



DATE: June 14, 2023
REQUEST: Cascade Creek Apartments, Transportation Review
FILE NO: 22-041 DR/ADJ
REVIEWER: Dock Rosenthal, PE, DKS Associates

DKS Associates has reviewed the traffic impact analysis¹ and site plan for the Cascade Creek Apartments. The proposed development application would construct 78 multi-family, low-income dwelling units and 11,142 feet of commercial/office space. The project site is located just south of Highway 211 and east of Village Boulevard. The development will connect with the transportation system via an extension of Cascadia Village Drive and an extension of Pine Street which provides direct access to Highway 211.

The general comments and listing of recommended conditions of approval are based on a review of the impact study and site plan.

DEVELOPMENT TRANSPORTATION IMPACT REVIEW

Key comments and issues related to the proposed development's transportation impact analysis include:

Existing

- Study Intersections
 - Highway 211 & Gunderson Road
 - Highway 211 and SE Village Boulevard
 - SE Village Boulevard & Cascadia Village Drive
 - Highway 211 & Dubarko Road
- Traffic operations were evaluated using HCM 6th edition. All study intersections operate at an acceptable level of service during the 2022 AM and PM peak hours.
- Crash data from January 2017 to December 2021 was analyzed. At the intersection of Highway 211 and Dubarko Road there were 23 crashes. Of these 16 were angle crashes. This intersection

¹ Cascade Creek Traffic Analysis Letter, Heath & Associates, INC, May 22, 2023.

has been identified through the Transportation System Plan update process as a location where safety is a concern.

Future (2025) Background Condition

- A growth rate of 2.0 percent per year was applied to the existing 2023 volumes to account for background growth. The Bull Run Terrace in-process development was not included in the background conditions. This development is expected to add trips to the Highway 211 and Dubarko Road intersection.
- Both study intersections operate at an acceptable volume to capacity ratios during the 2024 AM and PM peak hours

Future (2025) With Project Condition

- ITE Trip Generation Codes 220 Multifamily Low-Rise and 822 Strip Retail Plaza were used for the trip generation estimation. A 40 percent pass by rate was applied to trips generated by the Strip Retail Plaza.
- The proposed project would result in additional vehicle trips: 47 (17 in/30 out) AM peak hour vehicle trips, 84 (47 in/37 out) PM peak hour vehicle trips and 890 weekday trips.
- Trip distribution was based on existing traffic counts.
- 2025 Total Traffic Conditions – The intersection of Highway 211 and Dubarko Road will exceed the City of Sandy’s LOS standard with project conditions in the p.m. peak in 2025. Other study intersections will meet the LOS standard. This deficiency has been noted in the Transportation System Plan and a proportional share fee is being collected to address the deficiency.
- Turn warrants were considered but turning movement traffic does not meet the minimum volume to warrant turn lanes from SE Village Boulevard to Cascadia Village Drive.
- Over 300 feet of sight distance is available to the south from the intersection of Cascadia Village Drive and SE Village Boulevard, this exceeds the required 280 feet. To the north, the intersection of Highway 211 and SE Village Boulevard is visible from the proposed intersection.
- Analyzed as a right-in only, southbound road the future Pine Street half street connection with Highway 211 is not expected to attract any trips. Based on turning movements from the site at the intersection of Highway 211 and SE Village Boulevard the future Pine Street connection could attract around 40 bidirectional peak hour site trips or approximately 400 daily vehicles. With full access to the southern leg of Pine Street (south of Cascadia Village Drive) existing trips may shift to Pine Street from SE Bornstedt Road. The amount of volume shift would likely be related to the amount of on street parking along Pine Street which would act as a traffic calming measure.
- The proposed development will access the transportation network via two collector facilities, Cascadia Village Drive and SE Village Boulevard. These connections are expected to attract a majority, if not all, the trips generated by the development resulting in a negligible impact to local streets.

Mitigation

- The future Pine Street connection, to be constructed by the development, is recommended to be closed until the full street can be constructed. As a half street, a one-way configuration may cause confusion for drivers.
- A “No Left Turn” sign is recommended at the northbound approach of the future intersection of Pine Street and Cascadia Village Drive.

RECOMMENDED CONDITIONS OF APPROVAL

The following conditions of approval are recommended based on a review of the traffic impact study and site plan:

1. The development shall contribute Transportation System Development Charges toward citywide impacts.
2. The development shall contribute a proportional share fee for trips through the Highway 211 and Dubarko Road intersection. The cost per trip is \$15,785, based on the planned improvement project of intersection widening and installation of a traffic signal. As shown on page 18 in Figure 6 of the TIA, 46 PM peak hour trips are expected to use the Highway 211 & Dubarko Road intersection. These trips are based on the estimated trip generation from the Multifamily Low-rise and Strip Retail land use codes. Non-residential trip fees shall be assessed when final approvals are granted and specific non-residential uses are identified. The breakdown of fees follows:
 - a. Multifamily Low-rise trips at the intersection constitute 35 percent of the trips through the intersection or 16 PM peak hour trips, resulting in a fee of \$252,560.
 - b. Primary non-residential trips, currently estimated by the Strip Retail trip rate, constitute 39 percent of the trips through the intersection or 18 PM peak hour trips², resulting in a fee of \$284,130. The total fee for residential and non-residential uses is \$536,690.
 - i. Should *all* of the non-residential square footage be used as office space, as approved by the City, the resulting fee shall be based on the reduced trip rate appropriate for Small Office Building (ITE code 712) land use. The expected trip generation for this use is 33 percent of the trip generation for Strip Retail and results in 6 trips³ through the intersection resulting in a fee of \$94,710. The total fee for residential and non-residential uses is \$347,270.
3. Half street improvements at Collector standards shall be constructed along SE Village Boulevard.
4. Half street improvements at Minor Arterial standards shall be constructed along Highway 211.
5. The Cascadia Village Drive extension within the site shall be constructed at Collector standards.
6. The portion of trails project T44 along the southern boundary of the site, as shown in the Parks and Trails Master Plan, shall be constructed to connect from SE Village Boulevard to Pine Street.
7. The Pine Street connection to Highway 211 shall not be constructed. The offset distance between the north and south legs of Pine Street is too large to function as a single intersection and the spacing of the two legs violates the public road spacing standards for a Collector street. Even as a right-in-right-out intersection with Highway 211 the Pine Street connect could potentially serve a significant amount of outbound traffic volume

² A portion of the trips passing through the Hwy 211 and Dubarko Road intersection from the Strip Retail land use are not new trips but pass-by trips. While they contribute to the site trips, they do not add new volume to the intersection and are not assessed a fee. These trips constitute the remaining 26% of trips passing through the intersection.

³ No pass-by trips apply to office land use.

depending on the amount of shift from Bornstedt Road. When the parcel to east of the development site is developed the Pine Street connection can be constructed without an offset.

- a. The half street improvement of Cascadia Village Drive on the eastern portion of the site shall be signed as one-way eastbound and a "No left turn" sign shall be installed at the northbound approach of the existing Pine Street stub.
8. Minimum sight distance requirements shall be met at all site driveways. Sight distances should be verified in the final engineering/construction stages of development.