EXISTING CONDITIONS ANALYSIS

ARLINGTON CAREER CENTER

ARLINGTON, VA

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EXECUTIVE SUMMARY

This report is an Existing Conditions Analysis of the Arlington Career Center (ACC) site. The ACC campus is home to several buildings and programs, including Arlington Tech high school, the Columbia Pike Branch Library, Patrick Henry Elementary School, Arlington Community High School, and other services and programs. Figure 1 shows the location of the ACC site.

The potential future uses of the ACC site are currently being reviewed by the Career Center Working Group (CCWG). The purpose of this Existing Conditions Analysis is to present transportation information regarding the ACC site to the CCWG, to help with their task.

This report found the following:

Study Area

- The site is surrounded by an extensive regional and local transportation system that connects 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 four 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.

Site Observations

- The main ACC parking lot gets effectively fully occupied in the afternoon, at 95% full at 2:30 PM. The lot stays above 87% full between 10:30 AM and 3:00 PM. The reservations/restrictions on spaces make the lot effectively full at around 90% capacity.
- Student arrival drop-offs and dismissal pick-ups occur in several spaces, not only the designated curbside on S Highland Street. This does not seem to have a negative impact as the dispersal of demand helps eliminate potential congestion spots and/or bottlenecks.
- Some drivers picking up students in the afternoon park and wait in the surface lot, which creates a greater shortage of parking during this time.

Mode splits

- Patrick Henry ES students have a higher walk percentage than the average Arlington Public Schools (APS) elementary school student.
- Students in grades 9 and 10 at the site use transit and bicycle to get to school more than the APS average.
- Based on surveys of grade 11 and 12 students, students in grades 11 and 12 at the site take the school bus in the morning much less than the average APS grade 11 and 12 student, while the number of students getting dropped-off is much higher. In the afternoon, many more students take the school bus, with the amount of driving or getting pick-up decreasing closer to average APS levels for grades 11 and 12.
- The number of students that drive themselves to school in grades 11 and 12 on site is not significantly different from the APS average for the ACC site.

Traffic Operations

- All study area intersections operate at acceptable conditions with one exception, the eastbound and westbound approaches of Intersection 8 (S Walter Reed Drive to 9th Street S). This is typical on side streets along commuting corridors where the minor approaches experience long delays as drivers wait for gaps in S Walter Reed Drive traffic.

Parking

- Parking demand within and adjacent to the ACC site peaks at 2:00 PM, with 73% of the available parking spaces within the study area occupied.
- The main parking lot on-site peaks at 95% occupancy at 2:30 PM. It sustains a high level of occupancy between the hours of 10:30 AM and 3:00 PM.
- Residential curbside parking that is restricted peaks at night and early morning at around 70% occupied, with demand lowering to 40-50% in the middle of the weekday.
- Unrestricted parking near the ACC site peaks in the early afternoon, at 1:30/2:00 PM (around the same time the main surface lot at the ACC peaks).
- The 2-hour meters south of the ACC site peak during the evening, coinciding with retail parking demand.
- The 12-hour meters near the ACC site have low occupancy, peaking at only 16% in use at 12:30 PM.

INTRODUCTION

This report is an Existing Conditions Analysis of the Arlington Career Center (ACC) site. The ACC campus is home to several buildings and programs, including Arlington Tech high school, the Columbia Pike Branch Library, Patrick Henry Elementary School, Arlington Community High School, and other services and programs. Figure 1 shows the location of the ACC site.

The potential future uses of the ACC site are currently being reviewed by the Career Center Working Group (CCWG). The purpose of this Existing Conditions Analysis is to present transportation information regarding the ACC site to the CCWG, in order to help with their task.

STUDY TASKS

The following tasks were completed as part of this study:

- Field reconnaissance was performed at the ACC site to review lane configurations and traffic controls, make general parking observations, and view arrival and dismissal procedures at the schools.
- Traffic counts were conducted at 10 locations on Wednesday, May 23, 2018.
- APS Go! data for Arlington Public Schools (APS) facilities were reviewed.
- Parking counts (inventory and occupancy) were conducted in the area surrounding the ACC site on Wednesday, May 23, 2018.
- Capacity analyses for the existing conditions were performed.
- The analysis findings were documented in this report.

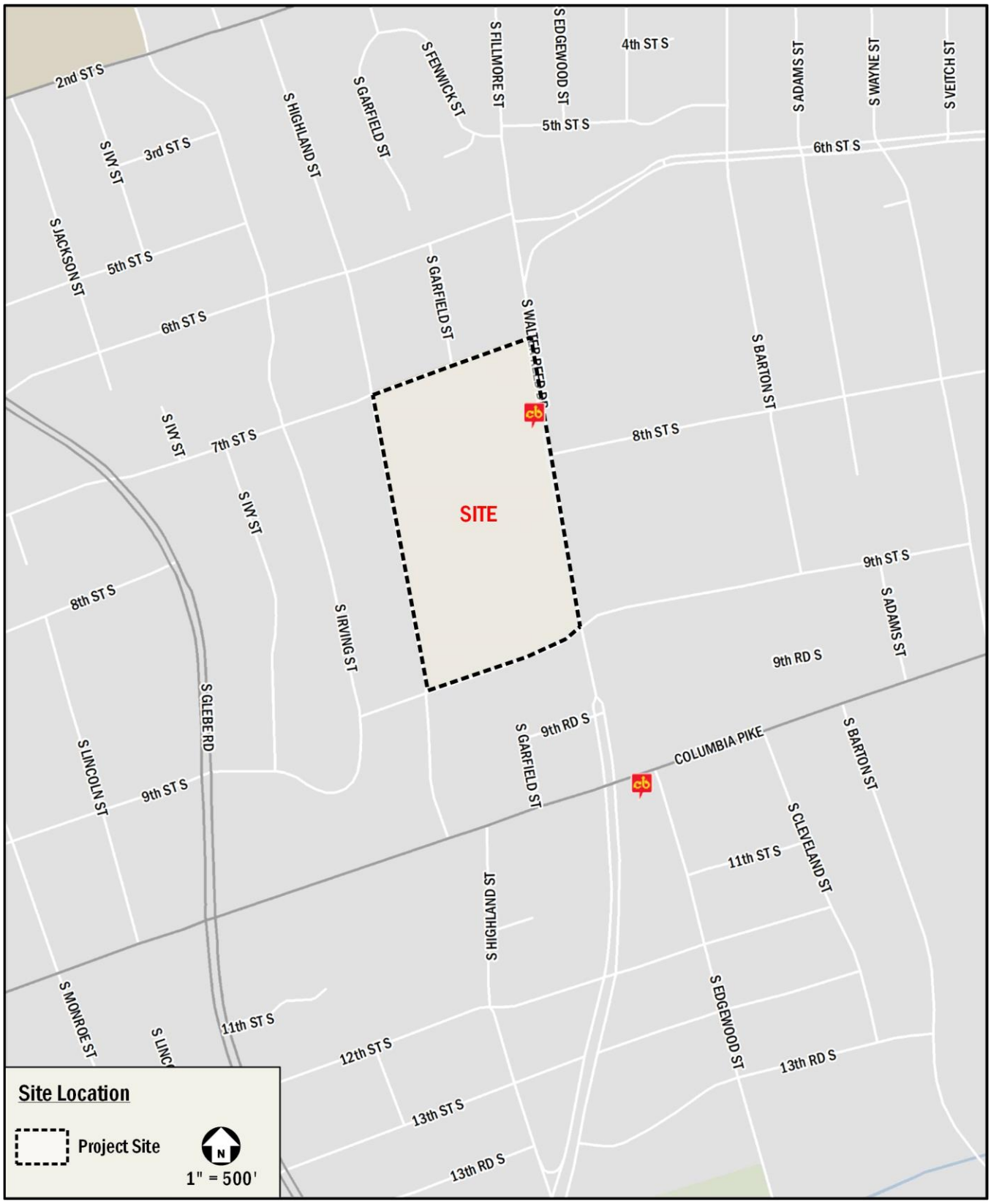

Figure 1: Site Location

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.

The following conclusions are reached within this chapter:

- The site is surrounded by an extensive regional and local transportation system that connects 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 several local and regional bus routes and four Metrorail lines via those 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

REGIONAL ACCESS

The Arlington Career Center (ACC) 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-395, US Highways such as US-50 (Arlington Boulevard), as well as State Routes such as SR-244 (Columbia Pike), 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 Columbia Pike and N Glebe Road.

The site is located 1.5 miles from the Virginia Square-GMU Station and Pentagon City Metrorail stations, which are served by the Orange and Silver lines and Blue and Yellow lines, respectively, and provide connection to areas in Virginia, the District, and Maryland that are near Metrorail. The site is also serviced by 12 major regional bus routes which connect to multiple Metrorail stations in Arlington County and Falls Church.

The site is located within 2.0 miles of the W&OD and Custis Trails. 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.

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.

LOCAL ACCESS

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. In the vicinity of the site, the majority of bus routes travel along Columbia Pike, as shown in Figure 4.

There are existing bicycle facilities that connect the site to neighborhoods within Arlington County, most notably bicycle lanes on S Walter Reed Drive and 6th Street S. Other facilities include bicycle-friendly roads that include signed routes on 9th Street S, S Highland Street, and 7th Street S.

As shown in Figure 2, the site is situated in a neighborhood that encompasses good walkscores, bikescores, and transitscores. 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-395.

Walkscore, Bikescore, and Transitscore

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions within neighborhoods of Arlington County.

Walkscore's methodology analyzes hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category. Amenities within a 5-minute walk (.25 miles) are given maximum points. Walk Score also measures pedestrian friendliness by analyzing population density and road metrics such as block length and intersection density. It does not incorporate details such as crosswalk or sidewalk quality.

Bikescore measures whether an area is good for biking. For a given location, a Bikescore is calculated by measuring bike infrastructure (lanes, trails, etc.), hills, destinations and road connectivity, and the number of bike commuters.

Transitscore is a measure of how well a location is served by public transit. Transitscore assigns a "usefulness" value to nearby transit routes based on the frequency, type of route (rail, bus, etc.), and distance to the nearest stop on the route. The "usefulness" of all nearby routes is summed and normalized to a score between 0 - 100.

Based on this website the planned development is located in the Arlington Heights neighborhood. The site location has a walk score of 72 (or “Very Walkable”), a bike score of 84 (or “Very Bikeable”), and a transit score of 58 (or “Good Transit”). Figure 2 shows the borders of the neighborhood in relation to the site location, displays a heat map for walkability and bikeability, and displays a map for how far public transit can travel in 30 minutes.

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 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.

The transit score was based on the proximity to multiple bus lines, and distance to the nearest Metrorail stop which is located 1.5 miles from the site.

Overall, the Arlington Heights neighborhood has high walk, transit, and bike scores.

