

# Technical Memorandum

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Project# 27502

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City of Florence  
250 Highway 101  
Florence, OR 97439

From: Matt Hughart

CC: Matt Braun, Braun Hospitality LLC  
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RE: Quince Street Florence Hotel

## TRAFFIC IMPACT STUDY SCOPING INFORMATION

This memorandum documents the methodology and key assumptions to be used in preparation of a formal transportation impact analysis (TIA) for a new hotel development in Florence.

### PROPOSED DEVELOPMENT PLAN

Braun Hospitality, LLC is proposing to construct an 86-room hotel on an undeveloped lot in Florence. The site is located east of Quince Street in the southeast quadrant of the City and is bounded by wetlands to the east and south and a landscaping business to the north. A site vicinity map is shown in Exhibit A.

#### Exhibit A – Site Vicinity Map



## TRIP GENERATION

The proposed 86-room hotel is a special category of overnight accommodations that is marketed as a hybrid between a traditional highway-oriented motel and a facility that would accommodate guests for more than one or two nights (given its proximity to the nearby Florence Events Center). To estimate the traffic impacts of such a project, trip generation estimates were calculated for several relevant land use categories in the standard reference, *Trip Generation Manual*, 11<sup>th</sup> Edition, published by the Institute of Transportation Engineers (ITE). These land use categories include Motel and All Suites Hotel.

**Table 1 – Trip Generation Estimate**

Land Use	ITE Code	Size (Rooms)	Daily Trips	Weekday AM Peak Hour			Weekday School PM Peak Hour		
				Total	In	Out	Total	In	Out
Motel	320	86	288	30	11	19	31	17	14
All Suites Hotel	311	86	378	29	15	14	31	15	16

As shown in Table 1, there is essentially no measurable peak hour trip generation difference between the Motel and All Suites Hotel land use categories. However, the All Suites Hotel does have a higher daily trip rate. Given that the proposed hotel is better described via the All-Suites Hotel category and it has a higher daily trip rate, this land use category is proposed to be utilized for study purposes.

## STUDY INTERSECTIONS

The overall study area was identified based on the project's location in southeast Florence and its anticipated trip impact on the surrounding local and regional roadway network. With the assumption that all site access will occur via site driveways off of Quince Street, the following intersections are proposed to be included in the transportation impact study.

- US 101/6<sup>th</sup> Street
- US 101/8<sup>th</sup> Street
- US 101/OR 126
- OR 126/Quince Street
- Proposed Quince Street site access driveway(s)

## OPERATIONS ANALYSIS

The traffic operations analysis will include evaluation of the following performance measures for the study intersections:

- Turning movement counts;
- Volume-to-capacity (V/C) ratio;
- Level-of-service (LOS) and delay; and,
- 95<sup>th</sup> percentile queuing.

Individual study intersection performance will be documented in tables, figures, and/or technical appendices using the performance measures listed above. Study intersection performance will then be compared to applicable City and ODOT performance thresholds.

## Analysis Years/Time Periods

We will report performance measures for the following analysis years/time periods:

- Existing year 2022 weekday PM peak hour traffic conditions;
- Background year 2023 weekday PM peak hour traffic conditions (without added trips from the proposed hotel); and,
- Build year 2023 weekday PM peak hour total traffic conditions (including added trips from the proposed hotel).

## Applicable Mobility Standards

### ODOT MOBILITY TARGETS

ODOT uses volume-to-capacity (v/c) ratios to assess intersection operations. Table 6 of the Oregon Highway Plan (OHP) provides maximum volume-to-capacity ratio mobility targets for all signalized/roundabout and unsignalized intersections located outside the Portland metropolitan area. Table 2 summarizes the v/c ratios that will be used to identify existing and potential future operational issues at the ODOT owned/maintained intersections along US 101 and OR 126.

**Table 2 – ODOT Mobility Targets**

Intersection	OHP Mobility Target
US 101/6 <sup>th</sup> Street	v/c ≤ 0.90 major approach/1.0 minor approach
US 101/8 <sup>th</sup> Street	v/c ≤ 0.90 major approach/1.0 minor approach
US 101/OR 126	v/c ≤ 0.85
OR 126/Quince Street	v/c ≤ 0.85 major approach/0.95 minor approach

Note: US 101 is a Statewide Highway (with a Special Transportation Area (STA) and Freight Route designation) and a posted speed of 30 mph. OR 126 is a Statewide Highway (with a Freight Route designation) and a posted speed of 35 mph.

