1130 SW Morrison St., Suite 318
Portland, OR 97205
503.248.0313
lancastermobley.com

Memorandum

To: **Colin Cortes, Woodburn Senior Planner**
Casey Knecht, ODOT

Copy: **Harlan Borow, ICON Construction**
Jennifer Arnold, Emerio Design

From: **Jennifer Danziger, PE**

Date: **September 16, 2024**

Subject: **Boones Crossing Subdivision TIA Scoping**

This memorandum provides a proposed scope of work and analysis methodology for the transportation impact analysis (TIA) for annexation and 136-unit subdivision proposed east of S Boones Ferry Road and south of the southern arterial at the southern city limits of Woodburn, Oregon.

Project Location and Description

The project site currently consists of three tax lots: Tax Map 051W19B Lots 600, 700, and 800. These lots (with no street address) encompass 32.2 acres of undeveloped land. The land is designated Low Density Residential according to the Comprehensive Plan and would be zoned Single-Family Residential (RS) upon annexation.

Figure 1 presents an aerial image of the nearby vicinity with the subject site outlined in yellow. A site plan is attached to this memorandum.

The project would construct the southern portion of the south arterial, designated at E Traverse

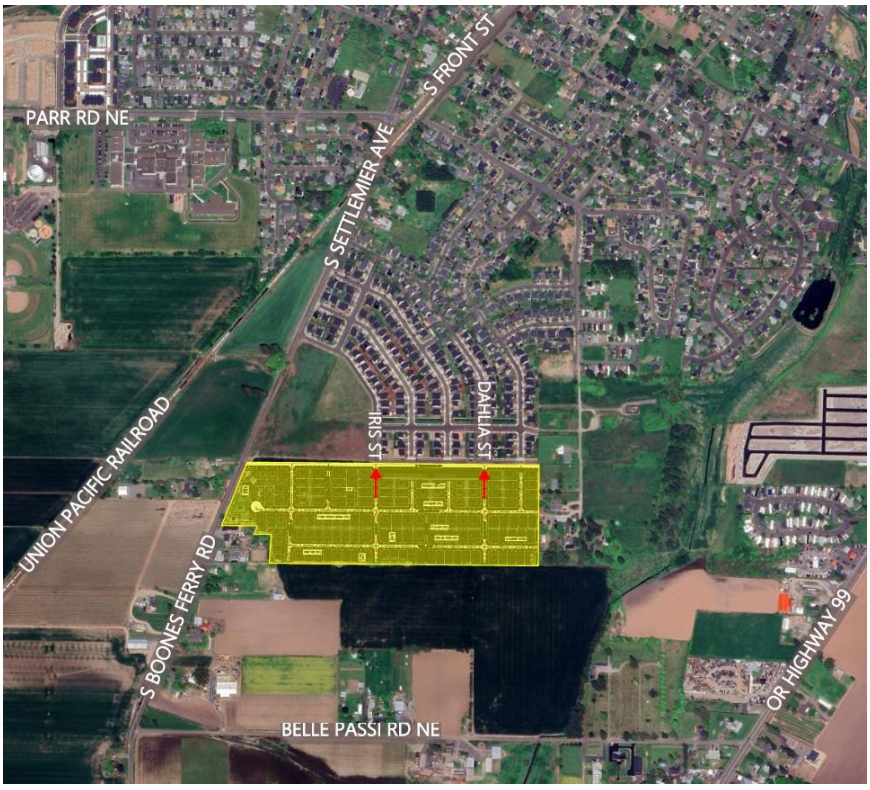


Figure 1: Project Location (image from Google Earth)

Road on the site plan. Two accesses along E Traverse Road are proposed, as highlighted by the red arrows in Figure 1. These accesses are aligned with Iris Street and Dahlia Street with a separation of approximately 750 feet.

Trip Generation

To estimate the number of trips that could be generated by the proposed development, trip equations from the *Trip Generation Manual* [1] were used. Data from the land use code 210, *Single-Family Detached Housing*, was used to estimate trip generation based on the number of dwelling units (DU). The resulting trip generation estimates are summarized in Table 1. Detailed trip generation calculations are attached.

Table 1: Trip Generation

ITE Code	Intensity	Morning Peak Hour			Evening Peak Hour			Weekday Trips
		In	Out	Total	In	Out	Total	
210 - Single-Family Detached Housing	136 DU	25	74	99	84	49	133	1,338

The trip generation calculations show that the proposed development is projected to generate 99 morning peak hour, 133 evening peak hour, and 1,338 average weekday trips.

