

**REPLINGER & ASSOCIATES LLC**  
TRANSPORTATION ENGINEERING

May 2, 2018

Mr. Pete Walter  
City of Oregon City  
PO Box 3040  
Oregon City, OR 97045

**SUBJECT: REVIEW OF TRAFFIC IMPACT STUDY – PARK PLACE ANNEXATION  
AND REZONING – AN17-04 & ZC17-05**

Dear Mr. Walter:

In response to your request, I have reviewed the materials submitted in support of the proposed Park Place annexation to the city and rezoning. The relevant materials consisted of the Traffic Impact Study (TIS), dated August 2, 2017; the TIS Addendum #1, dated March 27, 2018; and TIS Addendum #2, dated April 9, 2017. The TIS was prepared under the direction of Michael T. Ard, PE of Lancaster Engineering. The TIS Addendum #1 and TIS Addendum #2 were prepared under the direction of Todd Mobley, PE of Lancaster Engineering.

Addendum #1 provides additional information relating to the analysis and need for mitigation at the intersection of Redland Road and Anchor Way.

The information presented in this letter supplements the analysis section presented in my March 29, 2018 letter. I have also modified my recommended conditions of approval based on TIS Addendum #2. For convenience, I have restated my recommended conditions of approval in total.

**6. Analysis.** TIS Addendum #6 provides a traffic operations analysis for the intersection of Redland Road and Anchor Way. Addendum #2 provides the level of service (LOS), delay calculations, and the volume-to-capacity ratio (v/c). The analysis was undertaken for the AM and PM peak hours and included year 2017 existing conditions, 2035 background conditions, and year 2035 traffic conditions with the proposed zone change.

According to Addendum #1, the intersection of Redland Road and Anchor Way meets warrants for a left-turn lane under existing conditions and will meet warrants for a traffic signal in 2035 with or without the proposed development.

Addendum #1 also predicts that the Redland Road and Anchor Way intersection will meet the city's operational standards in 2035 with a left-turn lane and traffic signal. With this configuration, the predicted LOS B during the AM peak hour and D during the PM

peak hour. The calculated v/c is 0.81 and 0.96 during the AM and PM peak hours, respectively.

The analysis presented in Addendum #2 is consistent with and supports the mitigation proposed at this intersection in the TSP. TSP Project D35 specifies operational improvements including installation of a traffic signal at this intersection.

## **Recommendations**

I conclude that the applicant's analysis is sufficient to judge the impact of the proposed annexation and rezoning and its long-term impact and relationship to Oregon City's adopted TSP. The analysis clearly illustrates the need to implement several TSP projects to support and accommodate the planned development for the area subject of this land use action.

This analysis does not, however, provide sufficient information to determine when specific development proposals (e.g. subdivisions of various sizes or retail businesses) will require implementation of TSP projects, construction of local roads, or other mitigation. Such analyses are required under city code when specific development proposals are brought forward. Due to the magnitude (approximately 92 acres) of the current land use action (annexation and rezoning), a master plan performed in conformance with OCMC Chapter 17.65 is appropriate. Among other things, the applicant will need to develop a phasing plan. Under OCMC 17.65 the transportation impacts are assessed for each phase of the development while taking into account the regional traffic growth that is expected during each phase of the applicant's master plan. The applicant must commit to specific implementation measures in connection with each phase.

The following conditions of approval are similar but not identical to the conditions of approval in my previous comment letter dated March 29, 2018. Condition D. viii is a new condition of approval specifically developed in response to Addendum #2. Conditions D. ix and D. x are renamed due to the insertion of D. vii. Condition D. xi (previously D. x) has been rewritten to improve clarity.

With regard to the proposed annexation and zone change, I recommend the following conditions of approval:

- A. A trip cap is established for the subject property equal to 538 AM peak hour trips; 679 PM peak hour trips; and 7,406 total weekday trips. Any proposal involving development exceeding this trip cap would require additional analysis showing compliance with the Transportation Planning Rule, OAR660-12-060.
- B. Prior to any development activity of parcels subject to this land use action, the applicant shall prepare a General Development Plan or Detailed Development Plan

for the subject property consistent with the provisions of OCMC Chapter 17.65. The applicant shall address transportation issues including, but not limited to, the land uses, phasing of development, and phasing of transportation infrastructure including both TSP and non-TSP projects.

