

# Tolles-Parsons Senior Center



# Modified Site Affects Project Design

494 Washington Street added to site in lieu of remote parking adjacent to Police Station

- Pedestrian travel from remote parking is eliminated
- Internal vehicle circulation eliminates need to re-enter Washington Street in search of parking space
- Larger site allows larger building footprint without loss of parking capacity
- 100% of CoA program space accommodated in smaller 2-story, 13,000 SF building
  - Circulation space associated with 3<sup>rd</sup> floor is eliminated (stairs; elevator; toilet rooms; hallways)



# Tolles-Parsons Senior Center

## Transportation Study

Presented by  
**Elizabeth Peart**

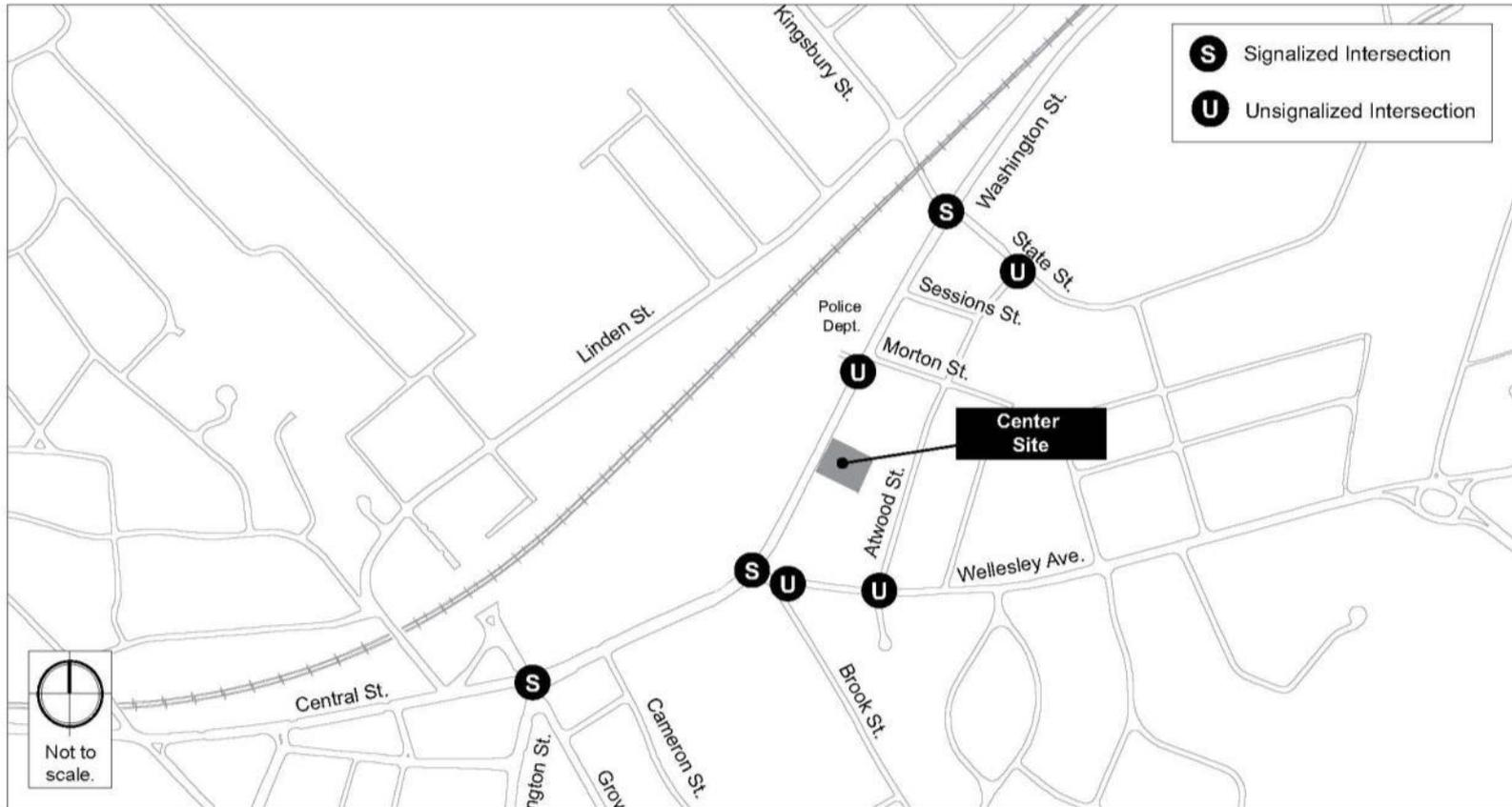
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# Traffic

**Figure 1. Study Area**



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**Table 1.** Roadway Data – Washington Street, west of Morton Street

Characteristic	Year 2009			Year 2014		
	Eastbound	Westbound	Total	Eastbound	Westbound	Total
Weekday ADT	7,880	7,880	15,760	7,130	8,340	15,470
K-factor	-	-	0.07	-	-	0.07
Average Speed	25	26	26	24	27	25
85 <sup>th</sup> percentile speed	32	32	33	28	31	29
Average annual change in volume 2009 to 2014 = -0.3% per year						

ADT = Average Daily Traffic

K-factor = The proportion of daily traffic occurring during the peak hour; based on daily and p.m. peak hour volume data.

