

MEMORANDUM

DATE: January 9, 2017

TO: Jo Ryan, Land Use Planner, Van Ness Feldman
David Ratliff, Project Manager, DevCo, Inc.

FROM: Michael J. Read, PE, Principal, TENW

SUBJECT: Snoqualmie Ridge Apartments (DevCo, Inc.) – Consistency Analysis
TENW Project 3479

This memorandum provides a consistency analysis of specific transportation evaluations documented in the original Snoqualmie Ridge II EIS, Snoqualmie Ridge II FEIS, and the Snoqualmie Ridge II – Parcel S-21 Analysis in the context of the proposed Snoqualmie Ridge Apartment project proposed by DevCo., Inc. on Parcel S-20. Transportation-related items included in the consistency review:

- Overview of development assumptions on parcel S-20 in the EIS documents and Mixed Use Final Plan.
- Preparation of a trip generation analysis of the proposed 200-unit apartment complex proposed on Parcel S-20 using trip generation rates published by ITE in the *Trip Generation Manual*, 9th Edition, 2012.
- Documentation of current traffic volumes at the site access intersection of Snoqualmie Parkway and SE Jacobia Street in comparison to forecasted traffic volumes and level of service operations in the Snoqualmie Ridge II EIS.
- Discussion and confirmation of site access provisions in the Snoqualmie Ridge II – Parcel S-21 evaluation and subsequent modification in the Mixed Use Final Plan, Condition 1.11.

Historical Context

Per Resolution 702, the City of Snoqualmie and Quadrant Corporation executed a Development Agreement for Snoqualmie Ridge Phase II in March 2004. As part of the approved site plan and entitled buildout of this mixed use development, a mixture of housing types, density ranges, commercial retail uses, and other civic/institutional buildout was considered under three different development alternatives. In the selected alternative, the proposed development site of the *Snoqualmie Ridge Apartments* project was originally evaluated assuming 160 affordable housing units through the Snoqualmie Ridge II EIS and Development Agreement. This consistency analysis considers a consolidation of other affordable housing units from other development areas within Snoqualmie Ridge II with an increased buildout of this specific site to a total of 200 affordable apartment units, a net increase of 40 units.

Upon additional review of the SR II Mixed Use Plan, the original density assumption was derived based on S-20 comprising 13.6 acres with a range of up to 16 dwelling units per acre. This density range however, also had a footnote that the derived unit ranges assumed a 30 percent discount in gross acres for roads and other undevelopable areas. However, given that there are only approximately 1.5-acres of environmentally sensitive/undevelopable land on this parcel and no dedication in through “public roadways” direct application of the density allowance on Parcel S-20 without discounts translates into 193 dwelling units (12.06 developable acres X 16 units/acre). As such, the proposed unit count of 200 units does not constitute a significant difference in overall development on Parcel S-20 nor does it exceed the overall residential unit count for SR II Mixed Use Plan.

Project Trip Generation

Trip generation rates compiled by the Institute of Transportation Engineers (ITE) *Trip Generation, 9th Edition, 2012*, were used to estimate p.m. peak hour traffic that would be generated by the proposed action. Trip generation rates/equations Mid-Rise Apartments (ITE Land Use Code 223) were used to estimate new trips generated by the proposed development under a worst-case scenario. **Table 1** summarizes estimated trip generation by the proposed action. An estimated 1,318 weekday daily trips, 69 a.m. peak hour vehicular trips (21 entering and 48 exiting), and 85 p.m. peak hour vehicular trips (49 entering and 36 exiting) is estimated for traffic impacts at full build-out of the project.

Table 1
Snoqualmie Ridge Apartments Trip Generation Summary

Time Period	In	Out	Total
Weekday Daily	659	659	1,318
Weekday AM Peak Hour	21	48	69
Weekday PM Peak Hour	49	36	85

Source: Trip Generation Manual, 9th Edition, ITE, 2012.

Attachment 1 provides a detailed summary of trip generation estimates. A comparative analysis of trip generation with buildout of 160 apartment units in contrast to the proposed 200 apartment units is also provided in **Attachment 1**. As provided in **Attachment 1**, a net increase of approximately 16 a.m. peak hour trips, 19 p.m. peak hour trips, and 264 daily trips with the proposed addition of 40 apartment units.

Existing and Future Traffic Volumes

Per the City of Snoqualmie, updated traffic counts that reflect the new completed school within Snoqualmie Ridge were conducted in November 2016. These were conducted during the typical a.m. peak period and p.m. peak periods of adjacent street traffic (i.e., 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m.). **Attachment 2** provides these updated traffic counts from November 2016.