- C. At such time as a Detailed Development Plan is prepared or in connection with specific development proposals for individual subdivisions or parcels, the applicant will need to submit additional materials to address specific requirements outlined in the city's *Guidelines for Transportation Impact Analyses*. These include, but are not limited to requirements associated with intersection spacing, sight distance, turn lanes, and frontage improvements.
- D. With regard to the mitigation for off-site transportation impacts of proposed annexation and rezoning, I recommend the following conditions of approval be carried forward to apply to the required General Development Plan and Detailed Development Plan:
  - i. The developer shall participate in the funding of improvements for the I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76) in proportion to the development's traffic volumes as a percentage of total year 2035 intersection volumes from the TSP. The project cost for D75 is \$2,990,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 0.96 percent of the 2035 volume and the development's share of the project is \$28,700. The project cost of D76 is \$1,990,000. The development accounts for 0.87 percent of the 2035 volume and the development's share is \$17,300.
  - ii. The developer shall participate in the funding of improvements for the Main Street/14<sup>th</sup> Street improvements (TSP Projects D7 and D8) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. The cost of these projects as listed in the 2017 TSDC Project List is \$845,000 and \$960,000, respectively. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 3.63 percent of the 2035 volume and the development's share of the project is \$65,500.
  - iii. The developer shall participate in the funding of improvements for the Abernethy/Holcomb/Redland intersection in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. No project is currently identified in the TSP. The project concept is to provide an additional lane on the eastbound approach; it may involve restriping or widening and signal modifications. No project cost is available at this time. Based on this methodology and the preliminary PM peak hour trip generation

from the proposed development, the development accounts for 19.7 percent of the 2035 volume.

- iv. The developer shall participate in the funding of improvements for the intersection of OR213/Redland Road (TSP Project D79) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. The 2017 TSDC Project List shows a project cost of \$10,105,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 4.77 percent of the 2035 volume and the development's share of the project is \$482,000.
- v. The developer shall participate in the funding of improvements for the Holly Lane/Holcomb Boulevard intersection (TSP Project D43) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. Project D43 is a roundabout with an estimated project cost \$1,040,000 according to the 2017 TSDC Project List. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 38.1 percent of the 2035 volume and the development's share of the project is \$396,000.
- vi. The developer shall participate in the funding of improvements for the Holly Lane/Redland Road intersection (TSP Project D36) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. Project D36 is a roundabout with an estimated project cost of \$1,040,000 according to the 2017 TSDC Project List. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 28.3 percent of the 2035 volume and the development's share of the project is \$204,000.
- vii. The developer shall participate in the funding of improvements for the Highway 213/Beavercreek Road intersection in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. A project to add a right-turn lane on westbound Beavercreek Road and a merge lane on northbound Highway 213 was identified in the July 2017 Highway 213 Corridor Alternative Mobility Study. The project's cost was estimated at \$1.5 million. Inclusion of this project in the TSP is anticipated by an amendment planned during 2018. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 0.35 percent of the 2035 volume and the development's share of the project is \$5,200.

- viii. The developer shall participate in the funding of improvements for the Redland Road/Anchor Way intersection in proportion of the development's traffic as a development's traffic volume as a percentage of the predicted 2035 traffic volume. Project D35 specifies operational improvements at the intersection with an estimated project cost of \$425,000 according to the 2017 TSDC Project List. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 25.0 percent of the 2035 volume and the development's share of the project is \$106,000.
- ix. The applicant's preliminary proportionate share for project listed above as conditions of approval are based on the total trip generation for the annexation property using the proposed trip cap of 538 AM peak hour trips; 679 PM peak hour trips; and 7,406 total weekday trips. A less intense development is likely to decrease the applicant's share of projects as calculated above. A more intense development, in addition to requiring analysis showing compliance with the Transportation Planning Rule, is likely to increase the applicant's share of projects as calculated above.
- x. The applicant's final share of project costs may be modified as necessary when a Master Plan is approved to reflect any a modification of the development's trip generation or a change in project costs resulting from revisions to project costs associated with an updates to the City's Transportation System Plan or Capital Improvement Program.
- xi. As a result of future analyzes associated with specific development plans for any of the properties subject to this annexation, the applicant may be obligated in subsequent conditions of approval to participate in funding of both TSP and non-TSP projects regardless of whether those projects are listed in the conditions of approval for this annexation.

If you have any questions or need any further information concerning this review, please contact me at [replinger-associates@comcast.net](mailto:replinger-associates@comcast.net).

Sincerely,



John Replinger, PE  
Principal