



Date: May 13, 2021

To: Chris Cramer, PE
Patrick Harron & Associates, LLC

From: Aaron Van Aken, PE, PTOE

Subject: Harrison Avenue Mixed-Use Parking Assessment

The intent of this memo serves to provide a parking assessment for the proposed Harrison Avenue BSP Mixed-Use development. The project proposes a 20 percent reduction with respect to the City of Olympia's required on-site parking per OMC 18.38.080.

PROJECT DESCRIPTION

The project proposes for the construction of 61 multifamily dwelling units, 4,675 square feet of office, 10,222 square feet of retail space, and 4,000 square feet of restaurant. The subject property is located on the north side of Harrison Avenue NW and west of Yaeger Way NW and is within the City's High Density Corridor 4 District. As proposed, the project would require 165 parking spaces per City of Olympia parking requirements (Section 18.38.100). The project is proposing an on-site parking supply of 132 spaces, 20% less than code requirements.

PARKING

The table below is a parking requirement breakdown per land use as prescribed in the City of Olympia's Municipal Code.

Table 1: Parking Requirements Per City of Olympia Standards

Use	Required Parking	Size	Number of Parking
Residential	1.5/unit	61 units	91.5
Office	1/300 sq. ft.	4,675 sq. ft.	15.6
Retail	3.5/1000 sq. ft.	10,222 sq. ft.	35.8
Restaurant	10/1000 sq. ft.	4,000 sq. ft.	40
Total Unadjusted			182.9
Total Adjusted (10% Reduction)			164.6

Based on the proposed uses and associated parking requirements, the project would need to supply 183 parking spaces. However, as this project is located within a high density corridor, parking requirements shall be reduced by ten percent per OMC Section 18.38.160A. The total



parking required is therefore: $183 \times .9 = 165$ parking spaces or 33 spaces greater than the proposed 132 on-site supply.

To satisfy code, the applicant proposes an administrative modification to allow a 20 percent parking reduction ($165 \times .8 = 132$ parking spaces). The project consists of several uses where shared parking arrangements could make use of underutilized parking during certain use's off-peak periods. Furthermore, the project is located in area served by transit and complete non-motorist infrastructure which may encourage alternative transport modes and reduce parking demands.

NON-MOTORIST INFRASTRUCTURE

Harrison Avenue offers complete sidewalk paths, midblock crossings, and bicycle lanes along either side of the roadway. The robust network of non-motorist infrastructure encourages alternative transport modes with access to nearby transit and local amenities. Yauger Way similarly offers complete sidewalks and designated bicycle lanes (south of Harrison Avenue).

TRANSIT

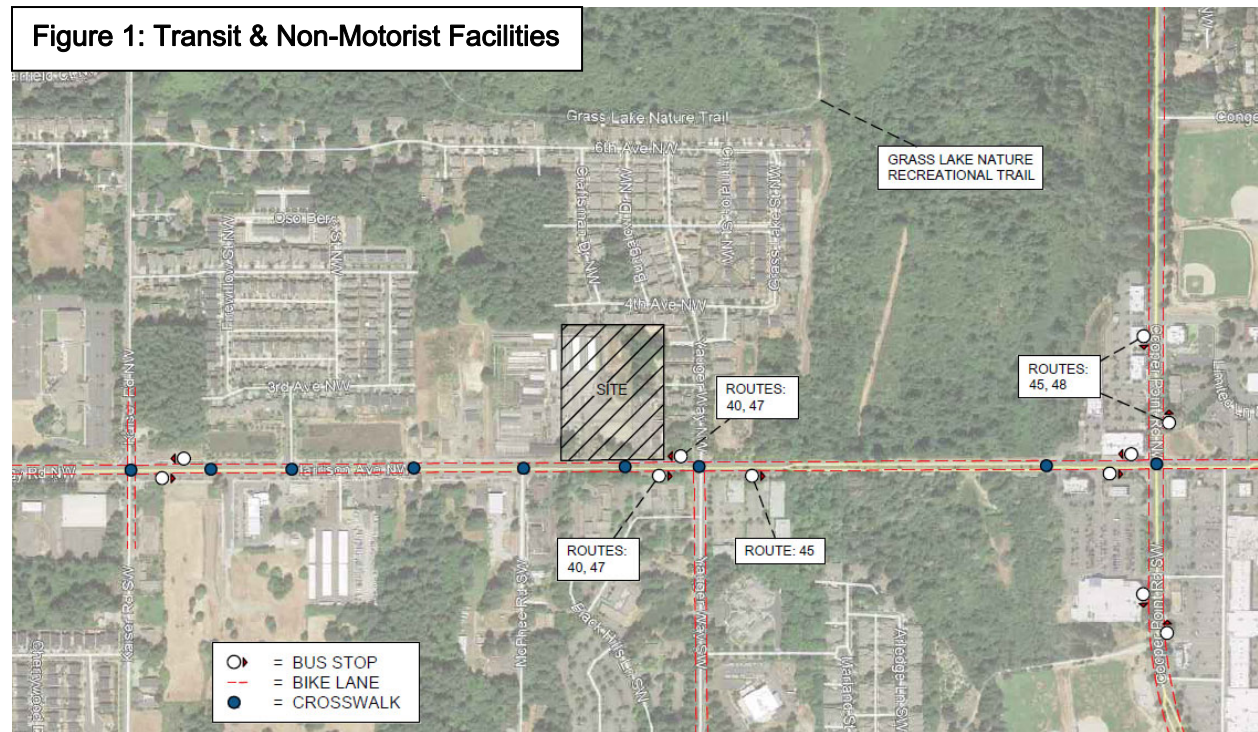
The subject site is located on the north side of Harrison Avenue, just west of Yauger Way. Transit service is provided along Harrison Avenue with a bus pullout near the southeast frontage. The area is serviced via Intercity Routes 45, 47 and 48 as well as Grays Harbor Transit Route 40. Specifications of the nearest service lines are summarized in Table 2 below.

