

MEMORANDUM

To: Flower Center/State Farm Team

From: Daniel B. VanPelt, P.E., PTOE
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Date: June 1, 2015

Subject: Status of Comprehensive Transportation Review

This memorandum provides an update on the Comprehensive Transportation Review (CTR) for the Flower Center/State Farm Planned Unit Development (PUD) application.

Gorove/Slade has begun working on the CTR, including working with the project's design team on transportation aspects of the plans, and having preliminary conversations with the District Department of Transportation (DDOT). A formal meeting to introduce DDOT to the project was held on May 29, 2015, where DDOT was introduced to the project's access, parking and loading plans. The CTR report will be sent to DDOT no later than 45 days prior to the Zoning Commission's hearing on the PUD.

The CTR will include:

- An analysis of traffic capacity at nearby intersections with and without the PUD
- A review of bicycle and pedestrian facilities surrounding the PUD, and potential impacts generated by the PUD
- A discussion on the amount of parking and loading contained in the PUD
- An assessment of truck and delivery access to the site, including truck turns and alley operations. This will include reviewing how pedestrians, cyclists, and vehicles use the alley and private plaza, and a loading management plan for deliveries.
- A Transportation Demand Management (TDM) plan outlining ways the PUD will encourage uses of non-auto modes of travel

Prior to submittal of the CTR to DDOT, Gorove/Slade will complete and submit a CTR scoping form for DDOT's review. This scoping form will outline the methodology and areas of all analysis contained in the CTR. As the data used in the traffic analyses cannot be collected while District public schools are in summer session, Gorove/Slade and DDOT have already discussed and agreed to the study area intersections to be included in the CTR. A map of those intersections is included as Figure 1, and data will be collected in early June. Also attached, as Tables 1 through 3, are preliminary trip generation estimates of the new transportation demand the PUD will generate during the morning and evening peak hours. These trip generation estimates were used to help identify which study area intersections to include. Based on these calculations the PUD is anticipated to generate 169 vehicles/hour in the morning peak hour (around one new car every 21 seconds), and 239 vehicles/hour in the evening peak hour (around one car every 15 seconds).

