# Memorandum

Date:        May 9, 2022

To:          Randy Breault, City of Brisbane

From:        Ryan Caldera, PE and Robert Eckols, PE

**Subject:    Traffic Assessment of Tunnel Avenue in Brisbane, California**

*SJ21-2062.02*

This memorandum summarizes the traffic volumes, speeds, and vehicle classifications on Tunnel Avenue south of Beatty Avenue in Brisbane, California. This memorandum also describes the existing geometric conditions on Tunnel Avenue and the typical operations of the temporary corporate bus yard located at 600 Tunnel Avenue.

# Existing Conditions

## Tunnel Avenue

Tunnel Avenue is a north-south, two-lane minor arterial in northern Brisbane. The Circulation Element of the City of Brisbane's *General Plan*, amended in 2020, defines minor arterials as major streets that primarily serve through traffic and, on a limited basis, access to abutting properties. Specifically, the Circulation Element identifies Tunnel Avenue as an alternative to Bayshore Boulevard that will be improved upon development of the Baylands.

On the approximately 1,700-foot portion of Tunnel Avenue south of Beatty Avenue, the curb-to-curb width is approximately 42 feet. Along this portion, Tunnel Avenue is a Class III bicycle route with painted sharrows and has both formal and informal off-street parking areas on both sides of the roadway. There are some time-restricted parking signs (tow-away between 2:00 AM and 4:00 AM) on the east side of this section of Tunnel Avenue.

Further south extending to the intersection at Lagoon Road, Tunnel Avenue is approximately 26 feet wide with unpaved shoulders on both sides. On the east side of Tunnel Road, concrete blocks are regularly spaced in the unpaved shoulder approximately four feet off the paved roadway. These concrete blocks reduce the shoulder to approximately four feet wide, and signs prohibiting

stopping on this portion of Tunnel Avenue are places at regular intervals. Tunnel Avenue has no bicycle facilities or on street parking on this portion.

No pedestrian facilities are provided on Tunnel Avenue between Beatty Avenue and Lagoon Road.

## Temporary Corporate Bus Yard

The undeveloped site at 600 Tunnel Avenue on the west side of the street is currently leased to corporate shuttle operators to store commuter shuttles when not in use. Corporate shuttles stored at the yard travel to/from US Highway 101 via the Harney Way-Beatty Avenue interchange. Shuttle drivers are instructed to not use any other interchanges to access US Highway 101.

The corporate shuttle operator provided shuttle data for the period between Tuesday, May 3 and Thursday, May 5, 2022. For the dates observed, between 197 and 211 daily shuttle trips (inbound and outbound) occurred at the temporary corporate bus yard.

# Data Collection and Summary

## Traffic Volumes

Roadway segment counts were collected on Tunnel Avenue north of the temporary corporate bus yard between Wednesday, May 4 and Friday, May 6, 2022. **Attachment A** includes charts documenting the northbound, southbound, and total volumes each day of data collection, and **Attachment B** includes the raw count data.

**Table 1** below presents the peak northbound, southbound, and total hourly volumes for each count day.

### Table 1: Peak Hourly Traffic on Tunnel Avenue

| Date | Northbound (Time) | Southbound (Time) | Total 2-way (Time) |
|---|---|---|---|
| Wednesday, May 4 | 193 (8:00-9:00A) | 107 (8:00-9:00A) | 300 (8:00-9:00A) |
| Thursday, May 5 | 191 (7:00-8:00A) | 102 (9:00-10:00A) | 284 (7:00-8:00A) |
| Friday, May 6 | 192 (7:00-8:00A) | 100 (7:00-9:00A) | 292 (7:00-8:00A) |
| **Highest Peak Hour** | **193 (8:00-9:00A, Wednesday)** | **107 (8:00-9:00A, Wednesday)** | **300 (8:00-9:00A, Wednesday)** |

Source: Fehr & Peers, 2022.

The highest hourly two-way volume on Tunnel Avenue (300 vehicles) occurred on Wednesday, May 4 between 8:00 AM and 9:00 AM. Based on estimates from the Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM)*,* two-lane minor arterials, like Tunnel Avenue, have an hourly capacity of approximately 1,760 vehicles before traffic operations degrade from Level of Service (LOS) D to LOS E, which is the City's adopted standard. Based on the traffic volume counts, the vehicle demand on Tunnel Avenue is well below its hourly vehicle capacity at all times of the day.

## Corporate Shuttle Volumes

Shuttle buses have a greater effect on roadway operations and asphalt maintenance than personal automobiles. The corporate shuttle operator provided shuttle data for the period between Tuesday, May 3 and Thursday, May 5, 2022. **Attachment C** includes line charts documenting the hourly shuttle volumes for each day.

**Table 2** below presents the percent of corporate shuttles for the peak hours of Tunnel Avenue on Wednesday, May 4 and Thursday, May 5. (Corporate shuttle data for Friday, May 6 was unavailable for analysis at the time this memorandum was prepared.)

### Table 2: Corporate Shuttle Percent Share of Traffic – Peak Hour

| Date (Time) | Total Traffic | Corporate Shuttles | % Share of Corporate Shuttles |
|---|---|---|---|
| Wednesday, May 4 (8:00-9:00A) | 300 | 7 | 2% |
| Thursday, May 5 (7:00-8:00A) | 284 | 21 | 7% |

Source: Fehr & Peers, 2022.

During both days where concurrent data was available, corporate shuttle traffic composed up to seven percent of total traffic on Tunnel Avenue during the peak hour. As stated above, the vehicle demand on Tunnel Avenue is well below its hourly vehicle capacity (1,760 vehicles) at all times including during the peak hour. Corporate shuttle traffic comprised up to two percent of total roadway capacity during the peak hour and did not have a significant effect on documented roadway operations.

**Table 3** below presents the percent of corporate shuttle trips of the total daily trips on Tunnel Avenue for Wednesday, May 4 and Thursday, May 5.

**Table 3: Corporate Shuttle Percent Share of Traffic - Daily**

| Date | Total Traffic | Corporate Shuttles | % Share of Corporate Shuttles |
|---|---|---|---|
| Wednesday, May 4 | 2,091 | 211 | 10% |
| Thursday, May 5 | 2,100 | 197 | 9% |

Source: Fehr & Peers, 2022.

During both days where concurrent data was available, corporate shuttle traffic comprised up to ten percent of total daily traffic on Tunnel Avenue. Based on estimates from the HCM, two-lane arterials, like Tunnel Avenue, have a daily capacity of approximately 17,600 vehicles before traffic operations degrade from LOS D to LOS E. As a percentage of daily vehicle capacity, corporate shuttle traffic comprised up to two percent of total daily roadway capacity.

## Speed Surveys

Speed survey data was collected at the same time as the roadway segment counts. **Attachment D** includes the raw speed survey data.

**Table 4** below presents the average speed and 85th-percentile speed for each day of observation. Data is presented for northbound vehicles, southbound vehicles, and total two-way vehicles on Tunnel Avenue.

**Table 4: Summary of Speed Survey Data on Tunnel Avenue**

| Date | Average Speed (mph) | | | 85th-Percentile Speed (mph) | | |
|---|---|---|---|---|---|---|
| | Northbound | Southbound | Total 2-way | Northbound | Southbound | Total 2-way |
| Wednesday, May 4 | 30.2 | 29.7 | **30.0** | 38.5 | 37.1 | **38.0** |
| Thursday, May 5 | 29.9 | 28.7 | **29.5** | 37.7 | 35.8 | **37.1** |
| Friday, May 6 | 30.6 | 29.0 | **30.1** | 38.2 | 36.1 | **37.5** |
| *Overall* | *30.2* | *29.1* | *29.8* | *38.1* | *36.2* | *37.5* |

Source: Fehr & Peers, 2022.

During the three days of speed surveys, vehicles on Tunnel Avenue traveled 29.8 miles per hour on average. Additionally, the 85th-percentile speed is 37.5 miles per hour, meaning 85% of vehicles travel at 37.5 miles per hour or slower. This statistical value is typically used when setting posted speed limits. Where the 85th-percentile speed is higher than the posted speed limit, either traffic calming measures are considered to reduce vehicle speeds, or the posted speed limit is increased.

Tunnel Avenue does not have a posted speed limit between Beatty Avenue and Lagoon Road. The posted speed limit on Tunnel Avenue south of Lagoon Road is 35 miles per hour, although that section does not have any painted sharrows for mixed traffic with bicyclists.

## Vehicle Classification

Vehicle classification data was collected at the same time as the roadway segment counts. The vehicle classification data is presented with the raw vehicle count data in **Attachment B**.

The Federal Highway Administration (FHWA) identifies thirteen vehicle classifications, ranging from motorcycles (Class 1) to seven-plus axle multi-trailer trucks (Class 13). **Attachment E** describes the thirteen vehicle classifications in detail. For this memorandum, Classes 1, 2, and 3 are considered "light vehicles/automobiles," Class 4 is considered "commuter shuttles/buses," and the remaining eight classes are considered "heavy vehicles/trucks."

