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TRANSPORTATION ENGINEERING

Date: August 3, 2018
To: Pete Walter, Planning Department
From: John Replinger, PE
Subject: TPR Implications of Code Amendments for Equitable Housing

Purpose

This memorandum provides an assessment of the transportation implications of the code amendments proposed in support of the Equitable Housing project. This memorandum assesses whether the proposed amendments trigger a finding of significant effect that would require further analysis to determine transportation impacts under OAR 660-12-0060 (Transportation Planning Rule or “TPR”).

Conclusion

My overall conclusion is that the proposed code amendments do not result in a significant change in the number of dwelling units and more traffic than anticipated and planned for in Oregon City’s Transportation System Plan (TSP) adopted in 2013. I, therefore, conclude that the proposed amendments do not have a significant effect on the transportation system and that the city may adopt findings to that effect when adopting the proposed amendments.

Overview of Proposed Amendments

The proposed amendments cover a wide variety of sections of the Oregon City Municipal Code (OCMC). Many of the proposed amendments have no measurable impact on transportation. For example, height limitations will be defined by specific measurement (e.g. 35 feet) as opposed to “2½ stories.” The percentage of lot coverage changes in various zoning categories. Accessory Dwelling Units would continue to be permitted in all residential zones. Since these amendments will not result in more dwelling units than allowed by the current version of the OCMC, it is reasonable to conclude there will be no transportation impact.

Some other sections of the code could result in a minor decrease in traffic impact. For example, the minimum on-site parking requirements for various uses is proposed to be decreased or eliminated in some zones. The effect is likely to be so small on a city-wide basis, no attempt has been made to quantify the effect.

Key areas of the proposed amendments were evaluated in more detail to assess whether they could have a significant effect on the transportation system. Some of the proposed amendments would allow owners or developers to more easily construct duplexes. Another set of proposed amendments would allow construction of townhouses on smaller lots in medium density residential zones.

The potential for impacts resulting from additional duplexes and for townhouses are discussed in more detail following the presentation of background information from the TSP and other sources.

Transportation System Plan

The Transportation System Plan (TSP) was adopted in 2013 and used 2010 as the base year and 2035 as the planning horizon. The TSP anticipates considerable growth in Oregon City. Appendix E, T.M. #5 – Model Assumptions: January 2012, provides details on the anticipated growth during the planning period. Specifically, Table 2: Oregon City UGB Area Land Use Summary, provides information on households for the base and future years. A portion of this table from the TSP is presented in Table 1 below.

Table 1. Base Year and Projected Household Growth from Adopted TSP

Land Use	2010 Land Use	Projected Growth from 2010 to 2035	Projected 2035 Land Use	Percent Growth (2010 -2035)
Total Households	13,022	7,963	20,985	61%

The critical value in the above table is 7,963, the projected increase in the number of households that were planned in the TSP between 2010 and 2035. The TSP's transportation analysis and the planned transportation facilities are predicated on this increase.

Duplexes

Duplexes have typically accounted for only a small proportion of housing choices in Oregon City and nationally. Census data for Oregon City suggests that duplexes account for about two percent of dwelling units¹. National data from the US Department of Housing and Community Development and the Census Bureau suggests that housing construction for dwellings with 2 to 4 units has accounted for less than three percent of the housing constructed in recent years.²

In developing a "reasonable worst-case scenario" for the purposes of assessing the transportation impact of the proposed code amendments, I assumed that the duplexes developed in Oregon City under the proposed code amendments would be significantly greater than exist today. If the proportion of duplexes doubled from current values of about two percent to four percent, that would mean the projected growth in households between 2010 and 2035 would consist of 320 households occupying duplexes instead of 160.

One might reasonably expect that some of these duplexes might substitute for detached, single-family residences. However, to continue with a "reasonable worst-case scenario," I assume that these duplexes would add to the number of total dwelling units assumed in the

¹ American Community Survey, Census Bureau, 2010

² Monthly New Residential Construction, June 2018, U.S. Census Bureau and the U.S. Department of Housing and Urban Development

TSP. Carrying through this assumption, I calculate the proposal could result in 160 new, unanticipated dwelling units beyond the 20,985 dwelling units upon which the TSP was predicated. This represents an increase of just $\frac{3}{4}$ of one percent in the number of dwelling units in Oregon City in the TSP horizon year.

Table 2 indicates the trip generation that could be expected from 160 additional duplexes. Since duplexes are not a specific category of housing in the Institute of Transportation Engineers' *Trip Generation Manual – 9th Edition*,³ I calculated trips using the rates for two similar dwelling types: detached, single-family housing (ITE category 210) and for residential condominium/townhouse (ITE category 230). The trip generation for duplexes likely falls somewhere in between these two categories.