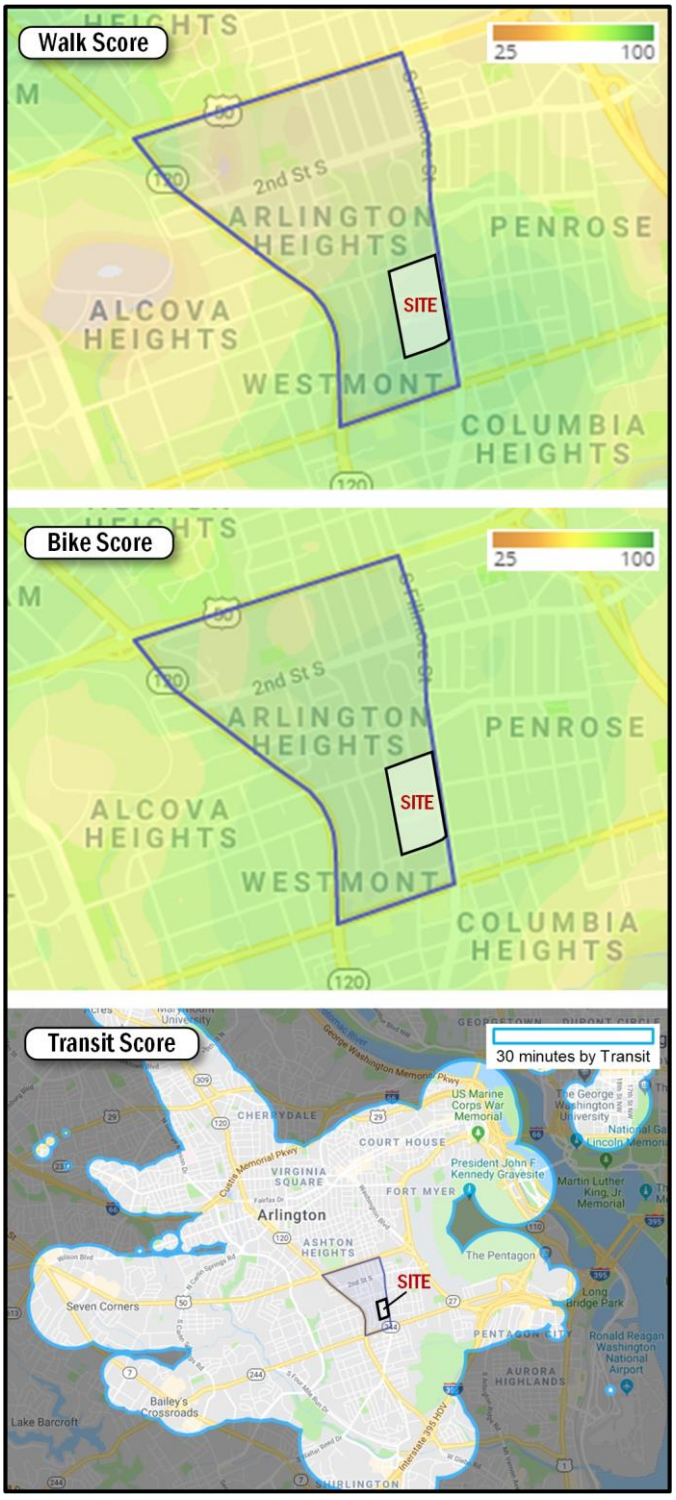

Figure 2: Walkscore, Bikescore, and Transitscore

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 two car-shares located on Columbia Pike within a half mile of the site.

Car-sharing is 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.

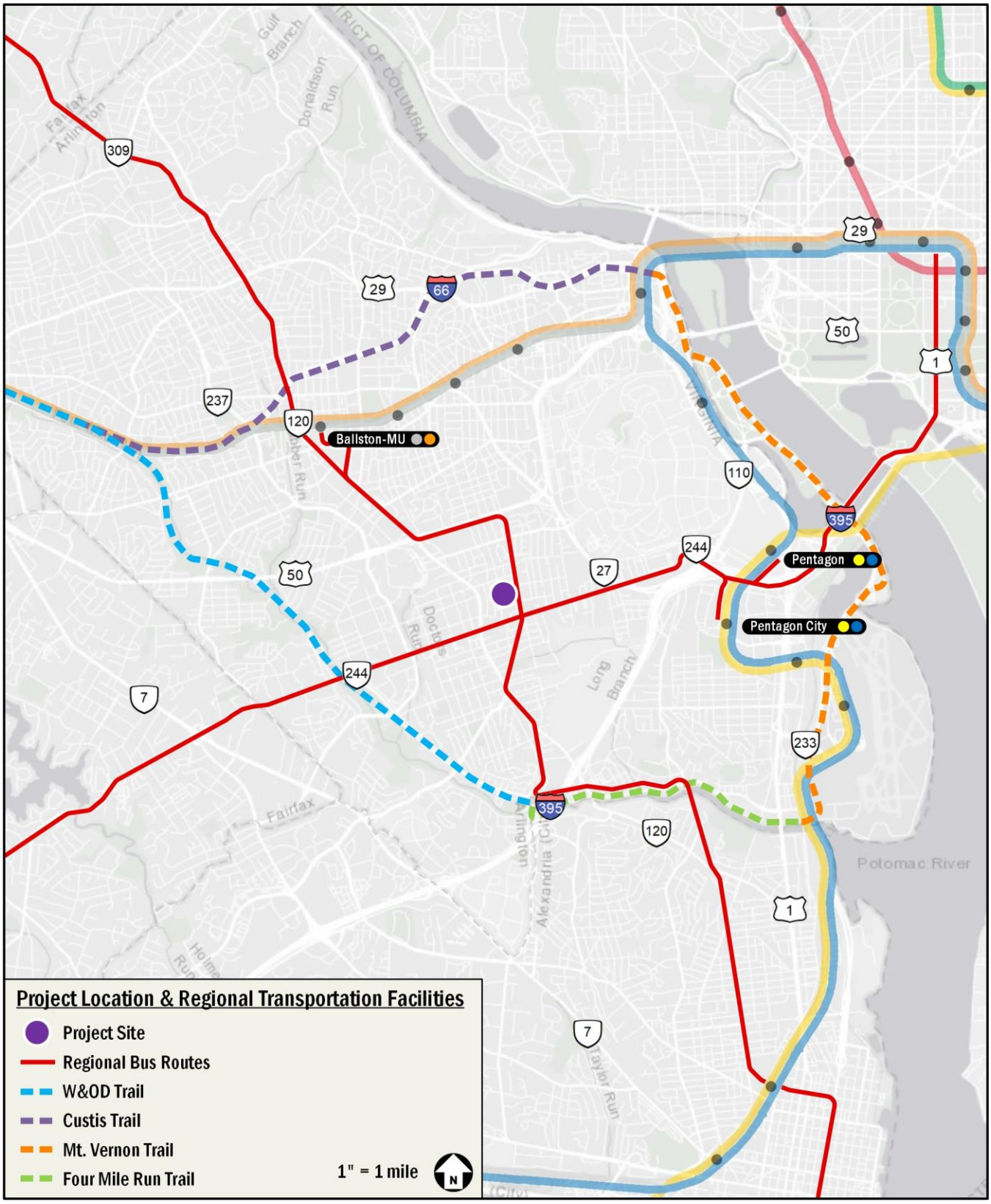

Figure 3: Major Regional Transportation Facilities

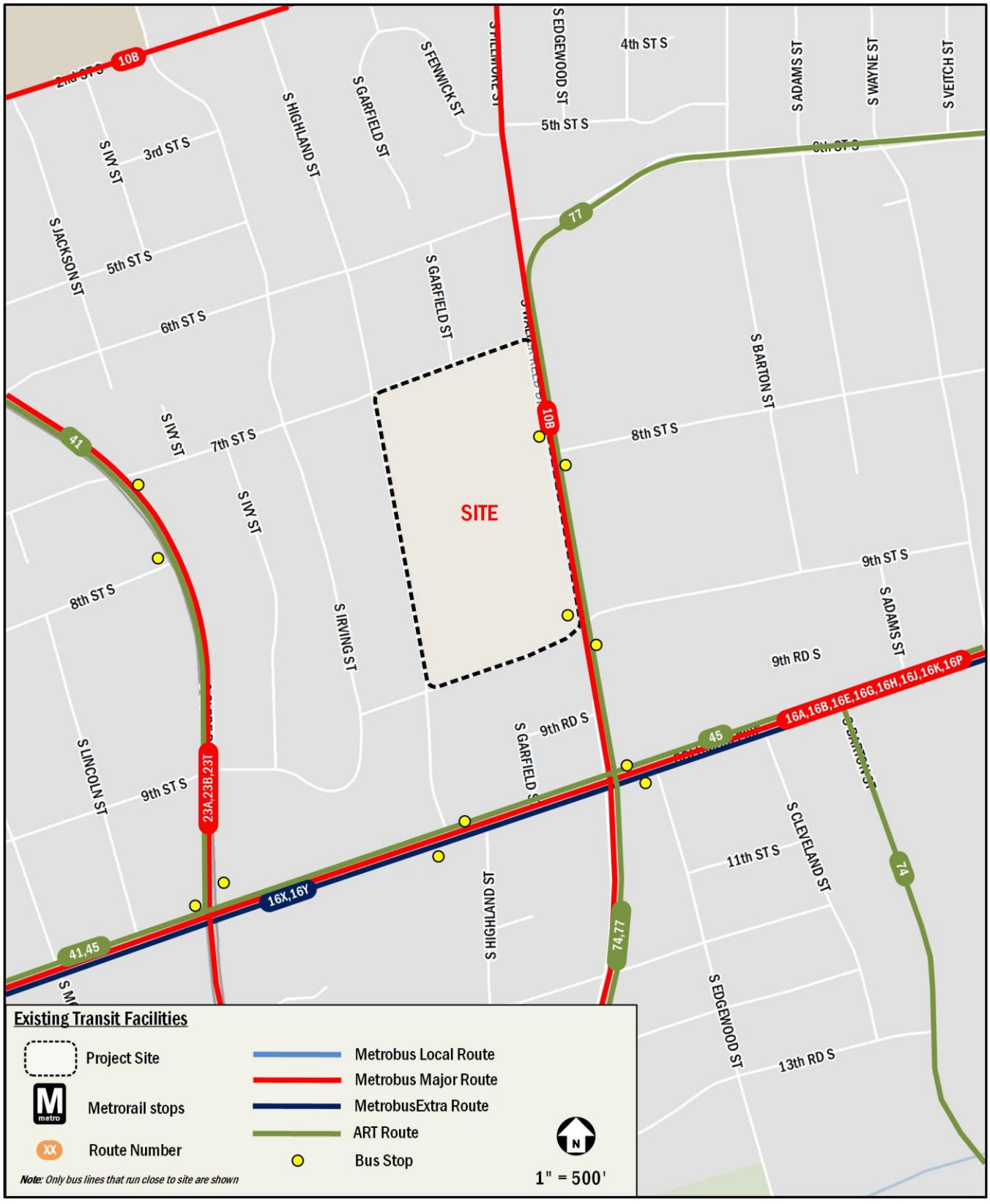

Figure 4: Existing Transit Facilities

SITE DESCRIPTION

This section provides a summary of the existing uses on the Arlington Career Center (ACC) campus, as well as summaries of mode split information for various users on the site.

