

## TECHNICAL MEMORANDUM

**DATE:** January 13, 2023  
**TO:** HDR  
**FROM:** Parametrix  
**SUBJECT:** Heber City Main Street Truck Characteristics and Patterns Memo  
**CC:**  
**PROJECT NUMBER:** S-R399(310) PIN 17523  
**PROJECT NAME:** Heber Valley Corridor EIS

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### INTRODUCTION

This memorandum documents supplemental information about heavy truck traffic characteristics on US-40 through Heber City (Heber City Main Street) to support the ongoing Heber Valley Corridor EIS. Information in this memo was gathered and analyzed during various stages of the study and is subject to change as new data becomes available or analysis methods and alternatives are refined during the study process.

### MAIN STREET TRAFFIC COMPOSITION

Traffic on Heber City Main Street is comprised of different vehicles with diverse lengths and weights. Commonly, heavy vehicles are classified into two categories: single-unit trucks and multi-unit trucks. Single-unit trucks (also called box trucks) are the shorter of the two types. Multi-unit trucks (semis) consist of a tractor pulling one or more trailers. The trucks hauling oil/gas product from the Uinta Basin are usually multi-unit trucks. Many oil/gas-hauling multi-unit trucks pull a larger trailer plus a shorter “pup” trailer behind it.

In addition to heavy trucks, other types of long vehicles frequently travel on Heber City Main Street due to the recreational destinations in the region. Recreational vehicles (RVs) and private vehicles towing boats and camping trailers can be as long as some heavy vehicles, particularly the single-unit trucks. Heber City Main Street also features private vehicles towing utility/work trailers for commercial purposes.

As part of the study, traffic data was collected by video during a weekday in August 2019 to estimate the number and composition of vehicles on Heber City Main Street. Vehicles were grouped into six categories:

1. Private Vehicles (Cars, Pickups, Vans, Motorcycles)
2. Private Vehicles with Trailers and RVs (recreation-based)
3. Private Vehicles with Trailers (work-based)
4. Single-unit Trucks (Box Trucks)
5. Multi-unit Trucks (Semis)
6. Multi-unit Trucks (Oil/Gas Trucks)

Figure 1 illustrates the percent composition of each vehicle category in the Heber City Main Street traffic stream during the PM peak hour, which is the highest hour of the day for total traffic volume. Private vehicles are the most dominant vehicle category during the PM peak hour at 92 percent. The combined categories of private

vehicles towing either recreation-based or work-based trailers account for four percent. Single-unit trucks are two percent of the traffic stream. Multi-unit trucks are also two percent of the traffic stream with the breakdown of semi-trucks and oil/gas trucks being at one percent each. Together, all heavy vehicles comprise four percent of the traffic stream.

Though 92 percent of vehicles on Heber City Main Street are individual private vehicles, the other five vehicle categories have a noteworthy effect on traffic operations due to their length and reduced acceleration and deceleration characteristics. Figure 2 shows a graphical comparison of the Heber City Main Street traffic stream by vehicle category count and then weighted by average length. As shown in Figure 2, while oil/gas trucks are one percent of the total vehicles, they comprise about five percent of the total space occupied by all vehicles. Together, all longer vehicle categories (non-private vehicles) are eight percent of total vehicles but occupy 21 percent of the space on Heber City Main Street.

