

# Technical Memo

**To:** Joel Greear, Brown Road Estates, LLC  
**From:** Ryan Shea, PTP, Senior Project Manager  
**Date:** February 10, 2025  
**Project:** Brown Road Estates  
**Subject:** Trip Generation and Distribution Memo

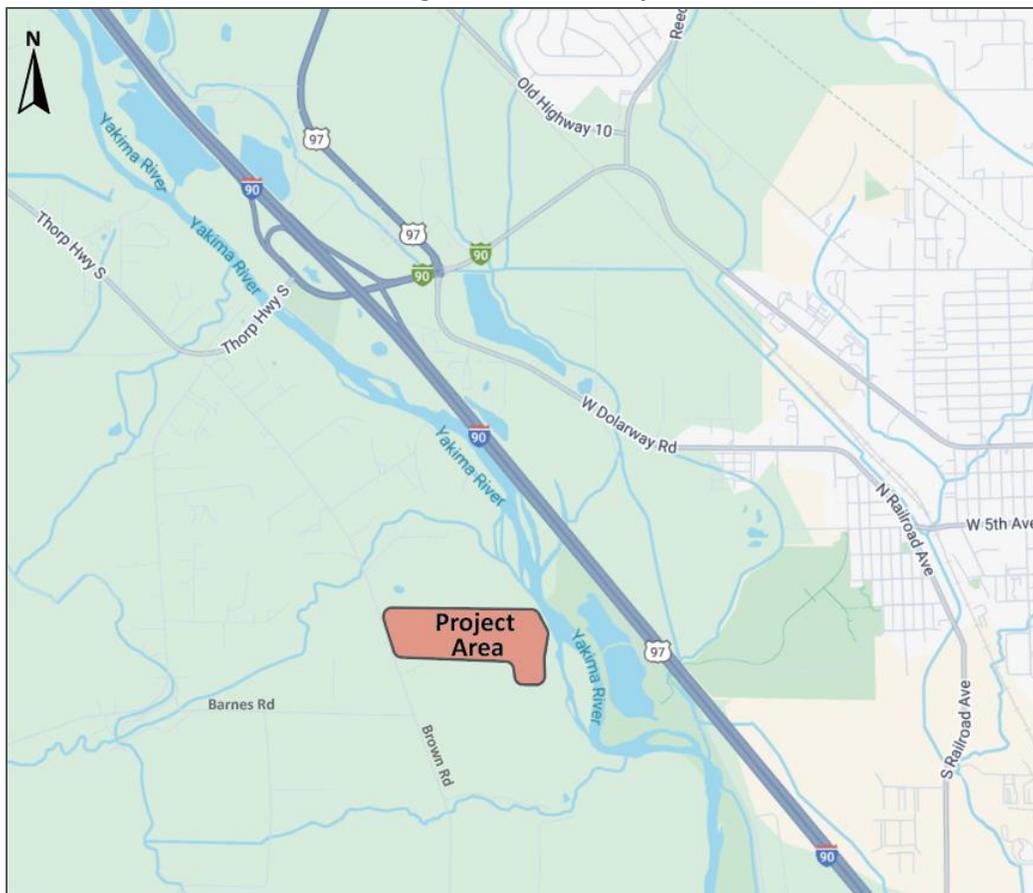
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## Introduction

Brown Road Estates, LLC is pursuing a long plat to convert one existing 45-acre residential parcel into nine 5-acre residential parcels in Kittitas County, Washington. This project is located west of I-90 along Brown Road and adjacent to the Brown Road/Barnes Road intersection.

This trip generation and distribution memo identifies the potential traffic that could be added by the proposed long plat. **Figure 1** illustrates the site vicinity and the transportation network serving the project area.

