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)	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. Specific details such as parking, access, loading, infrastructure improvements, and pedestrian and bicycle amenities will be included at a later stage. There are currently multiple conceptual designs being considered. Based on preliminary trip generation calculations, a VDOT 870 study will not be needed.			
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 preliminary assumptions; see Table 2and Table 3)	Less than 100 ☐	100 – 499 ☒	500 – 999 ☐	1,000 or more ☐

Traffic Impact Analysis Assumptions

Study Period	Existing Year: 2017	Build-out Year: 2021	Design Year: N/A
Study Area Boundaries (Attach map)	North: 19th Street N		South: 18th Street N
	East: Patrick Henry Drive		West: Washington Boulevard

External Factors That Could Affect Project (Planned road improvements, other nearby developments)	• Washington Boulevard Bike, Pedestrian, Roadway Enhancements
	• N Ohio Street/John Marshall Trail
	  ○ From Washington Boulevard to 22nd Street N (Under Construction)
	  ○ 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
	  ○ Illinois Street from 22nd Street N to Lee Highway
	  ○ 24th Street N from Illinois Street to Kensington Street
	• Westover Village: N Longfellow Street and 16th Street N Intersection Improvements
	• Background Developments
	  ○ Virginia Hospital Center		

Consistency With Comprehensive Plan (Land use, transportation plan)	Yes		
Available Traffic Data (Historical, forecasts)	• VDOT Historical AADT Data • All-way Stop analysis at 18th Street N/N Lexington Street (2017) • Washington Blvd Restriping – Washington Boulevard /McKinley Road (2015)		
Trip Distribution (Please refer to attached Figure 3)	Road Name: N Nottingham Street (to/from North) – 5%		Road Name: N Madison Street (to/from East) – 5%
	Road Name: N Lexington Street (to/from North) – 10%		Road Name: 19th Street N (to/from North) – 5%
	Road Name: Patrick Henry Drive (to/from North) – 15%		Road Name: 18th Street N (to/from East) – 20%
	Road Name: 16th Street N (to/from East) – 3%		Road Name: Washington Boulevard (to/from East) – 15%
	Road Name: McKinley Road (to/from South) – 3%		Road Name: N Nicholas Street (to/from South) – 2%
	Road Name: 18th Street N (to/from West) – 2%		Road Name: Washington Boulevard (to/from South) – 15%
Annual Vehicle Trip Growth Rate: (See Table 1)	0.2%	**Peak Period for Study** (check all that apply)	☒ AM ☒ PM (school dismissal) ☒ PM
		Peak Hour of the Generator	See Table 3
Study Intersections and/or Road Segments (Please refer to attached Figure 4)	1) Washington Blvd/18th Street/N Nicholas St 2) Washington Blvd/McKinley Road 3) 18th Street N/Parking Lot Exit		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

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	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 2)	Internal allowance: ☐ Yes ☒ No TDM/Mode Split Reduction: * see Table 2. 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 2
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 _____	

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.

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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 5)
    d. Transit Facilities
    e. Transit Ridership (As available, to be provided by Arlington County)
    f. Bike/pedestrian facilities (as shown in Figure 6, Figure 7, and Figure 8)
    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:
    a. The baseline scenario (preliminary mode splits are shown in Table 2 and preliminary trip generation is shown in Table 3)
    b. Inclement weather scenario (based on observations)
    c. Enhanced non-automobile use (TDM) scenario based on APS Go! data
13. This scoping form contains preliminary trip generation numbers for the development. Once a final design is chosen and more data is gathered, final trip generation numbers will be sent to the County for approval. Factors that are likely to influence final trip generation numbers are:
    a. ITE rates may be replaced by trip generation rates based on data collected at comparable APS Elementary Schools
    b. Mode splits may be refined using newly acquired data

    Final trip generation numbers will be sent to the County for approval.

