

MEMORANDUM

Date: September 22, 2015

To: Paul Stickney

From: Chris Breiland and Sarah Keenan

Subject: Analysis of Sammamish Town Center Trip Generation Rates and the Ability to

Meet Additional Economic and Demographic Housing Needs Without

Resulting in Additional Traffic Generation and Traffic Impacts

SE15-0388

This memorandum summarizes our review and analysis of the trip generation assumptions and observations that we have made in Sammamish. The goal of this memorandum is to provide insight to whether the trip generation estimates made by David Evans and Associates as part of the Town Center EIS accurately reflect a "suburban center" like that proposed for Town Center. The risk of overstating trip generation in Town Center is that it limits development opportunities in the City to provide housing to meet the economic and demographic needs of Sammamish residents. This memorandum does not call into question the total number of vehicle trips identified in the SEPA document, as that is fundamental to the City's level of service policy. In this document, we explore whether additional development could be accommodated under the vehicle "trip cap" identified in the EIS by taking a more in-depth evaluation of the following factors:

- Trip generation rates based on a variety of residential and commercial land use categories¹
- Urban form and location factors—the "Ds2"
 - Density of development

¹ The Institute of Transportation Engineers (ITE) *Trip Generation Manual* has many different land use categories that transportation professionals have been collecting trip generation data on for many years. Land use categories can include both specific and generalized uses; for example, the manual has trip generation rates for "apartments," "condominium/townhome," "senior housing" "mid-rise apartments," and "high-rise condominiums" just to name a few.

² As we note later in this document, not all of the "D" factors are relevant to Sammamish. Fehr & Peers has a tool to identify the major and minor factors based on where the city is located in the region and the transportation networks around the city. The "Ds" are explained in page 2 of this memo.



- o Diversity of land uses (residential, retail, office, etc.)
- o Design of the pedestrian, bicycle, local roadway system
- Distance to major employment centers
- Distance/accessibility to transit
- o Demographics of residents (household size, income)
- Driving preferences (including whether people own a car)
- Comparisons of different types of developments in Town Center
 - o Relative proportions of 1-2 story housing and 3-7 story housing
 - Senior housing versus all-age housing
 - Balancing retail and office/commercial uses
 - High-intensity retail (e.g., grocery stores that generate a lot of car trips) versus smaller-scale retail

Summary of DEA Trip Generation Results

As a first step of this analysis, Fehr & Peers reviewed the trip generation assumptions used by David Evans and Associates (DEA) in the Town Center EIS, as documented in a table emailed by Jeff Brauns to Paul Stickney on January 29, 2014. This table is provided below:

Hi Paul,

After looking back through the Town Center FEIS and supporting documentation, I think what you are primarily interested can be summarized by the table below. Please let me know if you'd like to discuss this in more detail.

Breakdown of Town Center modeled land uses:

Land Use Category	ITE Land Use Code	Town Center Units	Trip Rate per Unit	PM Pk H	
Single Family	210	100	1.01	101	
Condominium	231	950	0.78	741	
Apartment	220	950	0.62	589	
Residential Total	al	2,000		1,431	
Retail (broad avg)	**	397	6.81	2,703	
Office	710	197	1.49	294	
Commercial To	tal (1,000 SF)	594		2,997	
Net New Trips				4,428	

^{*} ITE Trip Generation (7th Edition) for PM peak hour of adjacent street traffic (4-6 PM)

^{**} The trip rate used above for Retail (6.81) is in the middle of broad range for all types of retail, and consistent with the traffic model rates.



Further review indicates that the total trips above were reduced by 24 percent to account for "internalization" within the Town Center (e.g., vehicle trips that begin and end in Town Center and therefore do not add to traffic outside of the area). Additionally, DEA quantified the number of Town Center trips that remain within the City (51 percent) and those that are external to the City (24 percent). These findings are outlined in the following figure taken from the FEIS and Impact Fee Study.