### CITY OF FLORENCE OPERATING STANDARDS

While US 101 and OR 126 are ODOT owned/maintained roadways, the City of Florence's Transportation System Plan identifies the following operating standards that apply to intersections within the City:

- LOS "D" is considered acceptable at signalized and all-way stop controlled intersection if the V/C ratio is not higher than 1.0 for the sum of critical movements.
- LOS "E" is considered acceptable for the poorest operating approach at two-way stop intersections. LOS "F" is allowed in situations where a traffic signal is not warranted.

## SEASONAL ADJUSTMENT FACTOR

It is assumed that peak hour traffic counts will be collected in March 2022 and will subsequently be adjusted to reflect 30<sup>th</sup> highest hour design volumes, based on applicable adjustment factors. Version 2 of the APM identifies three methods for identifying seasonal adjustment factors for highway traffic volumes:

- On-Site ATR Method
- ATR Characteristic Table Method
- Seasonal Trend Method

### On-Site ATR Method

The On-Site ATR Method is used when an Automatic Traffic Recorder (ATR) is within or near the project area. ATR #20-026 is the closest ATR station to Florence, located approximately 3.5 miles to the north on US 101. While the average annual daily traffic at this site is not within ten percent of typical traffic volumes within Florence and it is technically in a more rural area, a seasonal factor was calculated using this ATR for comparison purposes to the other methodologies described herein. As shown in Table 3, the seasonal adjustment factor calculation for the intersection counts collected during March using this method would be a factor of 1.65%.

**Table 3 – Seasonal Adjustment Calculations for ATR #20-026**

	2020	2019	2018	2017	2016	Average
ATR #20-026						
Peak Month (August)	141	131	140	142	134	138.3
County Month (March)	81	90	82	82	87	83.7

- The average peak month (August) is: 138.3%
- The average count month (March) is: 83.7%
- The seasonal adjustment factor is  $138.3\%/83.7\% = 1.65\%$

### ATR Characteristics Table

The ATR Characteristic Table provides general characteristics for each ATR in Oregon and is typically used when there is not a nearby ATR within the immediate study area. A review of the Characteristic Table did not find an ATR that closely matches the conditions along US 101 (all representative ATRs had Average Annual Daily Traffic (AADT) volumes that were significantly greater than US 101's AADT in the vicinity of OR 126). As such, the ATR Seasonal Trend Method was evaluated as described in the following section.

### ATR Seasonal Trend Method

The seasonal trend table is used when there is not an ATR nearby or in a representative area. This method averages seasonal trend groupings from the ATR Characteristics Table. For movements at intersections along US 101 and OR 126, an average of the "Coastal Destination" and "Coastal Destination Route" trends was deemed appropriate. As shown in Table 4, the average of the seasonal adjustment factor calculations for the Coastal Destination and Coastal Destination Route trends would be a factor of 1.37.

**Table 4 – ATR Seasonal Trend Method for Coastal Destination and Coastal Destination Route Trends**

	March Count Month	Seasonal Trend Peak Period Factor	Seasonal Adjustment
Coastal Destination	1.0194	0.8159	1.25
Coastal Destination Route	1.0747	0.7205	1.49

- The peak period seasonal factor is 0.8159 for the Coastal Destination trend and 0.7205 for the Coastal Destination Route trend.
- The count date seasonal factor (March) is 1.0194 for the Coastal Destination trend and 1.0747 for the Coastal Destination Route trend.
- The Coastal Destination seasonal adjustment is 1.25 ( $1.0194/0.8159 = 1.25$ ) and the Coastal Destination Route seasonal adjustment is 1.49 ( $1.0747/0.7205 = 1.49$ ).
- An average of the Commuter and Summer season adjustments is **1.37**.

A comparison of the two seasonal factoring methods revealed a more reasonable and appropriate seasonal factor derived from the ATR Seasonal Trend method. For the purposes of the study, it is therefore proposed that a seasonal factor of 1.37 be applied to the measured traffic volumes assumed to be collected in March 2022.

## FORECAST YEAR VOLUME DEVELOPMENT

Growth rates for opening year background traffic volumes will be based upon an assumed three percent annual growth factor. We request confirmation or clarification on alternate growth rates for use in the traffic study.

## NEXT STEPS

Please review the information presented in this memorandum and provide us your feedback regarding the study assumptions and methodology.