**Figure 1. Site Vicinity**

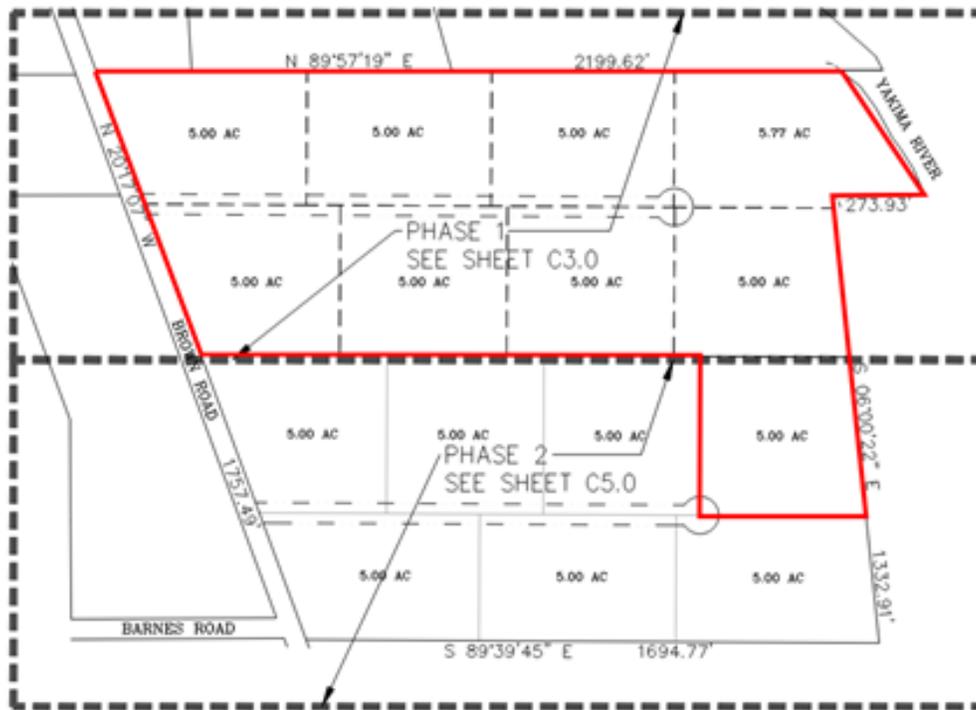


# Proposed Development

The proposed Brown Road Estates project will convert one vacant residential property into 9 residential properties, resulting in a new increase of 8 residential properties. The project is located west of I-90 along Brown Road and adjacent to the Brown Road/Barnes Road intersection in Kittitas County. The total project site is approximately 45 acres.

Site access will be provided via Brown Road. Regional access will be provided via I-90 which intersects Thorp Highway north of the project site. A preliminary site plan for the boundary line adjustment is provided below (shown in red) in **Figure 2**.

Figure 2. Proposed Boundary Line Adjustment



## Project Traffic Characteristics

The two project-related characteristics having the most effect on area traffic conditions are peak hour trip generation and the directional distribution of traffic volumes on the surrounding roadway network. These are discussed in the following paragraphs

### Site-Generated Traffic Volumes

Vehicle trip generation was estimated using the trip generation rates contained in the 11th edition of the *Trip Generation Manual* by the Institute of Transportation Engineers (ITE). The land-use category “Single-Family Detached Housing” (land-use code 210) with the variable of dwelling units was determined to be the most applicable to this project. For this analysis, the “fitted-curve” equation was used to estimate trips in preference to using a specific trip rate as this approach was recommended by ITE.

The trip generation rates used for the proposed project are shown in **Table 1**.

**Table 1. Trip Generation Rates – Single-Family Detached Housing (LUC 210)**

Peak Period	Unit	Trip Rate	% Enter	% Exit
AM peak hour of Adjacent Street	Dwelling Units	0.89	25%	75%
PM peak hour of Adjacent Street	Dwelling Units	1.11 <sup>1</sup>	63%	37%
Daily	Dwelling Units	12.22 <sup>1</sup>	50%	50%

1. Fitted curve equation rate

The total trip generation expected from this project is calculated by applying the unit measure (dwelling units) to the appropriate trip generation rate. The trip generation calculations are shown in **Tables 2**.

