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Ms. Ana Chesterfield, Engineering Services Manager
City of Mount Vernon
Community and Economic Development Department
P.O. Box 809
Mount Vernon, WA 98273

SUBJECT: HARBOR FREIGHT TOOLS, RIVERSIDE DRIVE TRANSPORTATION CONCURRENCY REVIEW (PL2017-009)

Dear Ms. Chesterfield:

The following review comments describe the transportation concurrency analysis for the Harbor Freight Tools development at 2400 Riverside Drive in Mount Vernon, WA.

Project Description

The project, consisting of parcel P25918, is located at 2400 Riverside Drive. The 3.1-acre site is zoned C-2, General Commercial, and is currently occupied by a 16,000 square-foot building which was previously occupied by Riverside Auto Plaza, an automobile sales and service provider. The site also includes a 1,2000 square-foot outbuilding.

The property is bordered by Hoag Road to the north, Pacific Place to the south, and Riverside Drive to the west. To the east, the project abuts a trailer park. A vicinity map is shown in Figure 1.

The project will include demolition of the existing 16,000 square foot building and construction of a single-story 15,000 square-foot hardware store. A total of 67 parking spaces will be provided on-site. A preliminary site plan is shown in Figure 2.

Site access is proposed via two existing driveways on Pacific Place and one existing driveway on Hoag Road, as shown in Figure 2. The existing Pacific Place site accesses are located 35 and 185 feet (tangent curb length) from the intersection at Riverside Drive.

The street network in the project vicinity includes Hoag Road, Pacific Place, and Riverside Drive. Hoag Road is an east-west two-lane minor arterial with a posted speed of 25 mph in the project vicinity. It includes curb, gutter, and sidewalk at the project frontage. Pacific Place is an east-west urban collector with four lanes at the project frontage. It includes curb, gutter, and sidewalk on both sides. Riverside Drive is a north-south five-lane principal arterial with a posted speed of 30 mph. It includes curb, gutter, and sidewalk on both sides at the project frontage.

Figure 1. Vicinity Map



Trip Generation and Trip Distribution

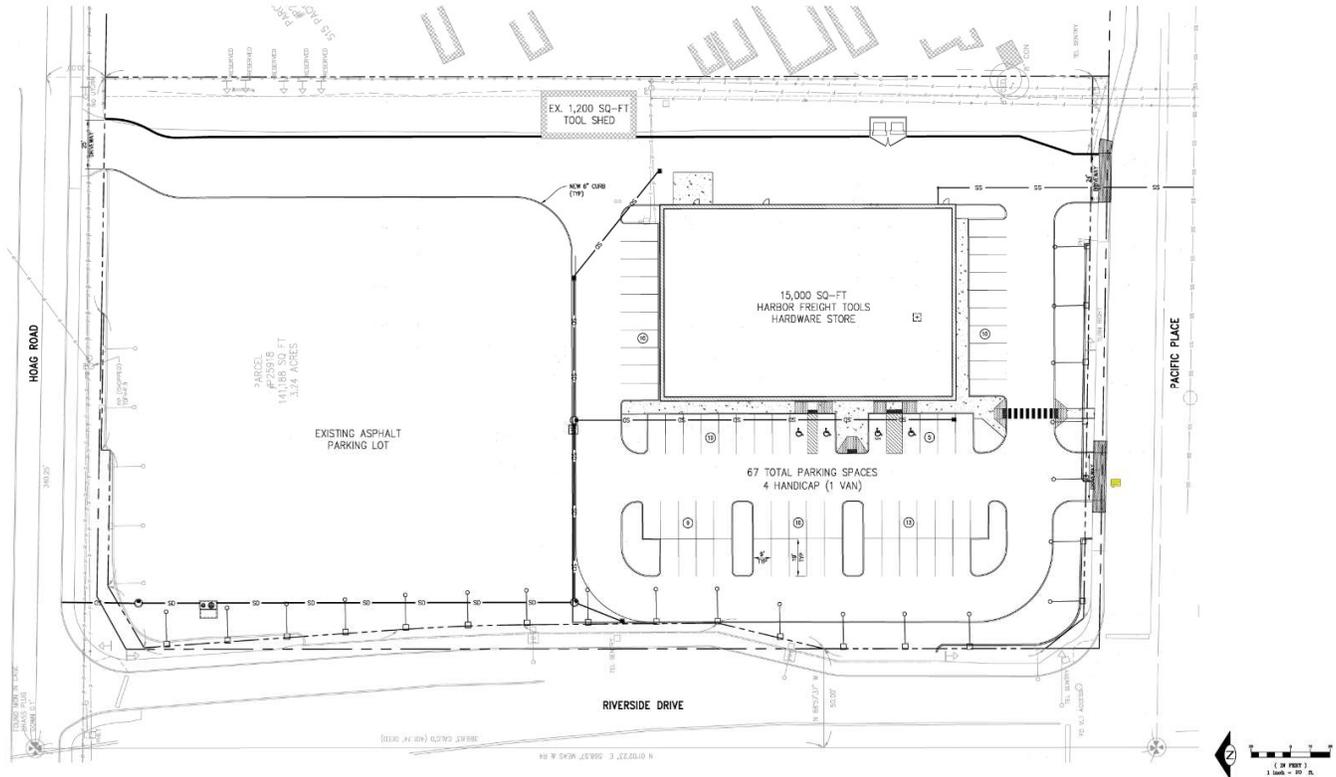
Project trip generation rates were developed using trip generation rates identified in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th Edition). The nature of the existing and proposed land uses are consistent with the *Trip Generation Manual* land use types “automobile sales” (code #841) and “hardware store” (code #816). Project trip rates were expressed in terms of thousand (1,000) square-foot gross floor area as identified by the applicant. Trip generation calculations are shown in Table 1.