EXISTING SITE

The ACC campus is home to several buildings and programs. The ACC itself, housed in the southernmost building on the campus, houses a Continuing Education Program (CTE), Arlington Tech high school, and several additional services. Attached to the ACC building is the Columbia Pike Branch Library, a public library. On the northern end of the site is Patrick Henry Elementary School. Between the ACC building and the elementary school is the Fenwick building, which houses the Arlington Community High School, and a surface parking lot that also contains bus loading/unloading areas for the high school and elementary school. The parking lot contains 234 delineated spaces, although sometimes vehicles were observed parking in unofficial, unmarked spaces. Figure 5 provides a quick overview of the site.

Site visits to the ACC campus show that outside of school arrival and dismissal times, the site does not generate a significant amount of traffic. During arrivals and dismissal times though, an increased number of cars both enter and exit the site and drive on surrounding roads. Parents (or guardians) dropping off students in the morning (and picking them up in the afternoon) unload students in several different places, spreading out this activity, and thus the traffic load. Designated curbside space exists for this activity along S Highland Street, but only a percentage of drop-offs and pick-ups occur in those spaces. Figure 6 shows photos of this activity occurring outside of the designated areas. Although this activity happens in several locations and not all in the designated area, it is not generating any issues, such as queuing that blocks other traffic or unsafe pedestrian crossings, based on observations during the site visits. Parents using alternative drop-off/pick-up locations were not observed creating congestion issues elsewhere, and the spreading out of traffic demand over several locations potentially decreases impact on S Highland Street.

During the site visits, the center parking lot was observed to become effectively full during the afternoon, between when the library opened at 10:00 AM and the schools dismissal around 3:00 PM. There are several parking types and restrictions in the lot (e.g. 2-hour parking or reserved parking for the school principal) that leads to the lot becoming effectively full at approximately 90% occupancy. Additionally, during the afternoon, drivers picking up students from the high school and elementary school were observed parking in the lot and waiting for those students. This creates a short time period where the lot is not only effectively full but also where drivers are double-parked and parked in unofficial spaces (e.g. within the flagpole circle).

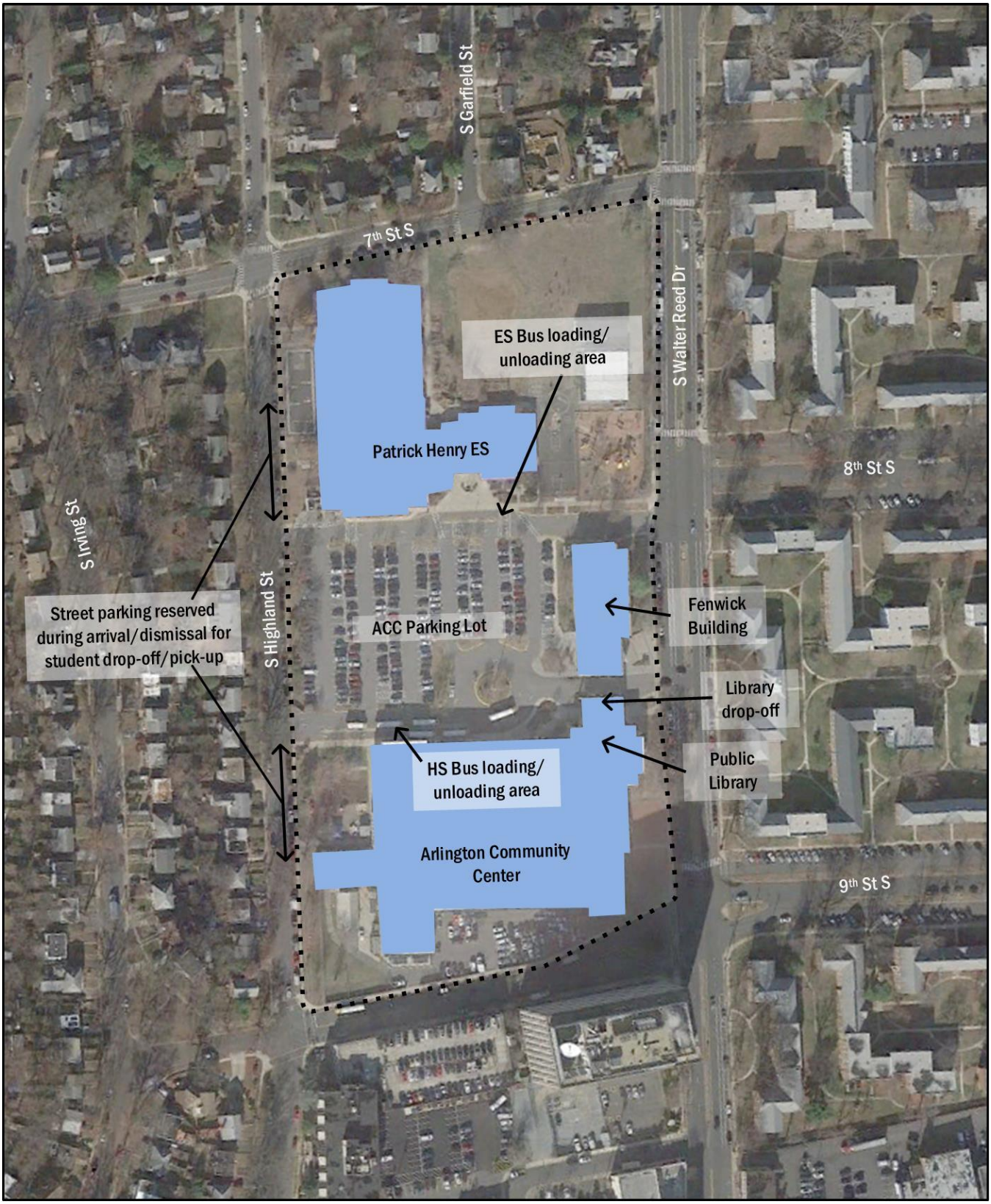

Figure 5: Existing ACC Site

Figure 6: Photos of Arrival/Dismissal

Existing Mode Split

The main source of mode split information for this report was APS Go! survey and Safe Routes to Schools (SRTS) student count/tally data collected in 2016. The APS Go! surveys included all Arlington Public Schools (APS) schools and consisted of multiple surveys including student, parent, 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 assumptions for this report (e.g. arrival and departure times for staff). The SRTS tallies were performed in school per classroom and provide a good representation of how students traveled to school on a specific date.

This report compares the overall mode split and specific ACC campus mode split for elementary school students, high school students, and employees. The purpose of these comparisons is to review differences between them to help identify what makes the ACC site different than the average APS facility.

Elementary School Students

Mode split comparisons for the elementary school students are shown in Table 1 and Table 2 below:

Table 1: ES Student Survey Results (Morning)

Population & Source	Morning Mode Split					
	Auto	Carpool	School Bus	Walk	Bike	Transit
All APS Schools						
Parent Survey	24%	2%	43%	27%	3%	1%
Student Tally	37%	2%	39%	21%	1%	<1%
All APS Elementary Schools						
Parent Survey	26%	<1%	44%	27%	2%	<1%
Student Tally	36%	2%	38%	21%	1%	<1%
Patrick Henry ES						
Parent Survey	23%	<1%	13%	50%	13%	<1%
Student Tally	43%	1%	20%	34%	2%	<1%

The elementary school surveys show that Patrick Henry has a significantly higher percentage of students that walk to school than the average APS elementary school, and correspondingly a much lower percentage that take a school bus. This is likely due to the density of homes surrounding the school combined with high quality pedestrian infrastructure, that places more students in a walkable distance from school on quality routes.

Table 2: ES Student Survey Results (Afternoon)

Population & Source	Afternoon Mode Split					
	Auto	Carpool	School Bus	Walk	Bike	Transit
All APS Schools						
Parent Survey	27%	1%	40%	28%	3%	1%
Student Tally	36%	3%	38%	22%	1%	<1%
All APS Elementary Schools						
Parent Survey	38%	<1%	35%	25%	2%	<1%
Student Tally	37%	2%	39%	21%	1%	<1%
Patrick Henry ES						
Parent Survey	23%	<1%	10%	57%	10%	<1%
Student Tally	38%	1%	23%	36%	2%	<1%

High School Students

The APS Go! data for high school students is split between grades 9 and 10, and grades 11 and 12. SRTS tallies were used for grades 9 and 10, while student surveys were used for grades 11 and 12 because of the possibility they may drive to school themselves.

Mode split comparisons for the grade 9 and 10 students are shown in Table 3 and Table 4 below:

Table 3: Grades 9 & 10 Survey Results (Morning)

Population	Morning Mode Split					
	Auto	Carpool	School Bus	Walk	Bike	Transit
All APS Grades 9 & 10 (Student Tally)						
	28%	4%	42%	20%	4%	2%
Career Center and Community HS Grades 9 & 10 (Student Tally)						
	16%	4%	43%	11%	7%	19%

Table 4: Grades 9 & 10 Survey Results (Afternoon)

Population	Afternoon Mode Split					
	Auto	Carpool	School Bus	Walk	Bike	Transit
All APS Grades 9 & 10 (Student Tally)						
	22%	3%	43%	26%	4%	2%
Career Center and Community HS Grades 9 & 10 (Student Tally)						
	15%	3%	47%	10%	7%	18%

These survey results show that students in grades 9 and 10 at the ACC site have several differences in travel mode compared to average grade 9 and 10 students. First, their use of transit is significantly higher, likely due to the quality options near the ACC and the large area that students are drawn from. Second, they have a slightly higher bicycle percentage, possibly due to the quality bicycle routes to and from the ACC site. The one mode that is slightly lower for grades 9 and 10 is the percentage that are dropped-off and picked-up by automobile.

Mode split comparisons for the grade 11 and 12 students are shown in Table 5 and Table 6 below:

Table 5: Grades 11 & 12 Survey Results (Morning)

Population	Morning Mode Split						
	Drove	Dropped-Off	Carpool	Walk	School Bus	Bike	Transit
All APS Grades 11 & 12 (Student Survey)	17%	21%	11%	15%	33%	2%	1%
Career Center Grades 11 & 12 (Student Survey)	13%	39%	17%	17%	9%	0%	4%

Table 6: Grades 11 & 12 Survey Results (Afternoon)

Population	Afternoon Mode Split						
	Drove	Picked-Off	Carpool	Walk	School Bus	Bike	Transit
All APS Grades 11 & 12 (Student Survey)	19%	14%	9%	20%	35%	2%	1%
Career Center Grades 11 & 12 (Student Survey)	22%	26%	0%	13%	39%	0%	0%

The mode splits for grades 11 and 12 show some significant difference from the average grade 11 and 12 student. Mainly, the percentage that take a school bus is lower than average in the morning, while the number of students getting dropped-off is much higher.

Additionally, the morning and afternoon mode splits vary greatly. Reviewing the survey results shows that this is because many students that are dropped-off or carpool in the morning use the school bus in the afternoon. This seems to be due to afterschool programs, or the schedules for pick-up/carpool not matching as they do in the morning.

APS Staff

A mode split comparison for APS staff is shown in Table 7 below:

Table 7: Staff Mode Split Survey Results

Population	Mode				
	Auto	Carpool	Walk	Bike	Transit
All APS Staff	85%	3%	4%	3%	5%
Patrick Henry ES Staff	79%	3%	7%	4%	7%
Career Center and Community HS Staff	85%	4%	4%	4%	3%

The mode splits for APS staff at the ACC site are similar to staff mode splits throughout APS. There is a slight increase in the amount of elementary school staff that take transit and walk compared to the APS average.

