

TECHNICAL MEMORANDUM

TO: Rian Tuttle, The Holt Group
FROM: Michael Ard, PE
DATE: October 16, 2015
SUBJECT: 22211 SW Pacific Highway
Zone Change Memorandum



EXPIRES 12/31/15



**LANCASTER
ENGINEERING**

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

This memorandum examines trip generation for the reasonable worst-case development scenarios for a proposed zone change at 22211 SW Pacific Highway in Sherwood, Oregon. The property will be rezoned from GC (*General Commercial*) to MDRL (*Medium Density Residential*). Oregon's Transportation Planning Rule (TPR) will also be addressed.

Project & Location Description

The property at 22211 SW Pacific Highway (Tax Lot 2S131BA02000) has an area of 257,664 square feet. The site is located on the northwest side of SW Pacific Highway (OR 99W), approximately 1,000 feet southwest of SW Meinecke Road.

SW Pacific Highway (OR 99W) operates under the jurisdiction of ODOT and is classified as a Statewide Highway. In the project study area, it is generally a four-lane facility (two through lanes in each direction) separated by a large center median and has a designated speed of 45 mph. The highway has paved shoulders along both sides of the highway.

SW Meinecke Road is under the jurisdiction of the City of Sherwood and is classified as a Collector roadway in the vicinity of the site. It is a two-lane facility with a single travel lane in each direction and a posted speed of 25 mph. A raised curb center median extends from SW Pacific Highway to SW Dewey Drive in front of the site. Bicycle lanes are present along both sides of the roadway fronting the site, and sidewalks are also in place along both sides of the roadway.

The intersection of OR 99W at SW Meinecke Road is a four-legged intersection controlled by a traffic signal. The northeast-bound and southwest-bound approaches on OR 99W each have a dedicated left-turn lane served by protected phasing, two through lanes, and a channelized right-turn slip-lane. The northbound and southbound approaches on SW Meinecke Road each have a dedicated left-turn lane served with permissive phasing, a through lane, and a channelized right-turn slip-lane.



Rian Tuttle
October 16, 2015
Page 2 of 5

Trip Generation

To evaluate the potential traffic impacts that could result from the proposed zone change, the reasonable worst-case development scenarios under the current zoning and proposed zoning designations were examined. To estimate the trips that could be generated by the proposed zone change, trip rates from the *TRIP GENERATION MANUAL*, Ninth Edition, published by the Institute of Transportation Engineers (ITE), were used.

The portion of the subject property proposed for a change in zoning has an area of 150,978 square feet. The reasonable worst-case development scenario for the current zone (GC) was estimated based on the allowed uses under the city's zoning code, assuming a maximum reasonable commercial building footprint of 25 percent of the gross area of the site. A combination of trip rates for land-use code 820, *Shopping Center* and 934, *Fast Food Restaurant with Drive-Through Window* were used. Up to 6,000 square feet of the building area was assumed to be associated with the fast food use(s), and the remainder of the site was assumed to be developed with various retail uses that fit the shopping center land use description. Between the two uses, the trip generation calculations show that a total of 159 trips could be generated during the morning peak hour, 176 trips during the evening peak hour, and 2,382 total trips on a typical weekday.

For both land uses under the existing zoning, a pass-by trip reduction was taken from the total trip estimates in accordance with ITE's recommended practice. This adjustment accounts for pass-by trips that patronize the site while driving by on an adjacent roadway, returning to their original direction of travel. Such trips do not add traffic to the adjacent roadways since they would have traveled past the site even if they had not stopped.

For the proposed MDRL zoning, the City of Sherwood zoning code calls for a density of 5.6 to 8 dwelling units per acre. The portion of the subject property proposed for a zone change 3.47 acres, which can accommodate up to 22 dwelling units assuming that the net developable acreage will be 80 percent of the gross area after any required dedications necessary for access to the lots. Trip rates for land-use code 210, *Single-Family Detached Housing*, were used to estimate the trips generated under the proposed zoning. The trip generation calculations show that the reasonable worst-case development scenario under the proposed zoning will generate up to 17 trips during the morning peak hour, 22 trips during the evening peak hour, and 210 daily trips.

This change in zoning would decrease the trip generation potential of the property under the reasonable worst case development scenarios by 142 trips during the morning peak hour and 154 trips during the evening peak hour. A decrease of 2,172 daily trips would be anticipated.

A summary of the trip generation calculations for each of the zoning scenarios and the planned development is shown in the following table. Detailed trip generation calculations are included in the appendix to this memorandum.



| | Trip Generation Summary | | | | | | | |
|------------------------------------|--------------------------------|-------------------|------------|-------------|-------------------|------------|-------------|--------------|
| | Size (sf) | Morning Peak Hour | | | Evening Peak Hour | | | Weekday |
| | | In | Out | Total | In | Out | Total | Total |
| Existing Zoning (GC) | | | | | | | | |
| Shopping Center | 31,745 | 19 | 11 | 30 | 57 | 61 | 118 | 1356 |
| Pass-By Trips | | -5 | -5 | -10 | -20 | -20 | -40 | -462 |
| Fast-Food with Drive-Through | 6,000 | 139 | 134 | 273 | 102 | 94 | 196 | 2976 |
| Pass-By Trips | | -67 | -67 | -134 | -49 | -49 | -98 | -1488 |
| Total | 37,745 | 86 | 73 | 159 | 90 | 86 | 176 | 2382 |
| Proposed Zoning (MDRL) | | | | | | | | |
| Single-Family Dwelling | 22 Units | 4 | 13 | 17 | 14 | 8 | 22 | 210 |
| Net Impact from Zone Change | | -82 | -60 | -142 | -76 | -78 | -154 | -2172 |

Transportation Planning Rule

The Transportation Planning Rule (TPR) is in place to ensure that the transportation system is capable of supporting possible increases in traffic intensity that could result from changes to adopted plans and land use regulations. The applicable elements of the TPR are each quoted directly in *italics*, with a response directly following.