Using existing counts, plus a background traffic growth factor of 2 percent per year and buildout of all 200 apartment units on Parcel S-20, total entering traffic volumes during the p.m. peak hour at the Snoqualmie Parkway and SE Jacobia Street intersection (totaling approximately 1,921 entering vehicles) would be significantly less than those levels evaluated and mitigated during the EIS process (totaling 3,961 entering vehicles; more than 50 percent fewer entering trips). Furthermore, total traffic demand on the west leg of this intersection (SE Jacobia Street west of Snoqualmie Parkway), where all development traffic associated with buildout of the proposed Snoqualmie Ridge Apartment project would impact would be roughly 1/3 less than total demand used to evaluate and mitigate the project during the EIS.

Attachment 3 provides this comparative analysis. As such, no further traffic impact/demand analysis is warranted or required, and the consolidation of additional apartment units would result in traffic demands would fall significantly below those used to evaluate and mitigate traffic demands during the EIS.

Project Site Access

Vehicular site access for the project is proposed via one site access driveway north onto Frontier Avenue SE and a secondary fire/emergency access driveway south, near the Snoqualmie Valley Hospital onto SE 99th Street. The secondary access driveway is a Condition of the Resolution 907 in regard to development on Parcel S-21, and is consistent with emergency access only controlled by bollards or other measures.

Access through the site would be provided via a main interior private roadway that would distribute traffic to on-site parking facilities and apartment buildings. Perpendicular parking along each of these eight additional interior roadways is proposed. The proposed interior roadways within the development would provide adequate fire and emergency vehicle access to the proposed residential complex with two access fire/emergency vehicle access driveways.

As demonstrated in the Snoqualmie Ridge Apartments, Traffic Impact Study, November 1, 2016, TENW, the primary access/study intersection of Snoqualmie Parkway and SE Jacobia Street is projected to operate at LOS B with or without the project in 2018, meeting adopted City of Snoqualmie level of service standards.

Conclusions

As described above, the transportation consistency analysis was prepared for the proposed Snoqualmie Ridge Apartment project in the context of the Snoqualmie Ridge II EIS documents and SR II Mixed Use Final Plan. As the traffic volumes used to evaluate and mitigate traffic demands for the overall Snoqualmie Ridge development would be less than 50 percent of the total entering demands with the project at full buildout, all findings and conclusions of the EIS and subsequent Mixed Use Final Plan conditions remain valid based on these determinations:

- With the proposed Snoqualmie Ridge Apartments project at full buildout, total project trip generation of 1,318 weekday daily trips, 69 a.m. peak hour vehicular trips (21 entering and 48 exiting), and 85 p.m. peak hour vehicular trips is estimated. A net

increase of approximately 16 a.m. peak hour trips, 19 p.m. peak hour trips, and 264 daily trips with the proposed addition of 40 apartment units would occur over the previously assumed peak density of Parcel S-20.

- Total entering traffic volumes during the p.m. peak hour at the Snoqualmie Parkway and SE Jacobia Street intersection with the Snoqualmie Ridge Apartments project at 200 units (totaling approximately 1,921 entering vehicles) would be significantly less than those levels evaluated and mitigated during the EIS process (totaling 3,961 entering vehicles; more than 50 percent fewer entering trips). Furthermore, total traffic demand on the west leg of this intersection (SE Jacobia Street west of Snoqualmie Parkway) would be roughly 1/3 less than total demand used to evaluate and mitigate the project during the EIS.
- Vehicular site access for the project is proposed via one site access driveway north onto Frontier Avenue SE and a secondary fire/emergency access driveway south, near the Snoqualmie Valley Hospital onto SE 99th Street. The secondary access driveway is a Condition of the Resolution 907 in regard to development on Parcel S-21, and is consistent with emergency access only controlled by bollards or other measures.

Based on the above, it was determined that no further traffic analysis of the Snoqualmie Ridge Apartment projects is warranted, and the project mitigation built and in-place for Snoqualmie Ridge identified in the Snoqualmie Ridge II EIS and SR II Mixed Use Final Plan remains valid.

Furthermore, given the significant differences in total traffic demand at the primary site access intersection of Snoqualmie Parkway and SE Jacobia Street between future conditions with the proposed Snoqualmie Ridge Apartments project with 200 apartment units and the original Snoqualmie Ridge II EIS, no (major or minor) modifications in the SR II Mixed Use Final plan are triggered by traffic demands.