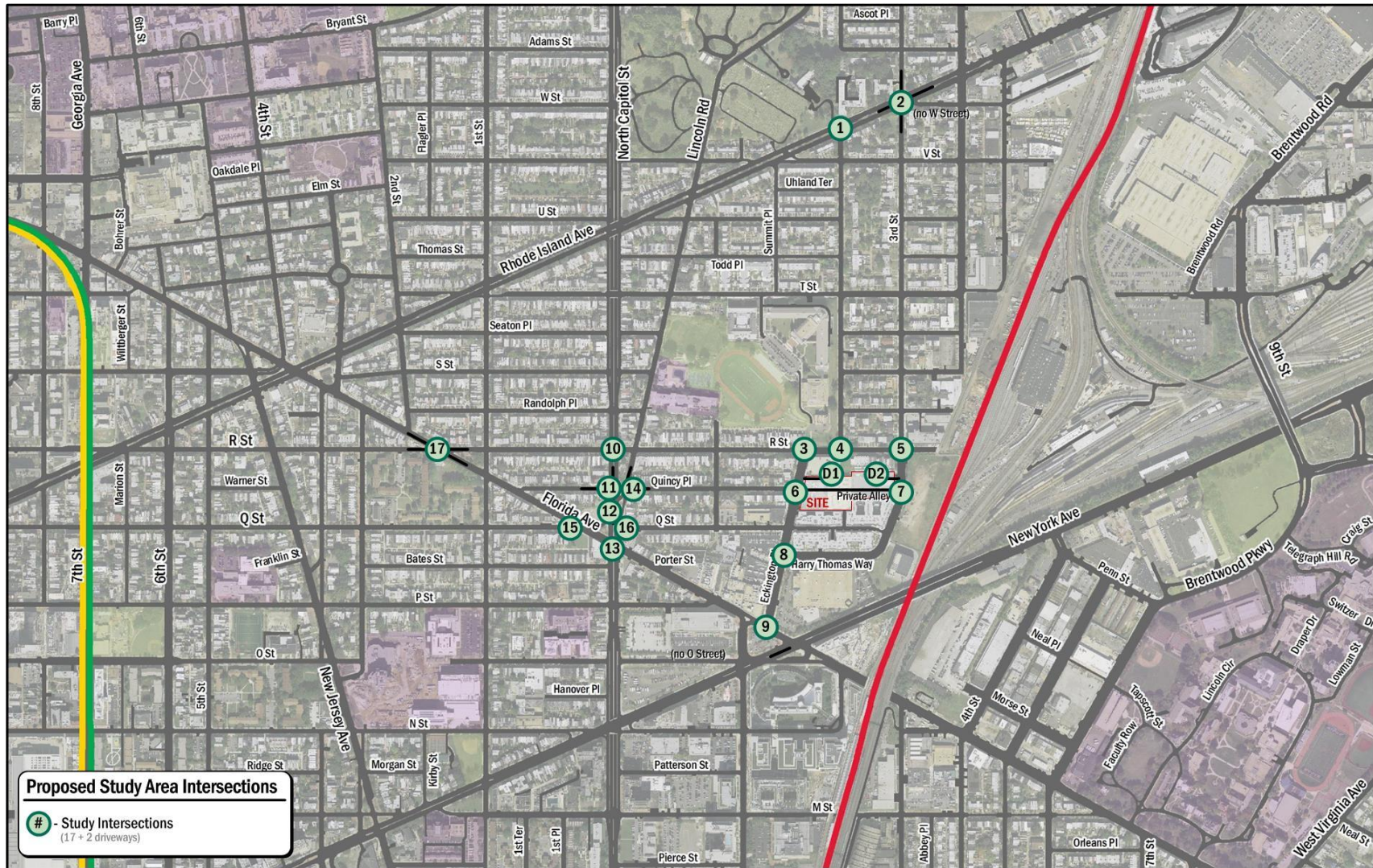


Figure 1: Study Area Intersections

Table 1 - Residential Trip Generation

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

Land Use	Land Use Code	Quantity (x)	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Apartments	220	687 du	68 veh/hr	272 veh/hr	340 veh/hr	257 veh/hr	139 veh/hr	396 veh/hr
<i>Calculation Details:</i>			20%	80%	=0.49(x)+3.73	65%	35%	=0.55(x)+17.65

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

Land Use	People/Car (from 2009 NHTS, Table 16)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Apartments	1.13 ppl/veh	77 ppl/hr	307 ppl/hr	384 ppl/hr	290 ppl/hr	157 ppl/hr	447 ppl/hr

Step 3: Split between modes, per assumed Mode Splits

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Apartments	Auto	45%	35 ppl/hr	138 ppl/hr	173 ppl/hr	131 ppl/hr	70 ppl/hr	201 ppl/hr
Apartments	Transit	45%	35 ppl/hr	138 ppl/hr	173 ppl/hr	131 ppl/hr	70 ppl/hr	201 ppl/hr
Apartments	Bike	2%	2 ppl/hr	6 ppl/hr	8 ppl/hr	6 ppl/hr	3 ppl/hr	9 ppl/hr
Apartments	Walk	8%	6 ppl/hr	25 ppl/hr	31 ppl/hr	23 ppl/hr	13 ppl/hr	36 ppl/hr

Step 4: Convert auto trips back to vehicles/hour

Land Use	People/Car (from 2009 NHTS, Table 16)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Apartments	1.13 ppl/veh	31 veh/hr	122 veh/hr	153 veh/hr	116 veh/hr	62 veh/hr	178 veh/hr

Trip Gen Summary for Residential

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	31 veh/hr	122 veh/hr	153 veh/hr	116 veh/hr	62 veh/hr	178 veh/hr
Transit	35 ppl/hr	138 ppl/hr	173 ppl/hr	131 ppl/hr	70 ppl/hr	201 ppl/hr
Bike	2 ppl/hr	6 ppl/hr	8 ppl/hr	6 ppl/hr	3 ppl/hr	9 ppl/hr
Walk	6 ppl/hr	25 ppl/hr	31 ppl/hr	23 ppl/hr	13 ppl/hr	36 ppl/hr

Table 2 - Retail Trip Generation

Note: Retail space listed as "Maker Retail".