SIGNED: _____ DATE: _____
Applicant or Consultant

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

SIGNED: _____ DATE: 1/24/18
Local Government Representative

PRINT NAME: SERGIO VIRICOCHEA
Local Government Representative

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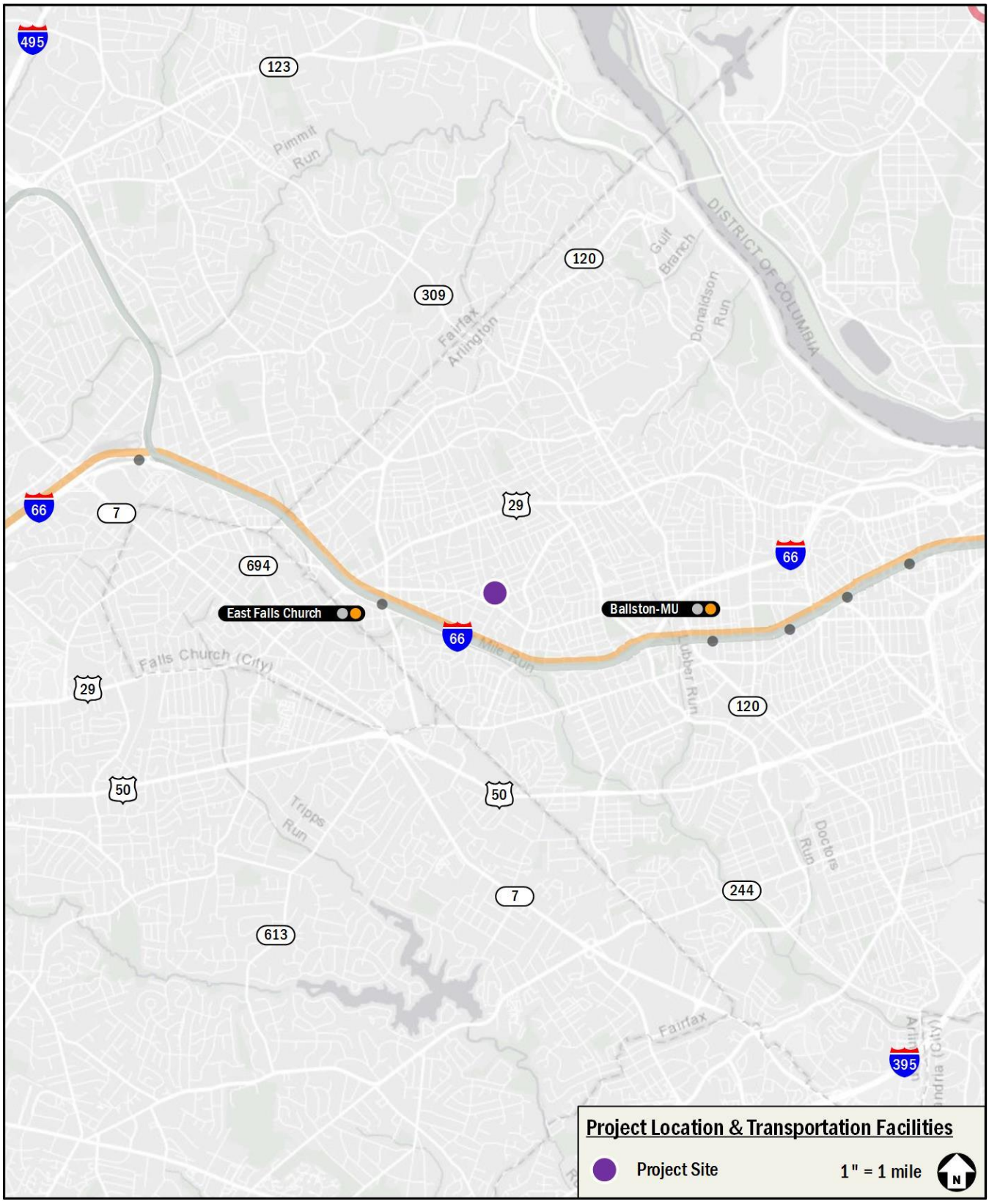

