

MEMORANDUM

Date:	April 25, 2011	TG:	10196.00
To:	Thang Nguyen and Teresa Swan – City of Kirkland		
From:	Mike Swenson and Stefanie Herzstein – Transpo Group		
cc:	Lobsang Dargey – Dargey Enterprises		
Subject:	Potala Village Updated Land Use Proposal: Trip Generation and Parking Analysis		

The land use for the Potala Village development has changed since the completion of the *Transportation Impact Analysis – Potala Village, Kirkland, WA*, April 2011 (herein referred to as April 2011 TIA). This memorandum provides a brief summary of the current land use and associated changes to trip generation and parking demand.

The April 2011 TIA provided analysis for development of apartment units as well as retail and restaurant uses. The current proposal would develop office use rather than the retail and restaurant component. The current development proposal includes 143 apartment units, 3,000 square-feet of medical office and 3,186 square-feet of general office. Access to the site would be via Lake Street as evaluated in the April 2011 TIA. The proposed project would provide 317 parking spaces. The current site plan is attached.

Trip Generation

Daily and weekday peak hour trip generation for the current proposal was estimated based on the land use size and trip rates from the Institute of Transportation Engineers' *Trip Generation*, 8th Edition using the same method as outlined in the April 2011 TIA. Table 1 summarizes the estimated trip generation for the current proposal. As shown in the table, the proposed Potala Village is anticipated to generate approximately 1,070 net new daily trips with 86 trips occurring during the AM peak hour and 107 trips occurring during the PM peak. The current proposal generates approximately 270 fewer daily trips, 15 fewer AM peak hour trips, and 21 fewer PM peak hour trips than the project description analyzed as part of the April 2011 TIA.

Table 1. Estimated Project Trip Generation

Land Use	Size ¹	Daily ¹	Weekday AM Peak Hour ¹			Weekday PM Peak Hour ¹		
			In	Out	Total	In	Out	Total
Proposed Use								
Apartment #220	143 units	990	15	59	74	62	34	96
General Office #710	3.186 ksf	35	4	1	5	1	4	5
Medical Office #720	3.000 ksf	<u>108</u>	<u>6</u>	<u>1</u>	<u>7</u>	<u>3</u>	<u>7</u>	<u>10</u>
<i>Subtotal of Proposed Use</i>		1,133	25	61	86	66	45	111
Existing Use								
Specialty Retail #814	1.500 ksf	66	0	0	0	2	2	4
Net New Project Trips		1,067	25	61	86	64	43	107
<i>April 2011 TIA Project Trips</i>		1,340	29	72	101	80	48	128
Net Difference		-273	-4	-11	-15	-16	-5	-21

Note: ksf = 1,000 square-feet

1. Based on ITE *Trip Generation*, 8th Edition regression equation for Apartment #220 and average trip rates for Medical Office #720, General Office (#710) and Specialty Retail #814.

Parking Demand Analysis

The anticipated parking demand was calculated based on weekday average rates in ITE's *Parking Generation*, 4th Edition (see attached) using the same method as the April 2011 TIA. Table 2 provides a summary of the estimated parking demand. As shown in the table, the proposed parking supply would accommodate the peak parking demand with or without consideration of shared or existing on-street parking.

Table 2. Estimated Parking Demand

Land Use	Size	Parking Rate ¹	Peak Parking Demand	Peak Shared Parking Demand ²
Apartment (#221)	143 units	1.23 vehicles per unit	176	
General Office #701	3,186 sf	2.84 vehicles per 1,000 sf	9	176
Medical Office #720	3,000 sf	3.20 vehicles per 1,000 sf	<u>10</u>	
Total Demand			195	176
<i>Proposed Supply</i>			<u>317</u>	<u>317</u>
Net Difference			-122	-141

Note: sf = square-feet

1. Weekday average rate for suburban location from ITE's *Parking Generation*, 4th Edition.

2. Based on time of day information in ITE's *Parking Generation*, 4th Edition, where the peak parking demand for all the uses would occur between 12:00 to 4:00 a.m. when all the residential parking would be required and no commercial spaces would be needed.