Shopping Center (LUC 820) assumed based on prior DC projects with street-facing retail.

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

Land Use	Land Use Code	Quantity (x)	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Retail	820	46,500 sf	28 veh/hr	17 veh/hr	45 veh/hr	83 veh/hr	90 veh/hr	173 veh/hr
<i>Calculation Details:</i>			62%	38%	=0.96(x/1000)	48%	52%	=3.71(x/1000)

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

Land Use	People/Car (from 2009 NHTS, Table 16)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Retail	1.78 ppl/veh	50 ppl/hr	30 ppl/hr	80 ppl/hr	148 ppl/hr	160 ppl/hr	308 ppl/hr

Step 3: Split between modes, per assumed Mode Splits

Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Retail	Auto	35%	18 ppl/hr	10 ppl/hr	28 ppl/hr	52 ppl/hr	56 ppl/hr	108 ppl/hr
Retail	Transit	40%	20 ppl/hr	12 ppl/hr	32 ppl/hr	59 ppl/hr	64 ppl/hr	123 ppl/hr
Retail	Bike	1%	1 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr
Retail	Walk	24%	12 ppl/hr	7 ppl/hr	19 ppl/hr	36 ppl/hr	38 ppl/hr	74 ppl/hr

Step 4: Convert auto trips back to vehicles/hour

Land Use	People/Car (from 2009 NHTS, Table 16)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Retail	1.78 ppl/veh	10 veh/hr	6 veh/hr	16 veh/hr	29 veh/hr	32 veh/hr	61 veh/hr

Trip Gen Summary for Retail

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	10 veh/hr	6 veh/hr	16 veh/hr	29 veh/hr	32 veh/hr	61 veh/hr
Transit	20 ppl/hr	12 ppl/hr	32 ppl/hr	59 ppl/hr	64 ppl/hr	123 ppl/hr
Bike	1 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr
Walk	12 ppl/hr	7 ppl/hr	19 ppl/hr	36 ppl/hr	38 ppl/hr	74 ppl/hr

Table 3 - Trip Gen Summary by Land Use/Mode

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto	Apartments	31 veh/hr	122 veh/hr	153 veh/hr	116 veh/hr	62 veh/hr	178 veh/hr
Auto	Retail	10 veh/hr	6 veh/hr	16 veh/hr	29 veh/hr	32 veh/hr	61 veh/hr
Auto	Total	41 veh/hr	128 veh/hr	169 veh/hr	145 veh/hr	94 veh/hr	239 veh/hr
Transit	Apartments	35 ppl/hr	138 ppl/hr	173 ppl/hr	131 ppl/hr	70 ppl/hr	201 ppl/hr
Transit	Retail	20 ppl/hr	12 ppl/hr	32 ppl/hr	59 ppl/hr	64 ppl/hr	123 ppl/hr
Transit	Total	55 ppl/hr	150 ppl/hr	205 ppl/hr	190 ppl/hr	134 ppl/hr	324 ppl/hr
Bike	Apartments	2 ppl/hr	6 ppl/hr	8 ppl/hr	6 ppl/hr	3 ppl/hr	9 ppl/hr
Bike	Retail	1 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr
Bike	Total	3 ppl/hr	6 ppl/hr	9 ppl/hr	7 ppl/hr	5 ppl/hr	12 ppl/hr
Walk	Apartments	6 ppl/hr	25 ppl/hr	31 ppl/hr	23 ppl/hr	13 ppl/hr	36 ppl/hr
Walk	Retail	12 ppl/hr	7 ppl/hr	19 ppl/hr	36 ppl/hr	38 ppl/hr	74 ppl/hr
Walk	Total	18 ppl/hr	32 ppl/hr	50 ppl/hr	59 ppl/hr	51 ppl/hr	110 ppl/hr