Figure 1: Project Location

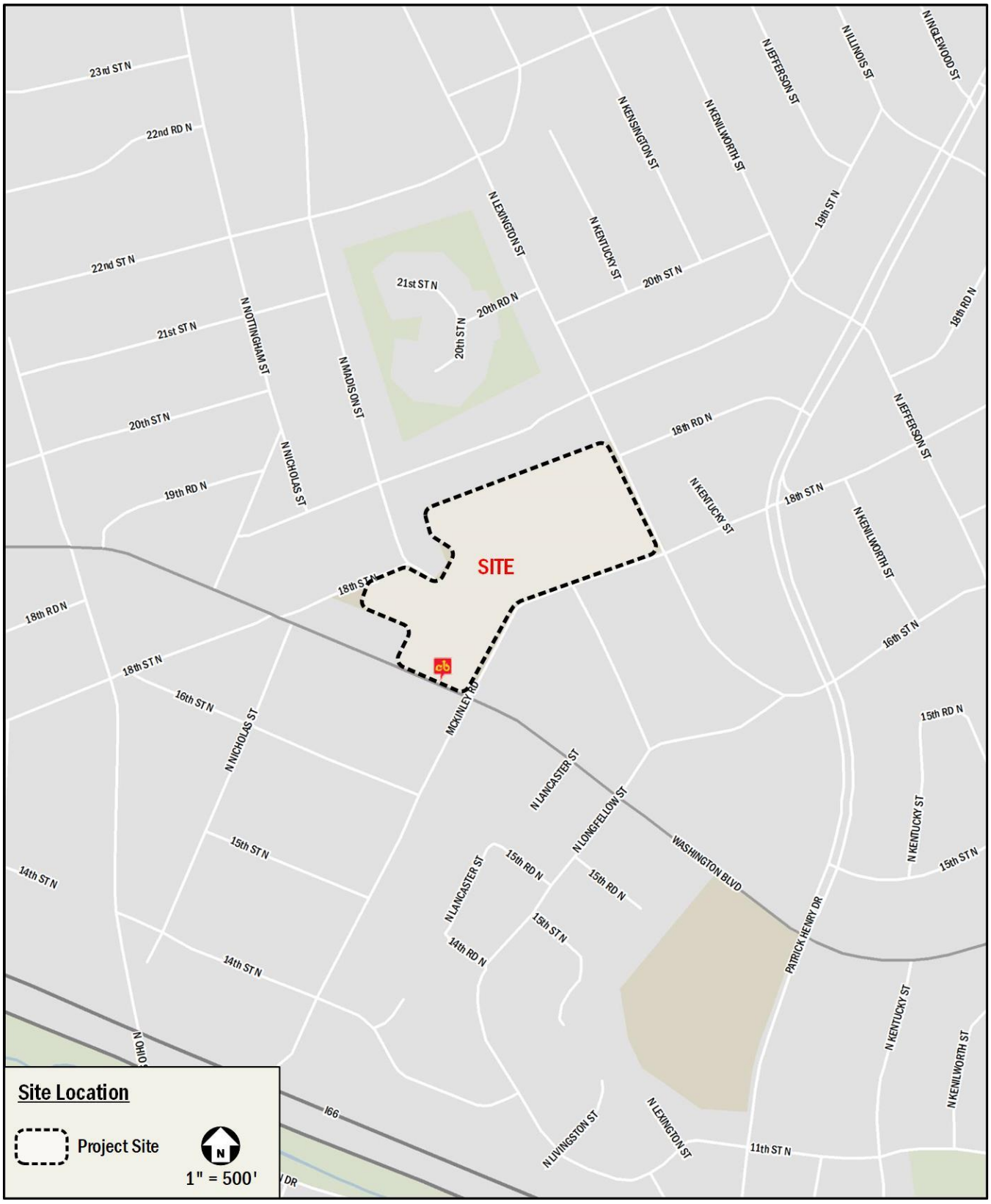

Figure 2: Site Location

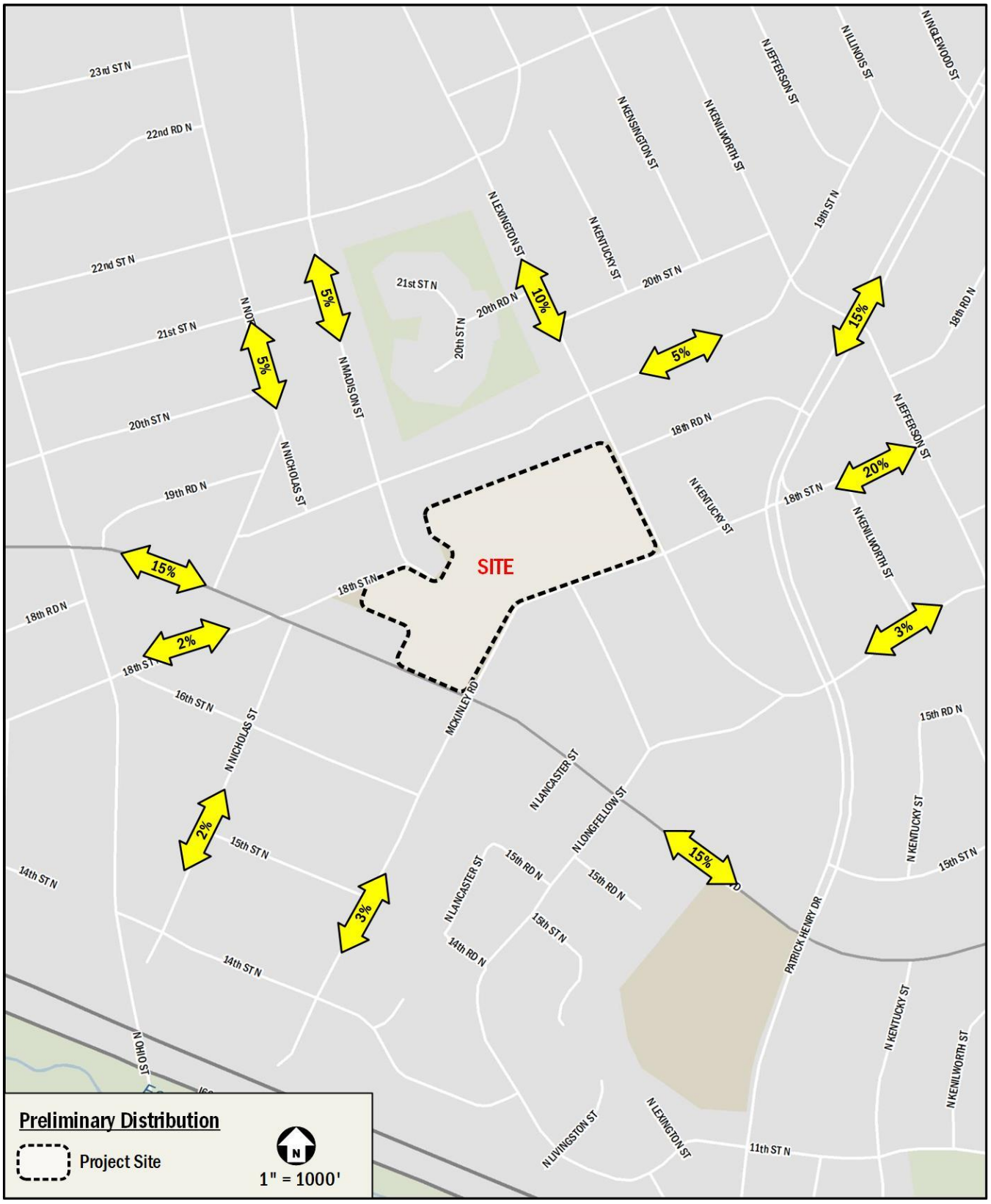