TRAFFIC OPERATIONS

This section provides a summary of the analysis of the existing roadway capacity in the study area.

The purpose of the capacity analysis is to:

- Determine the existing capacity of the study area roadways
- Identify potential areas of concern regarding future growth on the Arlington Career Center (ACC) site

The following conclusions are reached within this chapter:

- All study area intersections operate at acceptable conditions with one exception, the eastbound and westbound approaches of Intersection 8 (S Walter Reed Drive to 9th Street S). This is a typical for side streets along commuting corridors where traffic on minor approaches experience long delays as drivers wait for gaps in S Walter Reed Drive traffic.

STUDY AREA, SCOPE, & METHODOLOGY

This section outlines the assumptions used to develop the existing capacity analyses, including volumes, roadway geometries and traffic operations. The general methodology of the analysis follows national and County guidelines on the preparation of transportation impact evaluations of site development.

Study Area

The study area is a list of intersections where a detailed capacity analysis was performed. They represent the intersections most likely to have potential impacts or require changes to traffic operations to accommodate a proposed project. The following intersections were included:

1. S Highland Street/7th Street S
2. S Walter Reed Drive/7th Street S
3. S Highland Street/8th Street S
4. S Walter Reed Drive/8th Street S
5. S Highland Street/West Site Driveway
6. S Walter Reed Drive/East Site Driveway
7. S Highland Street/9th Street S
8. S Walter Reed Drive/9th Street S
9. Columbia Pike/S Highland Street

S Walter Reed Drive/Columbia Pike

Figure 7 shows a map of the study area intersections.

Existing Traffic Volumes

The existing traffic volumes are comprised of turning movement count data, which were collected on Wednesday, May 23, 2018. The results of the traffic counts are included in the Technical Appendix.

For the AM and PM peak hours, the system peak of the study area intersections was used. This was 7:45 AM to 8:45 AM for the AM peak, and 5:00 PM to 6:00 PM in the PM peak. The existing peak hour traffic volumes are shown on Figure 8.

Figure 7: Study Area Intersections

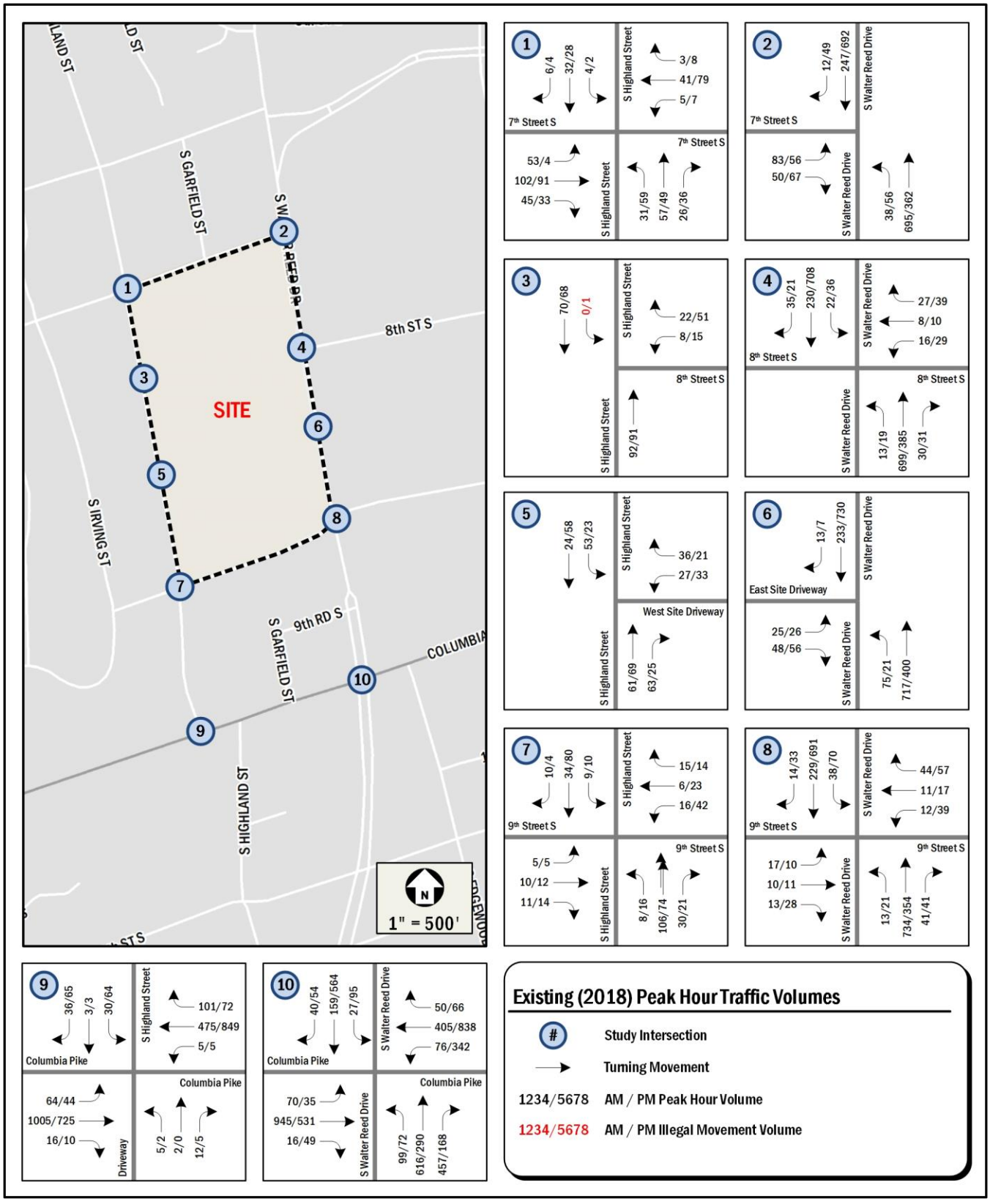

Figure 8: Existing Peak Hour Volumes

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.

Some intersections within the study area have atypical geometry. For these intersections, Gorove/Slade assumed the closest lane configuration that could be represented in the analysis software. For example, the westbound approach of 8th Street S to S Walter Reed Drive has adjacent parking lanes and complicate the intersection. For purposes of the analysis, this was simplified to a single lane approach.

Traffic signal timings were provided by County staff and double-checked in the field. Figure 9 shows the existing lane configurations.

Vehicular Analysis Results

Intersection Capacity Analysis

Intersection capacity analyses were performed for the existing condition scenario 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 County; 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.

The results show that all study area intersections operate at acceptable conditions with one exception, the eastbound and westbound approaches of Intersection 8 (S Walter Reed Drive to 9th Street S). This is a typical on side streets along commuting corridors, with traffic experiencing long delays as drivers wait for gaps in S Walter Reed Drive traffic.

Table 8 shows the results of the capacity analyses. Detailed LOS descriptions and the analysis worksheets are contained in the Technical Appendix

Queuing Analysis

In addition to the capacity analyses presented above, queuing analyses were 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 calculations. HCM 2000 does not calculate queuing for all-way stops.

Table 9 shows the results of the queuing analysis. The queuing analyses show that most intersections have acceptable queuing results, with all queues shorter than the available storage lengths. Exceptions include the AM northbound through and PM southbound through-right of Intersection 2 (S Walter Reed Drive to 7th Street S) and AM eastbound through-right, AM northbound through, PM southbound left, and PM southbound through-right of Intersection 10 (S Walter Reed Drive to Columbia Pike). These lane groups experience queues longer than available storage lengths. This is a typical condition along commuter corridors, all queues shown in the existing conditions match commuting patterns (along commuting corridors, or on side streets approaching commuting corridors).