Figure 1: Weekday PM Peak Hour Vehicle Category and Frequency

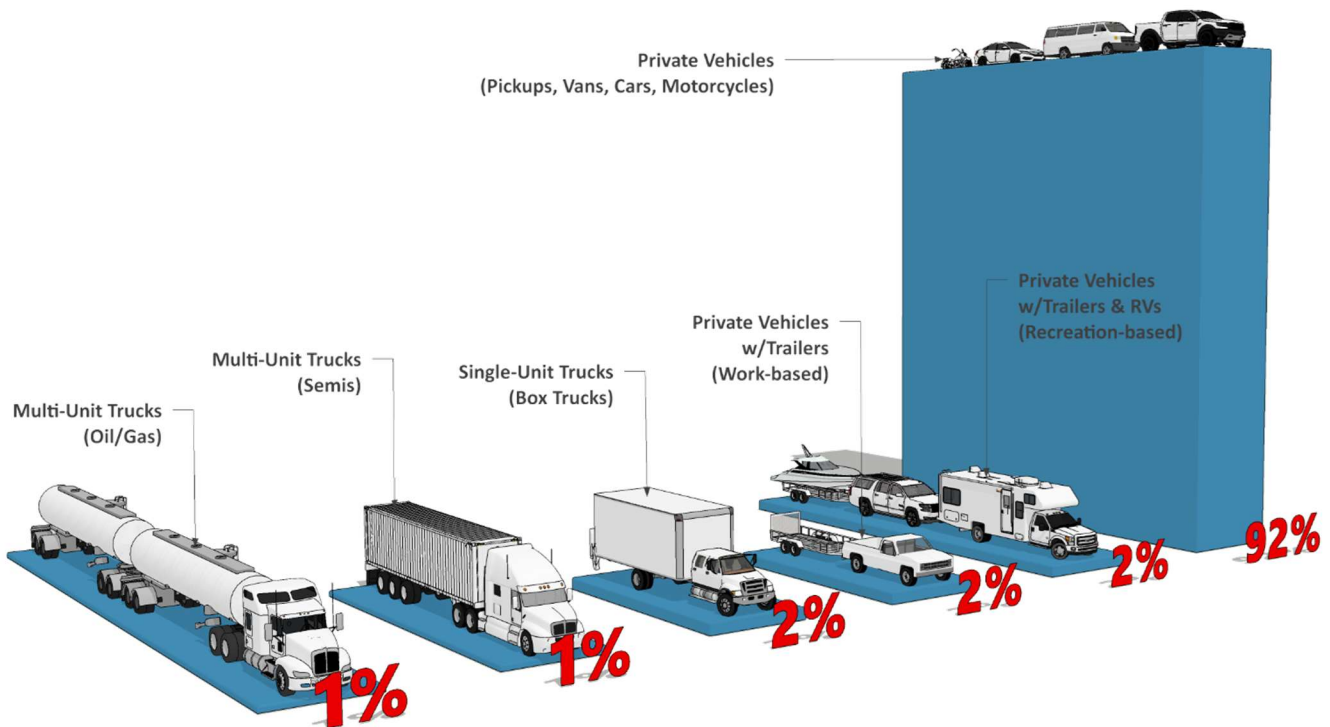
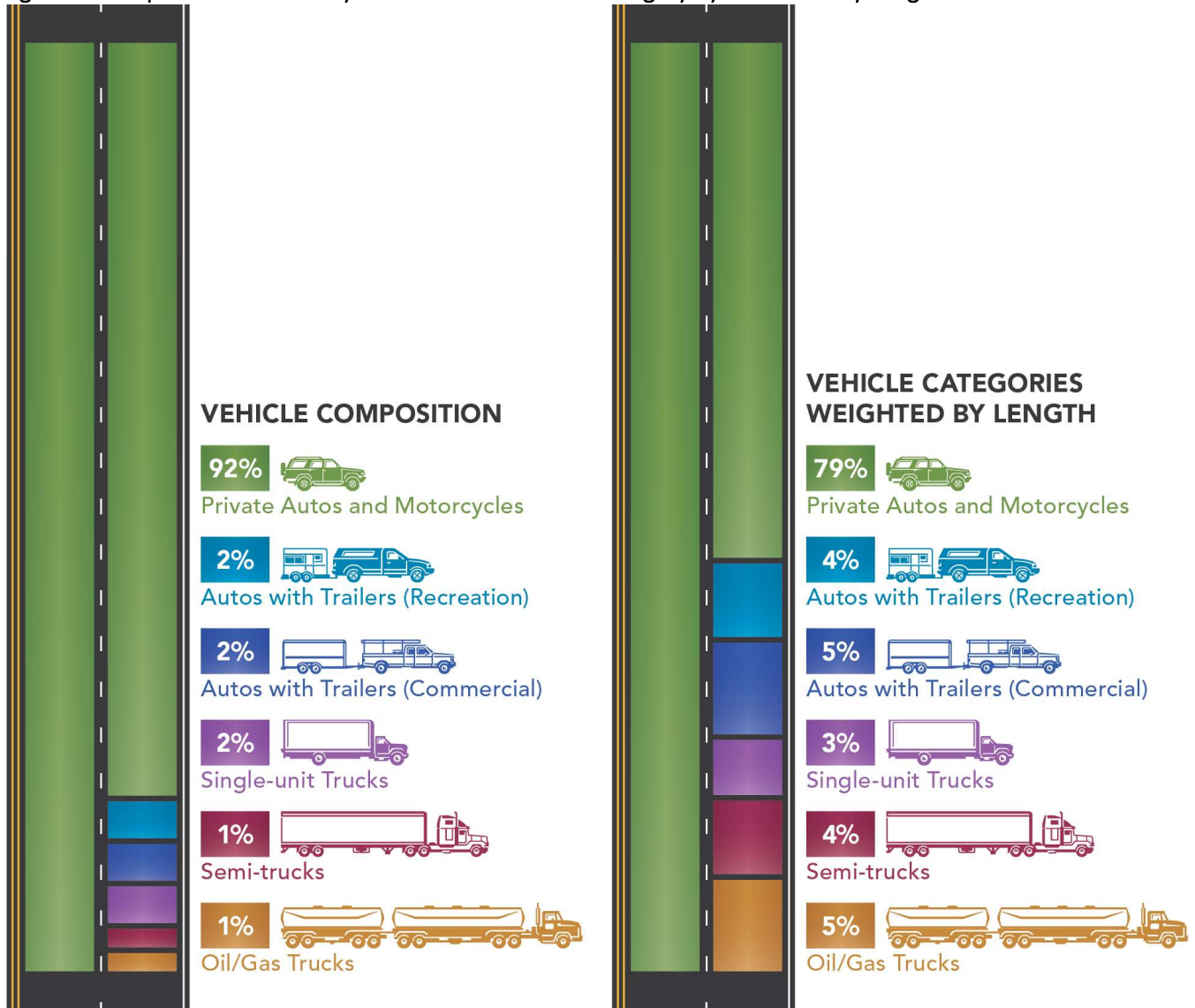


