

Appendix I  
**Project Trip Generation  
Assessment**



## MEMORANDUM

Date: April 10, 2018  
To: Michael Houlihan, ESA  
From: Spencer Reed, PE, Fehr & Peers  
**Subject: Heacock Street Truck Terminal Facility Project Trip Generation Assessment**

*OC18-0554*

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This memorandum services to document a trip generation assessment conducted by Fehr & Peers for the proposed Heacock Street Truck Terminal Facility Project (Project) located directly east of the northeast corner of Heacock Street and San Michelle Road within the boundaries of the March Inland Port Airport in unincorporated Riverside County, California. The Project trip generation was estimated and reviewed to assess the potential to create transportation impacts.

### **Project Description**

The Project involves the construction of 240 parking stalls for trailers and containers on 11.2 acres. It is anticipated that the facility will operate 24 hours a day and that trailers and containers will be stored on-site for an average of four days.

### **Project Trip Generation**

The trip generation analysis was prepared based on operational information developed by the Project applicant. It was assumed that approximately 90% of the parking stalls will be utilized. As presented in Table 1, the following assumptions were made to determine the Project trip generation:

- 90% utilization of the 240 parking stalls with an average storage time of four days results in 54 trailers entering and exiting the Project each day
- 27 trucks would enter the Project with a trailer and exit the Project with a trailer
- 27 trucks would enter the Project without a trailer, but exit the Project with a trailer
- 27 trucks would enter the Project with a trailer, but exit the Project without a trailer



- 81 truck trips would be generated evenly across 14 hours of operation

As presented in Table 1, using these assumptions the Project is anticipated to generate an estimated 162 daily truck trips. To account for the operational characteristics of trucks compared to cars, a Passenger Car Equivalency (PCE) factor was applied to all truck trips generated by the Project site. A PCE factor of 3.5 was applied to truck trips with a trailer and a PCE factor of 2.0 was applied to truck trips without a trailer. Therefore, the Project is anticipated to generate an estimated 486 daily PCE trips.

While the Project is anticipated to operate 24 hours a day, truck trips may not typically occur between 8:00 PM and 6:00 AM. As presented in Table 1, if the Project was anticipated to operate 14 hours a day, the Project would generate an estimated 12 AM peak hour trips and 12 PM peak hour trips. After applying the PCE factors, the Project is expected to generate an estimated 36 AM peak hour PCE trips and 36 PM peak hour PCE trips.

In an effort to limit time spent in traffic congestion, truck generated trips typically occur outside of peak hours. Therefore the estimated peak hour trip generation could be lower than the trip generation estimates.

## **Project Trip Distribution**

The following distribution assumptions were assumed based on operational information developed by the Project applicant:

- 60% of the truck traffic is assumed to travel to/from the south and east through the Heacock Street and San Michele intersection.
- 30% of the truck traffic is assumed to travel to/from the north through the Heacock Street and Cactus Avenue intersection.
- 10% of the truck traffic is assumed to travel to/from existing distribution uses located along Heacock Street between Iris Avenue and San Michele Road. These uses include Lowe's Coastal Holding Facility, DHL, Cardinal TG Glass Manufacturer, and Amazon.

Applying the Project trip generation to the distribution assumptions identified would result in 22 peak hour PCE trips ( $36 \times 60\% = 22$ ) assigned at the Heacock Street and San Michele Road intersection and 14 peak hour PCE trips ( $36 \times 40\% = 14$ ) assigned at the Heacock Street and Iris intersection.



It should be noted that trucks that travel to/from Amazon would travel using Heacock Street and Cardinal Avenue as the Amazon truck parking is on the north side of the Amazon site.

## **Conclusion**

The March Joint Powers Authority requires a written analysis meeting the requirements of the Traffic Impact Study Preparation Guide (March Joint Powers Authority, August 2011) when a project generates more than 100 peak hour trips or when a project adds 25 or more peak hour trips to an intersection operating at an unacceptable level of service. This analysis considered a conservative scenario that assumes all of the trucks enter and exit the Project site between primary business hours (6:00 AM to 8:00 PM). If the Project only operated 14 hours a day and used the assumed distribution, then the Project would generate a total 36 peak hour PCE trips with 22 peak hour PCE trips at the Heacock Street and San Michele Road intersection and 14 peak hour PCE trips at the Heacock Street and Iris intersection. Therefore, the Project would not meet the trip generation criteria (100 peak hour trips or 25 trips at an intersection operating at an unacceptable level of service) to conduct a traffic study as defined by the March Joint Powers Authority. Additionally, with the estimated level of traffic, the proposed Project would result in less than significant traffic impacts in the vicinity of the Project.

**TABLE 1  
TRIP GENERATION ESTIMATE**

Trip Generation Assumptions			
Hours of Operation	14		
Total Parking Spaces	240		
% Parking Utilization	90%		
Trailer Storage Days on Site	4		
Trailers Entering/Exiting Each Day	54		
	Total Trucks	Trailers	
		Enter	Exit
Trucks Enter / Exit With Trailer	27	27	27
Truck Enter Empty / Exit With Trailer	27	0	27
Trucks Enter With Trailer / Exit Empty	27	27	0
<b>Total</b>	<b>81</b>	<b>54</b>	<b>54</b>

Trip Type	Trip Generation Summary								
	Size	Unit	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Enter With Trailer / Exit With Trailer <i>Passenger Car Equivalents (PCEs)</i>	27	Trucks/day	54 189	2 7	2 7	4 14	2 7	2 7	4 14
Enter Empty / Exit With Trailer <i>Passenger Car Equivalents (PCEs)</i>	27	Trucks/day	54 149	2 4	2 7	4 11	2 4	2 7	4 11
Enter With Trailer / Exit Empty <i>Passenger Car Equivalents (PCEs)</i>	27	Trucks/day	54 149	2 7	2 4	4 11	2 7	2 4	4 11
<b>Total Trips</b> <i>Total PCE Trips</i>	<b>81</b>	<b>Trucks/day</b>	<b>162</b> <b>487</b>	<b>6</b> <b>18</b>	<b>6</b> <b>18</b>	<b>12</b> <b>36</b>	<b>6</b> <b>18</b>	<b>6</b> <b>18</b>	<b>12</b> <b>36</b>

Note:

PCE factors of 3.5 was used for trucks with trailers and 2.0 was used for truck without trailers.