

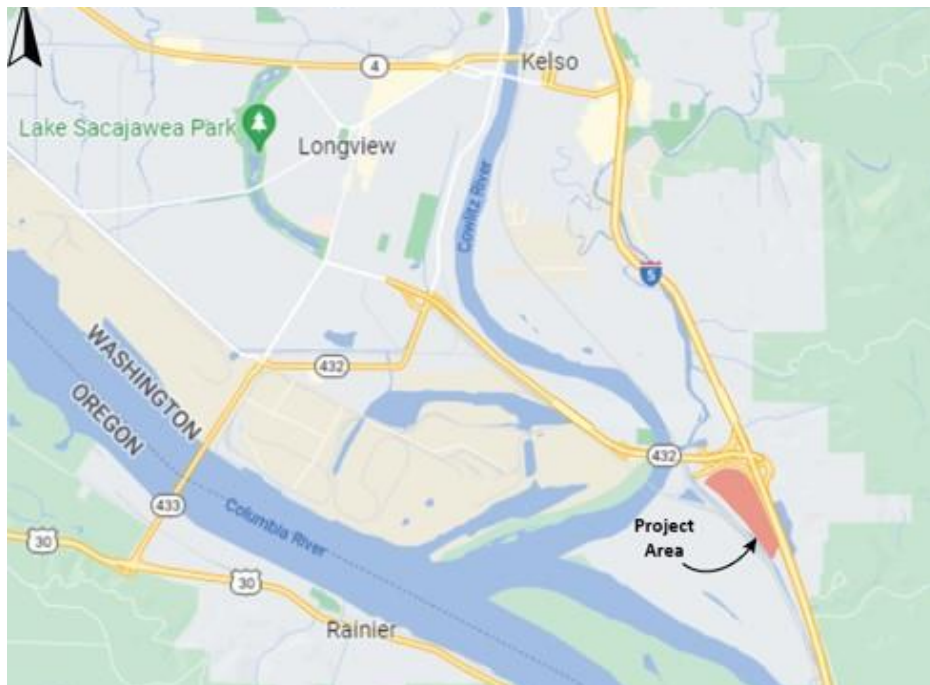
Technical Memo

To: Trammell Crow Portland Development, Inc.
From: Ryan Shea, PTP, Senior Transportation Planner
Date: July 13, 2022
Project: Mid I-5 Industrial Park
Subject: Parking Supply Memo

Introduction

Trammell Crow Portland Development, Inc. (Trammell Crow) is proposing to construct a 1,406,885 square foot industrial facility in the southwest quadrant of the I-5/SR 432 interchange in Kelso, Washington. **Figure 1** illustrates the site vicinity and the transportation network serving the project area. The proposed site plan is attached.

Figure 1. Site Vicinity Map



For all nonresidential uses the required minimum parking amount shall be determined by the city. To support this determination the city requests documentation regarding the expected parking demand of the proposed

use. This memo has been prepared to document the expected peak parking demand for the proposed project to assist the City of Kelso in determining the required minimum parking supply.

Project Description

Trammell Crow is proposing to construct a 1,406,885 square foot industrial facility in the southwest quadrant of the I-5/SR 432 interchange in Kelso, Washington. The project is proposing to provide 465 standard on-site parking stalls for passenger vehicles and 541 larger parking stalls for truck trailer parking, which equates to a total parking supply of 1,006 stalls.

Independent Peak Parking Demand Calculation

The Institute of Transportation Engineers (ITE) publishes a *Parking Generation Manual*, which includes peak parking demand for hundreds of different land uses. The current version of this manual (5th Edition) was used to identify the potential parking need for the proposed Mid I-5 Industrial Park. The specific use of the proposed project is a fulfillment center. This land use type (land use code 155) is provided in the ITE Trip Generation manual and was used for the Traffic Impact Analysis prepared for the project. However, this land use type is not contained in the ITE *Parking Generation Manual*. The best fit for the proposed project contained in the ITE *Parking Generation Manual* is Warehouse (land use code 150). For this land use code the parking manual provides peak parking demand for passenger vehicles and also for trucks. The parking generation rate and total estimated parking demand for each vehicle type is shown in **Table 1**.

Table. ITE Peak Parking Demand for Warehouse (Land Use Code 150)

Vehicle Type	Variable	Value	Peak Parking Rate	Peak Parking Demand
Passenger Vehicle	ksqft	1,407	0.398	560.5
Truck	ksqft	1,407	0.11	154.8
Total				715.3

As shown in the table, based on the ITE manual, the total peak parking demand for the proposed use would be 715 parking stalls. It is common practice for a business to provide parking stalls in excess of the peak parking demand, aiming for the peak parking to represent 90-95% of the overall parking supply. **That would result in a total parking supply of 753-794 stalls.**

This total parking supply recommended for a generic warehouse of the proposed project size is safely less than the 1,006 parking stalls proposed by the project. However, the 465 passenger vehicle stalls proposed by the project are less than the estimated peak parking demand for passenger vehicle stalls. While the ITE *Parking Generation Manual* does not contain specific data on high cube warehousing, ITE has published information specific to the different warehousing types.

Additional ITE Data on High-Cube Warehouses

ITE published a High-Cube Warehouse Vehicle Trip Generation Analysis memo in October of 2016. This memo summarized the data of many high-cube warehouse facilities across the country, with a focus on the vehicle trip generation. Within this memo they discuss the relative comparison of the different high-cube warehouse types to each other and also to standard warehouse facilities. In that comparison they note that fulfillment centers specifically provide a higher truck parking ratio than other warehouse types.

This finding is consistent with the parking supply breakdown proposed for the site, which contains a much higher truck trailer supply than the Warehouse peak parking demand identifies.

Summary

Trammell Crow is proposing to construct a 1,406,885 square foot industrial facility in the southwest quadrant of the I-5/SR 432 interchange in Kelso, Washington. The project is proposing to provide 465 standard on-site parking stalls for passenger vehicles and 541 larger parking stalls for truck trailer parking, which equates to a total parking supply of 1,006 stalls.

The ITE *Parking Generation Manual* does not provide peak parking demand data for the specific proposed use of fulfillment center. However, the ITE manual does provide an estimate for standard warehousing. Based on the size of the proposed project, a standard warehouse would be expected to experience a peak parking demand of 715 vehicles. Assuming the parking supply would provide an additional 5-10% beyond this peak demand, that would equate to a total parking supply of 753-794 stalls. The Mid I-5 Industrial Park project is proposing to construct 1,006 parking stalls, however the allocation of stalls between passenger vehicles and trucks is not in alignment with the standard warehouse data.

ITE also published a study of high-cube warehouses in 2016 that included observations about each different type of warehouse use. This study noted that fulfillment centers were found to provide higher truck parking ratios than other warehousing facilities. This finding supports the project site providing a higher proportion of truck parking stalls than a typical warehouse would need. Based on the available ITE peak parking demand data and supplementary ITE high-cube warehouse data, the proposed 465 passenger vehicle stalls and 541 truck trailer stalls should be sufficient for the peak parking demand of the project.

Thank you for reviewing this Parking Supply Memo. If you have any questions or need additional information, please call me at 360.352.1465.

Respectfully,

SCJ Alliance



Prepared by Ryan Shea, PTP, Senior Transportation Planner

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