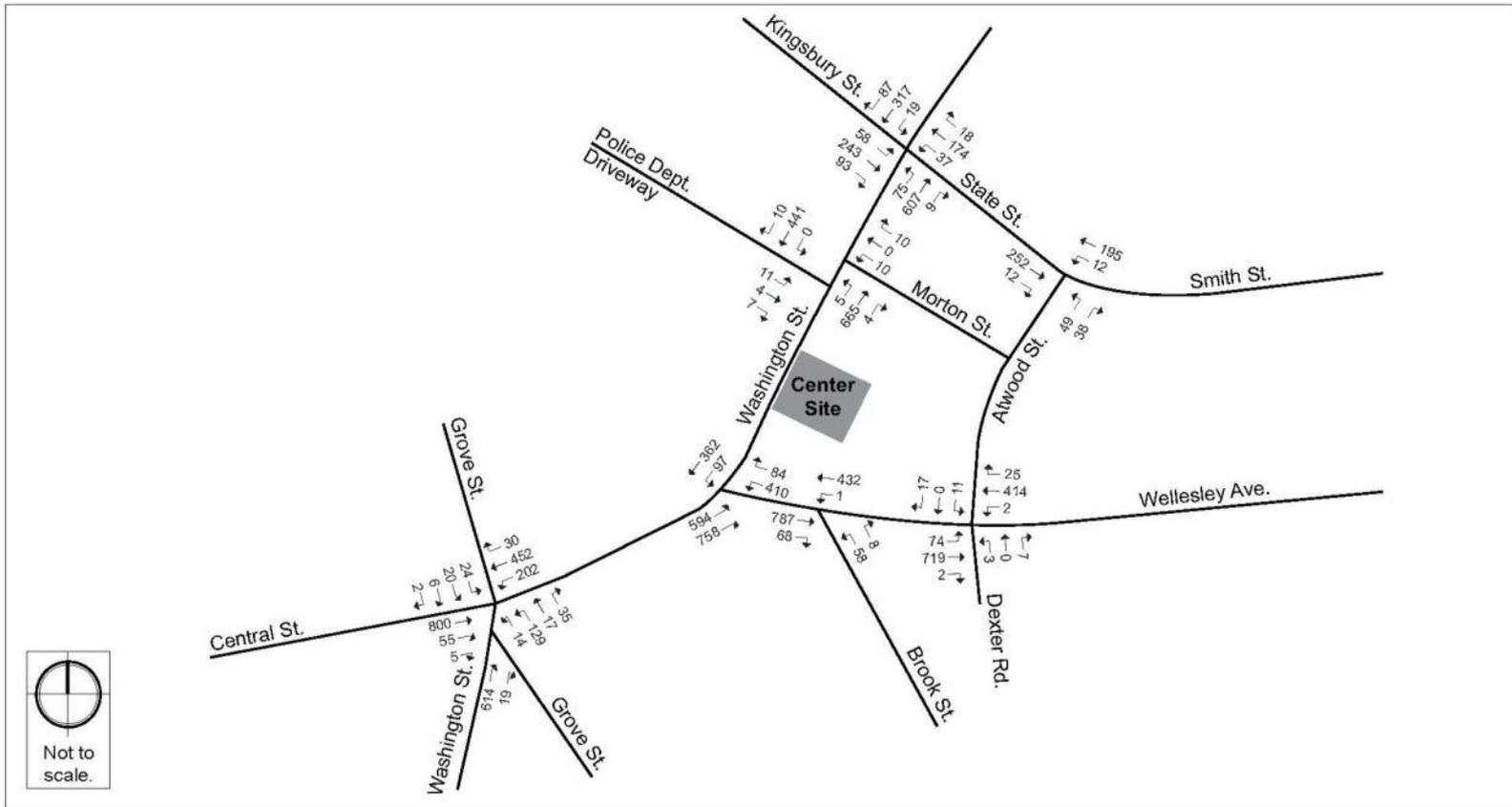
**Table 2.** Roadway Data – Atwood Street, west of Morton Street

Characteristic	Year 2002			Year 2014		
	Eastbound	Westbound	Total	Eastbound	Westbound	Total
Weekday ADT	470	470	940	480	580	1,060
K-factor	-	-	na	-	-	0.08
Average Speed	na	na	23	23	24	24
85 <sup>th</sup> percentile speed	na	na	30	28	28	28
Average annual change in volume 2002 to 2014 = +1.0% per year						

ADT = Average Daily Traffic

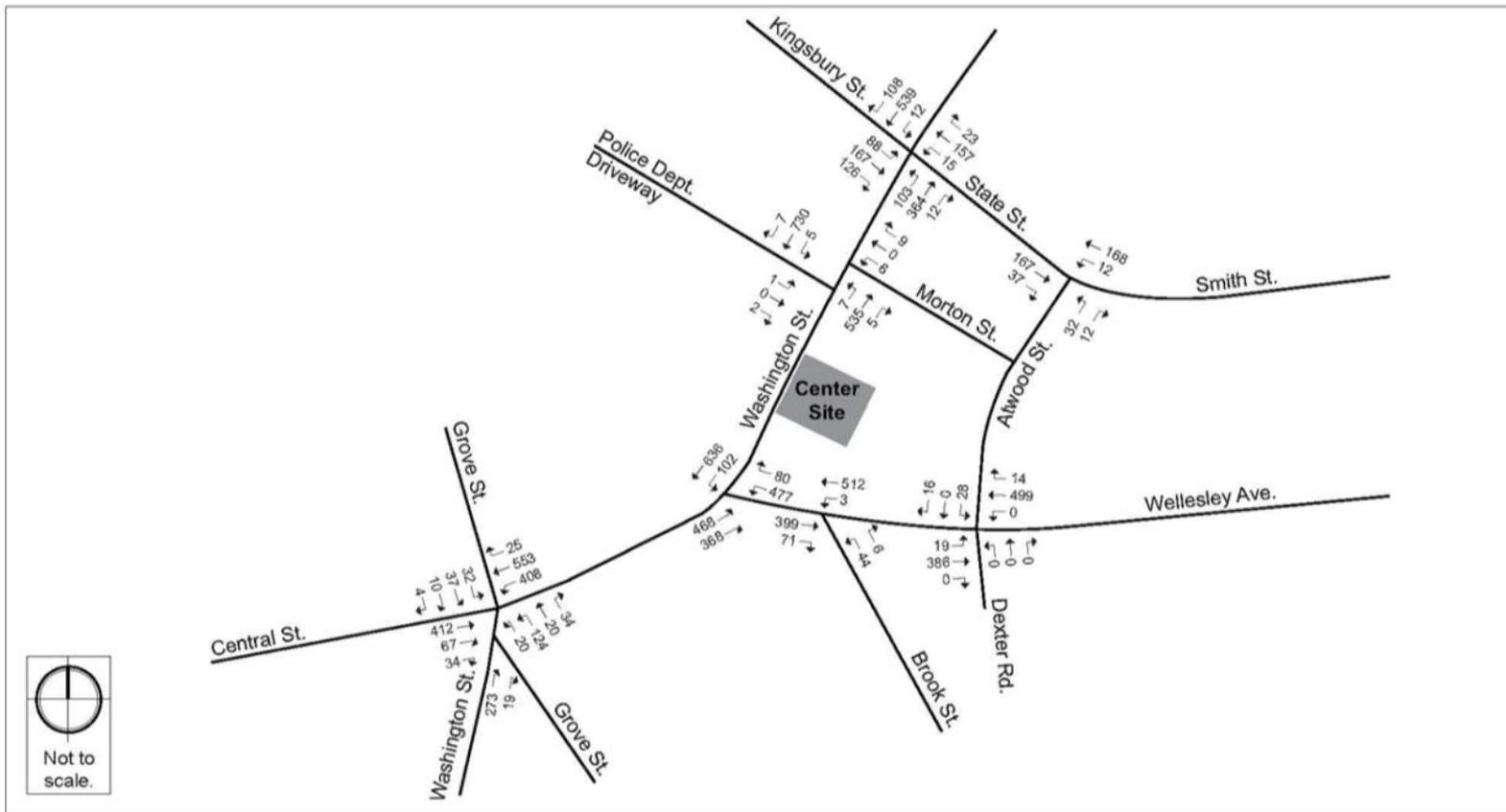
K-factor = The proportion of daily traffic occurring during the peak hour; based on daily and p.m. peak hour volume data.