If you have any questions, comments, or concerns, please do not hesitate to contact me at (206) 361-7333 ext. 101.

ATTACHMENT 1

Snoqualmie Ridge Apartments Trip Generation

ITE Trip Generation, 9th Edition, 2012
Snoqualmie Ridge Apartments - DevCo

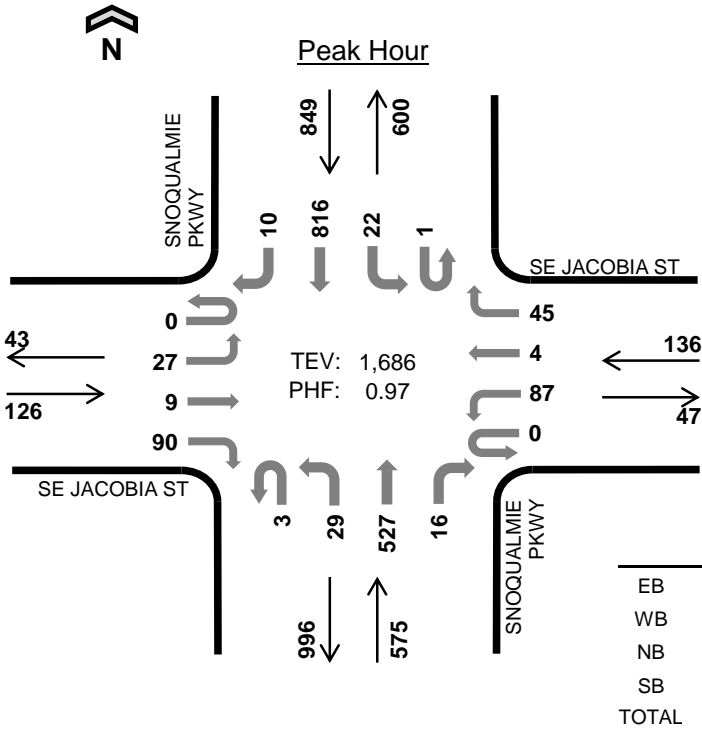
Proposed	X	LU Code	AM Peak			PM Peak			Daily Trips	Daily Rate	AM Rate	PM Rate
			Enter	Exit	Trips	Enter	Exit	Trips				
Mid-Rise Apartment (Apt)	200	223	21	48	69	49	36	85	1318	6.59	fitted curve	fitted curve
			21	48	69	49	36	85	1318			
Total with Buildout			21	48	69	49	36	85	1318			

<i>Proposed</i>	<i>X</i>	<i>LU Code</i>	<i>AM Peak</i>			<i>PM Peak</i>			<i>Daily Trips</i>	<i>Daily Rate</i>	<i>AM Rate</i>	<i>PM Rate</i>
			<i>Enter</i>	<i>Exit</i>	<i>Trips</i>	<i>Enter</i>	<i>Exit</i>	<i>Trips</i>				
<i>Mid-Rise Apartment (Apt)</i>	<i>160</i>	<i>223</i>	<i>16</i>	<i>36</i>	<i>53</i>	<i>38</i>	<i>28</i>	<i>66</i>	<i>1054</i>	<i>6.59</i>	<i>fitted curve</i>	<i>fitted curve</i>
			<i>16</i>	<i>36</i>	<i>53</i>	<i>38</i>	<i>28</i>	<i>66</i>	<i>1054</i>			
<i>Total with Buildout</i>			<i>16</i>	<i>36</i>	<i>53</i>	<i>38</i>	<i>28</i>	<i>66</i>	<i>1054</i>			
<i>Net Increase in Trips with 200 Apartment Units</i>					16		19	264				

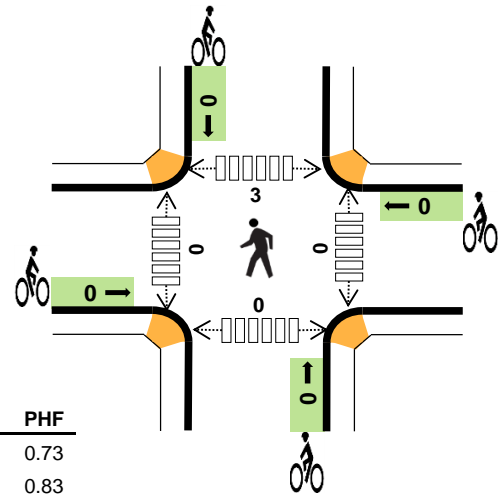
ATTACHMENT 2

November 2016 Traffic Counts

SNOQUALMIE PKWY SE JACOBIA ST



Date: Thu, Nov 17, 2016
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	0.0%	0.73
WB	1.5%	0.83
NB	5.0%	0.93
SB	2.8%	0.93
TOTAL	3.3%	0.97