Table 2: Bus Routes

Route	Description	Weekday Service	Saturday	Sunday	Nearest Stop
40	East County & Olympia: Olympia to Hoquiam	5:20 AM – 9:30 PM (every ~60 minutes)	Not Provided	Not Provided	Project frontage
45	Capital Mall, Conger, and the Olympia Transit Center	7:45 AM – 7:40 PM (every ~60 minutes)	7:45 AM – 7:40 PM (every ~60 minutes)	7:45 AM – 7:40 PM (every ~60 minutes)	~440'
47	Capital Med. Center, Capital Mall and the Olympia TC	7:12 AM – 7:55 PM (every ~60 minutes)	7:12 AM – 7:55 PM (every ~60 minutes)	7:12 AM – 7:55 PM (every ~60 minutes)	Project frontage
48	The Evergreen State College, Capital Mall and the Olympia TC	7:39 AM – 9:10 PM (every ~60 minutes)	7:39 AM – 9:10 PM (every ~60 minutes)	7:39 AM – 9:10 PM (every ~60 minutes)	~2,530'



Given the proximity to frequent transit service, use can be expected from the incoming project. Refer to the Intercity and Grays Harbor transit schedules for more detailed information. A figure is provided below depicting transit and non-motorist facilities in the vicinity of the subject site.

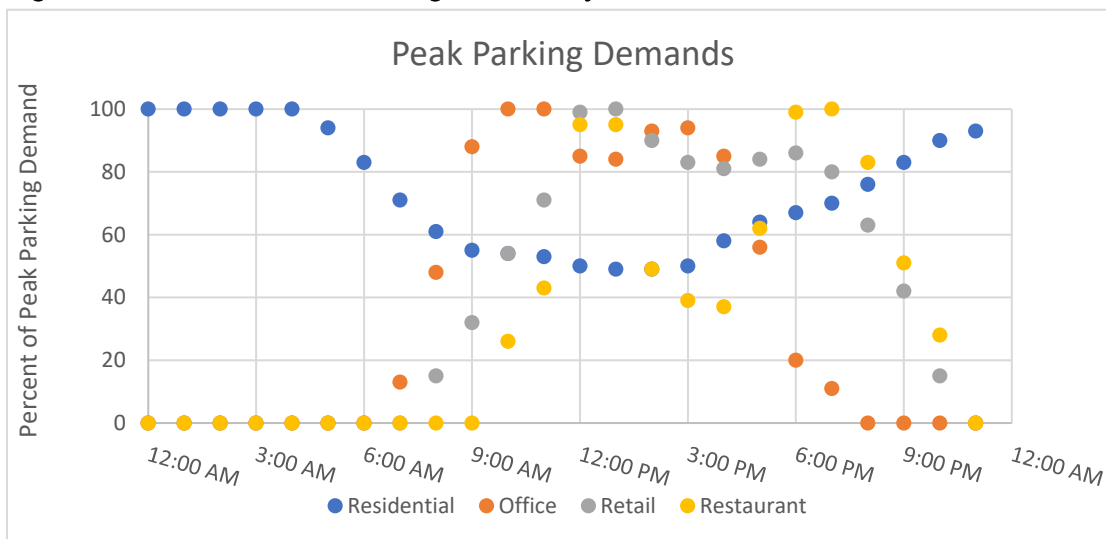




PARKING DEMAND

The proposed development is comprised of several uses (e.g., residential, office, retail, etc.) which often generate parking demands that vary throughout a day. For example, residential uses generate the greatest parking demands at night when retail has little to no parking needs. See below time distribution parking demand graph utilizing data obtained in ITE's *Parking Generation Manual* 5th Edition.