**Figure 2. Existing Conditions (2014) Intersection Volumes, a.m. Peak Hour (8:00-9:00 a.m.)**



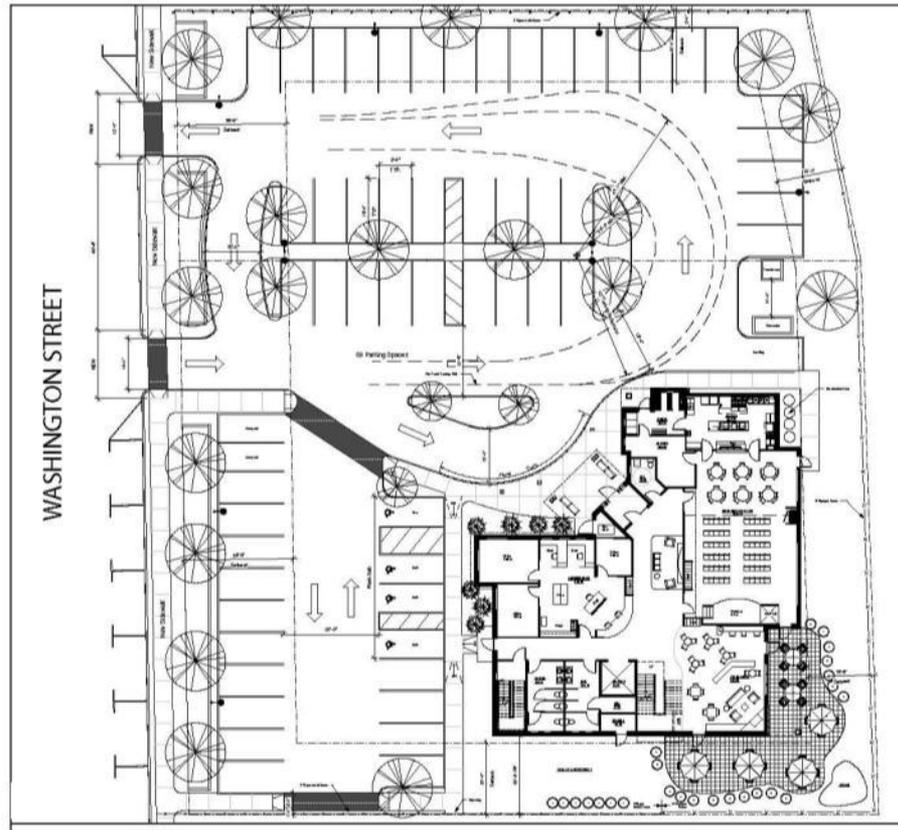
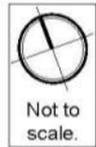
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**Figure 3. Existing Conditions (2014) Intersection Volumes, p.m. Peak Hour (5:00-6:00 p.m.)**



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**Figure 8. Tolles-Parsons Center Site Plan**



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## Typical Weekday Activity Schedule

Time	Activity
9:00 – 10:00 a.m.	Walking – outdoors/lounge
9:30 – 10:30 a.m.	Coffee hour – lounge
9:30 – 10:30 a.m.	Tai-Chi Dance/Exercise Room
9:30 – 11:00 a.m.	Community Service Bears
9:30 – 11:30 a.m.	Scrabble/Cards – Game Room
10:00 – 11:30 a.m.	Creative Writing
10:00 – 11:00 a.m.	Spanish
10:30 – 11:00 a.m.	Chess
10:30 – 11:00 a.m.	Better Balance
11:00 a.m. – 12:30 p.m.	Quilting
11:30 a.m. – 1:00 p.m.	Lunch
1:00 – 3:00 p.m.	Bridge
1:30 – 2:30 p.m.	Poetry/Book Club
1:00 – 2:00 p.m.	French Class
2:00 – 3:00 p.m.	Zumba
1:00 – 4:00 p.m.	SHINE – Wellness Room
1:30 – 3:30 p.m.	Painting