1 CC 2 CC 3 CC 3 CC Total Gross Trips Source: 2006 Impact Fe 1. Growth Trips in 2006	onnects With onnects Exte	in Town Cen in Sammami		1,468 2,394 1,116 4,978	30% 48% 22% 100%	O.S. Trips 400 150	Net Trips 1,068 2,244 1,116	24% /51% /25%	
2 Cd 3 Cd Total Gross Trips Source: 2006 Impact Fe 1. Growth Trips in 2006	onnects With onnects Exte	in Sammami		2,394 1,116	48% 22%	150	2,244	/51%	
3 Co Total Gross Trips Source: 2006 Impact Fe 1. Growth Trips in 2006	e Study		sh	1,116	22%	-			
Total Gross Trips Source: 2006 Impact Fe	e Study	mal to City				0	1,116	25%	
Source: 2006 Impact Fe 1. Growth Trips in 2006	Impact Fee			4,978	1///09/			/ 20/0	
1. Growth Trips in 2006	Impact Fee	-3-1			10070	550	4,428	100%	
1. Growth Trips in 2006	Impact Fee	- E				(DEA Analy	sis)		
1. Growth Trips in 2006 Land Use Category	Impact Fee						//		
							//		
		Calculation (1	Table 11)			,	/ /		
Land Use Category	Remaining	Trip Rate	PM Pk Hr			/	/		
	Units	per Unit	Trips			/	/		
Single Family	2,402	1.01	2,426			/	/		
Multi-Family	285	0.62	177			/	/		0+0
Office			30			/ /		1.0	
Net New Trips			2,633		/	/			
				\ /	/	/			
DEA Analysis:								,	
2. Growth Trips in Town		emove Intra-T			ace trips =		ra-Sammam	ich Tring	Town Center
To	wn Center	Trip Rate	PM Pk Hr	0.24 Intra-	Adjusted		Intra-City		Net New
Land Use Category	Units	per Unit	Trips	Town Ctr		Trips (%)	Trips (#)	50%	Trip
Single Family	100		101	/24	17	15%	12	the same of the sa	71
Condominium	950	0.78	741	/-179	808	15%	84	-42	520
Apartment	950	0.62	589	-142	447	15%	67	-34	413
Retail (broad avg)	397	6.81	2,703	-652	/2,051	96%	1969	-985	1,066
Office	197	1.49	294	71	1-223	50%	112	-56	167
Net New Trips			4,428	-1,068	/ / 3,360		2,244	-1,123	2,237
	-						1		
		Interna	ITC Rate =	0.24			1		
3. 2030 No Action Trips	In Town Co	ntor Aron /FE	IS Table 2 4	v.				(subtract)	410
s. 2030 NO Action Imp	in lowin ce	intel Wies (LE	is lable 3-4					Propriect) [410
4. 2030 Growth Trips R	esulting from	n Town Cente	r Plan (net)					1	1,827
								1	· · ·
1. Growth Trips in 2006	Impact Fee	Calculation (7	Table 11)					7	2633
								2	
5. Total Growth Trips (Original Plan	+ Town Cent	er Plan)						4,460

Key Assumptions:

- a. Open space trips used in the traffic model should not be included in the basis for impact fees. In any event, they are targely internal to Town Center.
- b. All trips modeled as intra-Town Center should be removed as not contributing to capacity needs citywide
- c. Half of trips modeled as intra-Sammamish should be removed as double-count with existing planned trips.
- d. Allocation of intra-city trips to Town Center land uses in part (2) above is approximate but realistic. Effort to extract from traffic model trip tables would be large, and not change the outcome much.
- e. Trip rate used above for Retail (6.81) is in the middle of broad range for all types of retail, and consistent with the traffic model. Retail trips internalized are equivalent to pass-by discounts using ITE methodology. Net new trip rate for retail = 1066/397 = 2

Based on our professional review, the internalization results (24 percent) are reasonable for an area like Sammamish Town Center, however, there is no documentation on how the internalization rate



was calculated. A review of the intra-Sammamish trip results indicates that this is reasonable based on travel model information summarized in a December 19, 2007 memorandum from DEA entitled Sammamish Town Center Traffic Redistribution Effects.