Pass-by rates of 10 and 17 percent were applied to the automobile sales use and hardware store use, respectively. These rates reflect the most recent available data for similar land uses as identified in the ITE *Trip Generation Manual*. The Harbor Freight Tools will generate a net total of 22 new vehicle trips during the PM peak hour.

Table 1. Harbor Freight Tools PM Peak Hour Trip Generation

| Description | ITE LUC | Quantity (1000 SF) | Trip Rate (trips/1000 SF) | Gross Trips | Pass-By % | % In | % Out | Primary Trips | | |
|---|---------|--------------------|---------------------------|-------------|-----------|------|-------|---------------|----------|-----------|
| | | | | | | | | In | Out | Total |
| Hardware Store | 816 | 15.000 | 4.84 | 73 | 17% | 47% | 53% | 28 | 32 | 60 |
| Automobile Sales (removed) | 841 | 16.000 | -2.62 | -42 | 10% | 40% | 60% | -15 | -23 | -38 |
| Project-Generated PM Peak Hour Trips | | | | | | | | 13 | 9 | 22 |

Figure 2. Preliminary Site Plan



The development location, site accesses, and forecasted trip generation were applied to the Mount Vernon citywide transportation concurrency model. For the purposes of concurrency analysis, it was conservatively assumed that site-generated trips would use the Hoag Road site access and only one of the site accesses on Pacific Place.