Table 2. Trip Generation for 160 Duplexes

Housing Type	ITE Category	Weekday Trips	AM Peak Hour Trips	PM Peak Hour Trips
Detached, single-family	210	1523	120	160
Residential Condominium/ Townhouse	230	930	70	83

Since these duplexes would likely be distributed throughout the city, the effect of adding about 100 peak hour trips during both the morning and evening would be insignificant on a regional basis. The effect of a slightly higher number of dwelling units due to the inclusion of duplexes in a project would be assessed in a transportation study required for a specific land use action through the city's normal review process.

Comparison of SFR and Townhouses in R-5

Under the proposed code amendments, allowed uses in the R-5 zone include, but are not limited to, single-family residences (SFR) on 5,000-square foot lots and townhouses on 3,500-square foot lots.³

To compare the transportation impact of constructing townhouses on the smaller, 3500 sf lots with detached, single-family dwellings, I calculated the trip generation for both using the trip rates from the Institute of Transportation Engineers' *Trip Generation Manual – 9th Edition*. Table 3 presents the results of the townhouse and detached, single-family dwelling options for a sample site with ten acres of developable land in the R-5 zone.

³ Additional unit types permitted in the R-5 zone include Accessory Dwelling Units (ADUs), Duplexes, "Single-family attached residential units" means two or more dwelling units attached side by side with some structural parts in common at a common property line and located on separate and individual lots. Single-family attached residential units are also known as townhouses or rowhouses.

Table 3. Sample Comparison of SFR and Townhomes in R-5 for Ten Acres

Housing Type	ITE Category	Lot Size (sq. ft.)	Density DU/ Net Acre	Total DUs	Weekday Trips	AM Peak Trips	PM Peak Trips
Single Family Detached	210	5000	7	70	661	52	69
Condominium/ Townhouse	230	3500	10	100	732	46	56

The comparison shows that transportation impacts are similar. Weekday trips are calculated to increase slightly with townhouses, but townhouses would produce slightly fewer AM peak hour trips and significantly fewer PM peak hour trips than the SFR's. The transportation impact of this proposed code impact is insignificant.

Comparison of SFR and Townhouses in R-3.5

Under the proposed code amendments, allowed uses in the R-3.5 zone include single-family residences (SFR) on 3,500-square foot lots and townhouses on 2,500-square foot lots.

Calculations for these housing options in the R-3.5 zone were prepared using the same sources and methods described above for the R-5 zone. Table 4 presents the results of the townhouse and detached, single-family dwelling options for a sample site with ten acres of developable land in the R-3.5 zone.

Table 4. Sample Comparison of SFR and Townhomes in R-3.5 for Ten Acres

Housing Type	ITE Category	Lot Size (sq. ft.)	Density DU/ Net Acre	Total DUs	Weekday Trips	AM Peak Trips	PM Peak Trips
Single Family Detached	210	3500	10	100	944	74	99
Townhouse	230	2500	14	140	1024	64	78

The comparison shows that transportation impacts are similar. Weekday trips are calculated to increase slightly with townhouses, but townhouses would produce slightly fewer AM peak hour trips and significantly fewer PM peak hour trips than the SFR's. The transportation impact of this proposed code impact is insignificant.

Impacts of Accessory Dwelling Units, Internal Conversions and Cluster Housing

Accessory Dwelling Units and Cottage Housing are currently permitted under the OCMC. Minor changes are proposed, but the proposed amendments would continue to permit Accessory Dwelling Units and Cottage or Cluster Housing. Permit data indicate that Accessory Dwelling Units comprise less than one-tenth of one percent of all the single family dwelling units in the city (25 of a possible 9,600), and even fewer cottage houses (5 that have been permitted, but are not yet constructed). It is hoped that these numbers could increase slightly with the proposed amendments, but the number of units of these types is expected to be insignificant in comparison to the anticipated 20,985 housing units predicted in 2035 and as assumed in the TSP. Conversions of existing houses is a proposed new unit type very similar to ADUS that could allow for slightly larger units within the existing floor area of homes than permitted under ADUs. Parking requirements are proposed to be removed for ADUs and Internal Conversions. None of these unit types is anticipated to have a significant impact on the transportation system.

Conclusion

Based on the analysis undertaken for the proposed amendments, I conclude that the proposed amendments will not have a significant effect on the transportation system.

A “reasonable worst-case development scenario” involving duplexes doubling in popularity from current values would result in just 160 additional units. Even these were “new” units added to the expected increase of 7963 households projected in the TSP, these would increase the number of dwelling units in the city by only $\frac{3}{4}$ of one percent. Spread across the entire city, the impacts would be insignificant.

The proposal to allow townhouses on smaller lots than required for detached, single-family dwellings in both the R-5 and R-3.5 zones is also shown to be insignificant. Using trip generation rates from the Institute of Transportation Engineers’ *Trip Generation Manual*, townhouses are calculated to produce slightly more weekday trips, but fewer trips during both the AM and PM peak hours.

I conclude that the city can make a finding that the proposed amendments do not have a significant impact on the transportation system and the TSP and that no further analysis for compliance with the TPR is necessary.

It is important to note that developers seeking zoning changes will continue to be required to address the TPR.