Figure 2: Time-Distributed Parking Demand by Use



Illustrated on the x-axis are hours throughout a single 24-hour typical weekday period plotted against the y-axis which contains the parking demand of each respective use (expressed as a percentage). As shown above, residential parking demands (blue) have an inverse relationship with respect to commercial parking demands. Residents typically leave their homes in the early morning and return in the evening. Conversely, commercial uses tend to generate their activity in the middle of the day.

Using the code-required parking as a peak demand assumption and applying the peak parking time distributions above, the following table identifies the aggregate parking totals per hour. Shown at the top of the table are the total parking demand (100%) for each land use which totals to the 165 parking spaces per code requirements.



Table 3: Parking Totals Per Hour

	Residential	Office	Retail	Rest	Total
Peak Parked Vehicles	83	14	32	36	165
	Parked Vehicles				
12:00 AM	83	0	0	0	83
1:00 AM	83	0	0	0	83
2:00 AM	83	0	0	0	83
3:00 AM	83	0	0	0	83
4:00 AM	83	0	0	0	83
5:00 AM	78	0	0	0	78
6:00 AM	69	0	0	0	69
7:00 AM	59	2	0	0	61
8:00 AM	51	7	5	0	62
9:00 AM	46	12	10	0	68
10:00 AM	45	14	17	9	85
11:00 AM	44	14	23	15	96
12:00 PM	42	12	32	34	119
1:00 PM	41	12	32	34	119
2:00 PM	41	13	29	18	100
3:00 PM	42	13	27	14	95
4:00 PM	48	12	26	13	99
5:00 PM	53	8	27	22	110
6:00 PM	56	3	28	36	122
7:00 PM	58	2	26	36	121
8:00 PM	63	0	20	30	113
9:00 PM	69	0	13	18	101
10:00 PM	75	0	5	10	90
11:00 PM	77	0	0	0	77

The table above assumes the aggregate peak parking demands for all uses is 165 parked vehicles (based on City code). However, accounting for the dissimilar activity in parking needs throughout the day, the proposed parking supply of 132 stalls is shown to sufficiently meet on-site needs. Peak periods are shown to occur between 12:00-2:00 PM (119 occupied spaces) and 6:00-8:00 PM (122 occupied spaces). This takes into consideration the varying peaking demands generated from each specific use. Offices, for example, typically do not need parking past 8:00 PM when restaurants can still be 80-85% parked and residential around 75% parked. Having disparate scheduling allows for shared parking opportunities while avoiding providing unnecessary parking that would otherwise be underutilized.



CONCLUSION

The proposed mixed-use development offers several uses that vary in peak parking activity. City of Olympia code would require 165 parking spaces when totaling up each use independently. However, mix-use sites offer advantages in that one trip may use complimentary uses (e.g., resident parked but walks to restaurant) which can reduce the overall parking demands. Furthermore, the subject site offers convenient access to local transit, sidewalks, and bicycle lanes which encourages alternative modes of transport. The availability of on-site bicycle parking can also facilitate non-vehicular trips.

Based on ITE time distribution data, cross utilization on parking can be achieved. Residential parking demands are greatest at night when commercial uses have no parking needs. As the day progresses, residential parking demands reduce while commercial uses increase. Using the City's parking code of 165 spaces as the peak parking demand, parking needs are shown to be met assuming shared parking.

The proposed 20 percent reduction to City code parking requirements is not anticipated to result in overflow parking to the nearby neighborhood streets. The mixed uses on-site allow for shared parking opportunities given the varying peak demand periods. As the site is expected to accommodate all parking needs on-site, customers or residents from the Harrison Avenue Mixed-Use development are not anticipated to overflow park on the surrounding neighborhood streets. Peak parking estimates of 122 vehicles could be contained within the site given the proposed supply of 132 parking spaces.

It is recommended to incorporate shared parking arrangements to achieve optimal on-site operations and meet parking demands for the development.

Please call if you require additional information.

Aaron Van Aken, PE, PTOE