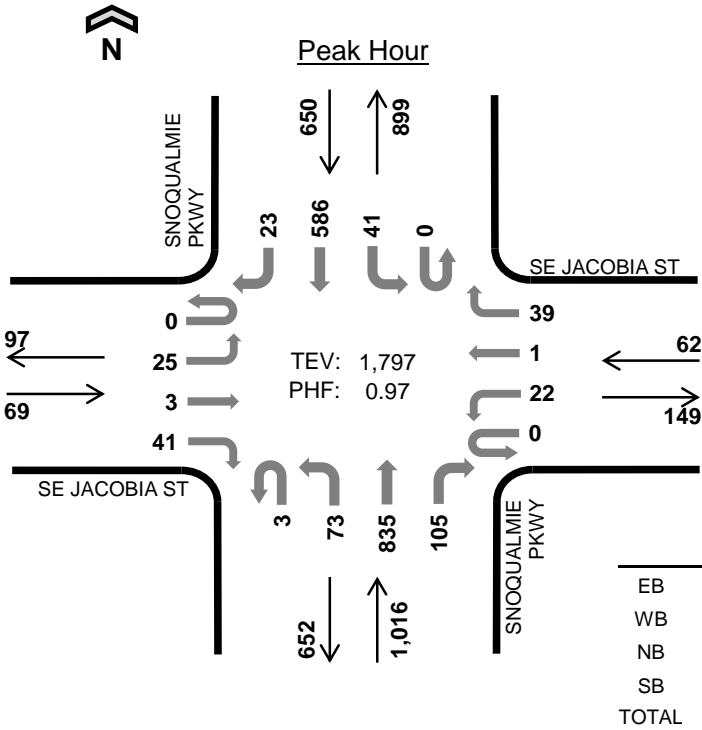
Two-Hour Count Summaries

Interval Start	SE JACOBIA ST Eastbound				SE JACOBIA ST Westbound				SNOQUALMIE PKWY Northbound				SNOQUALMIE PKWY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	3	0	24	0	35	4	12	0	10	90	0	0	4	215	3	400	0
7:15 AM	0	1	1	13	0	30	2	10	1	14	116	2	0	4	175	1	370	0
7:30 AM	0	3	1	17	0	29	0	7	0	4	117	4	1	2	219	0	404	0
7:45 AM	0	1	0	23	0	20	1	13	1	10	138	6	0	6	205	3	427	1,601
8:00 AM	0	9	1	16	0	22	0	10	0	6	142	2	0	2	207	0	417	1,618
8:15 AM	0	11	1	21	0	26	1	14	1	6	127	3	1	4	187	5	408	1,656
8:30 AM	0	6	7	30	0	19	2	8	1	7	120	5	0	10	217	2	434	1,686
8:45 AM	0	12	2	20	0	20	0	19	0	7	133	6	1	7	186	6	419	1,678
Count Total	0	46	13	164	0	201	10	93	4	64	983	28	3	39	1,611	20	3,279	0
Peak Hour	0	27	9	90	0	87	4	45	3	29	527	16	1	22	816	10	1,686	0

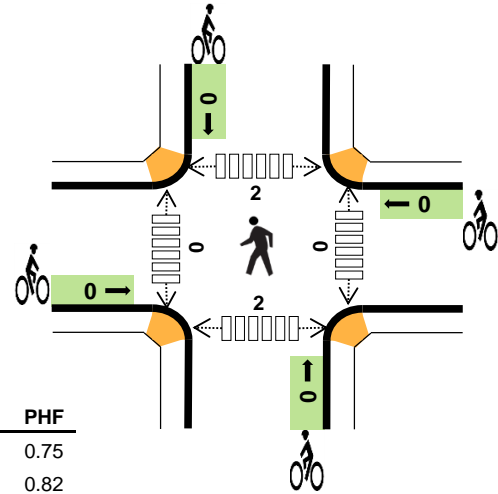
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	1	9	7	18	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	6	8	14	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	9	5	14	0	0	0	0	0	0	0	2	0	2
7:45 AM	0	0	8	5	13	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	7	5	13	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	6	9	16	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	8	5	13	0	0	0	0	0	0	0	3	0	3
8:45 AM	0	0	12	7	19	0	0	0	0	0	0	0	1	0	1
Count Total	1	3	65	51	120	0	0	0	0	0	0	0	7	0	7
Peak Hour	0	2	29	24	55	0	0	0	0	0	0	0	3	0	3