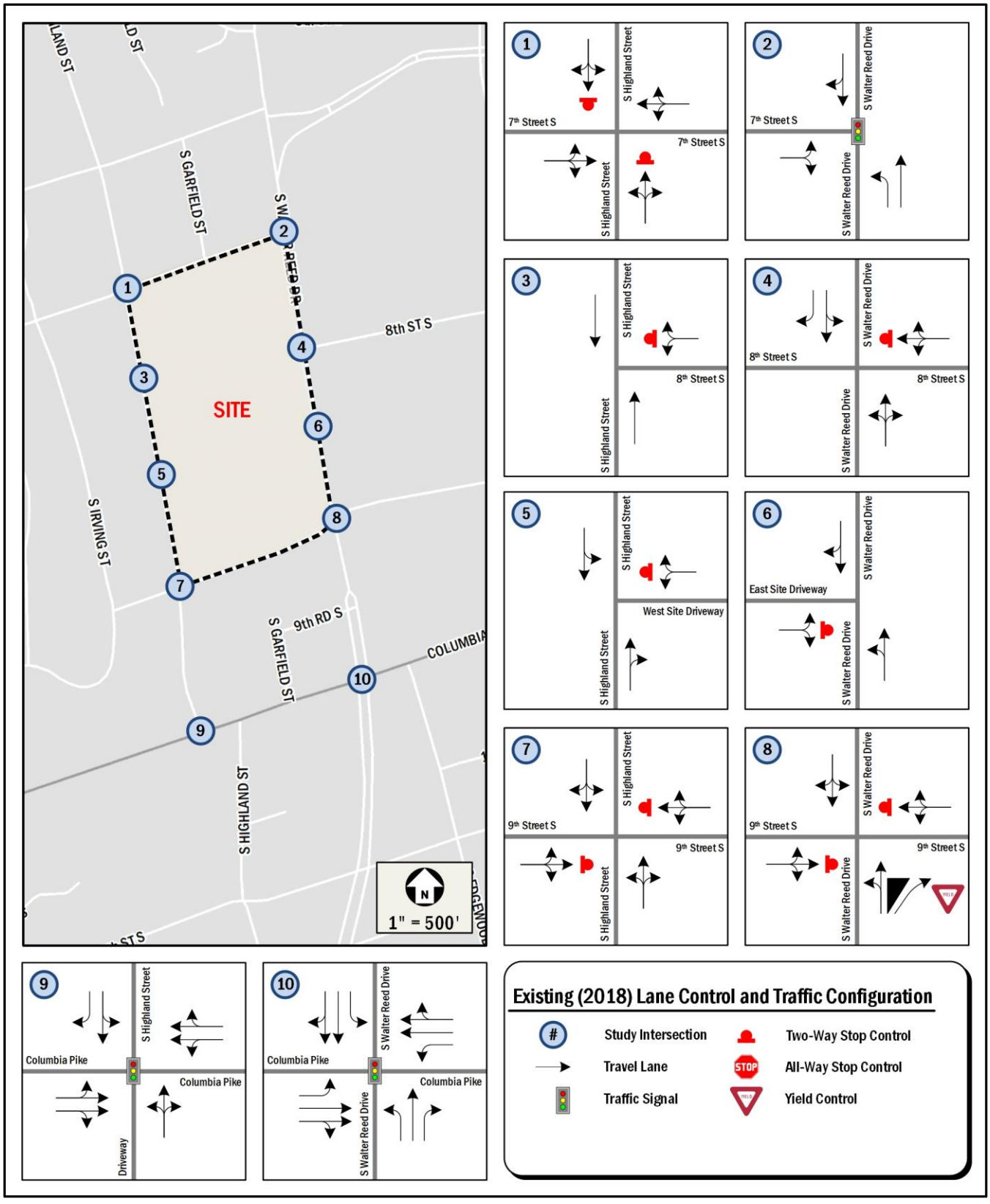

Figure 9: Existing Lane Configurations

Table 8: Capacity Analysis Results

	Intersection	Approach	Existing (2018)			
			AM Peak Hour		*PM Peak Hour*	
			Delay	LOS	Delay	LOS
1.	**S Highland Street & 7th Street S**	Eastbound	2.3	A	0.3	A
		Westbound	0.8	A	0.6	A
		Northbound	14.5	B	12.5	B
		Southbound	13.2	B	11.2	B
2.	**S Walter Reed Drive & 7th Street S**	**Overall**	**11.8**	**B**	**9.7**	**A**
		Eastbound	25.8	C	25.7	C
		Northbound	11.2	B	4.2	A
		Southbound	6.1	A	10.1	B
3.	**S Highland Street & 8th Street S**	Westbound	9.4	A	9.5	A
		Northbound	0.0	A	0.0	A
		Southbound	0.0	A	0.1	A
4.	**S Walter Reed Drive & 8th Street S**	Westbound	27.4	D	29.1	D
		Northbound	0.3	A	0.8	A
		Southbound LT	1.3	A	0.9	A
5.	**S Highland Street & West Site Driveway**	Westbound	10.1	B	9.9	A
		Northbound	0.0	A	0.0	A
		Southbound	5.5	A	2.2	A
6.	**S Walter Reed Drive & East Site Driveway**	Eastbound	27.1	D	26.5	D
		Northbound	1.9	A	1.1	A
		Southbound	0.0	A	0.0	A
7.	**S Highland Street & 9th Street S**	Eastbound	10.4	B	10.3	B
		Westbound	11.0	B	11.5	B
		Northbound	0.4	A	1.1	A
		Southbound	1.4	A	0.9	A
8.	**S Walter Reed Drive & 9th Street S**	Eastbound	54.5	F	27.6	D
		Westbound	34.5	D	38.1	E
		Northbound	0.3	A	0.9	A
		Southbound	2.1	A	1.7	A
9.	**Columbia Pike & S Highland Street**	**Overall**	**7.8**	**A**	**14.2**	**B**
		Eastbound	6.4	A	6.8	A
		Westbound	3.7	A	14.8	B
		Northbound	49.7	D	45.7	D
		Southbound	50.5	D	48.7	D
10.	**S Walter Reed Drive & Columbia Pike**	**Overall**	**34.8**	**C**	**30.1**	**C**
		Eastbound	26.9	C	30	C
		Westbound	17.6	B	21.9	C
		Northbound	48.7	D	30.4	C
		Southbound	41.6	D	44.7	D

Table 9: Queuing Analysis Results

	Intersection	Lane Group	Storage Length (ft)	Existing (2018)			
				AM Peak Hour		*PM Peak Hour*	
				50th %	95th %	50th %	95th %
1.	**S Highland Street & 7th Street S**	Eastbound LTR	270	-	3	-	0
		Westbound LTR	250	-	0	-	0
		Northbound LTR	330	-	26	-	26
		Southbound LTR	380	-	8	-	5
2.	**S Walter Reed Drive & 7th Street S**	Eastbound LR	240	38	60	22	49
		Northbound Left	90	3	m16	6	25
		Northbound Thru	300	213	m#653	43	111
		Southbound TR	270	44	125	148	#522
3.	**S Highland Street & 8th Street S**	Westbound LR	515	-	3	-	7
		Northbound Thru	240	-	0	-	0
		Southbound Thru	330	-	0	-	0
4.	**S Walter Reed Drive & 8th Street S**	Westbound LTR	520	-	27	-	43
		Northbound LTR	250	-	1	-	2
		Southbound LT	400	-	3	-	3
		Southbound Right	75	-	0	-	0
5.	**S Highland Street & West Site Driveway**	Westbound LR	540	-	8	-	7
		Northbound TR	365	-	0	-	0
		Southbound LT	240	-	4	-	1
6.	**S Walter Reed Drive & East Site Driveway**	Eastbound LR	540	-	37	-	41
		Northbound LT	250	-	6	-	3
		Southbound TR	190	-	0	-	0
7.	**S Highland Street & 9th Street S**	Eastbound LTR	180	-	3	-	4
		Westbound LTR	530	-	6	-	11
		Northbound LTR	440	-	0	-	1
		Southbound LTR	360	-	1	-	1
8.	**S Walter Reed Drive & 9th Street S**	Eastbound LTR	530	-	42	-	26
		Westbound LTR	530	-	44	-	75
		Northbound LT	315	-	1	-	2
		Northbound Right	50	-	0	-	0
		Southbound LTR	250	-	5	-	5
9.	**Columbia Pike & S Highland Street**	Eastbound LTR	785	191	236	121	152
		Westbound LTR	500	64	73	322	396
		Northbound LTR	40	6	29	0	0
		Southbound LT	435	29	60	60	m106
		Southbound Right	130	0	30	0	m40
10.	**S Walter Reed Drive & Columbia Pike**	Eastbound Left	320	41	79	21	45
		Eastbound TR	385	382	463	190	221
		Westbound Left	460	35	63	169	#292
		Westbound TR	500	120	156	260	334
		Northbound Left	160	56	56	49	81
		Northbound Thru	335	502	502	230	295
		Northbound Right	340	289	289	81	112
		Southbound Left	80	22	22	70	m94
		Southbound TR	175	78	78	268	276

95th percentile volume exceeds capacity, queue may be longer.
m Volume for 95th percentile queue is metered by upstream signal.

PARKING

This section reviews the available parking surrounding the Arlington Career Center (ACC) site.

The following conclusions are reached within this chapter:

- Parking demand within and adjacent to the ACC site peaks at 2:00 PM, with 73% of the available parking spaces within the study area occupied
- The main parking lot on-site peaks at 95% occupancy at 2:30 PM. It sustains a high level of occupancy between 10:30 AM and 3:00 PM
- Residential curbside parking that is restricted, peaks at night and early morning at around 70% occupied, with demand lowering to 40-50% in the middle of the weekday
- Unrestricted parking near the ACC peaks at 76% occupied in the early afternoon, at 1:30/2:00 PM (around the same time the main surface lot at the ACC peaks)
- The 2-hour meters south of the ACC peak during the evening, coinciding with retail parking demand
- The 12-hour meters near the ACC have low occupancy, peaking at only 16% in use at 12:30 PM

EXISTING PARKING DEMAND

As part of this transportation report, detailed counts of parking supply and demand were conducted surrounding the Arlington Career Center 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 is shown in Figure 10. 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. Two on-site parking lots were also included in the study area. Parking data was collected in the study area on Wednesday, May 23, 2013 from 6:00 AM to 10:30 PM. The parking demand sweeps were conducted every 30 minutes.

The parking data found a total of 634 parking spaces in the study area, the majority of which are located on-site or restricted in some way. All metered parking is located south of the site. The residential blocks along 9th Street S have restricted (permit) parking only. Parking along S Walter Reed Drive, adjacent to the site, is restricted to 4-hour parking from 8 am to 6 pm Monday through Saturday. Unrestricted parking is available in 122 parking spaces along S Highland Street, S Walter Reed Drive, 7th Street S, and 9th Street S.

The parking data found that the peak parking occupancy for the entire area occurred at 2:00 PM with an overall parking utilization of 73 percent (634 available: 460 occupied; 174 unoccupied). The largest contributor to the peak is the on-site parking within the Arlington Career Center site. Most other streets observed have an occupancy lower than 70% as seen on the map in Figure 11.

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

Figure 10: Parking Count Study Area

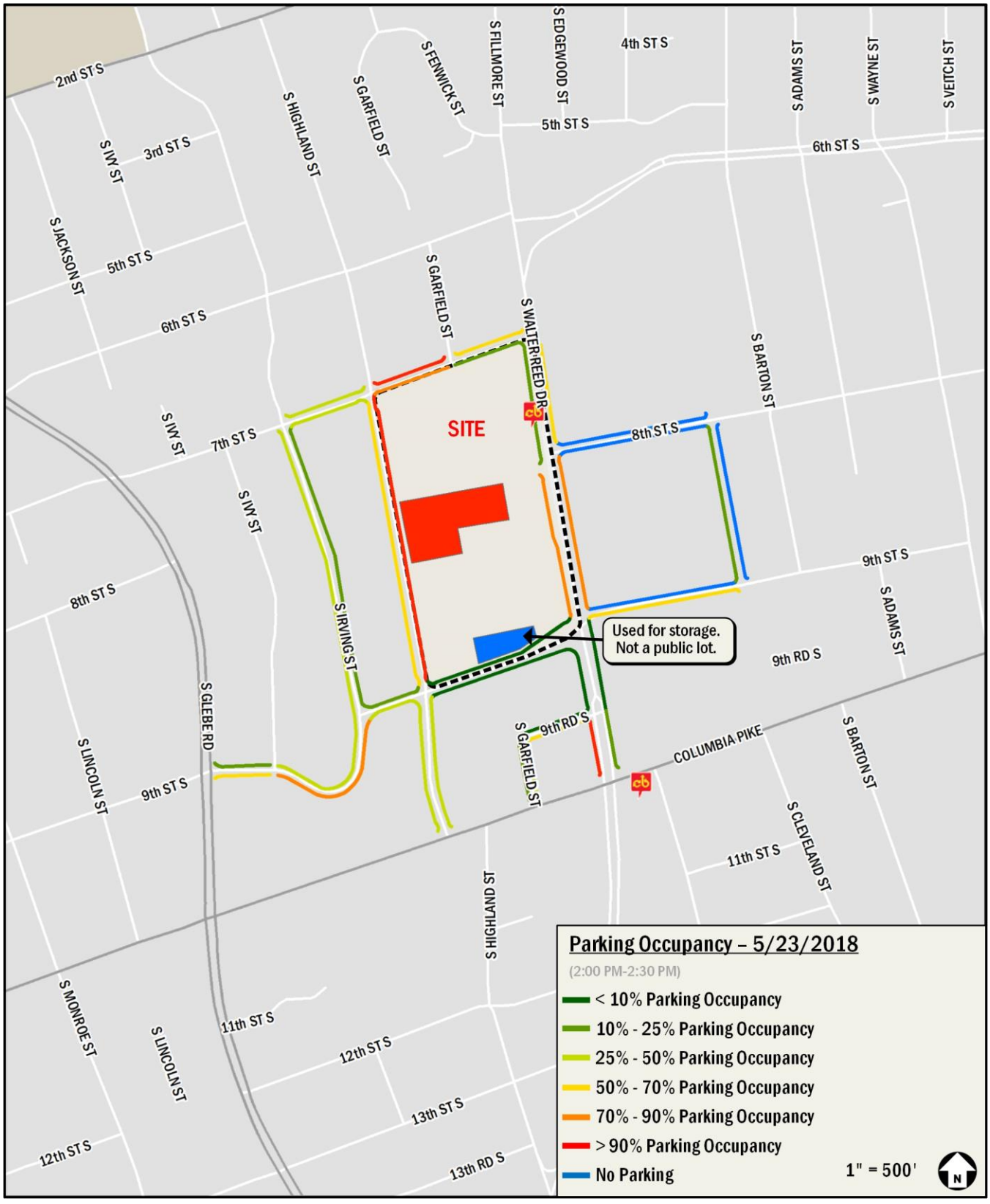

Figure 11: Peak Parking Occupancy

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

- Site Parking, which consists of the existing large parking lots on the ACC site.
- Residential Restricted Parking, which includes on-street parking for residents only. Permit required.
- Unrestricted Parking, which includes on-street parking spaces with no restrictions.
- Metered Parking (12-hr), which includes paid parking with a 12-hour limit.
- Metered Parking (2-hr), which includes paid parking with a 2-hour limit.
- Time Restricted Parking (4-hr), which includes on-street parking with a 4-hr limit from 8 am to 6 pm Monday through Saturday.
- Mixed Parking, which includes on-street parking block faces with multiple restrictions.
- No Parking, which includes on-street parking marked as 'No Parking', on-street parking on private property, loading zones, and an on-site parking lot marked for employees only.