**Figure 1** below presents the percentages of each vehicle type during the three days of data collection.



Figure 1: Vehicle Classifications on Tunnel Avenue

4.8%

6.9%

88.3%

■ Light Vehicles/Automobiles   ■ Commuter Shuttles/Buses   ■ Heavy Vehicles/Trucks
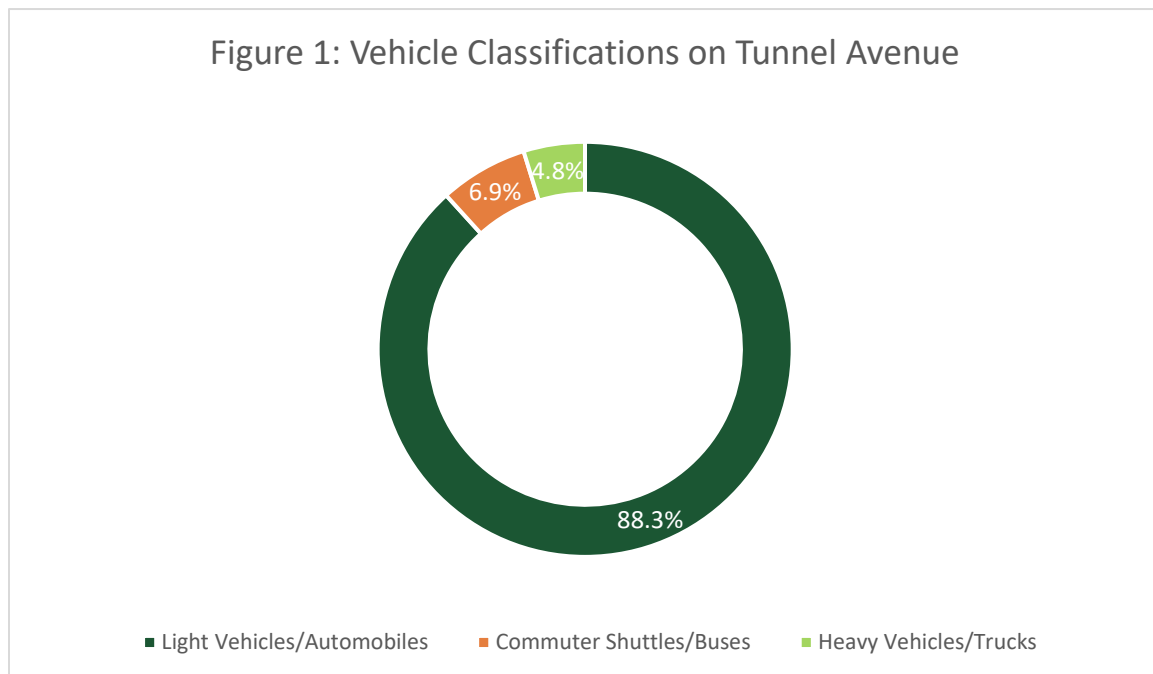
As shown in the figure above, approximately 88.3% of vehicles observed on Tunnel Avenue were classified as light vehicles and automobiles, 6.9% were classified as commuter shuttles and buses, and 4.8% were classified as heavy vehicles and trucks.

It is noted that the vehicle classifications observed through roadway counts are slightly different from the data provided by the commuter shuttle operators summarized in **Table 2** and

**Attachment C**. The data provided by the commuter shuttle operators shows a higher proportion of commuter shuttles and buses than the roadway segment counts. This discrepancy typically occurs when vehicles cross the data collection tubes at angles which affects the recorded distance between vehicle axles. As a whole, the total share of non-light vehicles/automobiles is consistent with the data provided by the commuter shuttle operator.

The observed vehicle classification profile is consistent with Tunnel Avenue's proximity to light-industrial and industrial uses and its utility as an alternative to Bayshore Boulevard and US Highway 101.

# Conclusions

The following conclusions are made based on the data collected:

- The hourly volume on Tunnel Avenue is well below its hourly vehicle capacity throughout the day.
- During both days with traffic count and shuttle data are available, corporate shuttle daily trips comprise ten percent or less of the total daily trips on Tunnel Avenue.
- The 85th-percentile speed on Tunnel Avenue was observed to be 37.5 miles per hour. There is no posted speed limit on the observed section of Tunnel Avenue.
- Approximately 11% of vehicles on Tunnel Road are commuter shuttles/buses or heavy vehicles/trucks. The remaining 89% of vehicles are light vehicles/automobiles.

# Attachment A: Tunnel Avenue Hourly Volume Figures

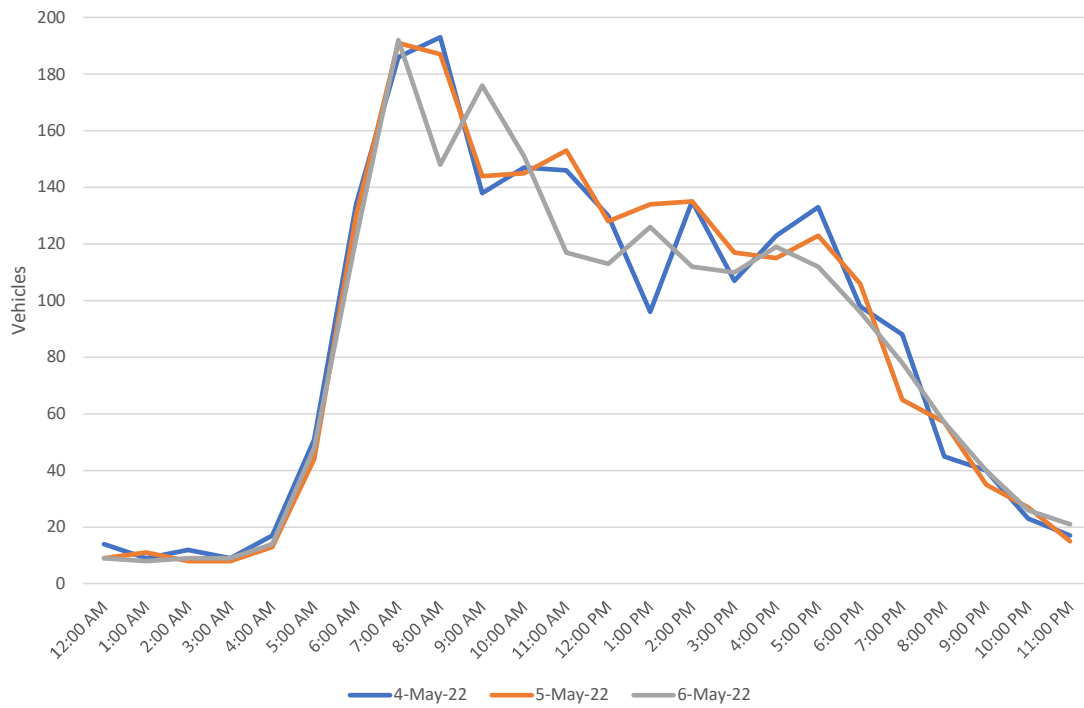Figure A-1: Tunnel Avenue Northbound Hourly Volumes