City of Kirkland Parking Code Analysis

The project includes 317 garage parking spaces. The City of Kirkland Municipal Code Title 23 *Zoning* requires 1.7 spaces per residential unit, up to 0.5 spaces per residential unit for guest parking, one space per 300 square-feet for office uses, and one space per 200 square-feet for medical-dental office for zone BN. Table 3 provides a summary of the proposed parking supply compared to parking code. As shown in the table, the proposed parking supply would meet the City's parking code. The developer would provide approximately 0.31 spaces per unit for visitor parking, which is within the range typically required by the City¹.

Table 3. Kirkland Parking Requirements

Land Use	Size	Parking Code	Code Parking Supply	Proposed Parking Supply
Apartments (Resident)		1.7 stalls per unit	244 spaces	244 spaces
Apartments (Guest)	143 units	up to 0.5 per unit	36 ¹ to 72 spaces	44 spaces
Office	3,186 sf	1 space per 300 sf	11 spaces	29 spaces
Medical Office	3,000 sf	1 space per 200 sf	15 spaces	
Total			306 to 342 spaces	317 spaces

Note: sf = square-feet

1. The parking code requires up to 0.5 stalls per unit for visitors. Based on past project, the City has typically required between 0.25 and 0.5 stalls per unit.

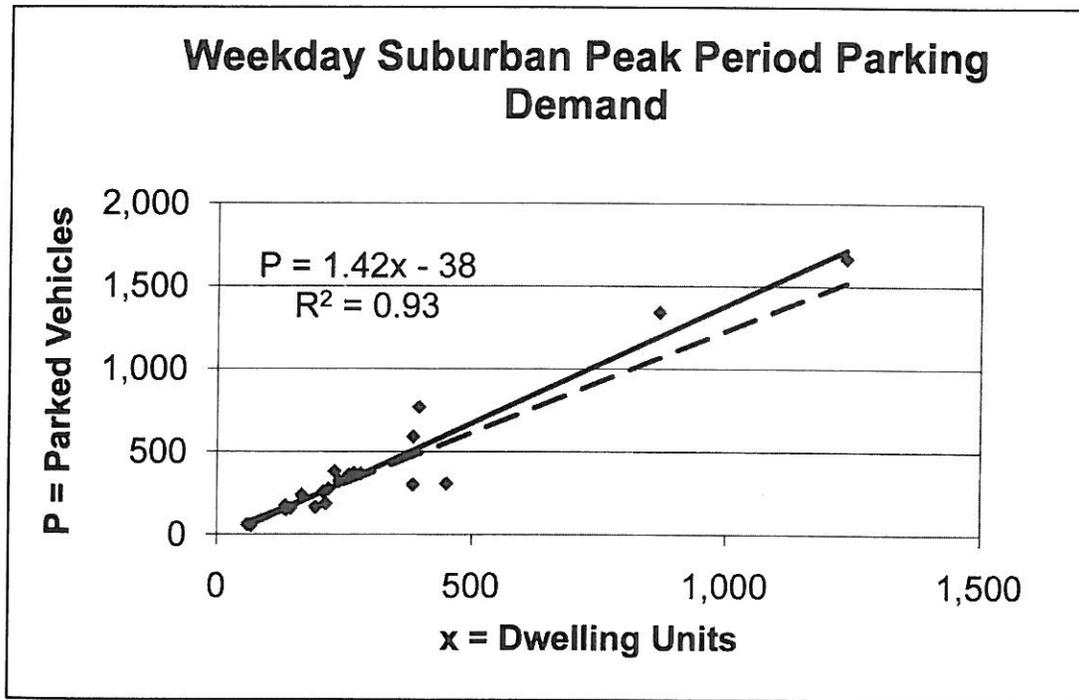
Overall, the trip generation and parking demand are anticipated to be less with the current proposal as compared to the April 2011 TIA. Therefore, transportation impacts related to the proposed project would be less than documented in the April 2011 TIA.