Figure 3: Preliminary Distribution

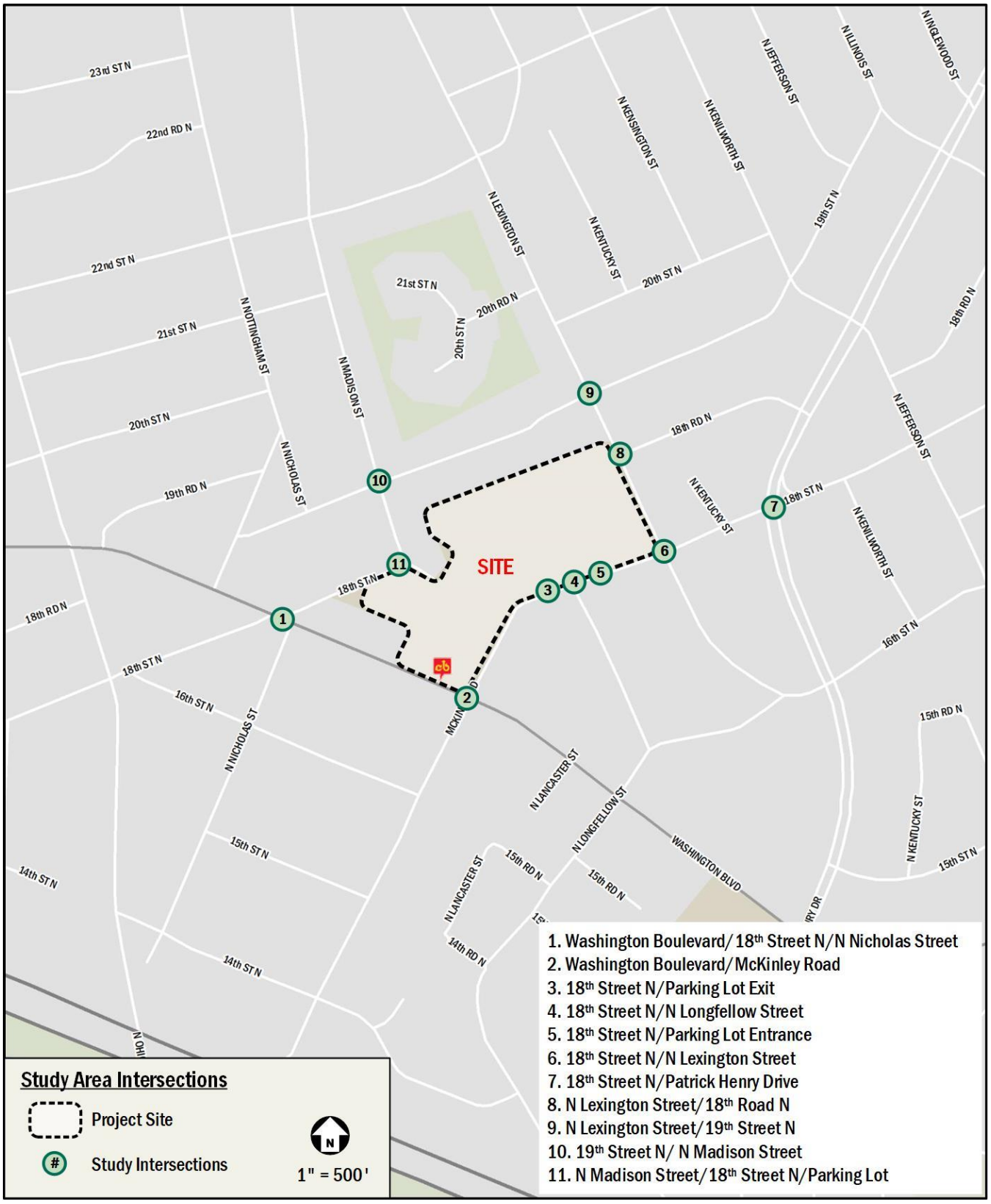

Figure 4: Study Area Intersections