Figure A-2: Tunnel Avenue Southbound Hourly Volumes
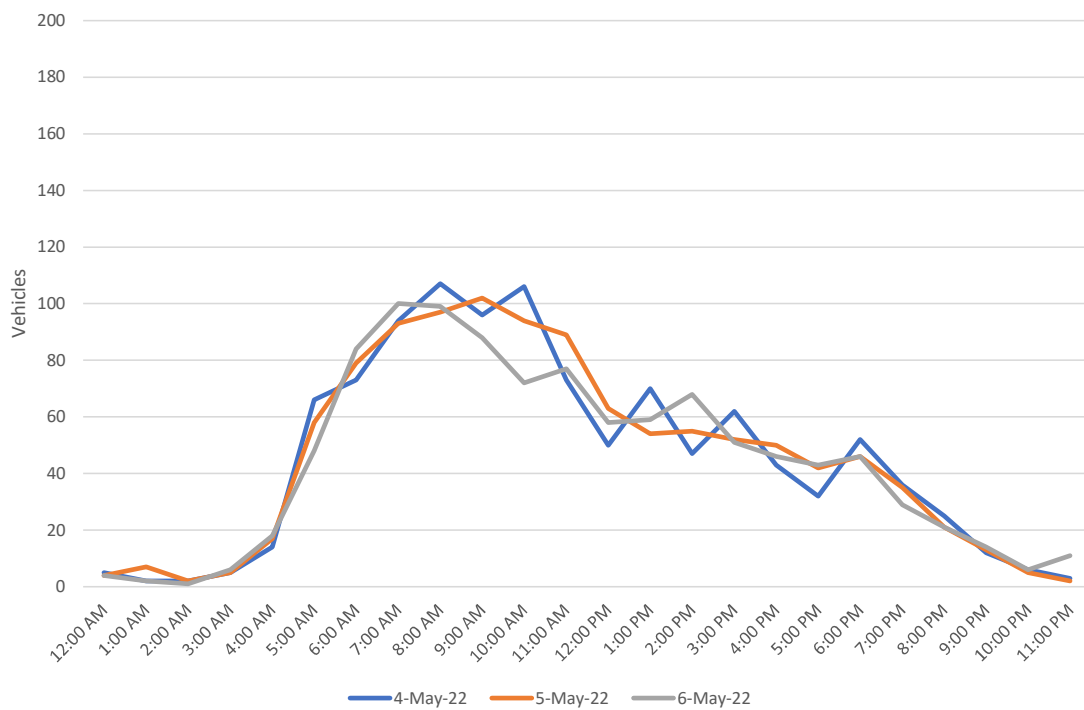
Figure A-3: Tunnel Avenue Total Hourly Volumes
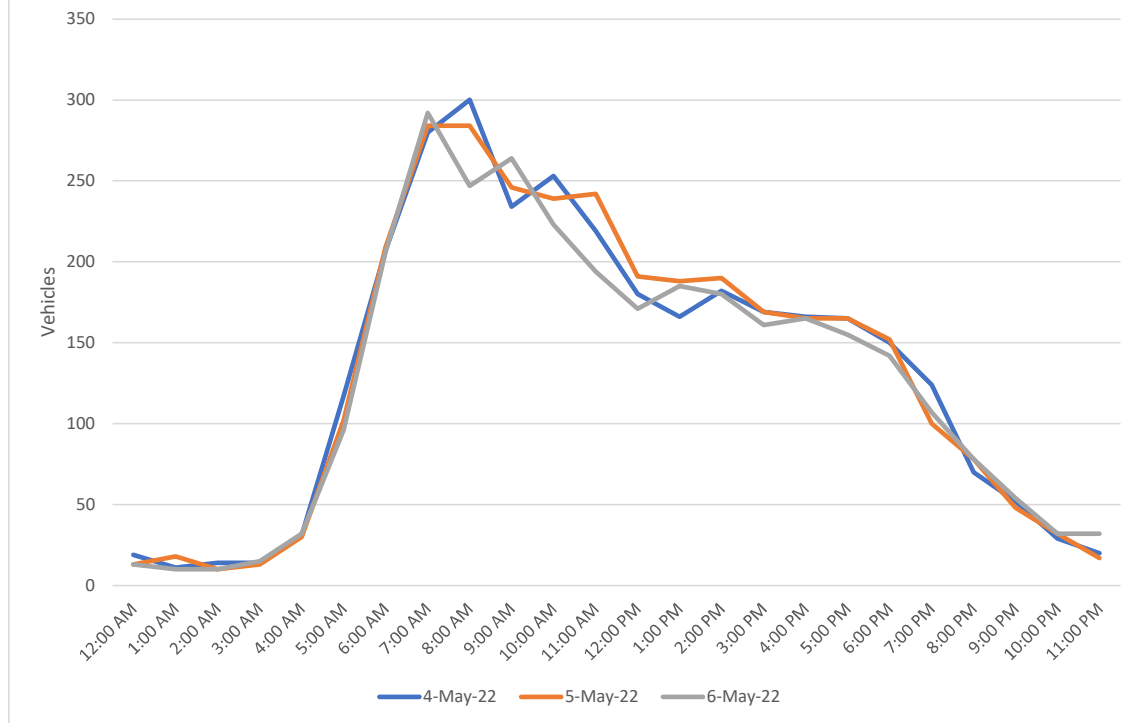
# Attachment C: Corporate Shuttle Hourly Volume Figure

# Traffic Data Service
# Class Report

**Datasets:**
**Site:**             **[1] 600 TUNNEL AVE**
**Algorithm:**     Factory default axle (v5.02)
**Data type:**     Axle sensors - Paired (Class/Speed/Count)

**Profile:**
**Included classes:**   1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
**Speed range:**     0 - 100 mph.
**Direction:**       North (bound), P = <u>North</u>, Lane = 0-16
**Scheme:**        Vehicle classification (Scheme F)
**Units:**          Non metric (ft, mi, ft/s, mph, lb, ton)

**Column Legend:**
**0 [Time]**        24-hour time (0000 - 2359)
**1 [Total]**       Number in time step
**2 [Cls]**        Class totals

**\* Wednesday, May 4, 2022**

| Time | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 13 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 0000 | 14 | 0 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0100 | 9 | 1 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0200 | 12 | 1 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0300 | 9 | 0 | 6 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0400 | 17 | 2 | 9 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0500 | 51 | 2 | 21 | 7 | 20 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0600 | 134 | 5 | 55 | 32 | 31 | 2 | 6 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 0700 | 186 | 4 | 79 | 71 | 23 | 2 | 5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0800 | 193 | 5 | 100 | 73 | 7 | 1 | 3 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| 0900 | 138 | 2 | 64 | 55 | 4 | 2 | 6 | 0 | 2 | 1 | 0 | 2 | 0 | 0 |
| 1000 | 147 | 7 | 66 | 63 | 1 | 4 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1100 | 146 | 6 | 72 | 59 | 0 | 3 | 4 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 1200 | 130 | 2 | 57 | 61 | 2 | 1 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1300 | 96 | 2 | 53 | 32 | 1 | 3 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1400 | 135 | 2 | 71 | 52 | 5 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1500 | 107 | 2 | 69 | 29 | 5 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600 | 123 | 7 | 76 | 27 | 8 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700 | 133 | 9 | 106 | 13 | 2 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1800 | 98 | 11 | 77 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1900 | 88 | 1 | 80 | 5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2000 | 45 | 1 | 41 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2100 | 40 | 1 | 36 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2200 | 23 | 0 | 19 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2300 | 17 | 0 | 15 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07-19 | 1632 | 59 | 890 | 543 | 60 | 25 | 36 | 1 | 5 | 10 | 1 | 2 | 0 | 0 |
| 06-22 | 1939 | 67 | 1102 | 585 | 91 | 27 | 42 | 1 | 6 | 15 | 1 | 2 | 0 | 0 |
| 06-00 | 1979 | 67 | 1136 | 586 | 92 | 28 | 44 | 1 | 6 | 16 | 1 | 2 | 0 | 0 |
| 00-00 | 2091 | 73 | 1200 | 606 | 112 | 28 | 45 | 1 | 7 | 16 | 1 | 2 | 0 | 0 |

**Peak step** 8:00 (193) **AM Peak step** 8:00 (193) **PM Peak step** 14:00 (135)

**\* Thursday, May 5, 2022**

| Time | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 9 | 0 | 7 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0100 | 11 | 0 | 8 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0200 | 8 | 1 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0300 | 8 | 0 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0400 | 13 | 2 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0500 | 44 | 2 | 16 | 7 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0600 | 130 | 4 | 51 | 34 | 34 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 0700 | 191 | 8 | 84 | 68 | 20 | 4 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800 | 187 | 5 | 100 | 69 | 5 | 4 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0900 | 144 | 0 | 71 | 62 | 7 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 1000 | 145 | 2 | 73 | 60 | 1 | 4 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 1100 | 153 | 6 | 75 | 57 | 2 | 1 | 9 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| 1200 | 128 | 6 | 69 | 45 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300 | 134 | 4 | 71 | 48 | 1 | 5 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1400 | 135 | 2 | 77 | 49 | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1500 | 117 | 4 | 74 | 30 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600 | 115 | 3 | 75 | 29 | 4 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1700 | 123 | 8 | 93 | 17 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1800 | 106 | 3 | 86 | 14 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1900 | 65 | 2 | 59 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 57 | 4 | 47 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2100 | 35 | 1 | 28 | 4 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2200 | 27 | 0 | 21 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2300 | 15 | 0 | 11 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 07-19 | 1678 | 51 | 948 | 548 | 60 | 24 | 33 | 0 | 4 | 7 | 1 | 2 | 0 | 0 |
| 06-22 | 1965 | 62 | 1133 | 594 | 94 | 25 | 39 | 0 | 5 | 10 | 1 | 2 | 0 | 0 |
| 06-00 | 2007 | 62 | 1165 | 597 | 95 | 27 | 42 | 0 | 6 | 10 | 1 | 2 | 0 | 0 |
| 00-00 | 2100 | 67 | 1214 | 613 | 114 | 27 | 44 | 0 | 6 | 12 | 1 | 2 | 0 | 0 |