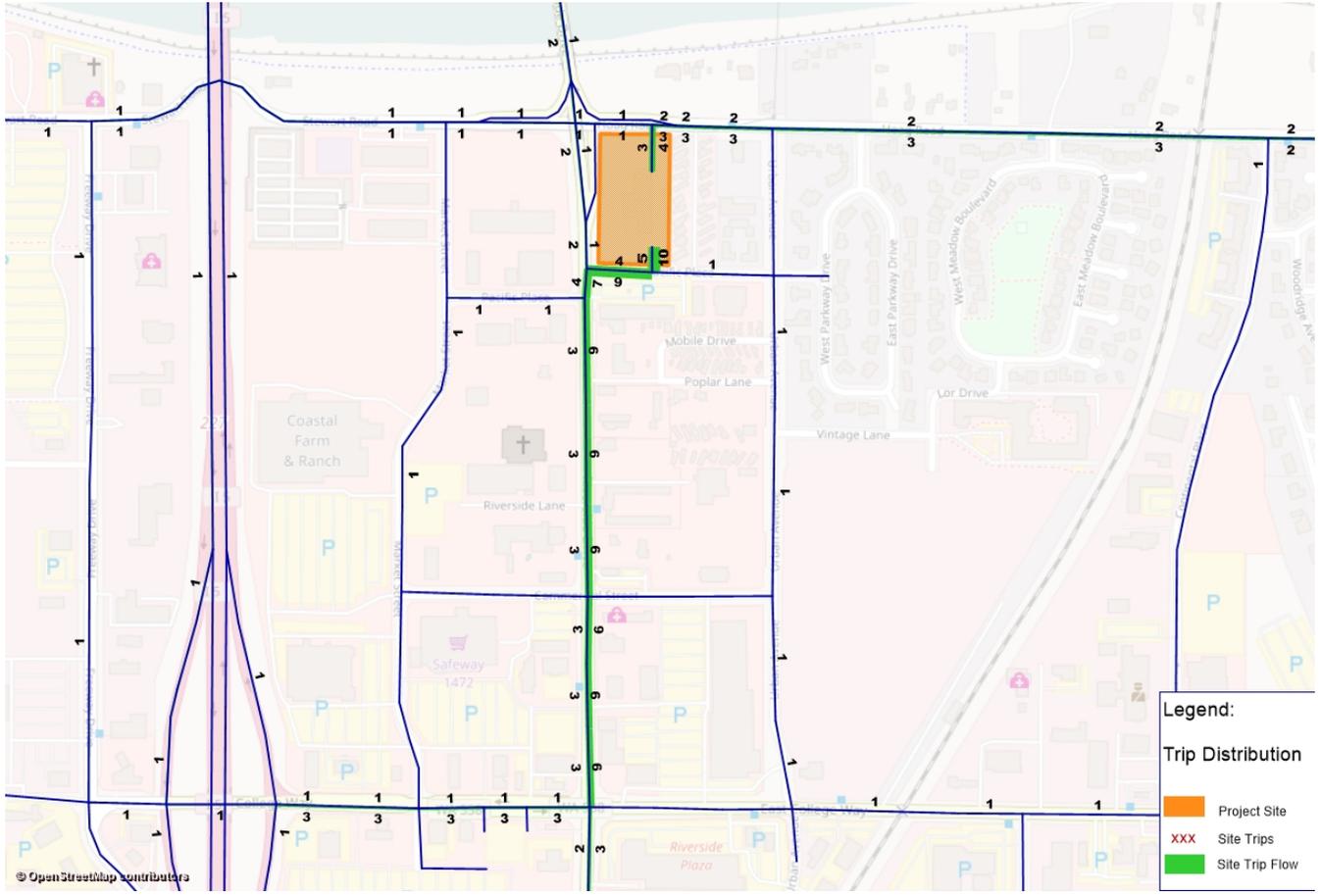
The concurrency model calculated the trip distribution and assignment shown in Figure 3. The majority of project-generated trips will travel to and from the site via Riverside Drive to the south or via Hoag Road to the east of the site. No other street segment will experience more than four project-generated trips during PM peak hour.

Concurrency Requirements Review

This transportation concurrency review is based on the following Level of Service (LOS) standards and concurrency requirements, per Mount Vernon Municipal Code (MVMC):

- Level of service standards stated in MVMC 14.10.080
- Modified level of service standards stated in MVMC 14.10.060
- Concurrency requirements of “Category B: Ten to 29 Peak Hour Trips” stated in MVMC 14.10.090

Figure 3. Harbor Freight Tools PM Peak Hour Vehicle Trip Distribution



A. Pedestrian Safety LOS: Sidewalks already exist along the project frontage. The applicant will ensure that driveway accesses comply with current Americans with Disabilities Act (ADA) standards for pedestrian facilities in public rights-of-way.

The curb ramp on the northeast corner of the intersection of Riverside Drive and Pacific Place at the project frontage does not appear to satisfy current ADA standards. The applicant should improve this curb ramp as necessary to satisfy ADA standards.

B. Traffic Capacity LOS: Intersections and segments affected by project-generated trips have been evaluated for traffic capacity LOS. A total of 22 net new project-generated trips are added to the network. As shown in Figure 3, most project-generated trips access the site via Riverside Drive to the south of the site or Hoag Road to the east of the site.

Segment LOS analysis indicates that all project-impacted concurrency segments will continue to operate at LOS D or with project-generated trips. One project-generated trip will use the Division Street bridge, which currently operates at LOS E. However, this segment is exempted from capacity LOS standards per MVMC 14.10.060.

Intersection LOS analysis indicates that the site accesses will operate well, with LOS B or better. The stop-controlled intersection of Hoag Road and Continental Place to the east of the project will operate at LOS D with 29 seconds of worst-approach delay. One project-generated trip (see Table 2) is forecasted to use the intersection of Division Street and Freeway Drive, which currently operates at LOS F. This intersection is programmed for improvement in TIP project T-09-01.