To confirm the reasonableness of the overall trip generation and internalization calculations, we reviewed the ITE *Trip Generation Manual* and applied Fehr & Peers' MXD+³ trip generation model, as documented in the following section.

ITE Trip Generation Land Use Category Review

Table 1 summarizes the following land use categories DEA used to calculate the trip generation for Town Center.

Table 1- Town Center Trip Generation Rates and Land Use Categories

Land Use Code	Description	PM Peak Hour Trip Rate
210	Single family home	1.01 per unit
231	Low-rise condominium	0.78 per unit
220	Apartment	0.62 per unit
N/A	Retail	6.81 per 1,000 sq. ft.
710	Office	1.49 per 1,000 sq. ft.

As noted in the DEA documentation, "a broad average" of ITE rates was used to estimate retail trip generation.

ITE's recommended practice is to use locally-collected and validated trip generation data, supplemented, if needed, with the national data in the *Trip Generation Manual*. Land Use Codes 210, 220, and 710 are commonly used around the region to estimate trips for generic land uses where there is no locally available data to use.

Multifamily Trip Generation Rates

The application of land use code 231 is unusual. Typically ITE code 230 (condominium/townhome) would be used to represent a generic condominium development. A review of the *Trip Generation Manual* shows that the trip generation rate for ITE code 231 was based on five samples. In contrast,

³ Fehr and Peers MXD+ analysis and process is further explained on pages 7 and 8.



the trip rate for ITE code 230, with a PM peak hour trip rate of 0.52, is based on more than 340 samples and has half the standard deviation in the sample as compared to code 231.

Given the difference in trip generation rates between land use code 230 and 231, and ITE's recommendation to collect locally valid data, Fehr & Peers performed a trip generation count at the Saffron Apartments at 22850 NE 8th Street. Saffron was chosen because it is a mid-rise multifamily development in a mixed use development, typical of what is expected in Town Center. To obtain the trip generation count, Fehr & Peers contacted Saffron management and obtained permission to place a traffic counter at the entrance to the residential garage and collected two-days' worth of trip generation data at the complex. The trip generation results are summarized in the table below.

Table 2- Saffron Trip Generation Rate Results

Date	PM Peak Hour Observed Trip Count									
Wed. April 22	24									
Thurs. April 23	2	9								
Average	2	7								
Apartment Units	Occupied	Total Units								
Studio	40	41								
One Bedroom	30	30								
Two Bedroom	27	27								
Total	97	98								
PM Peak Hour Trip (PM Peak Hour Trip Generation Rate Per Dwelling Unit									
Wed. April 22	0.24									
Thurs. April 23	0.30									
Average	0.	28								

As shown in Table 2, the Saffron trip generation rates are *much* lower than either land use code 220 or 231. While we cannot know for certain (since ITE does not collect demographic data when performing trip generation counts), it is likely that the characteristics of the people living in the Saffron are different than the average apartment/condo in the US. Specifically, we assume that there are fewer families with children and more singles or two-person households without children living in Saffron than a typical US multifamily home.



A closer examination of other ITE trip generation rates suggests that the following land use categories are closer to the observed rate from Saffron:

- Code 223: Mid-rise apartment⁴ 0.39 PM peak hour trips per dwelling unit
- Code 232: High-rise condominium⁵ 0.38 PM peak hour trips per dwelling unit

While still higher than the Saffron observation, the above rates are based on 12 observations and we feel that these better represent likely trip generation rates for multifamily development in Town Center. Additionally, when considering the potential trip generation rate reduction/internalization of a location like Town Center (or even the mixed use area where Saffron is located), the 223/232 rates are comparable to Saffron.⁶ The list below summarizes how Saffron's trip generation rate compares to other ITE multifamily land use categories.