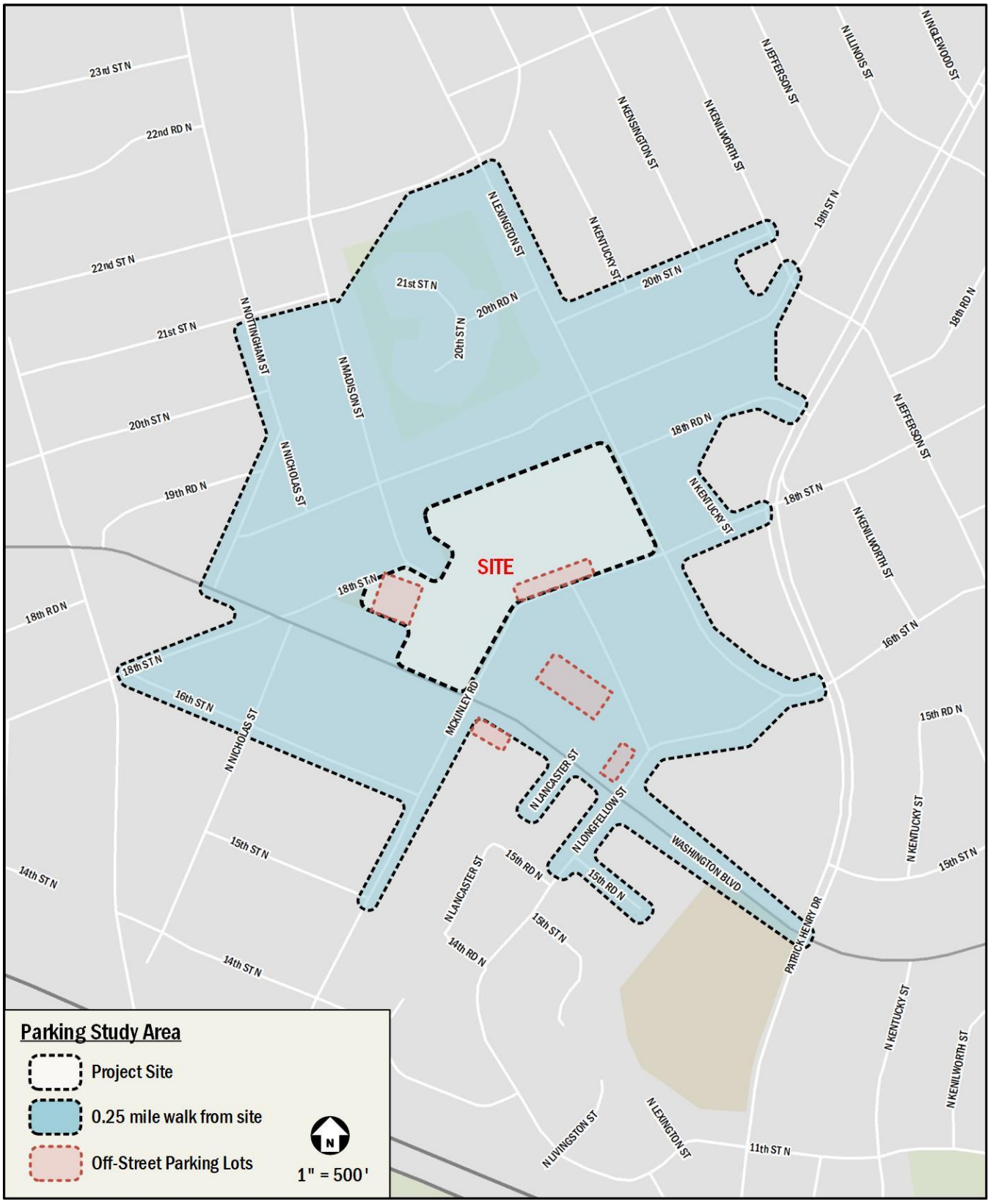

Figure 5: Parking Study Area

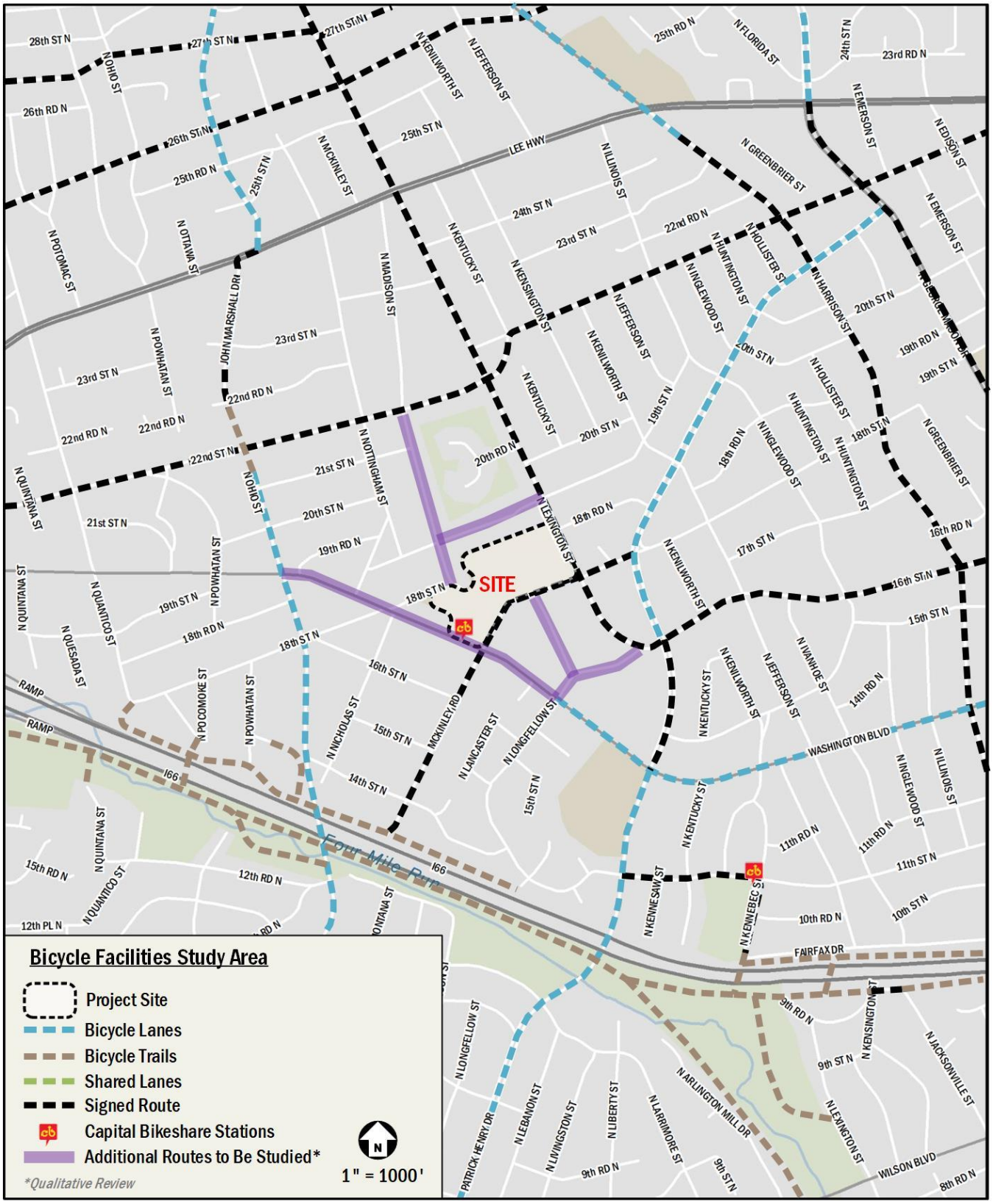

Figure 6: Bicycle Facilities Study Area