Table 2. Project-Impacted Intersections with LOS Deficiencies

| ID | Intersection | Control Type ¹ | Delay ² (s/veh) | LOS | Site Trips | TIP No. | Proposed Mitigation |
|-----|--------------------------|---------------------------|----------------------------|-----|------------|---------|---------------------------|
| 789 | Division St & Freeway Dr | Signal | 105 | F | 1 | T-09-01 | Intersection improvements |

¹TWSC = Two-way stop control; AWSC = All-way stop control; RAB = Roundabout; Signal = Signalized

²Two-way stop controlled intersection delay is expressed as average worst (i.e. highest delay) movement delay

C. Street Design Standard LOS: Riverside Drive, Hoag Road, and Pacific Place are built out as complete urban sections at the project frontage. The adjacent street system, including Riverside Drive, Hoag Road, and Pacific Place in the project vicinity, satisfy the minimum street LOS requirement.

The final site plan must maintain minimum stopping sight distance of 400 feet at site accesses to Hoag Road and Pacific Place, per MVMC 16.16.070.

D. On-Site LOS: Site access is proposed via three existing driveways: two on Pacific Place to the south and one on Hoag Road to the north of the project. The west site access on Pacific Place is located 35 feet from the Pacific Place & Riverside Drive intersection, as measured by the curb tangent length.

Per City of Mount Vernon Engineering Standards 2nd Edition (2016) Chapter 3:

To provide adequate corner clearance, the minimum tangent curb length between the nearest edge of a driveway on an intersecting side street and an arterial / collector street, or a driveway on an arterial / collector street and an intersection with a cross street shall be 50 feet.

The west site access on Pacific Place does not meet the City’s minimum spacing requirement. The City may restrict or prohibit site access from this driveway.

A minimum parking requirement of 38 spaces was calculated per MVMC 17.84.030 parking requirements for hardware stores. The applicant has proposed 67 on-site parking spaces, which satisfies the minimum parking requirement.

E. Transit LOS: Skagit Transit Routes 207 and 208 operate in the project vicinity. Skagit Transit Route 207 includes a stop on Hoag Road to the east of the site. It operates weekdays on 45-minute headway from 6:40 AM to 8:10 PM. Weekend service is provided from 8:10 AM to 5:10 PM on 45-minute headway.

Skagit Transit Route 208 includes a stop on Riverside Drive at Riverside Lane, 1,000 feet to the south of the project. It operates weekdays on 45-minute headway from 6:50 AM to 8:47 PM. Weekend service is provided from 8:20 AM to 5:50 PM on 45-minute headway.

F. Nonmotorized Transportation LOS: Hoag Road is identified as a planned bicycle route in the 2016 Comprehensive Plan. Mount Vernon arterial street design standards (MVMC 16.16.070) do not require striped bike lane or separated bike path for 2-lane minor arterial streets, therefore nonmotorized transportation LOS is satisfied.

G. Pavement Condition LOS: The existing pavement on Pacific Place and Hoag Road are in fair condition. The pavement condition should be maintained during project construction.

Findings and Recommendations

The project will generate an estimated 22 net new PM peak hour trips, which will not result in any new street segment or intersection LOS deficiencies. Site access intersections will operate well with LOS B or better at year of opening.

The west site access on Pacific Place does not meet the City's minimum spacing requirement. The City may restrict or prohibit access from this driveway.

All site accesses, adjacent sidewalks and curb ramps, and on-site transportation facilities must satisfy local street and ADA standards. The curb ramp on the northeast corner of the intersection of Riverside Drive and Pacific Place should be reviewed and improved as necessary to satisfy ADA standards.

Impact fees are generally adjusted by the City each year to account for inflation. The City's latest adopted transportation impact fee rate (effective January 1, 2017) is \$2,052 per PM peak hour vehicle trip. The transportation impact fee for the proposed project is calculated as follows:

$$(\$2,052 \text{ per trip}) \times (22 \text{ trips}) = \$45,144 \text{ impact fee}$$

Recommended conditions of approval for this project are:

- Harbor Freight Tools transportation impact fee is \$45,144.
- The west Pacific Place driveway will be restricted to right-in-right-out access.
- The applicant will improve the curb ramp on the northeast corner of the intersection of Riverside Drive and Pacific Place, if necessary, to satisfy ADA standards.
- ADA standards must also be satisfied at all site accesses, adjacent sidewalks, and on-site transportation facilities.

Sincerely,

Transportation Solutions, Inc.

A handwritten signature in black ink that reads "Andrew L. Bratlien".

Andrew L. Bratlien, PE

Senior Transportation Engineer