**Table 2. Project Trip Generation**

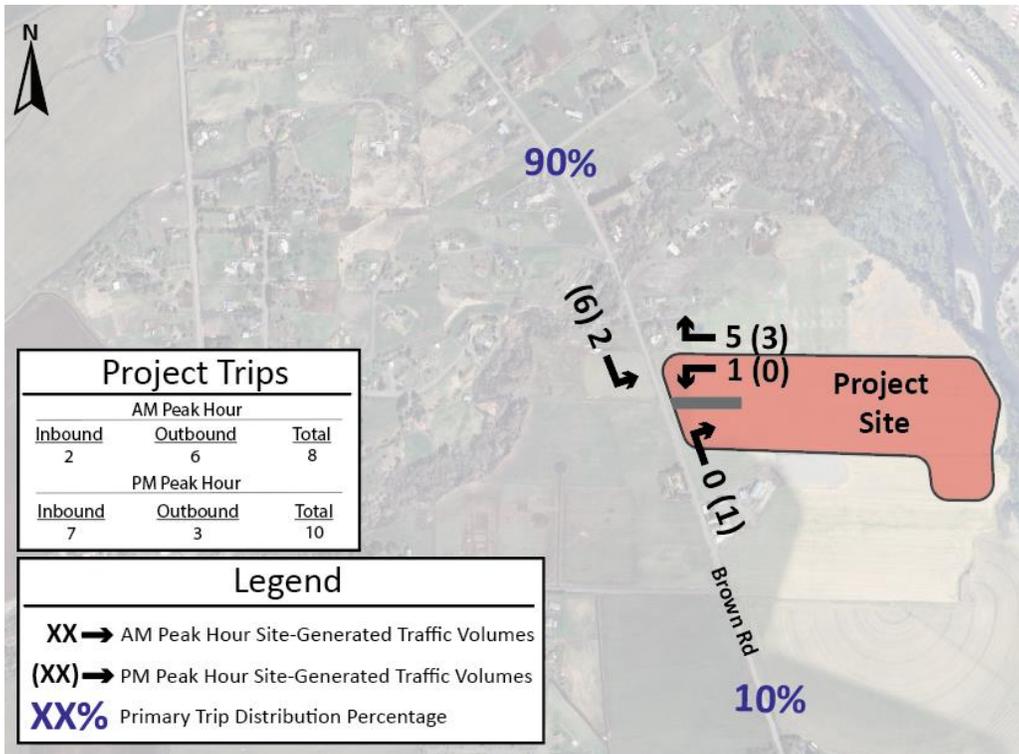
Peak Period	Size	Total Trips	Enter	Exit
AM peak hour of Adjacent Street	9	8	2	6
PM peak hour of Adjacent Street	9	10	7	3
Daily	9	110	55	55

It should be noted that currently the property is one residential parcel that would be expected to contain a single-family home. While the proposed subdivision will create nine residential lots, this is ultimately only a net increase of eight residential lots from what was previously constructable.

## Site Traffic Distribution and Assignment

For this study, the regional distribution of traffic to and from the proposed project was estimated based on the existing roadway system. It is expected that most of the project traffic will travel to/from the north to I-90. The regional traffic distribution percentages and site traffic assignment for the proposed development for the AM peak hour and PM peak hour is shown on **Figure 3**.

Figure 3. Project Site Generated Volumes



The proposed Brown Road Estates subdivision will create eight additional residential lots, which is estimated to generate 8 trip ends during the AM peak hour and 10 trip ends during the PM peak hour. Due to the relatively low trip generation, it is not expected that further traffic analysis related to potential project impacts is necessary.

Thank you for reviewing the enclosed materials. If you have any questions or need additional information, please email me at [rshea@gondolaventures.com](mailto:rshea@gondolaventures.com).

Respectfully,

GVC Transportation Solutions

Ryan Shea, PTP, Senior Project Manager