¹ The parking code requires up to 0.5 stalls per unit for visitors. Based on past projects, the City has typically required between 0.25 and 0.50 spaces per unit.

Land Use: 221 Low/Mid-Rise Apartment

**Average Peak Period Parking Demand vs. Dwelling Units
On a: Weekday
Location: Suburban**

Statistic	Peak Period Demand
Peak Period	12:00–5:00 a.m.
Number of Study Sites	21
Average Size of Study Sites	311 dwelling units
Average Peak Period Parking Demand	1.23 vehicles per dwelling unit
Standard Deviation	0.32
Coefficient of Variation	21%
95% Confidence Interval	1.10–1.37 vehicles per dwelling unit
Range	0.59–1.94 vehicles per dwelling unit
85th Percentile	1.94 vehicles per dwelling unit
33rd Percentile	0.68 vehicles per dwelling unit

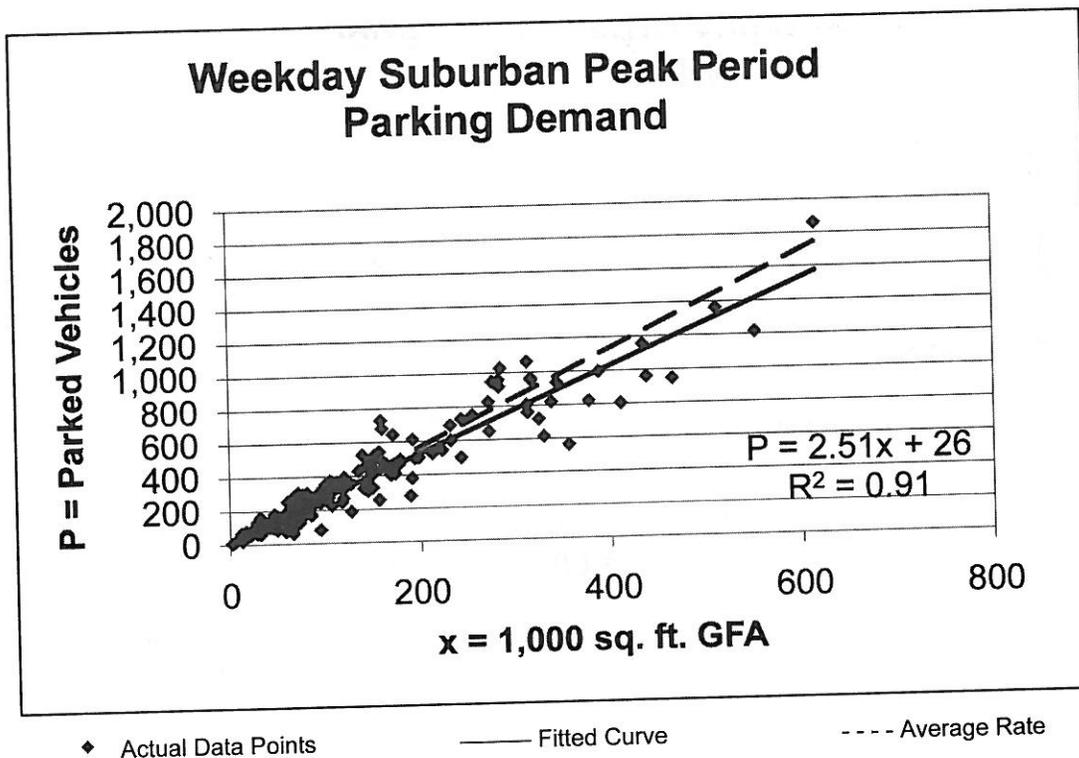


◆ Actual Data Points — Fitted Curve - - - Average Rate

Land Use: 701 Office Building

Average Peak Period Parking Demand vs. 1,000 sq. ft. GFA
On a: Weekday
Location: Suburban