Figure 12 shows these parking categories. Table 10 provides a review of each category's peak parking demands. Figure 13 shows the overall parking demand over the course of the counts. Figure 14 through Figure 20 shows the parking demands over the course of the counts in each of the categories.

Table 10: Summary of Parking Demand

Parking Type	Number of Spaces	Peak Demand
Site	234	95% at 2:30 PM
Residential Restricted	59	76% at 7:00 PM
Unrestricted	122	76% at 1:30 PM/2:00PM
Metered (12-hr)	32	16% at 12:30 PM
Metered (2-hr)	45	84% at 7:30 PM
Time Restricted (4-hr)	35	69% at 10:30 AM
Mixed	79	57% at 7:00 PM
No Parking	28	N/A
Total	**634**	**73% at 2:00 PM**

Site parking peaks at 2:30pm, with 95% of the 234 off-street spaces on the Arlington Career Center site occupied. The lot on the Arlington Career Center site peak during the middle of the day and drops around 5:00 pm, which is logical considering the uses on site (elementary school, high school, and public library).

Residential restricted parking in the neighborhoods surrounding the site maintains around 60% occupancy during the day, peaking at over 70% at 7:00 pm.

Metered parking (12-hr) is readily available throughout the day, peaking below 20% around lunch time. Metered parking (2-hr), however, is over 50% occupied at this time, drops to just under 15% at 3:30 pm and peaks at 7:30 pm with over 80% spaces occupied.

Unrestricted, time restricted, and mixed parking maintain relatively constant occupancy levels at around 60%, 50%, and 45%, respectively.