**Peak step** 7:00 (191) **AM Peak step** 7:00 (191) **PM Peak step** 14:00 (135)

**\* Friday, May 6, 2022**

| Time | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 9 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0100 | 8 | 0 | 5 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0200 | 9 | 0 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0300 | 9 | 0 | 7 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0400 | 14 | 2 | 8 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0500 | 48 | 1 | 24 | 1 | 19 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 0600 | 122 | 4 | 42 | 35 | 34 | 1 | 3 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 0700 | 192 | 5 | 86 | 70 | 19 | 2 | 7 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 0800 | 148 | 4 | 71 | 53 | 10 | 3 | 5 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 0900 | 176 | 2 | 83 | 77 | 9 | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1000 | 151 | 3 | 86 | 52 | 3 | 2 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1100 | 117 | 7 | 54 | 45 | 3 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1200 | 113 | 0 | 55 | 50 | 1 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300 | 126 | 2 | 74 | 40 | 2 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1400 | 112 | 1 | 71 | 32 | 5 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 1500 | 110 | 2 | 78 | 25 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600 | 119 | 4 | 86 | 23 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700 | 112 | 5 | 97 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800 | 96 | 6 | 83 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1900 | 78 | 3 | 67 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2000 | 57 | 1 | 47 | 7 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2100 | 40 | 0 | 35 | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2200 | 26 | 2 | 21 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2300 | 21 | 0 | 20 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07-19 | 1572 | 41 | 924 | 477 | 65 | 20 | 32 | 1 | 5 | 5 | 0 | 2 | 0 | 0 |
| 06-22 | 1869 | 49 | 1115 | 528 | 99 | 23 | 38 | 1 | 7 | 7 | 0 | 2 | 0 | 0 |
| 06-00 | 1916 | 51 | 1156 | 531 | 99 | 23 | 39 | 1 | 7 | 7 | 0 | 2 | 0 | 0 |
| 00-00 | 2013 | 54 | 1214 | 542 | 118 | 24 | 42 | 1 | 7 | 9 | 0 | 2 | 0 | 0 |

**Peak step** 7:00 (192) **AM Peak step** 7:00 (192) **PM Peak step** 13:00 (126)

# Traffic Data Service
# Class Report

**Datasets:**
**Site:**          **[1] 600 TUNNEL AVE**
**Algorithm:**    Factory default axle (v5.02)
**Data type:**    Axle sensors - Paired (Class/Speed/Count)

**Profile:**
**Included classes:**   1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
**Speed range:**    0 - 100 mph.
**Direction:**    South (bound), P = North, Lane = 0-16
**Scheme:**    Vehicle classification (Scheme F)
**Units:**    Non metric (ft, mi, ft/s, mph, lb, ton)

**Column Legend:**
**0 [Time]**      24-hour time (0000 - 2359)
**1 [Total]**      Number in time step
**2 [Cls]**      Class totals

**\* Wednesday, May 4, 2022**

| Time | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 5 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0100 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0200 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0300 | 5 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0400 | 14 | 0 | 11 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0500 | 66 | 2 | 43 | 15 | 0 | 0 | 0 | 1 | 1 | 4 | 0 | 0 | 0 | 0 |
| 0600 | 73 | 2 | 31 | 38 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0700 | 94 | 4 | 35 | 48 | 4 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 0800 | 107 | 10 | 39 | 51 | 3 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 |
| 0900 | 96 | 3 | 36 | 46 | 2 | 4 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| 1000 | 106 | 3 | 37 | 52 | 6 | 4 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 1100 | 73 | 3 | 27 | 34 | 2 | 1 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 1200 | 50 | 2 | 18 | 23 | 1 | 3 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1300 | 70 | 0 | 36 | 30 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1400 | 47 | 2 | 18 | 22 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1500 | 62 | 3 | 31 | 22 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600 | 43 | 1 | 27 | 13 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1700 | 32 | 0 | 21 | 5 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800 | 52 | 4 | 19 | 3 | 24 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1900 | 36 | 2 | 12 | 1 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 25 | 0 | 9 | 0 | 14 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2100 | 12 | 0 | 4 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2200 | 6 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2300 | 3 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **07-19** | **832** | **35** | **344** | **349** | **52** | **18** | **14** | **1** | **3** | **15** | **1** | **0** | **0** | **0** |
| **06-22** | **978** | **39** | **400** | **389** | **94** | **18** | **15** | **1** | **4** | **17** | **1** | **0** | **0** | **0** |
| **06-00** | **987** | **39** | **406** | **389** | **97** | **18** | **15** | **1** | **4** | **17** | **1** | **0** | **0** | **0** |
| **00-00** | **1081** | **42** | **470** | **408** | **97** | **18** | **15** | **3** | **5** | **22** | **1** | **0** | **0** | **0** |

**Peak step** 8:00 (107) **AM Peak step** 8:00 (107) **PM Peak step** 13:00 (70)

**\* Thursday, May 5, 2022**

| Time | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 4 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0100 | 7 | 0 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0200 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0300 | 5 | 1 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0400 | 17 | 1 | 9 | 5 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0500 | 58 | 3 | 38 | 13 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 0600 | 79 | 4 | 38 | 32 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 |
| 0700 | 93 | 5 | 32 | 52 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0800 | 97 | 4 | 35 | 52 | 4 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0900 | 102 | 4 | 39 | 45 | 4 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1000 | 94 | 4 | 32 | 47 | 6 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1100 | 89 | 4 | 30 | 47 | 3 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 1200 | 63 | 1 | 20 | 33 | 4 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 1300 | 54 | 1 | 24 | 26 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1400 | 55 | 1 | 26 | 24 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1500 | 52 | 1 | 24 | 23 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600 | 50 | 2 | 31 | 14 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700 | 42 | 2 | 26 | 10 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800 | 46 | 2 | 17 | 3 | 22 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1900 | 35 | 0 | 9 | 0 | 25 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2000 | 21 | 1 | 7 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2100 | 13 | 0 | 4 | 2 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2200 | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2300 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07-19 | 837 | 31 | 336 | 376 | 53 | 18 | 12 | 4 | 1 | 5 | 1 | 0 | 0 | 0 |
| 06-22 | 985 | 36 | 394 | 411 | 98 | 18 | 12 | 5 | 1 | 9 | 1 | 0 | 0 | 0 |
| 06-00 | 992 | 36 | 395 | 413 | 102 | 18 | 12 | 5 | 1 | 9 | 1 | 0 | 0 | 0 |
| 00-00 | 1085 | 42 | 453 | 433 | 102 | 19 | 17 | 6 | 1 | 11 | 1 | 0 | 0 | 0 |

**Peak step** 9:00 (102) **AM Peak step** 9:00 (102) **PM Peak step** 12:00 (63)

**\* Friday, May 6, 2022**

| Time | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0100 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0200 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0300 | 6 | 1 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0400 | 18 | 0 | 13 | 2 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 0500 | 48 | 1 | 38 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0600 | 84 | 6 | 38 | 30 | 5 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 0700 | 100 | 4 | 36 | 48 | 3 | 0 | 3 | 0 | 1 | 5 | 0 | 0 | 0 | 0 |
| 0800 | 99 | 2 | 36 | 51 | 6 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0900 | 88 | 4 | 24 | 49 | 8 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1000 | 72 | 2 | 23 | 35 | 5 | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 1100 | 77 | 4 | 32 | 32 | 3 | 3 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1200 | 58 | 3 | 19 | 30 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1300 | 59 | 0 | 28 | 28 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1400 | 68 | 1 | 37 | 26 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1500 | 51 | 0 | 28 | 17 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1600 | 46 | 3 | 27 | 14 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1700 | 43 | 2 | 29 | 2 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1800 | 46 | 1 | 14 | 5 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1900 | 29 | 0 | 13 | 2 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 21 | 1 | 5 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2100 | 14 | 0 | 7 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2200 | 6 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 2300 | 11 | 0 | 9 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07-19 | 807 | 26 | 333 | 337 | 68 | 16 | 11 | 1 | 3 | 12 | 0 | 0 | 0 | 0 |
| 06-22 | 955 | 33 | 396 | 372 | 106 | 16 | 13 | 2 | 3 | 13 | 0 | 0 | 0 | 1 |
| 06-00 | 972 | 33 | 408 | 374 | 107 | 16 | 13 | 2 | 3 | 15 | 0 | 0 | 0 | 1 |
| 00-00 | 1051 | 37 | 467 | 385 | 107 | 16 | 15 | 2 | 3 | 18 | 0 | 0 | 0 | 1 |