## Mode Shares and Vehicle Occupancy Rates

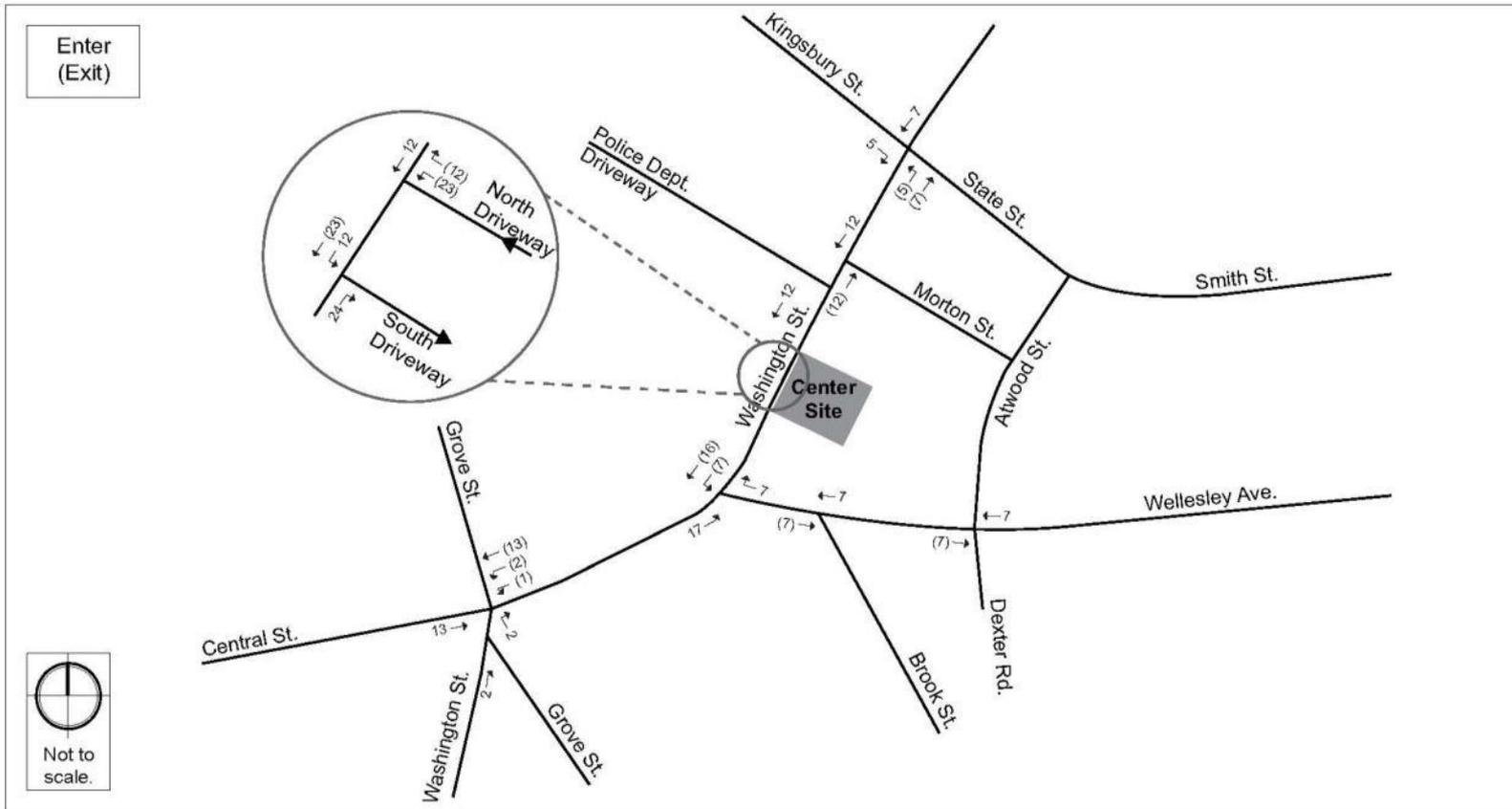
Location	Vehicle Share			Transit Share	Walk/ Bicycle Share	Average Vehicle Occupancy (AVO) <sup>1)</sup>
	Drive Alone	Carpool	Drop Off			
Wellesley						
Existing COA	66%	22%	4%	6%	2%	1.14
Tolles-Parsons Center	61%	25%	4%	6%	4%	1.17
Comparative Data						
Belmont Beech Street Center	77%		2%	4%	16%/1%	1.16
Needham Center at the Heights	74%		2%	9%	13%/2%	1.12

1) Average Vehicle Occupancy (AVO)

## Vehicle and Parking Activity

Location	Building Size (sf)	On-site parking capacity (spaces)	Spaces/ 1,000 sf	Peak parking accumulation (vehicles)	Vehicle trips during peak hour <sup>1)</sup>		
					Enter	Exit	Total
Tolles-Parsons Center	13,274	58	4.5	56	36	35	71
Belmont Beech Street Center	19,900	62	3.1	60	43	39	82
Needham Center at the Heights	20,000	65	3.2	39	20	12	32

**Figure 10. Project Generated Vehicle Trips, Peak Hour**



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# Level of Service Summary AM/PM