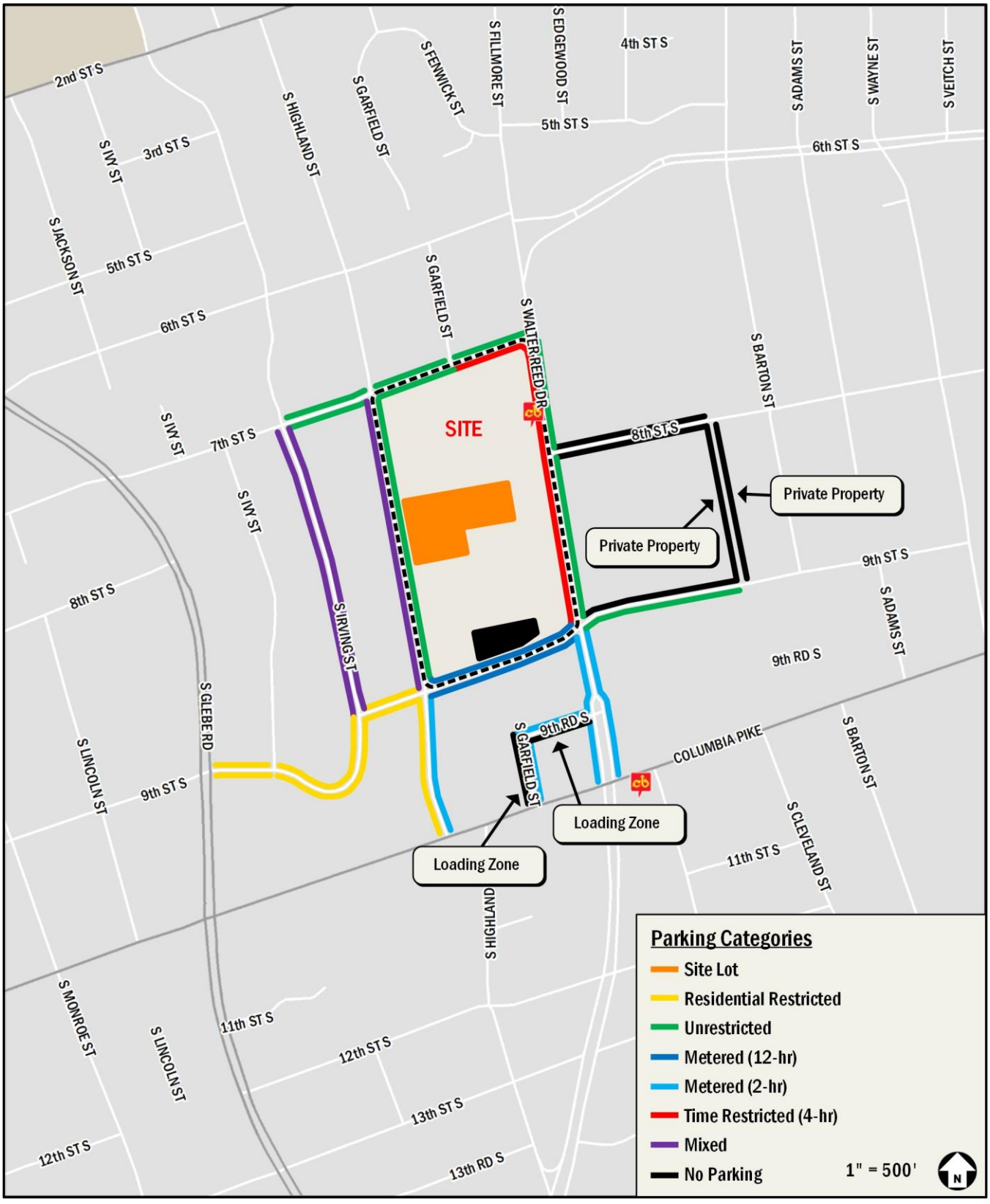

Figure 12: Parking Categories within Study Area

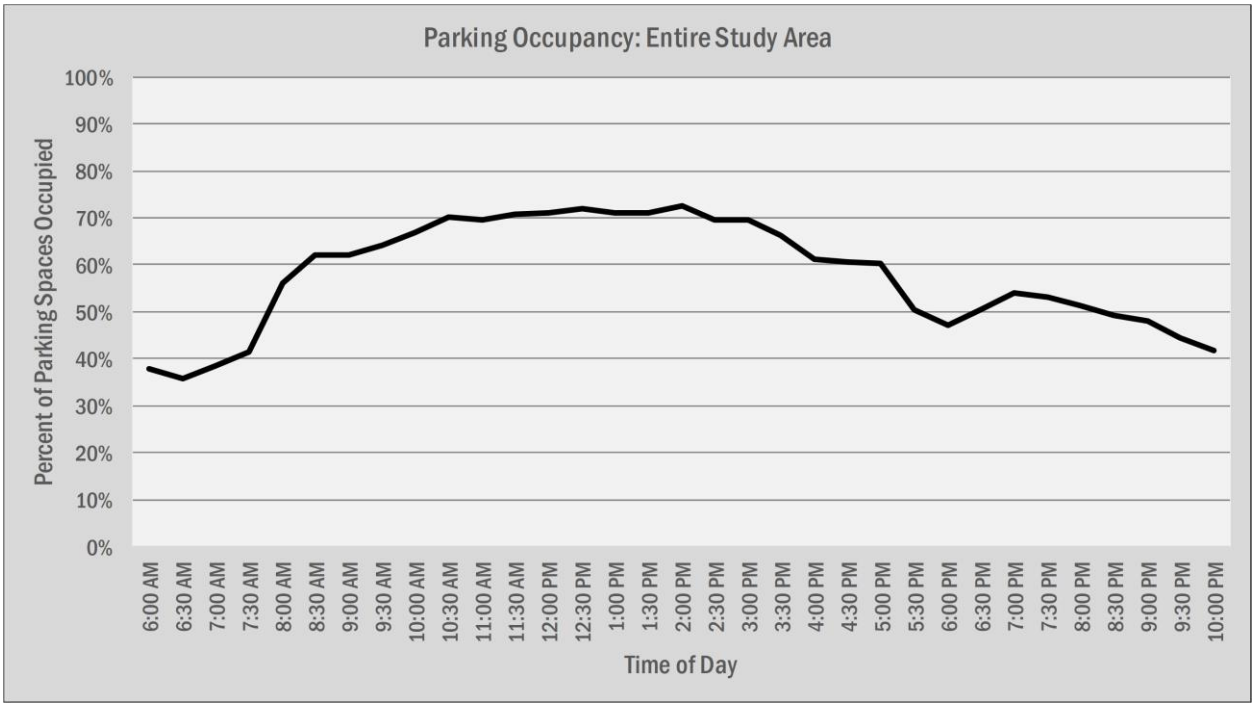

Figure 13: Parking Occupancy, Overall

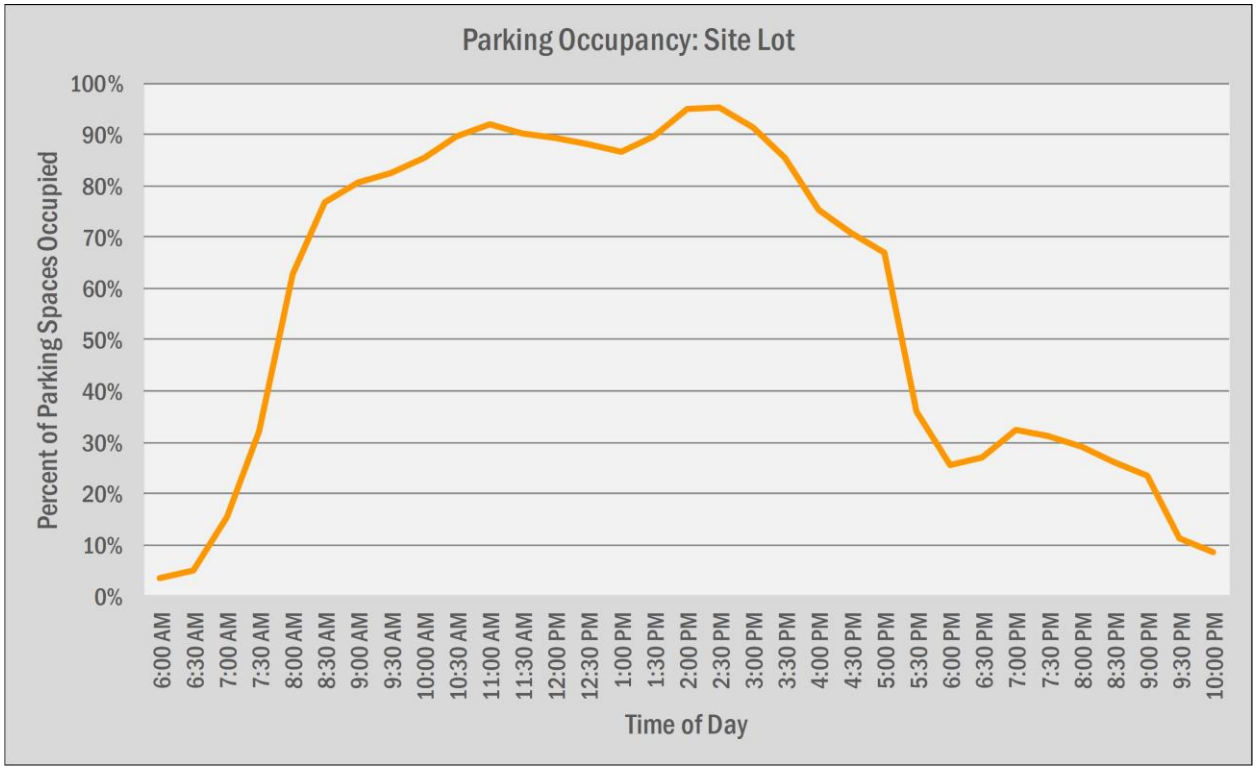

Figure 14: Parking Occupancy, Site

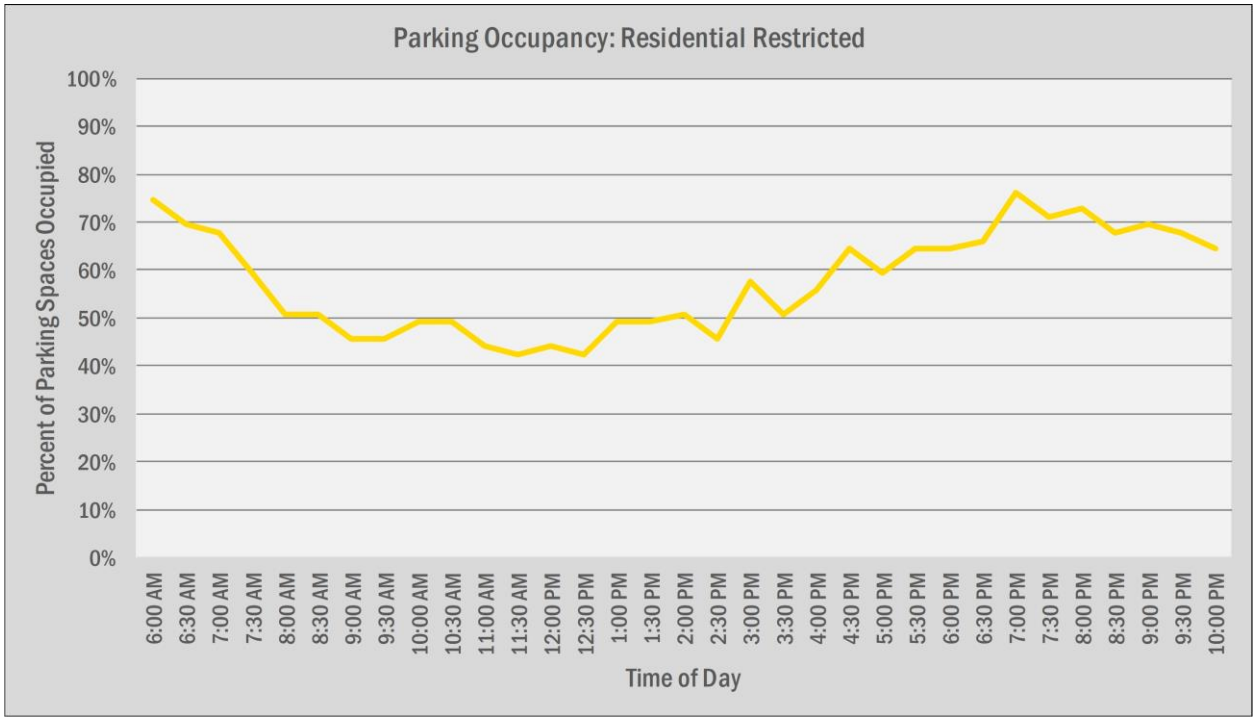

Figure 15: Parking Occupancy, Residential Restricted

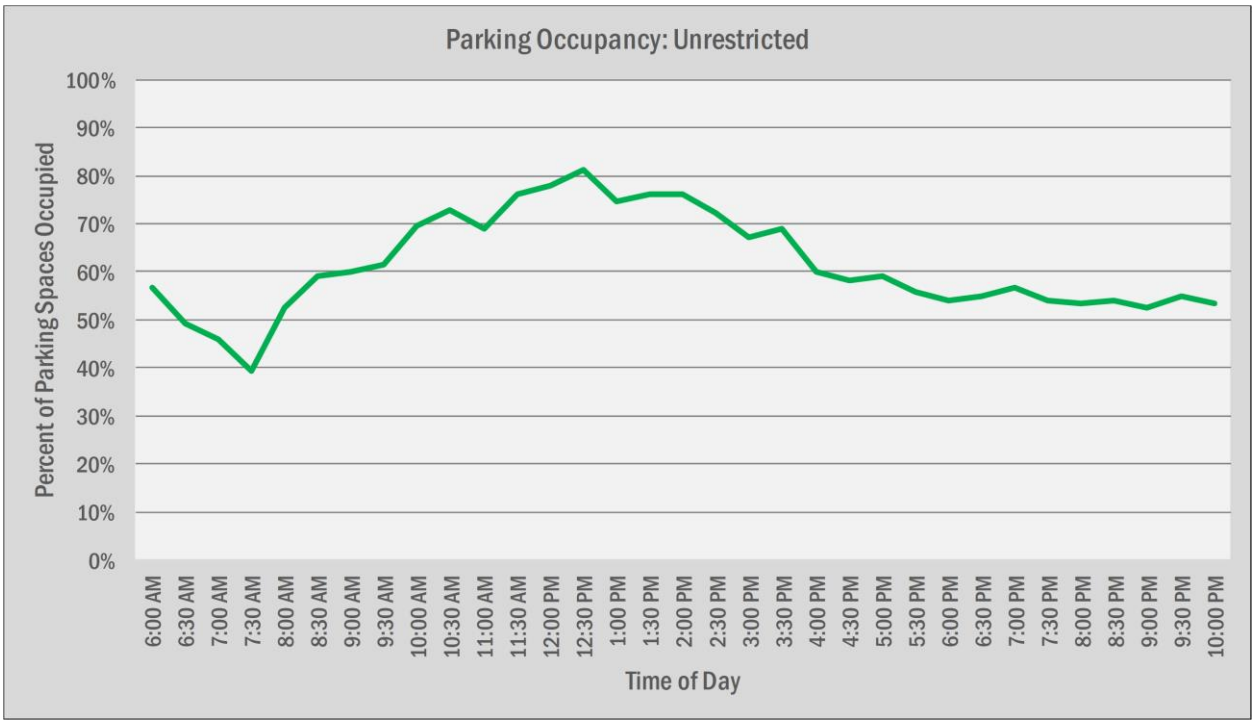

Figure 16: Parking Occupancy, Unrestricted

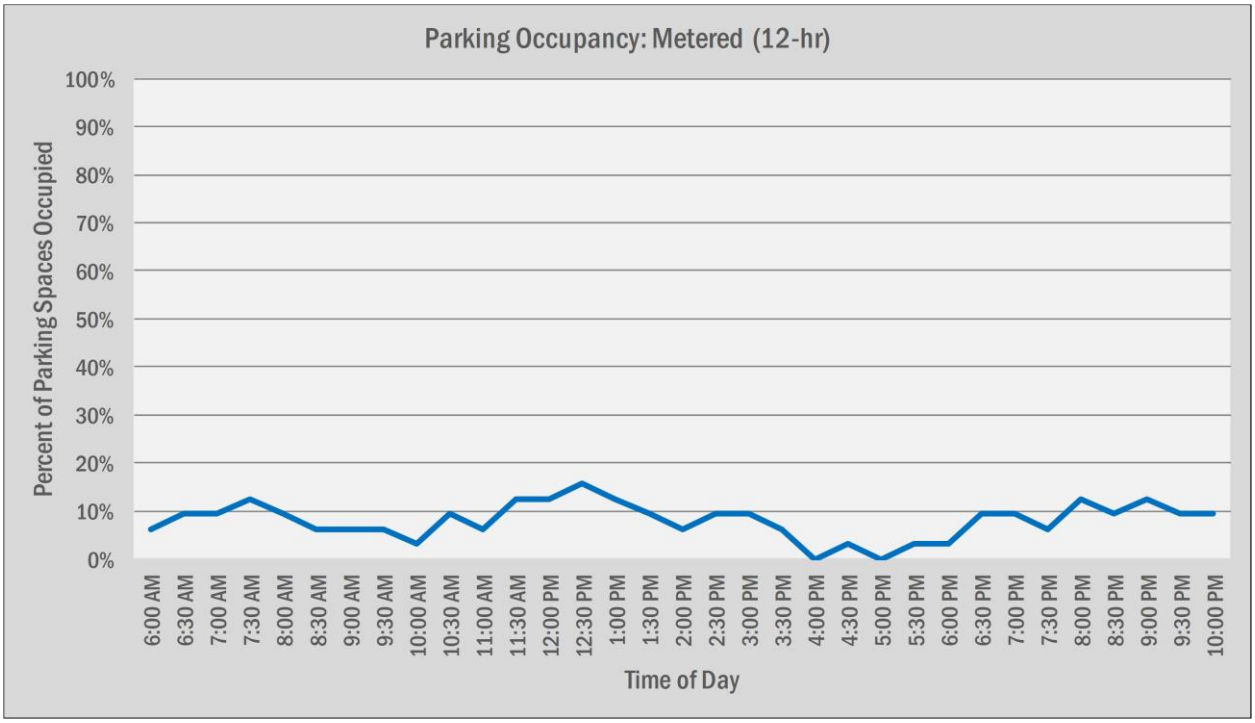

Figure 17: Parking Occupancy, Metered (12-hr)