660-012-0060

- (1) *If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:*
 - (a) *Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*
 - (b) *Change standards implementing a functional classification system; or*
 - (c) *Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including,*



Rian Tuttle
October 16, 2015
Page 4 of 5

but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

- (A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*
- (B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or*
- (C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.*

In the case of this report, subsections (A) and (B) are not triggered, since the proposed zone change will not impact or alter the functional classification of any existing or planned facility and the proposal does not include a change to any functional classification standards.

As demonstrated in the previous section, the net increase in trips generated by the potential worst-case development allowed as a result of the change in zoning will result in a reduction to the possible trip generation of the subject property. Accordingly, subsection (C) is also not triggered and the Transportation Planning Rule is satisfied. No mitigations are necessary or recommended in conjunction with the proposed zone change.



Rian Tuttle
October 16, 2015
Page 5 of 5

Conclusions

The proposed zone change from GC to MDRL of the property located at 22211SW Pacific Highway in Sherwood, Oregon is projected to result in a significant net decrease in site trips under the reasonable worst case development scenario. Accordingly the zone change would not be projected to cause any detrimental impacts to the nearby transportation network. The zone change will not affect existing or planned transportation facilities as defined under Oregon's Transportation Planning Rule. Based on the analysis, no mitigations are necessary or recommended in conjunction with the proposed zone change.

APPENDIX



TRIP GENERATION CALCULATIONS

Land Use: Shopping Center
Land Use Code: 820
Variable: 1,000 Sq Ft Gross Leasable Area
Variable Value: 31.7

AM PEAK HOUR

Trip Rate: 0.96

| | Enter | Exit | Total |
|--------------------------|-----------|-----------|-----------|
| Directional Distribution | 62% | 38% | |
| Trip Ends | 19 | 11 | 30 |

PM PEAK HOUR

Trip Rate: 3.71

| | Enter | Exit | Total |
|--------------------------|-----------|-----------|------------|
| Directional Distribution | 48% | 52% | |
| Trip Ends | 57 | 61 | 118 |

WEEKDAY

Trip Rate: 42.7

| | Enter | Exit | Total |
|--------------------------|------------|------------|--------------|
| Directional Distribution | 50% | 50% | |
| Trip Ends | 678 | 678 | 1,356 |

SATURDAY

Trip Rate: 49.97

| | Enter | Exit | Total |
|--------------------------|------------|------------|--------------|
| Directional Distribution | 50% | 50% | |
| Trip Ends | 793 | 793 | 1,586 |



TRIP GENERATION CALCULATIONS

Land Use: Fast Food Restaurant with Drive-Through Window
Land Use Code: 934
Variable: 1000 Sq Ft Gross Floor Area
Variable Quantity: 6

AM PEAK HOUR

Trip Rate: 45.42

| | Enter | Exit | Total |
|--------------------------|------------|------------|------------|
| Directional Distribution | 51% | 49% | |
| Trip Ends | 139 | 134 | 273 |

PM PEAK HOUR

Trip Rate: 32.65

| | Enter | Exit | Total |
|--------------------------|------------|-----------|------------|
| Directional Distribution | 52% | 48% | |
| Trip Ends | 102 | 94 | 196 |

WEEKDAY

Trip Rate: 496.12

| | Enter | Exit | Total |
|--------------------------|--------------|--------------|--------------|
| Directional Distribution | 50% | 50% | |
| Trip Ends | 1,488 | 1,488 | 2,976 |

SATURDAY

Trip Rate: 722.03

| | Enter | Exit | Total |
|--------------------------|-------------|-------------|--------------|
| Directional Distribution | 50% | 50% | |
| Trip Ends | 2166 | 2166 | 4,332 |



TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 22

AM PEAK HOUR

Trip Rate: 0.75

| | Enter | Exit | Total |
|--------------------------|----------|-----------|-----------|
| Directional Distribution | 25% | 75% | |
| Trip Ends | 4 | 13 | 17 |

PM PEAK HOUR

Trip Rate: 1.00

| | Enter | Exit | Total |
|--------------------------|-----------|----------|-----------|
| Directional Distribution | 63% | 37% | |
| Trip Ends | 14 | 8 | 22 |

WEEKDAY

Trip Rate: 9.52

| | Enter | Exit | Total |
|--------------------------|------------|------------|------------|
| Directional Distribution | 50% | 50% | |
| Trip Ends | 105 | 105 | 210 |

SATURDAY

Trip Rate: 9.91

| | Enter | Exit | Total |
|--------------------------|------------|------------|------------|
| Directional Distribution | 50% | 50% | |
| Trip Ends | 109 | 109 | 218 |