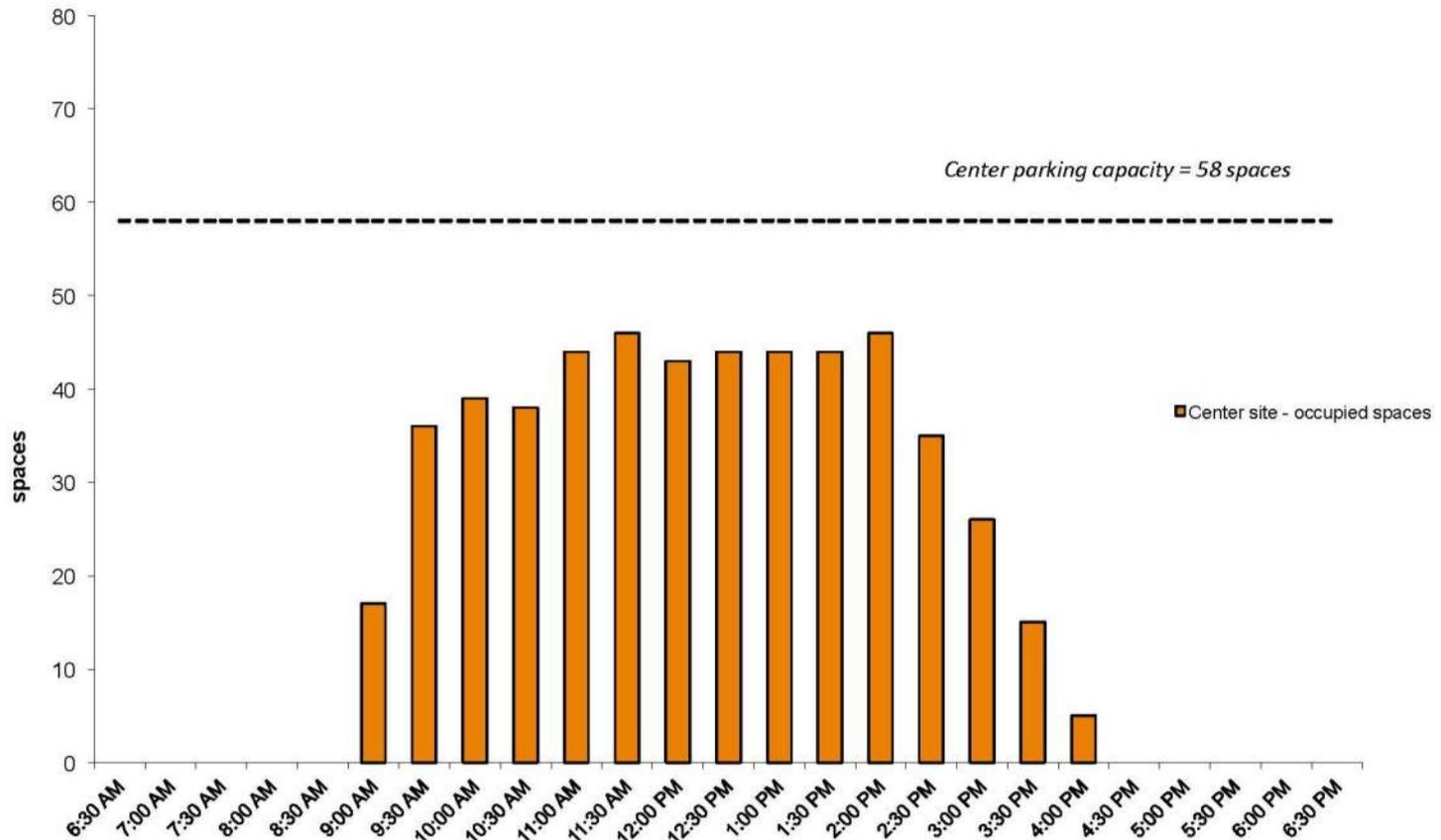
Intersection/Movement	Existing	No-Build	Build
<i>Signalized Intersections</i>			
Washington Street (Route 16)/ State Street/Kingsbury Street	D/C	D/C	D/C
Washington Street (Route 16)/ Wellesley Avenue/Brook Street	C/C	D/C	D/C
Washington Street (Route 16)/ Central Street/Grove Street	E/D	F/D	F/D
<i>Unsignalized Intersections</i>			
Washington Street (Route 16)/ Morton Street/WPD Driveway	A/A	A/A	A/A
State Street/Atwood Street	A/A	A/A	A/A
Wellesley Avenue/Atwood Street/ Dexter Road	A/A	A/A	A/A
Washington Street (Route 16)/ North Site Driveway (Exit Only)	-	-	A/A
Washington Street (Route 16)/ South Site Driveway (Enter Only)	-	-	A/A

## PSI Roadway Impacts?

Threshold	Location Deemed an Impacted Roadway?
Signalized intersection with net new approach volume increase >20 vph and approach volume increase >5.0% for daily or peak-hour conditions	No
Unsignalized intersection with net new approach volume increase > 20 vph and minor street approach volume > 50 vph	No
Overall LOS change to below LOS C.	No