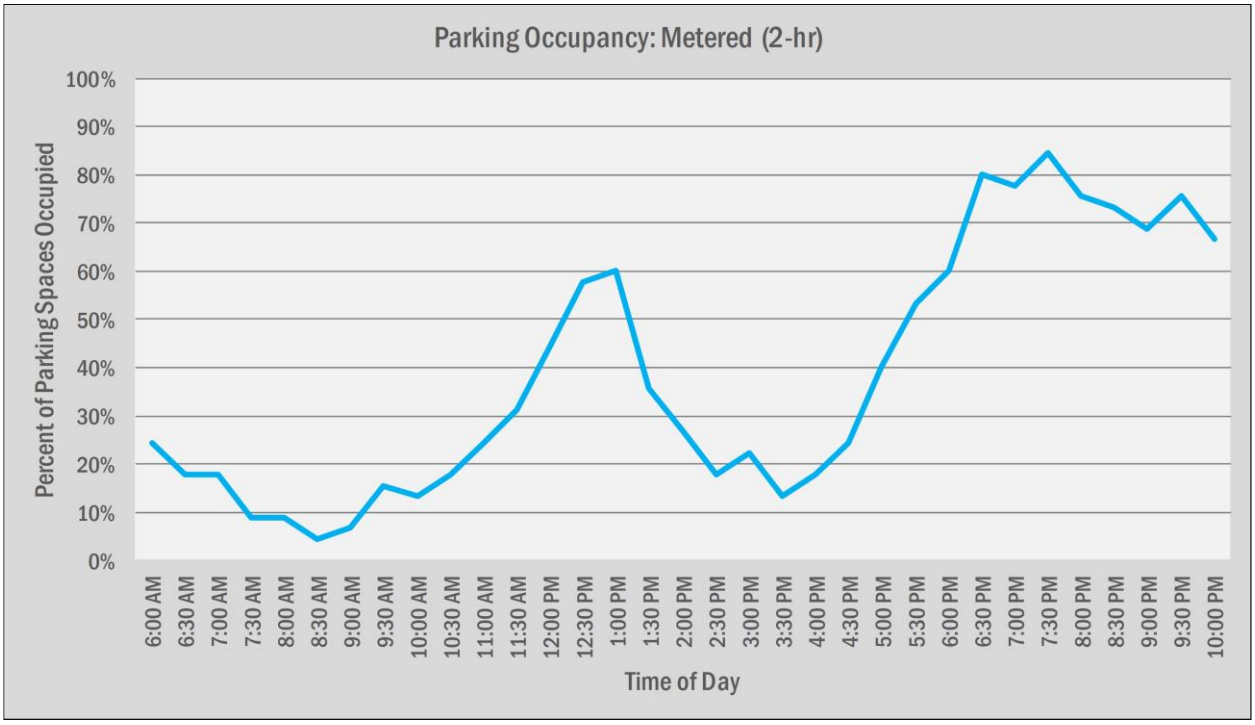

Figure 18: Parking Occupancy, Metered (2-hr)

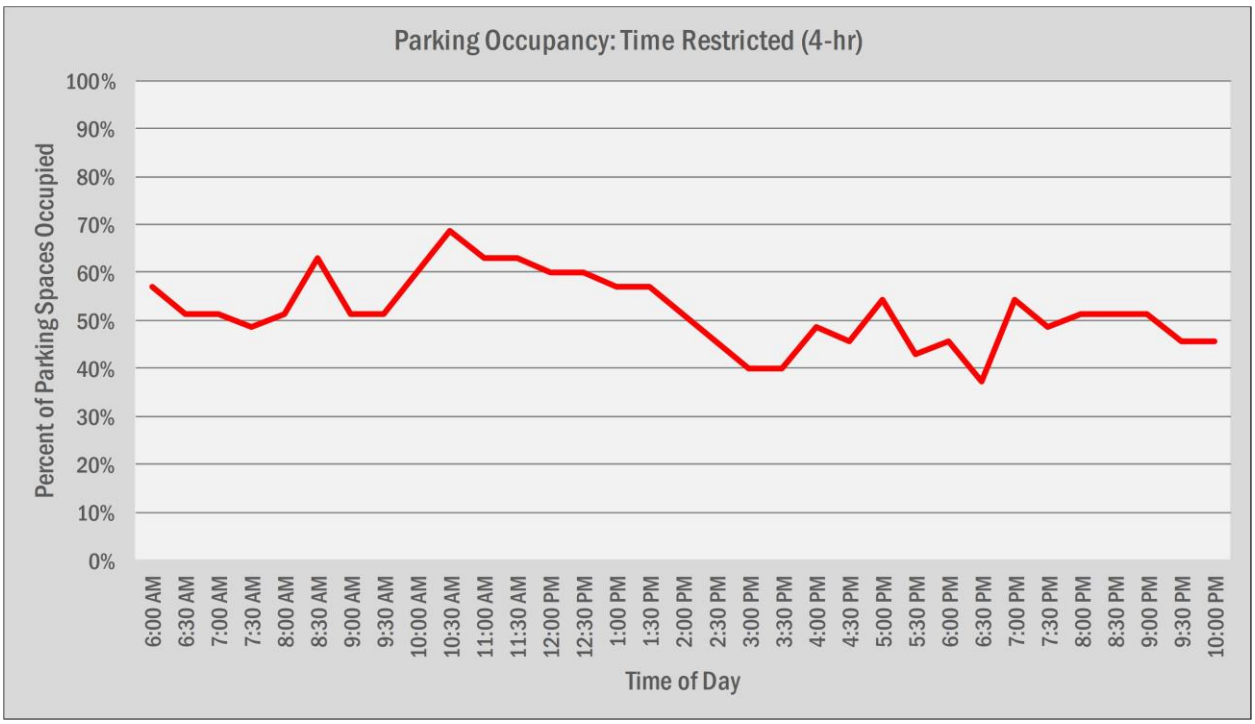

Figure 19: Parking Occupancy, Time Restricted (4-hr)

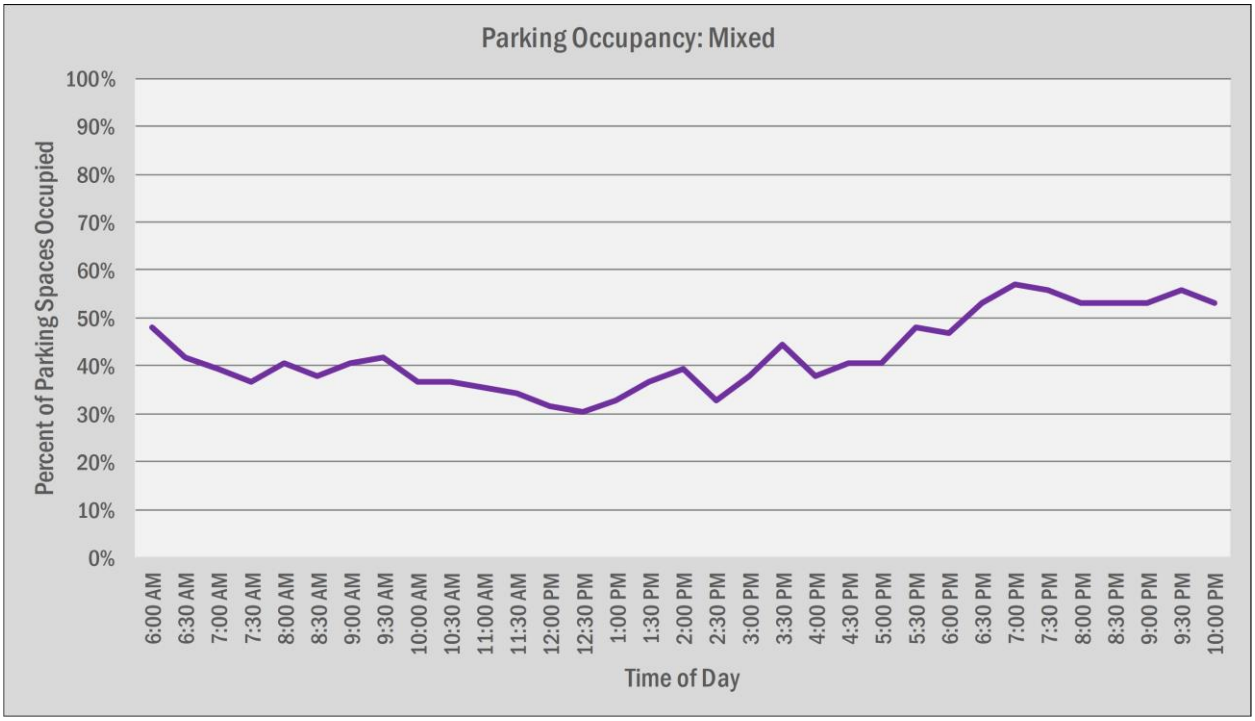

Figure 20: Parking Occupancy, Mixed

SUMMARY

This report is an Existing Conditions Analysis of the Arlington Career Center (ACC) site. The ACC campus is home to several buildings and programs, including Arlington Tech high school, the Columbia Pike Branch Library, Patrick Henry Elementary School, Arlington Community High School, and other services and programs. Figure 1 shows the location of the ACC site.

The potential future uses of the ACC site are currently being reviewed by the Career Center Working Group (CCWG). The purpose of this Existing Conditions Analysis is to present transportation information regarding the ACC site to the CCWG, to help with their task.

This report found the following:

Study Area

- The site is surrounded by an extensive regional and local transportation system that connects 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 four 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.

Site Observations

- The main ACC parking lot gets effectively fully occupied in the afternoon, at 95% full at 2:30 PM. The lot stays above 87% full between 10:30 AM and 3:00 PM. The reservations/restrictions on spaces make the lot effectively full at around 90% capacity.
- Student arrival drop-offs and dismissal pick-ups occur in several spaces, not only the designated curbside on S Highland Street. This does not seem to have a negative impact as the dispersal of demand helps eliminate potential congestion spots and/or bottlenecks.
- Some drivers picking up students in the afternoon park and wait in the surface lot, which creates a greater shortage of parking during this time.

Mode splits

- Patrick Henry ES students have a higher walk percentage than the average Arlington Public Schools (APS) elementary school student.
- Students in grades 9 and 10 at the site use transit and bicycle to get to school more than the APS average.
- Based on surveys of grade 11 and 12 students, students in grades 11 and 12 at the site take the school bus in the morning much less than the average APS grade 11 and 12 student, while the number of students getting dropped-off is much higher. In the afternoon, many more students take the school bus, with the amount of driving or getting pick-up decreasing closer to average APS levels for grades 11 and 12.
- The number of students that drive themselves to school in grades 11 and 12 on site is not significantly different from the APS average for the ACC site.

Traffic Operations

- All study area intersections operate at acceptable conditions with one exception, the eastbound and westbound approaches of Intersection 8 (S Walter Reed Drive to 9th Street S). This is typical on side streets along commuting corridors where the minor approaches experience long delays as drivers wait for gaps in S Walter Reed Drive traffic.

Parking

- Parking demand within and adjacent to the ACC site peaks at 2:00 PM, with 73% of the available parking spaces within the study area occupied.
- The main parking lot on-site peaks at 95% occupancy at 2:30 PM. It sustains a high level of occupancy between the hours of 10:30 AM and 3:00 PM.
- Residential curbside parking that is restricted peaks at night and early morning at around 70% occupied, with demand lowering to 40-50% in the middle of the weekday.
- Unrestricted parking near the ACC site peaks in the early afternoon, at 1:30/2:00 PM (around the same time the main surface lot at the ACC peaks).
- The 2-hour meters south of the ACC site peak during the evening, coinciding with retail parking demand.
- The 12-hour meters near the ACC site have low occupancy, peaking at only 16% in use at 12:30 PM.