SNOQUALMIE PKWY SE JACOBIA ST



Date: Thu, Nov 17, 2016
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.0%	0.75
WB	0.0%	0.82
NB	0.3%	0.90
SB	0.8%	0.93
TOTAL	0.4%	0.97

Two-Hour Count Summaries

Interval Start	SE JACOBIA ST Eastbound				SE JACOBIA ST Westbound				SNOQUALMIE PKWY Northbound				SNOQUALMIE PKWY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	7	1	19	0	13	1	10	1	7	147	17	0	5	163	4	395	0
4:15 PM	0	8	0	5	0	2	0	8	2	13	189	19	0	6	172	6	430	0
4:30 PM	0	4	0	7	0	9	1	6	1	18	181	27	0	21	182	5	462	0
4:45 PM	0	7	1	10	0	2	1	10	1	18	178	33	0	13	160	2	436	1,723
5:00 PM	0	10	1	12	0	7	0	8	2	15	213	16	0	7	147	9	447	1,775
5:15 PM	0	6	0	8	0	8	0	11	0	22	209	27	0	12	139	8	450	1,795
5:30 PM	0	2	1	11	0	5	0	10	0	18	235	29	0	9	140	4	464	1,797
5:45 PM	0	7	2	11	0	8	0	13	0	22	203	13	0	14	108	6	407	1,768
Count Total	0	51	6	83	0	54	3	76	7	133	1,555	181	0	87	1,211	44	3,491	0
Peak Hour	0	25	3	41	0	22	1	39	3	73	835	105	0	41	586	23	1,797	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	4	3	7	0	0	0	0	0	0	0	1	0	1
4:15 PM	1	0	3	3	7	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	2	1	3	0	0	0	0	0	0	0	1	1	2
4:45 PM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	1	2	3
5:30 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	4	4
Count Total	1	0	12	13	26	0	0	0	0	0	0	0	4	7	11
Peak Hour	0	0	3	5	8	0	0	0	0	0	0	0	2	2	4

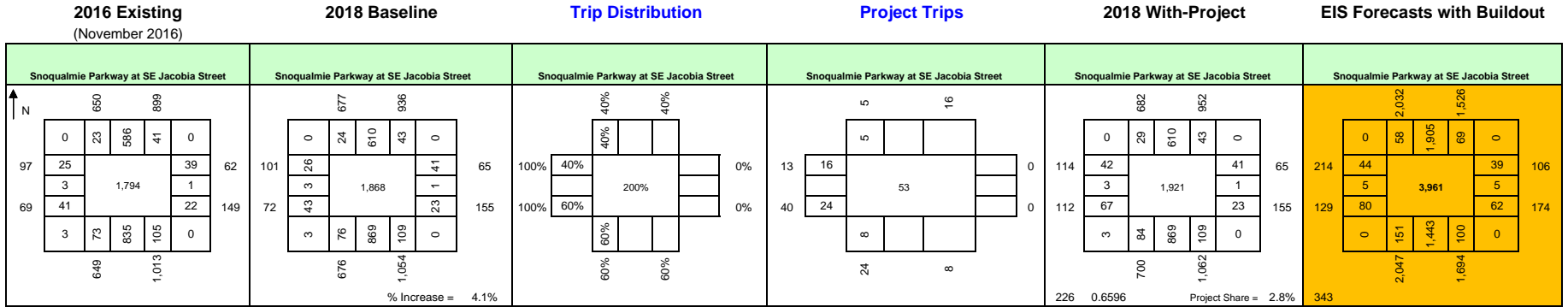
ATTACHMENT 3

Buildout Traffic Demand Comparison to EIS Volumes

Snoqualmie Ridge - DevCo Apts

	Existing
Growth Rate =	2.0%
Existing Year =	2016
Future Year =	2018

Enter	Exit	Total
49	36	85
Project Trips		



Conclusions:

Forecasts used to evaluate buildout in the EIS are double that of current buildout with DevCo project in total.
Demand of Jacobia Street on west leg is 34 percent less than EIS with DevCo project.