

MEMORANDUM

Date: June 18, 2012
To: Nancy Tucker, City of Snoqualmie
From: Chris Breiland, Fehr & Peers
Subject: Traffic Assessment of Snoqualmie Ridge Parcel S-20

With the proposed development of parcel S-20 in Snoqualmie Ridge II, some residents of the Eagle Pointe subdivision have expressed concerns about the potential traffic impacts that may result from the new multi-family apartments. Specifically, questions were raised about traffic impacts along Frontier Avenue and Jacobia Street. This memorandum summarizes the results of a traffic generation assessment and compares the traffic generation results against the average daily trip (ADT) thresholds defined in the Snoqualmie Ridge II Development Standards. In addition, we reviewed the assumptions in the Snoqualmie Ridge Environmental Impact Statement (EIS) to determine whether the proposed development on parcel S-20 was consistent with the environmental review.

TRAFFIC GENERATION ESTIMATE

To estimate the potential traffic impacts of the proposed development on parcel S-20, data from the Institute of Transportation Engineers (ITE) *Trip Generation, 8th Edition* document was used. *Trip Generation* information was used to estimate the traffic generation of both the multi-family apartments in parcel S-20 and the single-family homes in the Eagle Pointe subdivision.

Traffic Generation on Frontier Avenue

To forecast the potential traffic levels on Frontier Avenue, we combined the ITE *Trip Generation* data with the anticipated number of dwelling units that are expected to use Frontier Avenue to reach destinations outside of the immediate neighborhood. The number of apartments assumed on parcel S-20 was based on information submitted by the developer and the estimate of the number of single-family homes that are expected to use Frontier Avenue is based on plat maps provided to Fehr & Peers by the City of Snoqualmie. Table 1 below shows the results of the Frontier Avenue traffic generation assessment. Note that this estimate applies to the busiest section of Frontier Avenue, which is immediately south of Jacobia Street.

Table 1 – Frontier Avenue Traffic Generation Estimate				
Land Use Type	ITE Code	Daily Trip Generation Rate	Total Dwelling Units	Total Daily Vehicle Trips
Apartments	220	6.65	160	1,064
Single-Family	210	9.57	125	1,196
Total			360	2,260

Source: *Trip Generation, 8th Edition* (Institute of Transportation Engineers, 2008); Fehr & Peers, 2012.

Traffic Generation on Jacobia Street

The traffic generation on Jacobia Street was estimated using a similar methodology as described above. The traffic generation is applicable to the busiest section of Jacobia Street, which is immediately west of Snoqualmie Parkway. The results are shown in Table 2.

Table 2 – Jacobia Street Traffic Generation Estimate				
Land Use Type	ITE Code	Daily Trip Generation Rate	Total Dwelling Units	Total Daily Vehicle Trips
Apartments	220	6.65	160	1,064
Single-Family	210	9.57	360	3,445
Total			520	4,509

Source: *Trip Generation, 8th Edition* (Institute of Transportation Engineers, 2008); Fehr & Peers, 2012.

The traffic generation estimates above use industry-standard trip generation rates from the ITE. However, it should be noted that actual traffic generation in Snoqualmie Ridge is considerably lower than what is predicted by *Trip Generation*. Through the City's routine traffic monitoring program, Snoqualmie Ridge has been shown to generate traffic at about 50-60 percent of ITE rates. Therefore the traffic generation estimates shown above are considered to be conservatively high for the purposes of estimating traffic impacts to area residents.

TRAFFIC CAPACITY THRESHOLD ANALYSIS

The *Snoqualmie Ridge II Development Standards* define the ADT capacity for the roads within the development area. Both Frontier Avenue and Jacobia Street are defined as Neighborhood Collectors on the Street Classification Plan. Table 2-1 of the *Development Standards* document define the ADT capacity of Neighborhood Collectors to be between 8,000 and 10,000 vehicles per day. As shown in Tables 1 and 2 above, the anticipated traffic volumes on both Frontier Avenue and Jacobia Street are expected to be well within the ADT thresholds, even when using the conservatively high ITE trip generation rates.

In addition to the ADT capacity thresholds, Fehr & Peers evaluated the AM and PM peak hour traffic operations at the Frontier Avenue/Jacobia Street and Jacobia Street/Snoqualmie Parkway intersections using data from the recently completed City of Snoqualmie Traffic Model. The

results of the intersection traffic assessment indicated that both of the intersections have adequate traffic capacity for full buildout of Snoqualmie Ridge II, including the apartment development on parcel S-20. 2030 intersection operations are expected to be in the level of service (LOS) B-C range, which exceeds the City's LOS D or better standard.

CONSISTENCY WITH THE SNOQUALMIE RIDGE FINAL ENVIRONMENTAL IMPACT STATEMENT

Fehr & Peers reviewed the *Snoqualmie Ridge II Final Impact Statement* (FEIS) to determine if the level of development anticipated in for parcel S-20 was adequately considered in the environmental review. The FEIS estimated that approximately 15 percent of all the residential units constructed in Snoqualmie Ridge II would be multi-family units, which feature higher development densities. Given the general nature of the FEIS, the precise location of the multi-family units was unknown at the time (2004). However, the conservatively high proportion of multi-family development (between 270 and 330 apartment units were assumed in the FEIS) and the high ITE trip generation rates provided reasonable range of traffic generation to adequately assess the impacts of apartment units on parcel S-20.

CONCLUSIONS

Fehr & Peers has conducted a review of the potential traffic impacts of constructing 160 multi-family apartment units on parcel S-20 in Snoqualmie Ridge II. The result of the review shows that the anticipated traffic generation of the apartment units is well within the ADT thresholds defined in the *Snoqualmie Ridge II Development Standards*. In addition, the development intensity proposed on parcel S-20 was considered in the *Snoqualmie Ridge II FEIS* and the site was designed to accommodate this level of development. The FEIS also defined a range of off-site mitigations to improve the traffic capacity of area roadways—the City and the developer have implemented these mitigations.