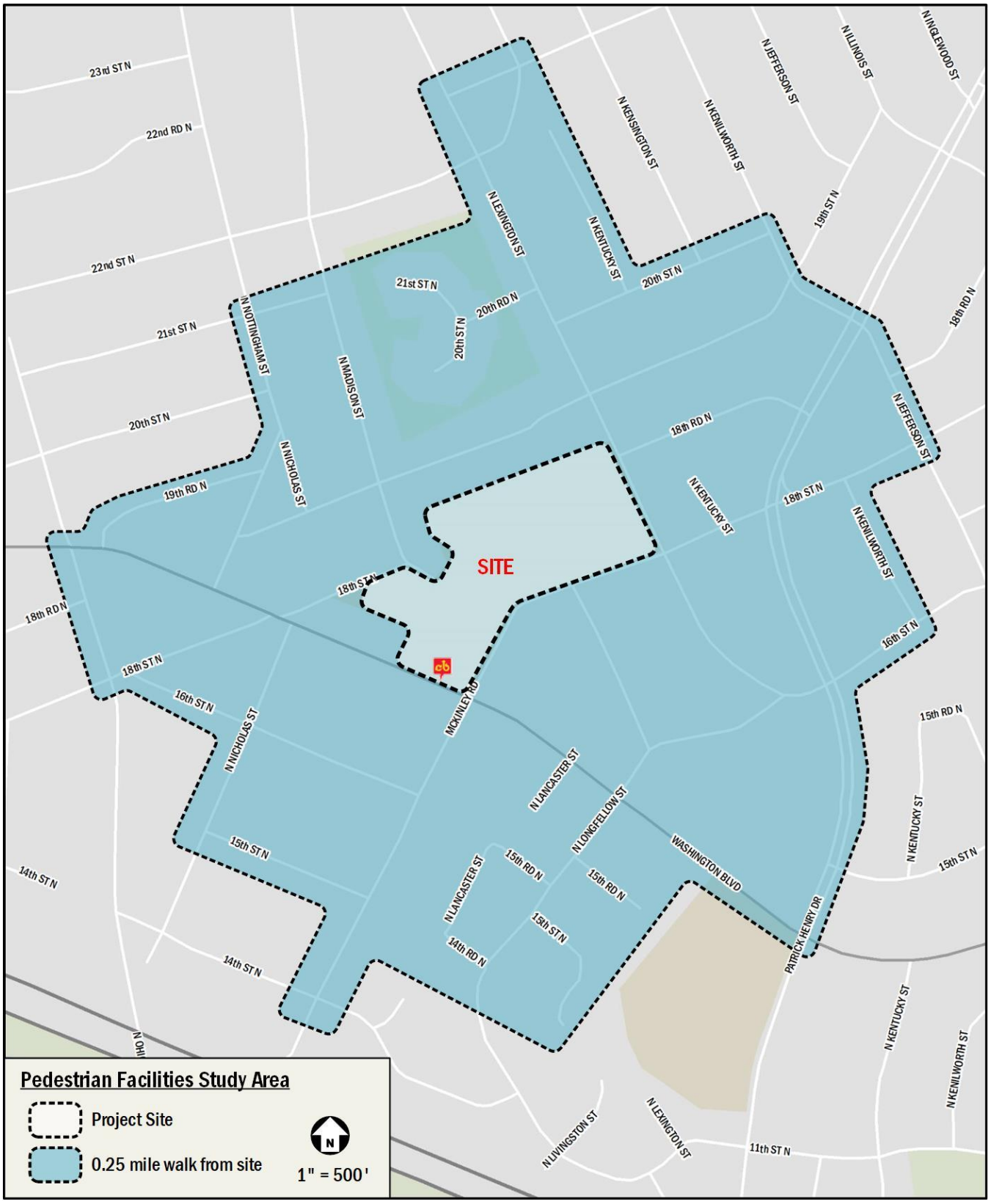

Figure 7: Pedestrian Facilities Study Area

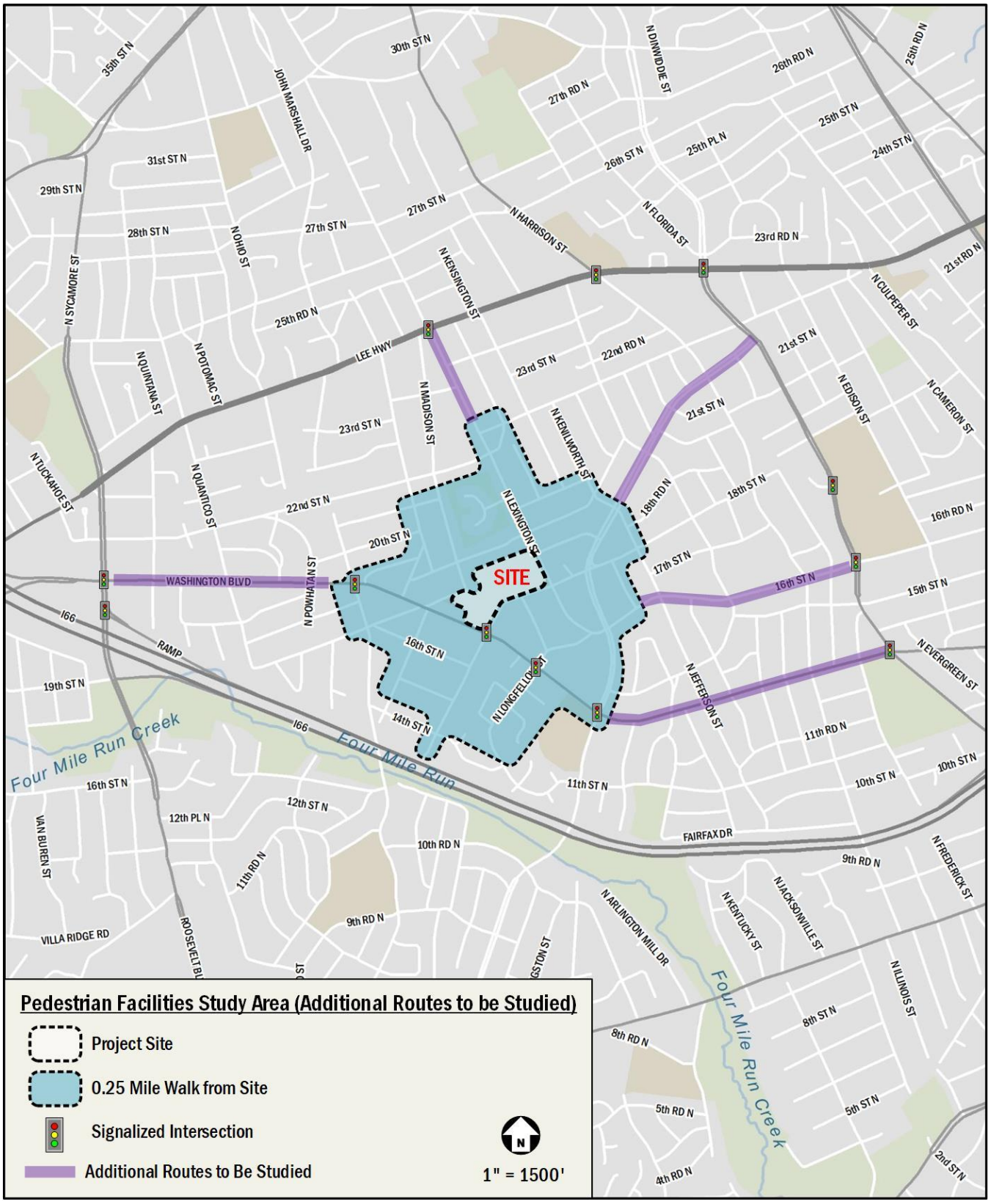

Figure 8: Additional Pedestrian Routes to be Studied

Table 1: 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.

