
To:	Evan Tillotson, Kelly Christner	From:	Ben Waldman – Senior Transportation Specialist
	High Forest Ranch Residence		Stantec
File:		Date:	December 5, 2016

Reference: Flying Horse North Traffic Impact Analysis Peer Review

The following is a peer review of the *Flying Horse North Updated Traffic Impact Analysis*, July 21 2016 by LSC Transportation Consultants Inc. The development is proposed to contain 283 single family detached dwelling units and an 18-hole golf course. Standard Institute of Transportation Engineer (ITE) trip generation rates were used to estimate the traffic that will be generated by the development. This is standard practice nationally and for the local review agencies (El Paso County and the Colorado Department of Transportation). The following questions were posed regarding trip generation:

- Question: Did the study account for public vs. private golf course?
Response: For the golf course, the study assumed ITE Land Use 430, Golf Course. The description in the ITE Trip Generation Manual states "Golf Courses" include 9-, 18-, 27- and 36 hole municipal courses". The ITE Trip Generation Manual only has this one land use category for a true golf course and does not differentiate between private and public golf courses. There are also land use categories for "Miniature Golf Course" and "Driving Range" but I agree with the study that land use category 430, Golf Course is appropriate for the golf course proposed in this development.
- Question: Did the study account for driving range usage and/or golf course club house events?
Response: Although they did not specifically account for the driving range and club house, the trip generation rates used should account for these amenities. The ITE trip generation manual states that "some sites may also have driving ranges and clubhouses with a pro shop, restaurant, lounge and banquet facilities". In addition, the trip generation rate is based on AM and PM weekday peak hours. Large events at the Golf Course Club House will not likely coincide with these time periods. Therefore, it is my professional opinion that, if the roadway system is designed and constructed to accommodate peak hour traffic, it will also accommodate traffic from the associated driving range usage and/or golf course club house events.
- Question: Did the study for traffic coming into the development to use their open spaces/play grounds?
Response: The study did not specifically account for traffic entering or exiting the development to use the open space/play grounds within the development area. If the playground is in a local park intended for use by the development, most of the traffic will be generated from the houses within the development. If the open space area is intended primarily for use by the development, most of the traffic related to this land use will also be generated by houses within the development. If there will be significant activities planned

Reference: Flying Horse North TIA Peer Review

for the open space and/or playground, additional site generated traffic should be included in the analysis.

The proposed *Flying Horse North* development is located in El Paso County south of Hodgen Road between State Highway (SH) 83 and Black Forest Road. I-25, the primary north-south roadway in the area, is located approximately five miles west of SH 83 and has continuity from between Denver to the north and Colorado Springs to the south. SH 83 is the only other roadway with continuity between Denver and Colorado Springs. I-25 is at or close to capacity and therefore, regional through traffic volumes on SH 83 has experienced significant growth. Therefore, additional accesses and increased traffic volumes on SH 83 are a concern to the surrounding community.

The daily traffic presented in the study shows a current traffic volume of 8,500 trips per day on SH 83. Figure 3 of the study states that this existing daily volume is based on CDOT 2014 Average Annual Daily Traffic (AADT). The CDOT website currently shows a Year 2015 AADT traffic count of 9,900 on SH 83 just north of Old North Gate Road and it is my professional opinion that this is the AADT estimate that should have been used in this report. 9,900 trips per day is close to the capacity of SH 83. However, I do not anticipate this making a significant difference in the analysis or conclusions or recommendations contained within the report. In addition to the AADT traffic volume, peak hour turn movement counts are presented in the study. These volumes are based on traffic counts conducted in January, 2016 which is appropriate. The Level of Service analysis presented in the report is based on the existing and projects peak hour traffic volumes.

Figures 4 and 5 shows Short term and Year 2040 Traffic volume forecast which are calculated using an annual growth rate of 3.4% for SH 83 (based on CDOT website recommendation) and 2% for other area roadways. These assumed growth rates are reasonable for this area.

Figure 6 illustrates the directional distribution of site generated traffic. The distribution looks reasonable for the area and was approved by both El Paso County and CDOT.

Figures 11 and 12 show the total traffic volume projections for the short term and Year 2040. These figures also show the expected Level of Service for these time periods assuming the addition of site generated traffic. I do not have any concerns with traffic projections or the Level of Service analysis. The buildout (Year 2040) traffic volume shown on Stagecoach Road is 2,210 vehicles per day. The study states that this roadway will be classified as a "Rural Minor Residential Collector". The El Paso County *Engineering Criteria Manual* does not give a volume threshold for roadway classifications and it is my opinion that this traffic volume is reasonable for the recommended roadway classification. However, the *Engineering Criteria Manual* refers to the *2040 Major Transportation Corridors Plan* adopted in 2011 which states on page 49 that "individual access from residential lots should be discouraged" on collector roadways. I cannot tell from the report if direct access from residential driveways is proposed on Stagecoach Road. Although direct access from individual residential lots on Stagecoach Road is not prohibited and will not likely create a safety concern, I agree with the County that it is not desirable.

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Conclusions

Generally, the methodology and analysis presented in the LSC Traffic Study are consistent with accepted traffic planning/analysis practice. LSC Consultant Inc. used standard practices and methodologies to estimate the traffic impacts due to the proposed Flying Horse North development and most of their assumptions are reasonable. There are two exceptions to this and they both concern State Highway 83 as documented in this Memo.

- A recent CDOT traffic count shows that existing daily traffic is close to 10,000 trip per day which is approaching the capacity of this roadway in its current state.
- The Year 2040 analysis presented in the report assumes that SH 83 is widened to provide two through lanes for each direction.

CDOT's estimated growth rate for SH 83 show that traffic on this roadway is expected to almost double in the next 20 years. Unless I-25 is widened to relieve some of the demand, traffic on this roadway will begin to experience significant congestion and delay as traffic volumes increase over time. The Pikes Peak Area Council of Governments (PPACG) does not show widening of this roadway to provide additional capacity in its long range plan. The only improvements identified for this roadway by the PPACG Long Range plan is \$18 million in safety improvements (shoulder widening, auxiliary lanes and geometric improvements). It is not clear who will take the lead with planning, designing and construction of this roadway widening and there is no identified funding source for this work. The Flying Horse North development is projected to contribute 1,340 daily trips to SH 83 south of Stagecoach Road. This represents approximately 6.5% of the total of 20,150 trips per day projected for SH 83 in year 2040. Therefore, the need for widening of SH 83 is primarily due to regional traffic growth and I do not feel that the Flying Horse North development should be responsible for this widening.

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