**Peak step** 7:00 (100) **AM Peak step** 7:00 (100) **PM Peak step** 14:00 (68)

# Attachment D: Tunnel Avenue Hourly Speed Data

Figure C-1: Corporate Shuttle Hourly Volumes
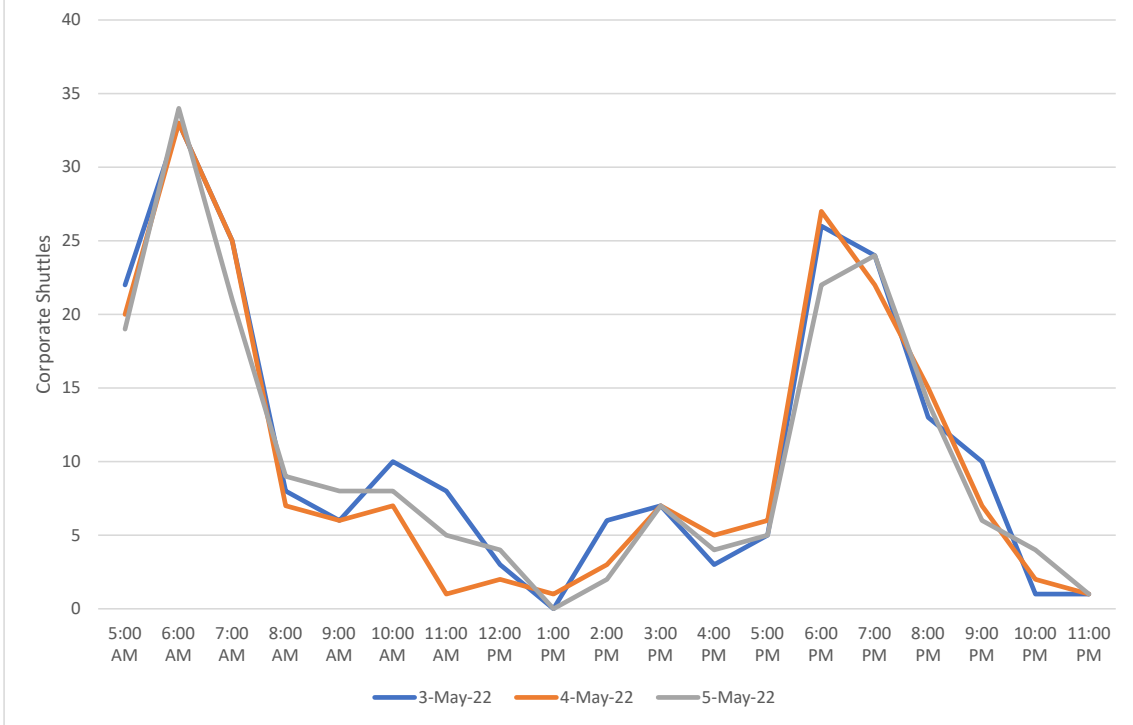
# Attachment E: Federal Highway Administration Vehicle Classification Descriptions

# Traffic Data Service
# Speed Report

**Datasets:**
**Site:**            [1] 600 TUNNEL AVE
**Algorithm:**       Factory default axle (v5.02)
**Data type:**       Axle sensors - Paired (Class/Speed/Count)

**Profile:**
**Included classes:**  1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
**Speed range:**       0 - 100 mph.
**Direction:**         North (bound), P = North, Lane = 0-16
**Scheme:**            Vehicle classification (Scheme F)
**Units:**             Non metric (ft, mi, ft/s, mph, lb, ton)

**Column Legend:**
 **0 [Time]**    24-hour time (0000 - 2359)
 **1 [Total]**   Number in time step
 **2 [Vbin]**    Speed bin totals
 **3 [vPace]**   Speed at start of pace
 **4 [Pace%]**   Percent in pace
 **5 [Mean]**    Average speed
 **6 [Vpp]**     Percentile speed

**\* Wednesday, May 4, 2022**

| Time | Total | Vbin 0 5 | Vbin 5 10 | Vbin 10 15 | Vbin 15 20 | Vbin 20 25 | Vbin 25 30 | Vbin 30 35 | Vbin 35 40 | Vbin 40 45 | Vbin 45 50 | Vbin 50 55 | Vbin 55 60 | Vbin 60 65 | Vbin 65 70 | Vbin 70 75 | Vbin 75 100 | vPace 10 | Pace% 10 | Mean | Vpp 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 14 | 0 | 1 | 0 | 1 | 0 | 2 | 4 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 28.5 | 64.29 | 32.4 | 42.6 |
| 0100 | 9 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.6 | 66.67 | 32.3 | – |
| 0200 | 12 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 39.6 | 50.00 | 41.0 | 49.6 |
| 0300 | 9 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32.3 | 66.67 | 33.4 | – |
| 0400 | 17 | 0 | 2 | 0 | 0 | 1 | 2 | 4 | 1 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 31.7 | 52.94 | 33.5 | 42.6 |
| 0500 | 51 | 0 | 2 | 0 | 5 | 8 | 11 | 7 | 8 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 20.1 | 41.18 | 30.3 | 42.1 |
| 0600 | 134 | 0 | 1 | 8 | 8 | 19 | 43 | 24 | 23 | 5 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 25.7 | 53.73 | 28.8 | 36.4 |
| 0700 | 186 | 0 | 2 | 8 | 10 | 32 | 49 | 46 | 31 | 6 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 24.0 | 52.69 | 28.8 | 36.1 |
| 0800 | 193 | 0 | 4 | 5 | 14 | 45 | 35 | 39 | 41 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29.2 | 45.08 | 28.8 | 37.6 |
| 0900 | 138 | 0 | 5 | 6 | 12 | 38 | 22 | 28 | 20 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 20.1 | 44.20 | 27.2 | 35.6 |
| 1000 | 147 | 1 | 1 | 10 | 8 | 30 | 36 | 41 | 13 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.0 | 55.10 | 27.7 | 34.8 |
| 1100 | 146 | 0 | 1 | 6 | 11 | 38 | 35 | 35 | 10 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 19.6 | 52.05 | 27.7 | 34.7 |
| 1200 | 130 | 0 | 1 | 8 | 10 | 17 | 38 | 26 | 20 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 25.1 | 50.00 | 28.8 | 37.6 |
| 1300 | 96 | 0 | 3 | 3 | 9 | 13 | 26 | 28 | 11 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 23.8 | 58.33 | 27.9 | 35.0 |
| 1400 | 135 | 0 | 2 | 4 | 18 | 18 | 24 | 41 | 20 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 25.8 | 52.59 | 28.9 | 36.2 |
| 1500 | 107 | 0 | 1 | 1 | 5 | 14 | 19 | 25 | 33 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 28.4 | 57.01 | 31.6 | 38.5 |
| 1600 | 123 | 0 | 4 | 3 | 2 | 9 | 31 | 37 | 30 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27.9 | 62.60 | 31.0 | 37.8 |
| 1700 | 133 | 0 | 0 | 6 | 1 | 7 | 22 | 26 | 39 | 31 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 32.1 | 60.15 | 34.0 | 41.0 |
| 1800 | 98 | 0 | 1 | 3 | 4 | 4 | 12 | 15 | 35 | 18 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 32.0 | 58.16 | 34.8 | 41.8 |
| 1900 | 88 | 0 | 0 | 0 | 1 | 1 | 12 | 28 | 22 | 19 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 28.5 | 56.82 | 35.9 | 42.9 |
| 2000 | 45 | 0 | 0 | 0 | 2 | 0 | 10 | 17 | 12 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 27.5 | 68.89 | 33.2 | 38.5 |
| 2100 | 40 | 0 | 0 | 2 | 1 | 3 | 3 | 10 | 13 | 5 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 28.1 | 60.00 | 34.0 | 41.1 |
| 2200 | 23 | 0 | 0 | 0 | 0 | 3 | 1 | 6 | 8 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 32.7 | 69.57 | 35.2 | 42.1 |
| 2300 | 17 | 0 | 0 | 0 | 0 | 3 | 2 | 7 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 29.9 | 58.82 | 32.5 | 40.7 |
| 07-19 | 1632 | 1 | 25 | 63 | 104 | 265 | 349 | 387 | 303 | 118 | 15 | 1 | 1 | 0 | 0 | 0 | 0 | 25.7 | 46.94 | 29.6 | 37.9 |
| 06-22 | 1939 | 1 | 26 | 73 | 116 | 288 | 417 | 466 | 373 | 149 | 24 | 4 | 2 | 0 | 0 | 0 | 0 | 25.7 | 47.55 | 30.0 | 38.1 |
| 06-00 | 1979 | 1 | 26 | 73 | 116 | 294 | 420 | 479 | 384 | 153 | 27 | 4 | 2 | 0 | 0 | 0 | 0 | 25.7 | 47.45 | 30.0 | 38.3 |
| 00-00 | 2091 | 1 | 31 | 73 | 122 | 305 | 440 | 502 | 405 | 168 | 36 | 6 | 2 | 0 | 0 | 0 | 0 | 25.7 | 46.96 | 30.2 | 38.5 |