The criteria for when a traffic impact analysis will be required are outlined in the Woodburn Development Ordinance Section 3.04.05.B.2, which states that a TIA is required when a development would increase vehicle trip generation by 50 peak hour trips or more, or 500 average daily trips (ADT) or more. With the estimated trip generation, the proposed development will fall above the threshold requirement for a TIA.

Trip Distribution

A preliminary directional distribution of the site trips to and from the proposed development was estimated based on locations of likely destinations and locations of major transportation facilities in the site vicinity. This distribution assumes:

- 50 percent to/from the north on S Boones Ferry Road (50 AM/66 PM/668 daily trips)
    - 25 percent to/from the north on S Settlemier Road (25 AM/33 PM/334 daily trips)
        - 15 percent to/from I-5 via OR 214 (15 AM/19 PM/202 daily trips)
        - 5 percent to/from I-5 via Hayes Street (5 AM/7 PM/66 daily trips)
        - 5 percent to/from the local destinations (5 AM/7 PM/66 daily trips)
    - 10 percent to/from the north of Evergreen Road to I-5 via OR 214 (10 AM/13 PM/134 daily trips)
    - 10 percent to/from the west on Parr Road to local destinations (10 AM/13 PM/134 daily trips)
    - 5 percent to/from the north on Front Street (5 AM/7 PM/66 daily trips)

[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.

- 50 percent to/from the south on S Boones Ferry Road (49 AM/67 PM/670 daily trips)
    - 30 percent to/from the south on OR-99E (29 AM/40 PM/402 daily trips)
    - 20 percent to/from the north on OR 99E via Belle Passi Road (20 AM/27 PM/268 daily trips)

Proposed Study Intersections

The WDO does not include thresholds for determining which intersections should be studied, staff may determine which intersections to study. Per *Table 3.2: TIA Threshold and Analysis Areas* in ODOT's *Development Review Guidelines*, Table 3.2 recommends analysis at intersections where traffic is increased by 50 peak hour trips, 300 average daily trips, or by 10 percent of the intersections total entering volumes.

Based on the anticipated trip distribution and approved transportation network improvements, we are proposing to analyze the following intersections:

1. S Boones Ferry Road & E Traverse Street (99 AM/133 PM/1,338 daily trips)
2. S Boones Ferry Road & Belle Passi Road NE (49 AM/67 PM/670 daily trips)
3. S Settlemier Avenue & Parr Road NE/S Front Street (50 AM/66 PM/668 daily trips)
4. OR 99E & Boones Ferry Road NE (29 AM/40 PM/402 daily trips)
5. N Settlemier Avenue at W Hayes Street (25 AM/33 PM/334 daily trips)

The two local connections of Iris Street and Dahlia Street at E Traverse Street are not recommended for analysis because E Traverse Street (i.e., the southern arterial) will only carry local traffic and is not currently functioning as a through street.

All other intersections are anticipated to be below state thresholds for analysis. However, to understand potential proportionate share calculations, trip assignments will be prepared for the following intersections:

A. OR 214/219 & I-5 Northbound Ramps

B. OR 214 & Evergreen Road

Existing Traffic Volumes

New traffic counts will be collected at the study intersections midweek during the hours of 7:00-9:00 AM and 4:00-6:00 PM. These time periods correspond with the peak periods for the ITE trip generation data. Data will be collected when school is in session.

For intersections located on state highways, we propose to seasonally adjust the through traffic volumes based on the commuter trend in ODOT's Seasonal Trend Table.

Future Traffic Volumes

To develop future volumes, we propose using a background growth rate plus the traffic volumes from approved projects. A general growth rate of 1.0 percent per year is proposed for local intersections. A growth rate specific to the state highways will be developed based on ODOT's Future Volumes Table.

The following approved projects on the City's current listing will be included in the background condition:

- Valentina Estates Phase 2
- Smith Creek Development – Percent completion to be confirmed with City
- 9008 Parr Rd NE
- Specht Industrial development
- Brighton Pointe Subdivision
- Allison Way Apartments
- Woodburn West Apartments

Please confirm this project list or identify what projects should be added or excluded from the list.

Safety Analysis

The TIA will include a safety analysis consistent with City and ODOT procedures for all study intersections, including crash rates and an assessment of potential mitigation for intersections with crash rates that exceed the range for similar locations.

Assessment of Pedestrian, Bicycle, and Transit Modes

The TIA will include an assessment of on-site bicycle parking, access to transit, and impacts on the pedestrian and bicycle system. Pedestrian and bicycle collisions will be included in the Safety Analysis.

