	0%	0%	51	0	0
210 - 225 minutes after bell time	7:15 PM	0%	0%	52	0	0
225 - 240 minutes after bell time	7:30 PM	0%	0%	53	0	0
240 - 255 minutes after bell time	7:45 PM	0%	0%	54	0	0
255 - 270 minutes after bell time	8:00 PM	0%	0%	55	0	0
		100%	100%			

SECOND DRAFT

% IB/OB During AM Peak Hour		12%	0%
% IB/OB During PM Peak Hour		3%	40%
Parking			
Parking Spaces			
Student	0		
Employee/Staff	22		
Visitor			
Total Required	**22**		
Provided			
Difference	***-22***		
Queuing Needs (projected)			
High Projection			
feet/student enrolled	3.8		
feet/student driven	4.5		
vehicles/student driven	0.23		
feet/vehicle driven	6.33		
Low Projection			
feet/student enrolled			
feet/student driven	2.0		
vehicles/student driven			
feet/vehicle driven	2.70		
Average Projection			
feet/student enrolled			
feet/student driven	3.2		
vehicles/student driven			
feet/vehicle driven	4.48		
Queuing Demand (High)			
vehicles	80		
feet	1595		
Queuing Demand (Low)			
vehicles	34		
feet	680		
Queuing Demand (Average)			
vehicles	56		
feet	1128		
Queuing Supply			
	0		

SECOND DRAFT