**Peak step** 8:00 (193) **AM Peak step** 8:00 (193) **PM Peak step** 14:00 (135)

## * Thursday, May 5, 2022

| Time | Total | Vbin 0 5 | Vbin 5 10 | Vbin 10 15 | Vbin 15 20 | Vbin 20 25 | Vbin 25 30 | Vbin 30 35 | Vbin 35 40 | Vbin 40 45 | Vbin 45 50 | Vbin 50 55 | Vbin 55 60 | Vbin 60 65 | Vbin 65 70 | Vbin 70 75 | Vbin 75 100 | vPace 10 | Pace% 10 | Mean | Vpp 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 9 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31.8 | 66.67 | 34.0 | – |
| 0100 | 11 | 0 | 0 | 0 | 0 | 2 | 1 | 5 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31.4 | 72.73 | 32.9 | 41.0 |
| 0200 | 8 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 28.1 | 50.00 | 38.7 | – |
| 0300 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30.8 | 75.00 | 36.1 | – |
| 0400 | 13 | 0 | 3 | 0 | 0 | 0 | 2 | 1 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 31.1 | 46.15 | 30.7 | 44.8 |
| 0500 | 44 | 0 | 1 | 1 | 3 | 7 | 10 | 6 | 3 | 9 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 22.1 | 45.45 | 32.0 | 44.4 |
| 0600 | 130 | 0 | 4 | 5 | 12 | 18 | 43 | 24 | 13 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 25.1 | 53.08 | 27.8 | 35.8 |
| 0700 | 191 | 0 | 6 | 11 | 17 | 36 | 49 | 36 | 25 | 7 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 21.9 | 51.31 | 27.4 | 36.2 |
| 0800 | 187 | 0 | 4 | 9 | 19 | 37 | 33 | 49 | 29 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 27.5 | 49.20 | 27.9 | 36.1 |
| 0900 | 144 | 0 | 4 | 4 | 4 | 34 | 37 | 31 | 26 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 24.4 | 51.39 | 28.4 | 36.4 |
| 1000 | 145 | 0 | 0 | 1 | 14 | 30 | 41 | 41 | 14 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 25.4 | 59.31 | 28.3 | 34.7 |
| 1100 | 153 | 0 | 4 | 5 | 8 | 26 | 32 | 55 | 14 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23.4 | 57.52 | 28.8 | 35.3 |
| 1200 | 128 | 0 | 0 | 10 | 11 | 21 | 26 | 40 | 17 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 26.3 | 56.25 | 27.8 | 35.1 |
| 1300 | 134 | 0 | 1 | 2 | 17 | 25 | 35 | 34 | 13 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 21.2 | 55.97 | 28.1 | 35.0 |
| 1400 | 135 | 0 | 0 | 3 | 6 | 24 | 37 | 31 | 24 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 22.0 | 52.59 | 30.3 | 37.7 |
| 1500 | 117 | 0 | 1 | 2 | 9 | 11 | 32 | 29 | 28 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 29.2 | 57.26 | 30.2 | 38.0 |
| 1600 | 115 | 0 | 1 | 2 | 6 | 11 | 26 | 26 | 30 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 28.1 | 56.52 | 31.7 | 38.5 |
| 1700 | 123 | 0 | 0 | 3 | 9 | 5 | 21 | 28 | 38 | 17 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 29.9 | 55.28 | 32.8 | 40.2 |
| 1800 | 106 | 0 | 0 | 1 | 1 | 2 | 10 | 30 | 39 | 17 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 32.5 | 69.81 | 35.7 | 41.6 |
| 1900 | 65 | 0 | 0 | 0 | 4 | 2 | 6 | 21 | 21 | 7 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 28.5 | 66.15 | 34.0 | 41.0 |
| 2000 | 57 | 0 | 0 | 2 | 1 | 3 | 14 | 14 | 18 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26.8 | 59.65 | 32.1 | 38.6 |
| 2100 | 35 | 0 | 0 | 1 | 1 | 4 | 3 | 8 | 12 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 32.7 | 62.86 | 33.7 | 40.9 |
| 2200 | 27 | 0 | 0 | 0 | 2 | 5 | 3 | 4 | 10 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 30.5 | 55.56 | 32.3 | 38.5 |
| 2300 | 15 | 0 | 0 | 1 | 0 | 0 | 4 | 6 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 25.1 | 66.67 | 32.8 | 39.4 |
| 07-19 | 1678 | 0 | 21 | 53 | 121 | 262 | 379 | 430 | 297 | 84 | 27 | 3 | 1 | 0 | 0 | 0 | 0 | 25.8 | 48.99 | 29.5 | 37.1 |
| 06-22 | 1965 | 0 | 25 | 61 | 139 | 289 | 445 | 497 | 361 | 110 | 33 | 3 | 2 | 0 | 0 | 0 | 0 | 26.6 | 49.16 | 29.7 | 37.3 |
| 06-00 | 2007 | 0 | 25 | 62 | 141 | 294 | 452 | 507 | 373 | 112 | 35 | 4 | 2 | 0 | 0 | 0 | 0 | 26.8 | 49.28 | 29.7 | 37.4 |
| 00-00 | 2100 | 0 | 29 | 63 | 144 | 305 | 469 | 525 | 386 | 129 | 41 | 5 | 4 | 0 | 0 | 0 | 0 | 26.8 | 48.62 | 29.9 | 37.7 |

**Peak step** 7:00 (191) **AM Peak step** 7:00 (191) **PM Peak step** 14:00 (135)

## * Friday, May 6, 2022

| Time | Total | Vbin 0 5 | Vbin 5 10 | Vbin 10 15 | Vbin 15 20 | Vbin 20 25 | Vbin 25 30 | Vbin 30 35 | Vbin 35 40 | Vbin 40 45 | Vbin 45 50 | Vbin 50 55 | Vbin 55 60 | Vbin 60 65 | Vbin 65 70 | Vbin 70 75 | Vbin 75 100 | vPace 10 | Pace% 10 | Mean | Vpp 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.9 | 77.78 | 35.1 | – |
| 0100 | 8 | 0 | 0 | 1 | 0 | 3 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.5 | 62.50 | 28.7 | – |
| 0200 | 9 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 28.8 | 66.67 | 39.3 | – |
| 0300 | 9 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29.8 | 77.78 | 33.2 | – |
| 0400 | 14 | 0 | 2 | 0 | 0 | 1 | 2 | 2 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 26.1 | 42.86 | 33.2 | 46.6 |
| 0500 | 48 | 0 | 1 | 1 | 2 | 11 | 12 | 8 | 5 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 20.7 | 52.08 | 29.9 | 40.8 |
| 0600 | 122 | 0 | 1 | 5 | 7 | 18 | 41 | 28 | 15 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 23.8 | 60.66 | 28.8 | 36.9 |
| 0700 | 192 | 0 | 3 | 3 | 15 | 40 | 49 | 46 | 31 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 24.0 | 53.13 | 28.4 | 35.6 |
| 0800 | 148 | 0 | 1 | 8 | 5 | 18 | 41 | 42 | 28 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 26.7 | 59.46 | 29.7 | 36.6 |
| 0900 | 176 | 0 | 0 | 0 | 11 | 41 | 50 | 46 | 21 | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 23.9 | 56.82 | 29.0 | 35.1 |
| 1000 | 151 | 0 | 1 | 8 | 11 | 30 | 35 | 37 | 22 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.6 | 50.99 | 28.3 | 36.4 |
| 1100 | 117 | 0 | 4 | 2 | 8 | 18 | 25 | 37 | 16 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 24.8 | 52.99 | 29.1 | 36.9 |
| 1200 | 113 | 0 | 1 | 2 | 12 | 16 | 32 | 25 | 18 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 23.2 | 53.98 | 29.1 | 36.6 |
| 1300 | 126 | 0 | 0 | 4 | 11 | 21 | 29 | 37 | 18 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 27.4 | 53.97 | 29.1 | 36.6 |
| 1400 | 112 | 0 | 2 | 2 | 9 | 12 | 33 | 30 | 19 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26.1 | 58.93 | 29.7 | 36.1 |
| 1500 | 110 | 0 | 0 | 0 | 6 | 8 | 28 | 32 | 31 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 28.3 | 60.91 | 31.9 | 38.4 |
| 1600 | 119 | 0 | 0 | 1 | 2 | 13 | 26 | 32 | 30 | 10 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 25.8 | 54.62 | 32.5 | 39.3 |
| 1700 | 112 | 0 | 0 | 0 | 3 | 6 | 21 | 28 | 34 | 17 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 29.5 | 58.93 | 34.1 | 41.2 |
| 1800 | 96 | 0 | 0 | 2 | 4 | 3 | 8 | 18 | 31 | 25 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 33.8 | 67.71 | 35.7 | 42.4 |
| 1900 | 78 | 0 | 0 | 1 | 1 | 2 | 8 | 29 | 21 | 13 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 31.3 | 66.67 | 34.9 | 41.2 |
| 2000 | 57 | 0 | 0 | 0 | 2 | 4 | 10 | 15 | 20 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 27.8 | 63.16 | 33.3 | 39.4 |
| 2100 | 40 | 0 | 0 | 0 | 0 | 4 | 5 | 4 | 19 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 32.4 | 65.00 | 35.3 | 40.9 |
| 2200 | 26 | 0 | 2 | 2 | 0 | 1 | 6 | 3 | 9 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 27.8 | 57.69 | 30.7 | 39.6 |
| 2300 | 21 | 0 | 0 | 0 | 0 | 1 | 1 | 7 | 10 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 29.9 | 80.95 | 36.2 | 40.3 |
| 07-19 | 1572 | 0 | 12 | 32 | 97 | 226 | 377 | 410 | 299 | 92 | 22 | 5 | 0 | 0 | 0 | 0 | 0 | 27.2 | 51.34 | 30.2 | 37.7 |
| 06-22 | 1869 | 0 | 13 | 38 | 107 | 254 | 441 | 486 | 374 | 121 | 29 | 6 | 0 | 0 | 0 | 0 | 0 | 27.2 | 51.15 | 30.5 | 38.1 |
| 06-00 | 1916 | 0 | 15 | 40 | 107 | 255 | 448 | 496 | 393 | 125 | 31 | 6 | 0 | 0 | 0 | 0 | 0 | 27.2 | 51.30 | 30.6 | 38.1 |
| 00-00 | 2013 | 0 | 18 | 42 | 109 | 271 | 466 | 517 | 409 | 136 | 36 | 8 | 1 | 0 | 0 | 0 | 0 | 27.2 | 50.92 | 30.6 | 38.2 |