Summary of Scoping Proposal

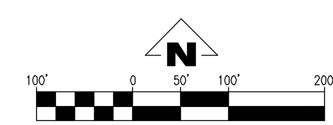
Please review our proposed scope of analysis and confirm the following:

- Trip generation and distribution is acceptable.
- The study area intersections proposal is acceptable or identify what other intersections should be included in the TIA.
- Our background growth rate of 1 percent per year is acceptable.
- Our list of in-process projects is acceptable and what an approximate percentage of the Smith Creek development that has been completed.

Attachments: Site Plan, Trip Generation

TENTATIVE SITE PLAN

SCALE: 1" = 100'



RESIDENTIAL SINGLE FAMILY (RS) SETBACK REQUIREMENTS - WDO TABLE 2.02B

FRONT SETBACK AND SETBACK ABUTTING A STREET, MIN. (FEET):	18
FRONT SETBACK FROM ADJACENT NON-ACCESSIBLE STREET, MIN (FEET):	13
SIDE SETBACK, MINIMUM (FEET):	
TOWNHOUSE LOT COMMON WALL:	0
END UNIT EXTERIOR WALL:	5
ANY OTHER USE:	5
REAR SETBACK AVERAGE, BASED ON BUILDING HEIGHT (FEET)	
16 FEET OR LESS:	24
MORE THAN 16 FEET AND LESS THAN 28 FEET:	30
28 FEET OR MORE:	36
LOT COVERAGE, MAXIMUM, BASED ON BUILDING HEIGHT (PERCENT):	
PRIMARY BUILDING HEIGHT 16 FEET OR LESS:	40
PRIMARY BUILDING HEIGHT GREATER THAN 16:	35

DENSITY CALCULATIONS

MIN. DENSITY FOR RS ZONE	=	5.2 UNITS/AC
TOTAL LOT AREA	=	937,738 SF (21.53 AC)
TOTAL LOT COUNT	=	136 UNITS
TOTAL DENSITY	=	6.32 UNITS/AC

SITE AREAS

RIGHT-OF-WAY:	401,548 SF (9.22 AC)
TRACTS/ALLEYS/WQF:	63,834 SF (1.47 AC)
LOTS:	937,738 SF (21.53 AC)
TOTAL AREA:	1,403,119 SF (32.21 AC)

STREET TREE PLANTING NOTES

1. ONE TREE PER EVERY ENTIRE 30 FEET OF STREET FRONTAGE SHALL BE PLANTED WITHIN THE RIGHT-OF-WAY, SUBJECT TO VISION CLEARANCE AREA STANDARDS AND PLACEMENT OF PUBLIC UTILITIES.

2. MEDIUM-SIZED TREES SHALL BE PLANTED ALONG THE BOONES FERRY ROAD AND E TRAVERESE ROAD FRONTAGES.

3. SMALL TREES SHALL BE PLANTED ALONG ALL OTHER NEW LOCAL RESIDENTIAL STREETS.

LEGEND

- 30' X 30' VISION CLEARANCE TRIANGLE

BOONES CROSSING ADDITION
TAX MAP 05S1W19B
TAX LOT 600
CITY OF WOODBURN, OREGON
MARION COUNTY

TENTATIVE SITE PLAN

REVISIONS

NO.	DATE	DESCRIPTION

EMERIO
ENGINEERING • SURVEYING • DESIGN
1500 VALLEY RIVER DRIVE, SUITE 100
EUGENE, OREGON 97401
TEL: (503) 746-8812
FAX: (503) 639-9592
www.emeriodesign.com

REGISTERED PROFESSIONAL ENGINEER 78865PE OREGON 2007 DANIEL ... COULTINGHOUSE
PRELIMINARY NOT FOR CONSTRUCTION
EXPIRES: 12/31/2025

FILE:P:\0082-010 mill creek 2\dwg\plan\0082-10_04site, Layout: 04 TENTATIVE SITE PLAN, Plot Date: 8/30/2024 1:02 PM, by: Cameron Johnson

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Equation
Variable Quantity:	136

AM PEAK HOUR

Trip Rate: =EXP(0.91*LN($X2)+0.12)

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	25	74	99

PM PEAK HOUR

Trip Rate: =EXP(0.94*LN($X2)+0.27)

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	84	49	133

WEEKDAY

Trip Rate: =EXP(0.92*LN($X2)+2.68)

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	669	669	1,338

SATURDAY

Trip Rate: =EXP(0.97*LN($X2)+2.4)

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	647	647	1,294

Source: Trip Generation Manual, 11th Edition