Saffron Trip Generation Rates Compared to ITE Categories

- 64 percent lower than ITE code 231 (the rate used in the DEA analysis for Town Center)
- 55 percent lower than ITE code 220 (the most commonly used multifamily trip generation rate)
- 46 percent lower than ITE code 230 (commonly used trip generation rate for condos and townhomes)
- 26 percent lower than ITE codes 223/232 (the ITE codes that are closest to Saffron)

Senior Housing Trip Generation Rates

Given the strong demographic trend toward aging in place (in other words, aging within the same community) and the transition of the large baby-boomer generation into the senior age category, it is reasonable to assume that Sammamish could see a significant increase in demand for senior housing in the coming years. As noted by the *Trip Generation Manual*, senior housing has distinctly different trip generation rates compared to all-age housing. Senior households tend to be smaller, have lower auto ownership rates, and tend to have less overall auto travel compared to other residential land use categories. The majority of senior housing developments in the Puget Sound Region are attached senior housing units that have a mix of assisted and independent living

⁵ Buildings with more than 3 floors (there is no mid-rise condominium category)

⁴ Buildings with 3-10 floors

⁶ As identified on page x, the expected trip reduction/internalization rate for an area like Town Center is between 20-40%, which is then deducted from these "base" or "raw" trip generation rates from ITE.



residents. ITE has land use code 252, which covers this category. ITE code 252 has a PM peak hour trip generation rate of 0.25 trips per dwelling unit.

Retail Trip Generation Rates

General retail trip generation is typically evaluated using ITE land use category 820 (Shopping Center), which has a PM peak hour trip generation rate of 3.71 trips per 1,000 square feet of floor space. Fehr & Peers research over the past 30 years has indicated that the trip generation rates for land use code 820 is accurate for retail strip centers that contain a mix of retailers. The DEA trip generation rate for retail is assumed to be 84 percent higher than the generic ITE category. This high trip generation rate would suggest that high-trip rate uses like grocery stores or restaurants are expected to constitute a large proportion of the land uses in Town Center.

To replicate the DEA trip generation rate, 40 percent of the land use in the Town Center or 160,000 square feet, would need to be a high-generation use like a supermarket. The upcoming Metropolitan Market project is likely to be in the 30,000-50,000 square foot range. Given the proximity of existing grocery stores just north and south of Town Center, it is unlikely that Town Center will have the high retail trip rate suggested in the DEA analysis. In summary, we find the retail trip generation rate assumption to be unrealistically high for Town Center and would recommend that a rate closer to the standard shopping center rate be used.

For the purposes of this memorandum, we are allocating the 400,000 square footage of commercial use in the Town Center plan as follows- 65,000 square feet to High Generation Retail ITE land use code 850 and 335,000 square feet to Shopping Center ITE land use code 820.

Trip Generation Rate Conclusions

Overall, our review of trip generation rates indicates that the assumptions used in the DEA analysis are higher than would be used in traffic studies for similar developments in surrounding communities. Based on a localized trip generation observation for multifamily uses and a more realistic assumption for retail uses, it is our opinion that the Town Center SEPA analysis overstates vehicle trip generation rates.

Fehr & Peers MXD+ Analysis Results

In addition to getting the trip generation rates correct, it is important to account for urban form and location characteristics that further influence how people travel. As described earlier, DEA



performed an "internalization" analysis which is a simplistic way to account for urban form and location characteristics. The purpose of this section is to compare DEA's internalization rate to the output of Fehr & Peers MXD+ model, which is a tool that was specifically developed to estimate the degree that auto trips are reduced due to urban form and location characteristics. MXD+ was developed in conjunction with the ITE and the US Environmental Protection Agency (EPA) to better estimate the vehicle trip generation of mixed-use developments in both urban and suburban settings. From 2010 to 2012, Fehr & Peers studied over 260 suburban mixed-use projects to determine and develop the MXD+ tool. In addition, we are continuing to monitor dozens of projects in order to validate and improve upon the MXD+ tool. More detailed documentation and peer-reviewed journal articles are available upon request.

MXD+ starts with standard ITE trip generation rates and provides a reduction factor based on the following characteristics:

- Land use density of the study area, both internal and external to the development
- Diversity of land uses, both internal and external to the development
- Design of the pedestrian/bicycle network as measured by the number of intersections per acre (an industry-standard approach for measuring active transportation access—more intersections are related to more walking/biking routes)
- Amount of transit service immediately near the development area
- Household characteristics (household size, average car ownership) as reported by the US
 Census Bureau
- Proximity to major employment destinations (i.e., a "gravity" model measurement of how close the development is to major employment centers like Redmond, Bellevue, and Seattle)

The land use scenario analyzed as part of the Town Center EIS was input into MXD+ and the results are presented in Table 3.