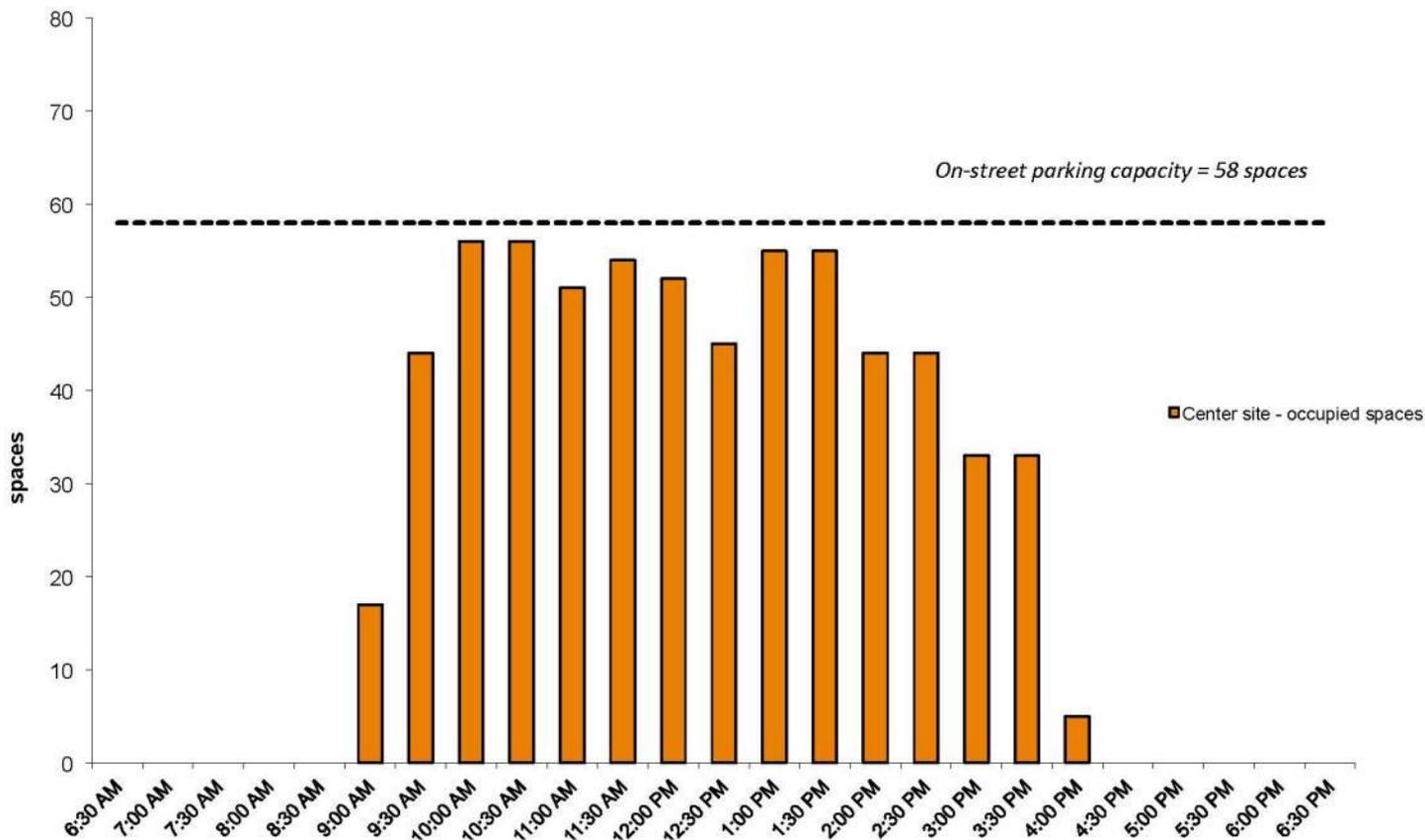
# Parking

**Figure 13. Tolles-Parsons Center Parking Demand – Scenario 1A – Typical Weekday**



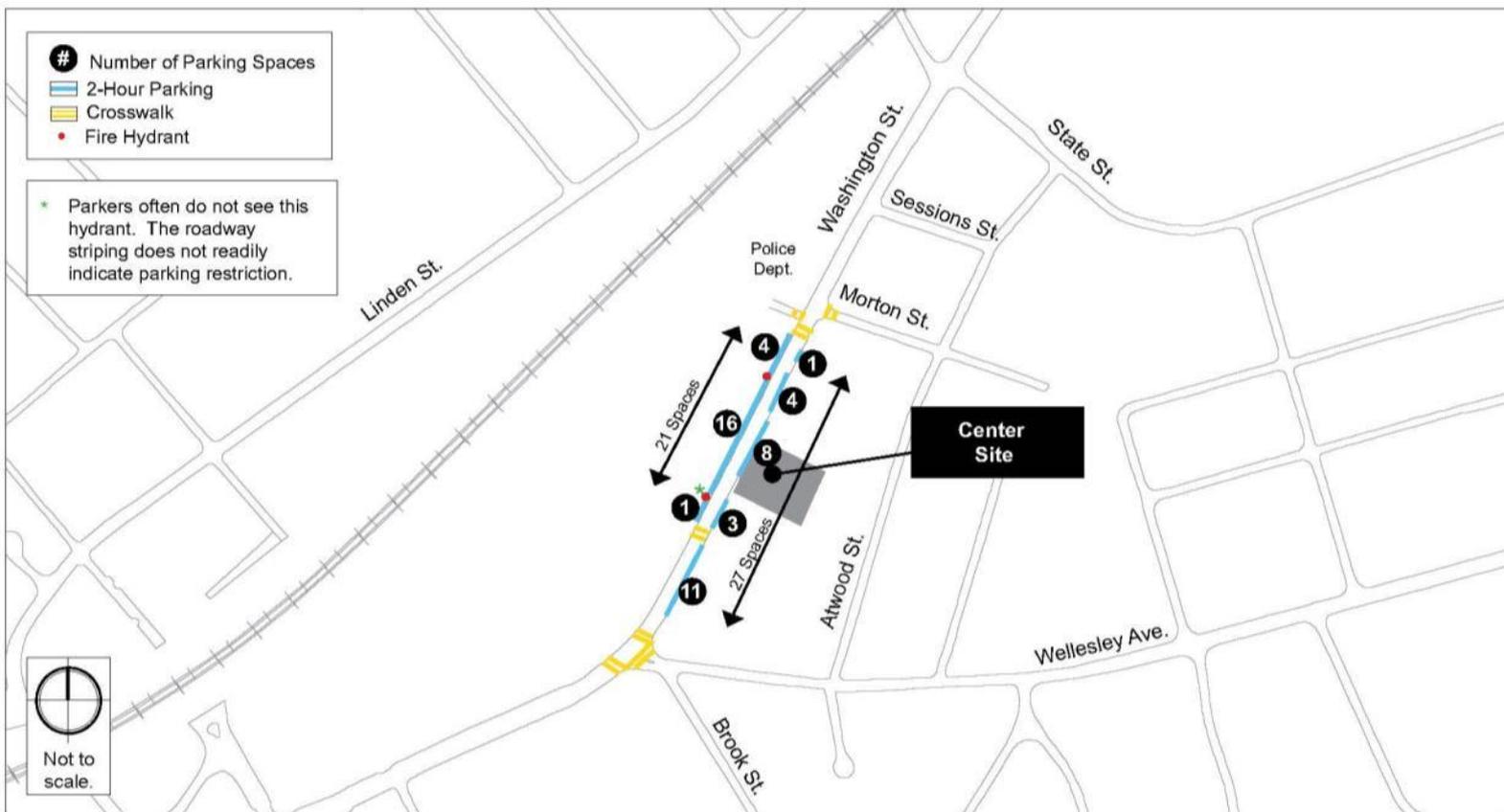
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**Figure 14. Tolles-Parsons Center Parking Demand - Scenario 1B - Typical Weekday**