**Peak step** 7:00 (192) **AM Peak step** 7:00 (192) **PM Peak step** 13:00 (126)

## * Grand Total

| Time | Total | Vbin 0 5 | Vbin 5 10 | Vbin 10 15 | Vbin 15 20 | Vbin 20 25 | Vbin 25 30 | Vbin 30 35 | Vbin 35 40 | Vbin 40 45 | Vbin 45 50 | Vbin 50 55 | Vbin 55 60 | Vbin 60 65 | Vbin 65 70 | Vbin 70 75 | Vbin 75 100 | vPace 10 | Pace% 10 | Mean | Vpp 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -- | 6204 | 1 | 78 | 178 | 375 | 881 | 1375 | 1544 | 1200 | 433 | 113 | 19 | 7 | 0 | 0 | 0 | 0 | 26.8 | 48.48 | 30.2 | 38.1 |

# Traffic Data Service
# Speed Report

**Datasets:**
**Site:**            [1] 600 TUNNEL AVE
**Algorithm:**       Factory default axle (v5.02)
**Data type:**       Axle sensors - Paired (Class/Speed/Count)

**Profile:**
**Included classes:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
**Speed range:**      0 - 100 mph.
**Direction:**        South (bound), P = North, Lane = 0-16
**Scheme:**           Vehicle classification (Scheme F)
**Units:**            Non metric (ft, mi, ft/s, mph, lb, ton)

**Column Legend:**
 **0 [Time]**         24-hour time (0000 - 2359)
 **1 [Total]**        Number in time step
 **2 [Vbin]**         Speed bin totals
 **3 [vPace]**        Speed at start of pace
 **4 [Pace%]**        Percent in pace
 **5 [Mean]**         Average speed
 **6 [Vpp]**          Percentile speed

**\* Wednesday, May 4, 2022**

| Time | Total | Vbin 0-5 | Vbin 5-10 | Vbin 10-15 | Vbin 15-20 | Vbin 20-25 | Vbin 25-30 | Vbin 30-35 | Vbin 35-40 | Vbin 40-45 | Vbin 45-50 | Vbin 50-55 | Vbin 55-60 | Vbin 60-65 | Vbin 65-70 | Vbin 70-75 | Vbin 75-100 | vPace 10 | Pace% 10 | Mean | Vpp 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34.8 | 80.00 | 39.9 | – |
| 0100 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26.6 | 100.0 | 32.4 | – |
| 0200 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.2 | 50.00 | 23.1 | – |
| 0300 | 5 | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14.0 | 80.00 | 23.1 | – |
| 0400 | 14 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 30.4 | 64.29 | 36.6 | 44.3 |
| 0500 | 66 | 0 | 1 | 2 | 1 | 10 | 15 | 15 | 17 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26.2 | 50.00 | 31.1 | 39.1 |
| 0600 | 73 | 0 | 0 | 1 | 3 | 8 | 25 | 14 | 13 | 4 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 26.3 | 63.01 | 31.4 | 37.1 |
| 0700 | 94 | 0 | 0 | 0 | 7 | 14 | 28 | 25 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25.3 | 58.51 | 29.5 | 37.7 |
| 0800 | 107 | 0 | 0 | 4 | 11 | 18 | 28 | 28 | 12 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 25.2 | 55.14 | 28.5 | 35.2 |
| 0900 | 96 | 0 | 2 | 4 | 7 | 13 | 26 | 28 | 13 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26.2 | 58.33 | 28.3 | 35.7 |
| 1000 | 106 | 0 | 1 | 6 | 4 | 17 | 36 | 33 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.3 | 67.92 | 27.9 | 33.4 |
| 1100 | 73 | 0 | 0 | 4 | 5 | 12 | 30 | 15 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23.5 | 67.12 | 27.5 | 33.4 |
| 1200 | 50 | 0 | 0 | 2 | 4 | 10 | 11 | 12 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.3 | 50.00 | 28.8 | 36.0 |
| 1300 | 70 | 0 | 0 | 2 | 2 | 9 | 26 | 16 | 9 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 24.1 | 62.86 | 30.0 | 37.1 |
| 1400 | 47 | 0 | 0 | 2 | 3 | 8 | 19 | 9 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23.1 | 61.70 | 27.6 | 34.4 |
| 1500 | 62 | 0 | 2 | 0 | 7 | 3 | 16 | 14 | 9 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25.3 | 50.00 | 30.9 | 41.2 |
| 1600 | 43 | 0 | 0 | 1 | 1 | 3 | 8 | 9 | 18 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 29.4 | 67.44 | 32.8 | 38.1 |
| 1700 | 32 | 0 | 0 | 0 | 1 | 1 | 6 | 7 | 7 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 29.2 | 50.00 | 35.7 | 43.4 |
| 1800 | 52 | 0 | 0 | 1 | 2 | 3 | 12 | 12 | 11 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 27.0 | 59.62 | 32.7 | 40.9 |
| 1900 | 36 | 0 | 0 | 1 | 2 | 7 | 13 | 9 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23.9 | 69.44 | 28.2 | 34.1 |
| 2000 | 25 | 0 | 0 | 1 | 0 | 5 | 8 | 7 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.3 | 64.00 | 29.4 | 37.5 |
| 2100 | 12 | 0 | 0 | 0 | 2 | 2 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23.4 | 66.67 | 26.8 | 33.3 |
| 2200 | 6 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 21.9 | 66.67 | 28.1 | – |
| 2300 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19.3 | 66.67 | 31.4 | – |
| 07-19 | 832 | 0 | 5 | 26 | 54 | 111 | 246 | 208 | 122 | 50 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 25.3 | 55.17 | 29.5 | 36.9 |
| 06-22 | 978 | 0 | 5 | 29 | 61 | 133 | 296 | 242 | 140 | 57 | 13 | 1 | 1 | 0 | 0 | 0 | 0 | 25.4 | 55.52 | 29.5 | 36.9 |
| 06-00 | 987 | 0 | 5 | 29 | 62 | 136 | 298 | 243 | 140 | 58 | 14 | 1 | 1 | 0 | 0 | 0 | 0 | 25.4 | 55.32 | 29.5 | 36.9 |
| 00-00 | 1081 | 0 | 6 | 31 | 65 | 149 | 316 | 267 | 161 | 69 | 15 | 1 | 1 | 0 | 0 | 0 | 0 | 26.3 | 54.39 | 29.7 | 37.1 |

**Peak step** 8:00 (107)  **AM Peak step** 8:00 (107)  **PM Peak step** 13:00 (70)

## * Thursday, May 5, 2022

| Time | Total | Vbin 0 5 | Vbin 5 10 | Vbin 10 15 | Vbin 15 20 | Vbin 20 25 | Vbin 25 30 | Vbin 30 35 | Vbin 35 40 | Vbin 40 45 | Vbin 45 50 | Vbin 50 55 | Vbin 55 60 | Vbin 60 65 | Vbin 65 70 | Vbin 70 75 | Vbin 75 100 | vPace 10 | Pace% 10 | Mean | Vpp 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23.4 | 75.00 | 33.6 | - |
| 0100 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27.2 | 85.71 | 32.1 | - |
| 0200 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18.9 | 100.0 | 26.6 | - |
| 0300 | 5 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14.4 | 80.00 | 22.2 | - |
| 0400 | 17 | 0 | 3 | 0 | 1 | 0 | 1 | 3 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33.9 | 64.71 | 31.2 | 41.3 |
| 0500 | 58 | 0 | 0 | 1 | 4 | 10 | 18 | 9 | 11 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 25.8 | 51.72 | 29.6 | 36.7 |
| 0600 | 79 | 0 | 1 | 7 | 4 | 13 | 17 | 21 | 8 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 25.1 | 50.63 | 28.5 | 37.0 |
| 0700 | 93 | 0 | 0 | 1 | 8 | 19 | 28 | 22 | 12 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 22.6 | 61.29 | 28.8 | 35.8 |
| 0800 | 97 | 0 | 0 | 4 | 8 | 20 | 27 | 25 | 10 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.8 | 60.82 | 27.9 | 34.5 |
| 0900 | 102 | 0 | 4 | 4 | 4 | 20 | 31 | 27 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.1 | 64.71 | 27.4 | 34.0 |
| 1000 | 94 | 0 | 0 | 3 | 8 | 17 | 31 | 25 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.2 | 62.77 | 27.8 | 33.9 |
| 1100 | 89 | 0 | 1 | 5 | 8 | 12 | 26 | 28 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.6 | 64.04 | 27.6 | 34.3 |
| 1200 | 63 | 0 | 0 | 0 | 6 | 18 | 22 | 7 | 8 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 19.8 | 65.08 | 27.4 | 37.0 |
| 1300 | 54 | 0 | 0 | 1 | 1 | 6 | 19 | 18 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23.3 | 68.52 | 29.7 | 35.6 |
| 1400 | 55 | 0 | 0 | 0 | 3 | 7 | 19 | 17 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.4 | 67.27 | 29.4 | 35.5 |
| 1500 | 52 | 0 | 1 | 1 | 1 | 7 | 15 | 15 | 8 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 25.3 | 59.62 | 30.1 | 36.8 |
| 1600 | 50 | 0 | 1 | 4 | 2 | 5 | 16 | 10 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.6 | 52.00 | 28.7 | 36.7 |
| 1700 | 42 | 0 | 0 | 0 | 2 | 5 | 7 | 13 | 12 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27.2 | 66.67 | 31.7 | 37.1 |
| 1800 | 46 | 0 | 0 | 0 | 1 | 3 | 15 | 13 | 13 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26.9 | 71.74 | 31.2 | 36.7 |
| 1900 | 35 | 0 | 0 | 0 | 2 | 2 | 11 | 13 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25.5 | 71.43 | 31.1 | 38.0 |
| 2000 | 21 | 0 | 0 | 1 | 1 | 4 | 8 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.4 | 76.19 | 27.7 | 35.1 |
| 2100 | 13 | 0 | 0 | 0 | 2 | 2 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.9 | 76.92 | 26.5 | 31.8 |
| 2200 | 5 | 0 | 0 | 0 | 1 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13.4 | 60.00 | 26.1 | - |
| 2300 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.3 | 50.00 | 25.0 | - |
| 07-19 | 837 | 0 | 7 | 23 | 52 | 139 | 256 | 220 | 118 | 19 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 22.9 | 58.90 | 28.6 | 35.5 |
| 06-22 | 985 | 0 | 8 | 31 | 61 | 160 | 297 | 262 | 134 | 27 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 22.9 | 57.97 | 28.7 | 35.5 |
| 06-00 | 992 | 0 | 8 | 31 | 63 | 162 | 297 | 265 | 134 | 27 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 22.9 | 57.66 | 28.6 | 35.5 |
| 00-00 | 1085 | 0 | 11 | 32 | 69 | 177 | 319 | 283 | 153 | 34 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 22.9 | 56.22 | 28.7 | 35.8 |