Table 3- Unadjusted ITE PM Peak Hour Trip Generation Results

	ITE Land		Tr	ips		
	Use	Units/Square	Fehr & Peers	DEA Results		
Land Use	Code	Feet	Results			
Single Family	210	100 dwellings	101	101		
Condo/Apartment	223/232	600	228	1,330*		
Townhome	230	700	364			
Senior Housing	252	600	150			
Residential Total Units/	Trip	2,000	843	1,431		
Generation		2,000	043	1,431		
Shopping Center	820	335,000	1,243	N/A – a blended rate		
High-Generation						
Retail (restaurant,	850	65,000	was used			
grocery, drug store)						
Retail Total Square Foo Generation	tage/Trip	400,000	1,859	2,703		
Office	710	197,000	197,000 294			
Total Raw Trip Generat	ion		2,996	4,428		
Internalization/MXD+ R	eduction Ra	te	21%	24%		
Total Trip Generation (trips leaving	Town Center)	2,373	3,360		

^{*} DEA assumed a mix of 950 apartments and 950 condos (ITE Codes 220 and 231)

Based on the urban form characteristics of the Town Center, MXD+ estimates a 21 percent reduction from the raw ITE rates, resulting in 2,373 new PM peak hour trips being generated. Note that the MXD+ trip internalization/reduction rate is somewhat lower than DEA's reduction, however the DEA analysis assumed much higher base trip generation rates, as noted above (48 percent higher than the trip rates we used for this analysis). The final results after internalization show that the DEA trip generation total is higher by 42 percent.

The 21 percent reduction is on the low-end of mixed-use center trip generation reductions as calculated by MXD+. For example, typical internalization reductions range from 20-40 percent for suburban mixed-use centers. The reason behind the relatively low 21 percent trip generation reduction stems from the lower densities of Town Center compared to other suburban town centers (e.g. a considerable proportion of Town Center is devoted to open space—not a common feature



of other town centers). Table 4 shows the results of Fehr & Peers validation of the MXD+ tool in two other high-income suburban town center areas with little transit service.

Table 4 - Observed Trip Generation Results from Other Suburban Town Centers

Name	Location	Relative Difference in Observed Rates to ITE Rates
The Villages	Irvine, CA	-18%
Rio Vista Station Village	San Diego, CA	-30%

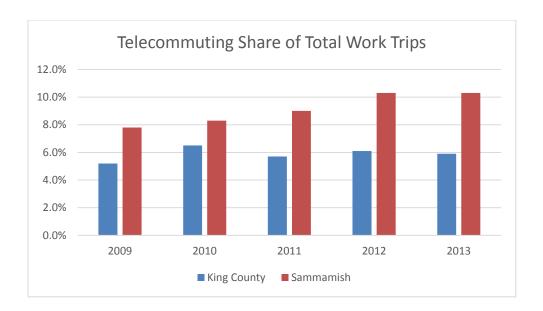
As shown, the Sammamish Town Center would be in between the two centers identified above. The Irvine example, is a very large residential area with not as much in the way of retail or civic uses as Town Center, and thus has a relatively low internalization rate despite high densities. The San Diego site has a mix of use that is closer to Town Center, but has higher densities and thus a higher trip internalization/reduction rate. The bottom line is that while Town Center has a somewhat lower trip internalization rate than other mixed use centers, a 20 percent internalization/reduction rate is still substantial and confirms that the overall strategy of creating a mixed use, connected center that provides a more environmentally sustainable choice of housing and retail for future Sammamish residents.