Table 2: Preliminary Mode Split Assumptions

Pertinent Mode Split data from other sources:

Information Source	Mode						
	SOV	Carpool	School Bus	Bike	Walk	Transit	Other
McKinley ES Traffic Study - Student Travel Tally Arrival Results Average (April and October 2013)	40%	2%	33%	1%	23%	0%	1%
McKinley ES Traffic Study - Student Travel Tally Dismissal Results Average (April and October 2013)	39%	2%	32%	1%	25%	0%	1%
McKinley ES Traffic Study - Staff Survey Results (2013)	93%	4%	---	0%	1%	2%	0%
McKinley ES Staff APS GO! Survey Results (2013)	93%	0%	---	0%	3%	3%	1%
Abingdon ES Traffic Study - Student Travel Survey Results (December 2014)	30%	1%	44%	1%	23%	1%	0%
Abingdon ES Traffic Study - Staff Travel Survey Results (December 2014)	91%	2%	---	0%	7%	0%	0%

Preliminary Baseline Mode Split assumed in MMTA:

Land Use	Mode					
	Drive	School Bus	Bike	Walk	Transit	Other
AM Peak Hour	50%	30%	1%	18%	1%	---
PM School Dismissal	50%	30%	1%	18%	1%	---
PM Peak Hour	75%	0%	0%	24%	1%	---

Table 3: Preliminary Baseline Peak Hour Trip Generation

Baseline Peak Hour Trip Generation

725 Student Elementary School

Step 1: Base trip generation using ITEs' *Trip Generation*

Land Use	Land Use Code	Quantity (x)	AM Peak Hour			PM Dismissal			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Elementary School	520	725 du	262 veh/hr	224 veh/hr	486 veh/hr	111 veh/hr	136 veh/hr	247 veh/hr	59 veh/hr	64 veh/hr	123 veh/hr
		Calculation Details:	*54%*	*46%*	*=0.67X*	*45%*	*55%*	*=0.34X*	*48%*	*52%*	*=0.17X*

Step 2: Convert to people per hour, before applying mode splits

Land Use	People/Car (from 2009 NHTS, Table 16)	AM Peak Hour			PM Dismissal			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Elementary School	1.13 ppl/veh	296 ppl/hr	253 ppl/hr	549 ppl/hr	125 ppl/hr	154 ppl/hr	279 ppl/hr	67 ppl/hr	72 ppl/hr	139 ppl/hr

Step 3: Split between modes, per assumed Mode Splits

Land Use	Mode	Split			AM Peak Hour			PM Dismissal			PM Peak Hour		
		AM Peak	PM Dismissal	PM Peak	In	Out	Total	In	Out	Total	In	Out	Total
Elementary School	Auto	50%	50%	75%	148 ppl/hr	127 ppl/hr	275 ppl/hr	63 ppl/hr	77 ppl/hr	140 ppl/hr	50 ppl/hr	54 ppl/hr	104 ppl/hr
Elementary School	School Bus	30%	30%	0%	89 ppl/hr	76 ppl/hr	165 ppl/hr	38 ppl/hr	46 ppl/hr	84 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
Elementary School	Transit	1%	1%	1%	3 ppl/hr	2 ppl/hr	5 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr
Elementary School	Bike	1%	1%	0%	3 ppl/hr	2 ppl/hr	5 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
Elementary School	Walk	18%	18%	24%	53 ppl/hr	46 ppl/hr	99 ppl/hr	23 ppl/hr	27 ppl/hr	50 ppl/hr	16 ppl/hr	17 ppl/hr	33 ppl/hr

Step 4: Convert auto trips back to vehicles/hour

Land Use	People/Car (from 2009 NHTS, Table 16)	AM Peak Hour			PM Dismissal			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Elementary School	1.13 ppl/veh	131 veh/hr	112 veh/hr	243 veh/hr	56 veh/hr	68 veh/hr	124 veh/hr	44 veh/hr	48 veh/hr	92 veh/hr

Baseline Trip Gen Summary

Mode	AM Peak Hour			PM Dismissal			PM Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	131 veh/hr	112 veh/hr	243 veh/hr	56 veh/hr	68 veh/hr	124 veh/hr	44 veh/hr	48 veh/hr	92 veh/hr
School Bus	89 ppl/hr	76 ppl/hr	165 ppl/hr	38 ppl/hr	46 ppl/hr	84 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
Transit	3 ppl/hr	2 ppl/hr	5 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	1 ppl/hr	0 ppl/hr	1 ppl/hr
Bike	3 ppl/hr	2 ppl/hr	5 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
Walk	53 ppl/hr	46 ppl/hr	99 ppl/hr	23 ppl/hr	27 ppl/hr	50 ppl/hr	16 ppl/hr	17 ppl/hr	33 ppl/hr