Figure 2: Comparison of Weekday PM Peak Hour Vehicle Category by Count and by Length



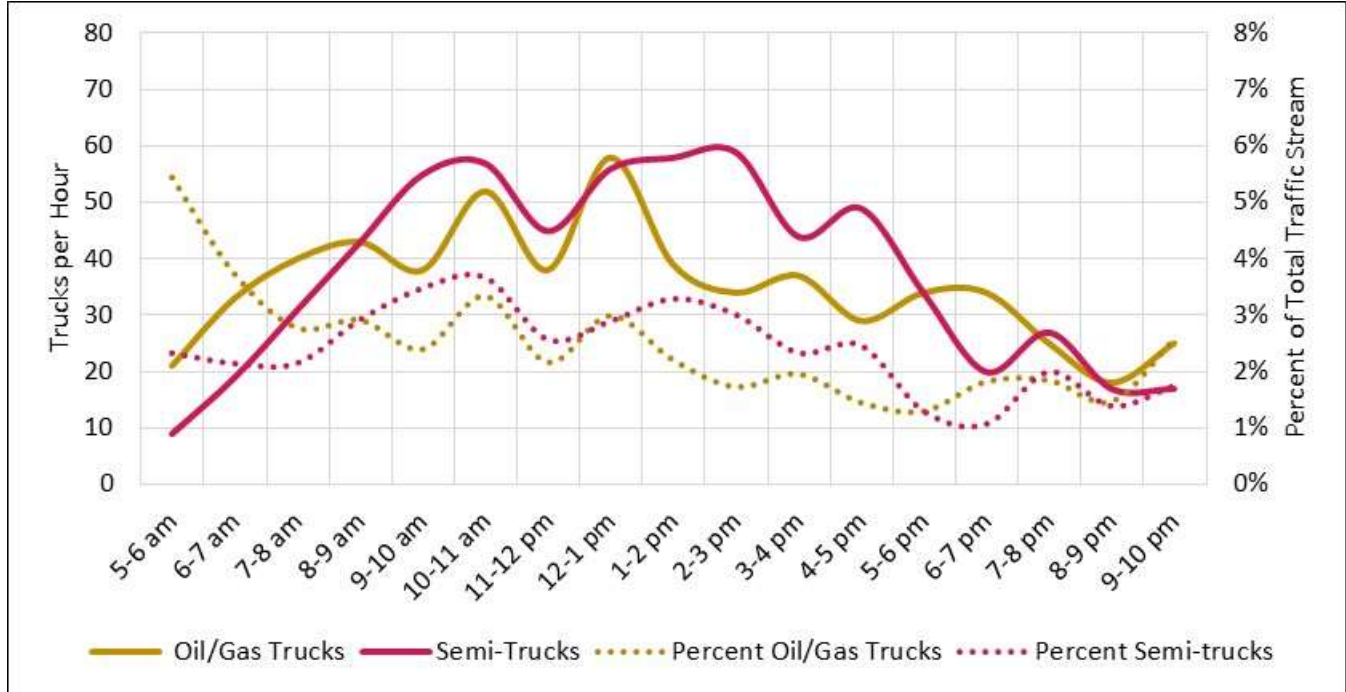
### MAIN STREET MULTI-UNIT TRUCK VOLUMES