Other Trends Influencing Trip Generation

In addition to the factors considered by MXD+, there are other trends that will have a tendency to reduce long-term trip generation in Sammamish. Fehr & Peers has prepared a series of research papers on the long-term trends that may affect vehicle travel, two of which we would like to focus on for Sammamish:

• Telecommuting: Telecommuting removes vehicles from the road during the peak travel times since people work from home. As shown in the chart on the following page, the share of people telecommuting is increasing across King County and even faster in Sammamish. Sammamish is home to many workers in the "Management, business, science, and arts occupations," which according to the Census Bureau, is the group of industries most likely to telecommute. Sammamish has an unusually high proportion of workers who telecommute and there is no indication that this will change over the coming years.





• Internet shopping: As people increasingly shop for items online, fewer trips are made to traditional retailers. Delivery trucks are much more efficient at delivering goods to people's homes than individual vehicles and many deliveries are made outside of the congested PM peak hour. High income communities like Sammamish tend to do more shopping online than other communities. Fehr & Peers research suggests that internet shopping could reduce vehicle travel in the 2-5 percent range over the coming years.

While both of these trends suggest that standard ITE trip generation rates may be high for Sammamish, we did not take these into account for our analysis. We point out these trends to emphasize that there are many factors that have the potential to impact future trip generation, and most of the trends are for fewer trips per capita. The amount of vehicle-miles generated per capita in the United States and Washington State peaked in 2004 and has been lower ever since. These trends tend to make the trip generation rates used in the original Town Center EIS look even more unrealistic.



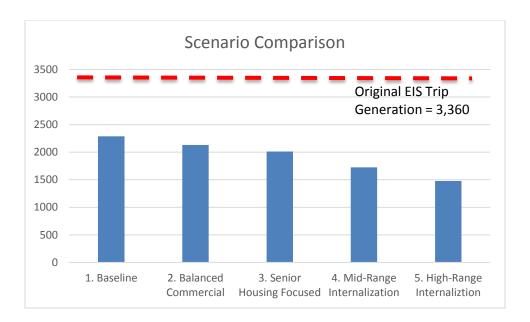
Trip Generation: Range of Scenarios

The trip generation results presented in Table 3 reflect a land use concept that is similar to what was evaluated in the Town Center EIS, but with more appropriate multifamily and retail trip generation rates. However, given the economic and demographic housing needs in Sammamish and typical ratios of retail/office in other Eastside communities, we explored several other land use scenarios to understand their implications on trip generation. Note that all scenarios have the same number of total dwelling units and same amount of retail/office development. The scenarios are described below:

- 1. Baseline: Assumes a balanced mix of housing types as shown in Table 3, above.
- 2. Balanced Commercial: Ratio of retail-to-office equal to that seen in downtown Mercer Island. This scenario has the same housing assumptions as the baseline, but assumes less retail and more office space is developed, matching the ratio currently in place in downtown Mercer Island, which is 65% office and 35% retail.
- 3. Senior Housing Focused: 50 percent of dwelling units are reserved for seniors. Same commercial mix as Scenario 2 but with 1,000 senior dwelling units, 500 townhomes, and 500 mid-rise apartments.
- 4. Mid-Range Internalization: Same as Scenario 2 but with a 30 percent internalization/MXD+ trip reduction. Assumes a 30 percent internalization/MXD+ trip generation reduction, consistent with the mid-range of other suburban mixed-use areas researched by Fehr & Peers.
- 5. High-Range Internalization: Scenario 2 with a 40 percent internalization/MXD+ trip reduction. Assumes a 40 percent internalization/MXD+ trip generation reduction, consistent with the high-range of other suburban mixed-use areas researched by Fehr & Peers.

The chart below summarizes the results of the different scenarios and also includes a reference to the PM peak hour trip generation identified in the Town Center EIS:





^{*} From DEA "adjusted trips;" see red highlighted column on page 3

Using the revised trip generation rates described above and the MXD+ tool to account for internalized trips within Town Center, it is clear that all the scenarios described above should produce substantially fewer PM peak hour vehicle trips than was assumed in the Town Center EIS.