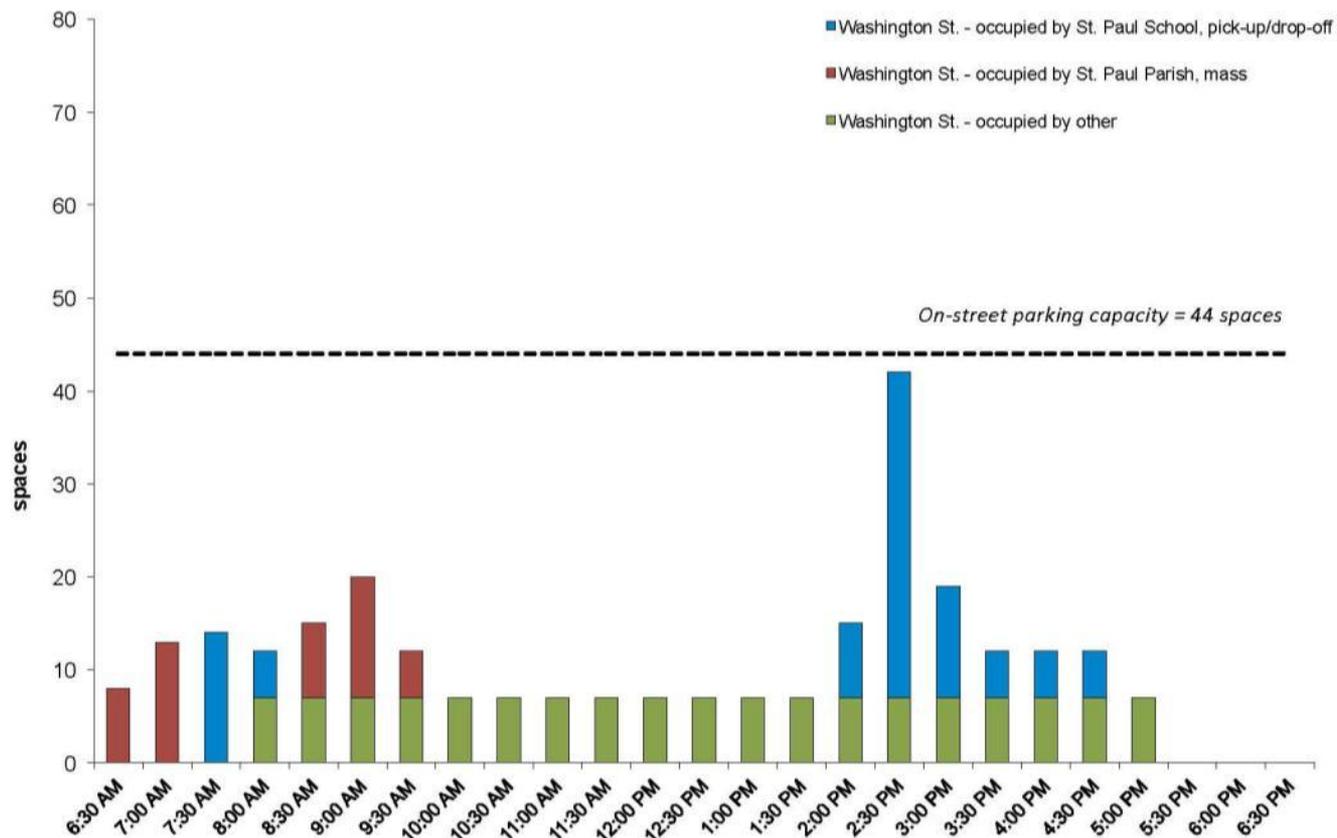


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**Figure 4. Existing On-Street Parking on Washington Street**