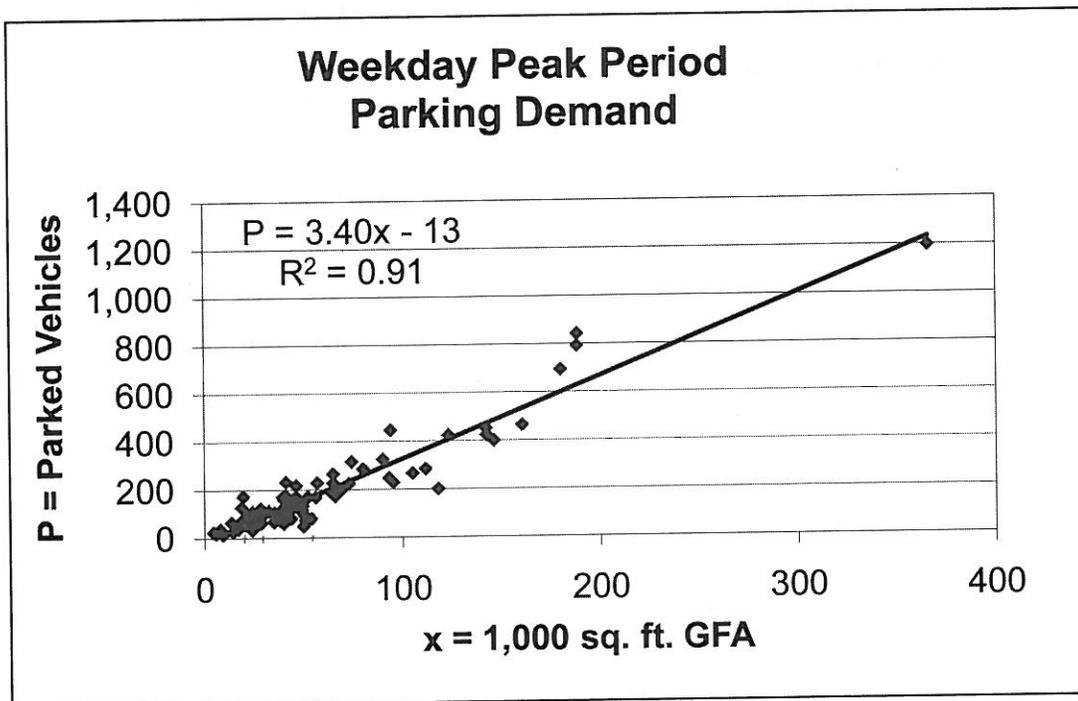
Statistic	Peak Period Demand
Peak Period	9:00 a.m.–4:00 p.m.
Number of Study Sites	176
Average Size of Study Sites	136,000 sq. ft. GFA
Average Peak Period Parking Demand	2.84 vehicles per 1,000 sq. ft. GFA
Standard Deviation	0.73
Coefficient of Variation	26%
95% Confidence Interval	2.73–2.94 vehicles per 1,000 sq. ft. GFA
Range	0.86–5.58 vehicles per 1,000 sq. ft. GFA
85th Percentile	3.45 vehicles per 1,000 sq. ft. GFA
33rd Percentile	2.56 vehicles per 1,000 sq. ft. GFA



Land Use: 720 Medical-Dental Office Building

**Average Peak Period Parking Demand vs. 1,000 sq. ft. GFA
On a Weekday**

Statistic	Peak Period Demand
Peak Period	10:00 a.m.–12:00 p.m.; 2:00–3:00 p.m.
Number of Study Sites	86
Average Size of Study Sites	57,000 sq. ft. GFA
Average Peak Period Parking Demand	3.20 vehicles per 1,000 sq. ft. GFA
Standard Deviation	1.22
Coefficient of Variation	38%
95% Confidence Interval	2.94–3.46 vehicles per 1,000 sq. ft. GFA
Range	0.96–5.65 vehicles per 1,000 sq. ft. GFA
85th Percentile	4.27 vehicles per 1,000 sq. ft. GFA
33rd Percentile	2.68 vehicles per 1,000 sq. ft. GFA



◆ Actual Data Points

— Fitted Curve/Average Rate