Table 5 summarizes the number of residential dwelling units assumed for the original Scenario Comparison Graph, as well the additional residential dwelling units that can be accommodated under the original Town Center EIS assumed PM peak hour trip generation total. In other words, our analysis evaluates the potential to accommodate additional multifamily housing units without generating more trips than was originally identified in the EIS.

Table 5 – Summary of Residential Dwelling Units Assumed

Scenario	Housing Unit Mix Assumed for Scenario Comparison*						Additio	Additional Housing Units				Total Housing Units**			
	Single Family	Mid- Rise Condo	Town- house	Senior Housing	Total	Single Family	Mid- Rise Condo	Town- house	Senior Housing	Total	Single Family	Mid- Rise Condo	Town- house	Senior Housing	Total
1	100	600	700	600	2,000	0	1,150	1,350	1,150	3,650	100	1,750	2,050	1,750	5,650
2	100	600	700	600	2,000	0	1,175	1,350	1,175	3,700	100	1,775	2,050	1,775	5,700
3	0	500	500	1,000	2,000	0	1,275	1,500	1,275	4,050	0	1,775	2,000	2,275	6,050
4	100	600	700	600	2,000	0	1,900	2,200	1,900	6,000	100	2,500	2,900	2,500	8,000
5	100	600	700	600	2,000	0	2,500	3,000	2,500	8,000	100	3,100	3,700	3,100	10,000

^{*} The Town Center EIS planned for 100 single family homes and 1900 multifamily homes. To be consistent in this memorandum, 2,000 housing units were assumed and allocated to the four different housing categories.

The results summarized above suggest that Sammamish should change the present residential constraint from number of units to PM peak car trips, adjusted for internalization. Depending on what projects can best satisfy internal housing needs, the mix of land uses and types of residential units provided could vary and have a range of trip generation outcomes. As shown in Table 5, *up to 10,000 dwelling units can be supported in Town Center without additional traffic impacts in the City; this includes 2,000 units originally planned for and 8,000 additional units*. To ease implementation of the trip cap, Sammamish could monitor Town Center trip generation over time to understand the traffic dynamics of the area over time so that the trip rates can be fine-tuned to meet economic and demographic housing needs while protecting existing residents from traffic beyond the SEPA threshold. This type of trip cap monitoring is commonly used for corporate/university campuses and other subarea plans across the country.

^{**} Total housing units that can be accommodated without exceeding PM Peak Hour trip threshold identified in the Town Center EIS.



Conclusions and Recommendations

Several important conclusions can be drawn from our analysis of Town Center:

- The distinct demographic characteristics of Sammamish residents who are likely to live in multifamily developments in the Town Center combined with the mix of retail and office uses in Town Center result in a substantial reduction in vehicle trip generation rates compared to raw ITE averages for suburban areas.
- The trip generation rates assumed in the original DEA analysis are high and are not supported by local data. We recommend using ITE land use category 223 or 232 for multifamily developments in Town Center based on our traffic count observations at Saffron, which are significantly lower than standard ITE rates. We also recommend the use of standard ITE land use codes for retail uses to represent retail development as the blended rate assumed in the EIS is unrealistically high when considering the nearby grocery stores north and south of Town Center.
- Ongoing trends in an aging population, increasing telecommuting, and increasing internet shopping will likely result in slightly lower per-capita vehicle trip generation in the future years. These further reductions have not been factored in to the five scenarios in this memorandum.
- There is likely to be a range of potential vehicle trip generation outcomes in Town Center depending on how development progresses and market forces impact land use demand. To provide developers with the greatest amount of flexibility to meet economic and demographic housing needs while protecting existing residents from excessive traffic congestion, we suggest the City adopt a trip cap and associated monitoring program for Town Center. This would shift the focus of the EIS transportation evaluation from an arbitrary limit on dwelling units/square feet to vehicle trips, which would allow a significant number of housing units to be built to meet economic and demographic needs without increasing PM peak vehicle trips beyond the SEPA threshold.
- There is strong and compelling evidence that the Town Center can support additional housing units, from a low of 3,650 to a high of 8,000, over and above the 2,000 units originally planned for (total units from 5,650 to 10,000) without generating additional traffic beyond which was identified in the EIS.