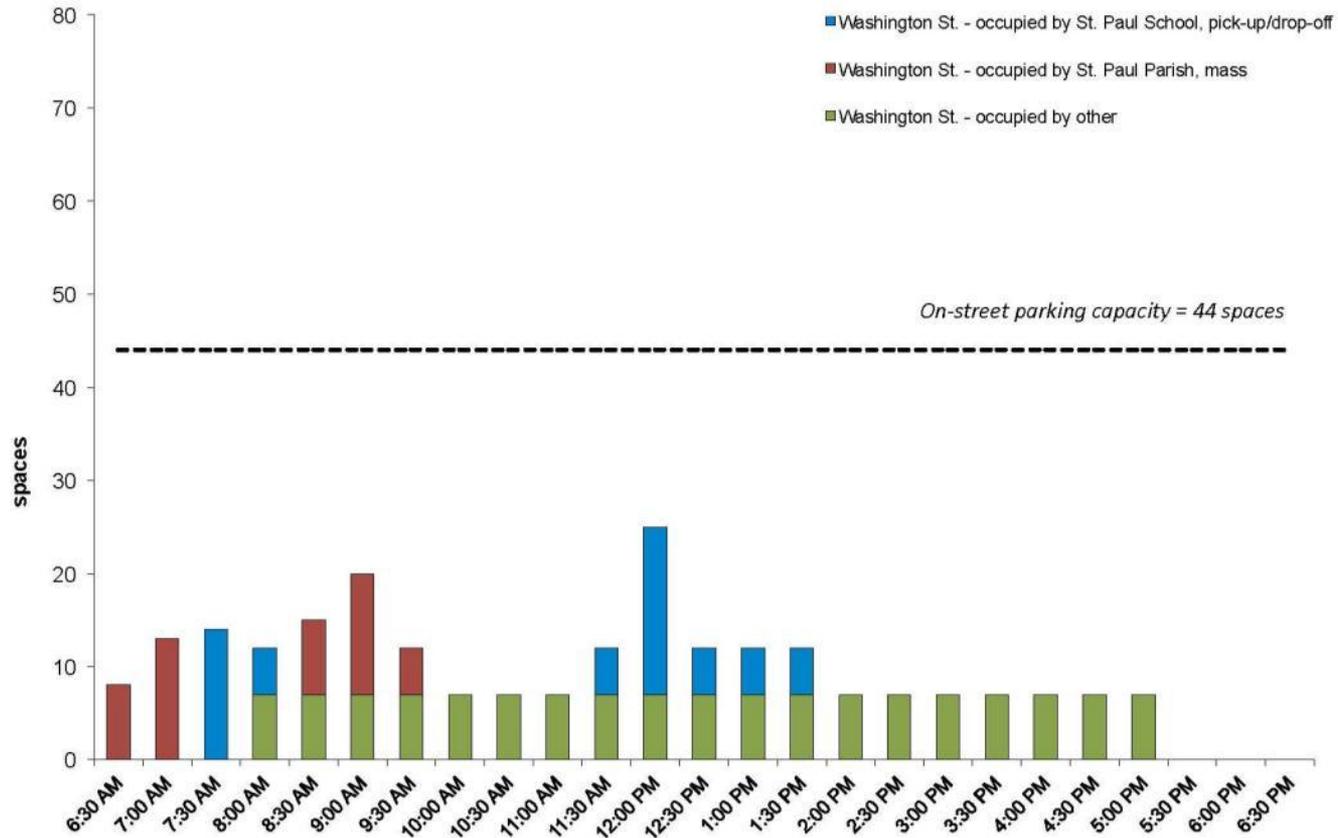


**Figure 15. Washington Street Parking Demand – Scenario 1A and 1B – Typical Weekday**

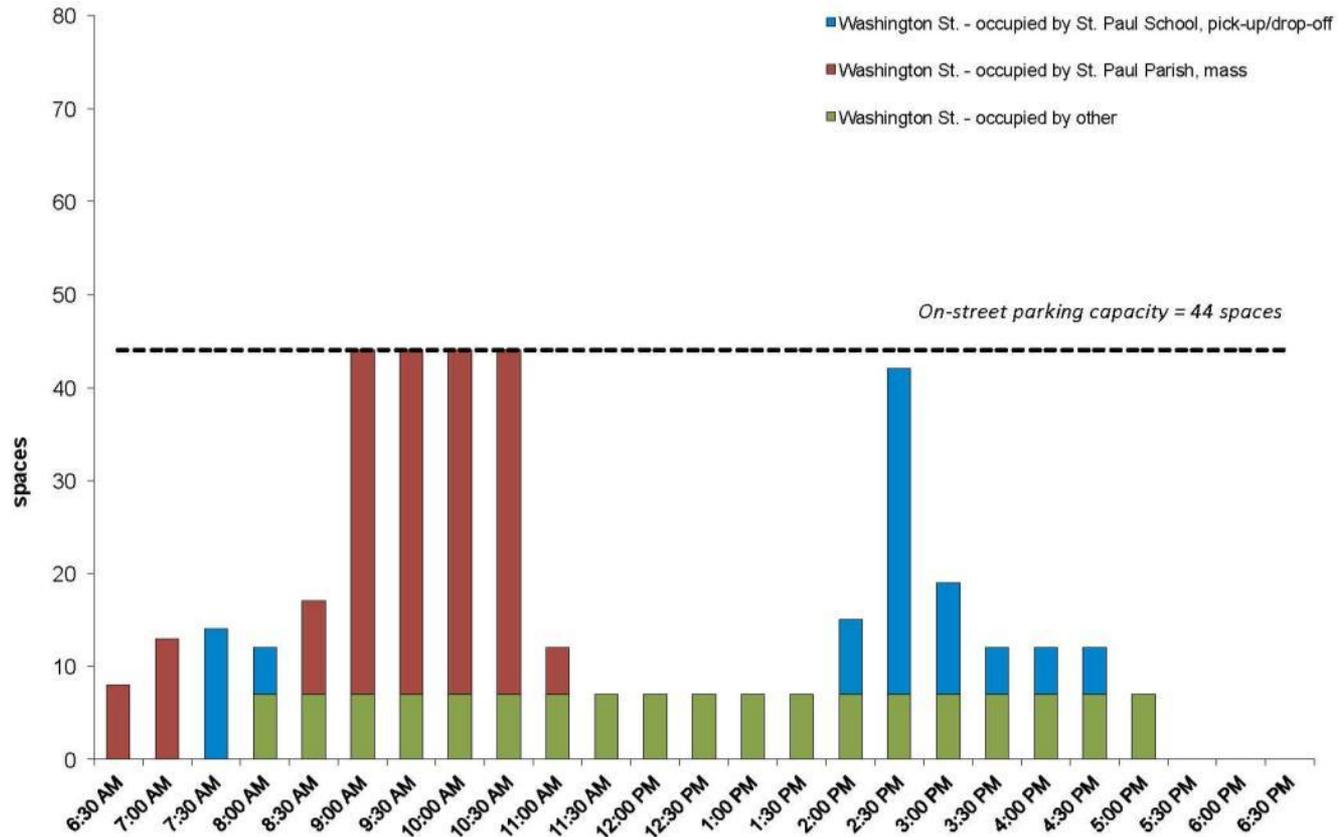


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**Figure 16. Washington Street Parking Demand – Scenario 2 – Wednesday (early school dismissal)**



**Figure 17. Washington Street Parking Demand – Scenario 3 - Weekday with Funeral at St. Paul**



# Summary of Tolles-Parsons Transportation Analysis

- Traffic
  - Peak hour of Center
    - 9:45 – 10:45 a.m.
    - 36 vehicles entering and 35 vehicles exiting
  - No impact to traffic operations
    - Study intersections
    - Site driveways
  
- Parking
  - 58 on-site spaces
  - All demand accommodated on-site



# Discussion