The volume and percentage of multi-unit trucks varies on Heber City Main Street throughout the day. Figure 3 shows the hourly distribution of both types of multi-unit trucks (semi-trucks and oil/gas trucks) counted during daytime hours from video analysis. Semi-truck volumes and oil/gas truck volumes are highest during the midday hours with each category approaching nearly 60 trucks per hour. Midday hours are also when the percentage of semi-trucks and oil/gas trucks reaches its highest marks at about three to four percent each.

By the PM peak hour of total traffic (5:00-6:00 PM), the raw truck volumes decrease to about 30-40 trucks per hour for both semi-trucks and oil-gas trucks. Because of the decrease in truck volumes and because of the influx of other vehicle categories in the PM peak hour, the percentage of both truck categories drop to about one percent each.

Assuming a nominal amount of multi-unit trucks travel on Heber City Main Street outside the hours of the video analysis (before 5:00 AM and after 10:00 PM), the total oil/gas tanker trucks for a 24-hour period is estimated at 600 to 700 trucks. Likewise, the 24-hour semi-truck volume is also estimated to be 600 to 700 trucks.

Figure 3: Multi-Unit Truck Counts (August 14, 2019)



### HEBER CITY MAIN STREET HEAVY TRUCK ORIGINS

Heavy trucks can enter and exit south Heber City Main Street via one of two routes:

- US-40 southeast towards the Uinta Basin
- US-189 southwest towards Utah Valley

Table 1 shows the breakdown of heavy truck traffic on both routes at the US-189/US-40 junction in south Heber City. There is more than double the total traffic volume and truck traffic volume traveling on the US-189 leg than the southeast US-40 leg. Thus, most heavy truck traffic accesses Heber City Main Street from US-189 rather than southeast US-40. Though more total trucks use US-189, it is understood that the oil/gas trucks almost exclusively use southeast US-40 because that is the route to access resource extraction areas in the Uinta Basin. Additionally, these trucks travel through Heber City Main Street and exit the Heber Valley on north US-40 because that is the most direct route to the refineries on the Wasatch Front.

Table 1: Volumes on US-189 and US-40 Immediately South of the US-189/US-40 Junction

	Total Volume (vehicles per day)	Percent Trucks		Truck Volume (trucks per day)		
		Multi-unit	Single-unit	Multi-unit	Single-unit	Total
US-189	17,000	8.3%	8%	1,410	1,360	2,770
US-40	6,200	14.4%	4.7%	890	290	1,180

Source: Traffic on Utah Highways 2020, Utah Department of Transportation