**Peak step** 9:00 (102)  **AM Peak step** 9:00 (102)  **PM Peak step** 12:00 (63)

## * Friday, May 6, 2022

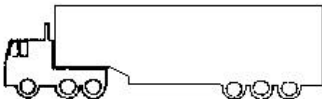| Time | Total | Vbin 0 5 | Vbin 5 10 | Vbin 10 15 | Vbin 15 20 | Vbin 20 25 | Vbin 25 30 | Vbin 30 35 | Vbin 35 40 | Vbin 40 45 | Vbin 45 50 | Vbin 50 55 | Vbin 55 60 | Vbin 60 65 | Vbin 65 70 | Vbin 70 75 | Vbin 75 100 | vPace 10 | Pace% 10 | Mean | Vpp 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8.1 | 50.00 | 27.1 | - |
| 0100 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31.1 | 100.0 | 37.5 | - |
| 0200 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31.6 | 100.0 | 41.6 | - |
| 0300 | 6 | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18.5 | 100.0 | 22.6 | - |
| 0400 | 18 | 0 | 1 | 0 | 0 | 3 | 1 | 4 | 3 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 32.4 | 50.00 | 33.4 | 42.9 |
| 0500 | 48 | 0 | 0 | 0 | 0 | 4 | 11 | 14 | 13 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 28.2 | 60.42 | 33.4 | 38.9 |
| 0600 | 84 | 0 | 0 | 5 | 9 | 18 | 22 | 20 | 7 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 23.5 | 58.33 | 27.2 | 33.6 |
| 0700 | 100 | 0 | 0 | 4 | 16 | 23 | 28 | 16 | 8 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 20.7 | 53.00 | 26.7 | 34.3 |
| 0800 | 99 | 1 | 0 | 2 | 8 | 19 | 38 | 20 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.8 | 64.65 | 27.3 | 33.3 |
| 0900 | 88 | 0 | 0 | 1 | 4 | 24 | 31 | 21 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.8 | 70.45 | 27.4 | 32.8 |
| 1000 | 72 | 0 | 0 | 8 | 4 | 12 | 22 | 15 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.4 | 59.72 | 27.3 | 35.0 |
| 1100 | 77 | 1 | 1 | 6 | 3 | 10 | 28 | 18 | 9 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 24.4 | 62.34 | 27.5 | 34.4 |
| 1200 | 58 | 0 | 0 | 1 | 6 | 5 | 25 | 12 | 5 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 23.5 | 67.24 | 28.9 | 35.6 |
| 1300 | 59 | 0 | 1 | 0 | 0 | 9 | 20 | 20 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.1 | 67.80 | 29.6 | 35.5 |
| 1400 | 68 | 0 | 0 | 0 | 2 | 12 | 22 | 22 | 4 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 23.3 | 75.00 | 30.1 | 35.0 |
| 1500 | 51 | 0 | 0 | 0 | 4 | 8 | 12 | 12 | 13 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.9 | 54.90 | 30.2 | 37.3 |
| 1600 | 46 | 0 | 1 | 2 | 1 | 5 | 6 | 10 | 16 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 30.8 | 58.70 | 31.9 | 39.1 |
| 1700 | 43 | 0 | 0 | 1 | 2 | 4 | 8 | 17 | 5 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 24.8 | 60.47 | 32.0 | 40.1 |
| 1800 | 46 | 0 | 0 | 0 | 0 | 4 | 15 | 20 | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 25.4 | 80.43 | 31.0 | 35.0 |
| 1900 | 29 | 0 | 0 | 0 | 1 | 6 | 9 | 6 | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 22.3 | 62.07 | 30.0 | 38.0 |
| 2000 | 21 | 0 | 0 | 0 | 1 | 6 | 3 | 7 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.4 | 66.67 | 29.4 | 35.7 |
| 2100 | 14 | 0 | 0 | 1 | 0 | 3 | 3 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.5 | 78.57 | 28.0 | 34.7 |
| 2200 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29.5 | 83.33 | 32.6 | - |
| 2300 | 11 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 30.8 | 72.73 | 34.8 | 41.9 |
| 07-19 | 807 | 2 | 3 | 25 | 50 | 135 | 255 | 203 | 99 | 24 | 7 | 3 | 1 | 0 | 0 | 0 | 0 | 23.3 | 59.48 | 28.7 | 35.5 |
| 06-22 | 955 | 2 | 3 | 31 | 61 | 168 | 292 | 241 | 117 | 26 | 9 | 3 | 2 | 0 | 0 | 0 | 0 | 23.3 | 59.48 | 28.6 | 35.4 |
| 06-00 | 972 | 2 | 4 | 31 | 61 | 168 | 294 | 245 | 124 | 28 | 10 | 3 | 2 | 0 | 0 | 0 | 0 | 23.3 | 59.05 | 28.7 | 35.6 |
| 00-00 | 1051 | 2 | 6 | 31 | 63 | 179 | 307 | 264 | 141 | 38 | 13 | 5 | 2 | 0 | 0 | 0 | 0 | 23.3 | 57.66 | 29.0 | 36.1 |
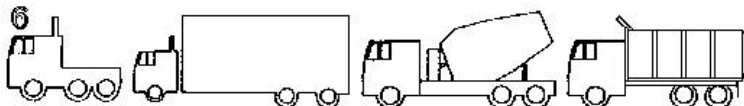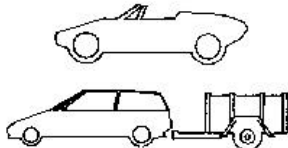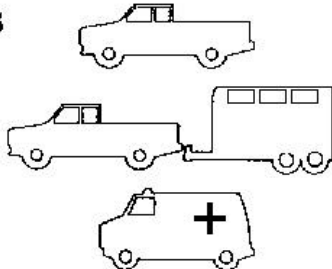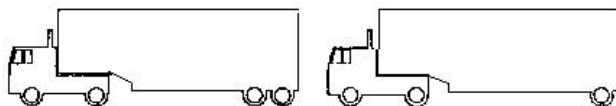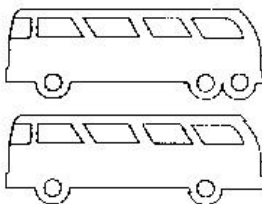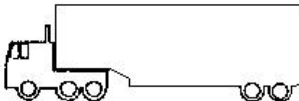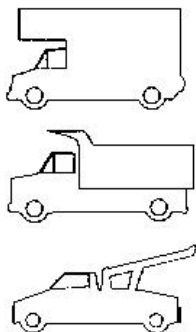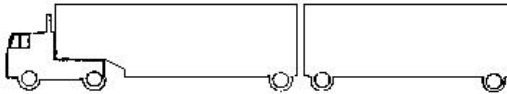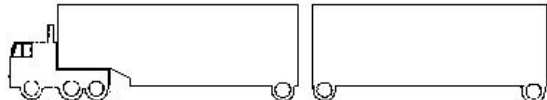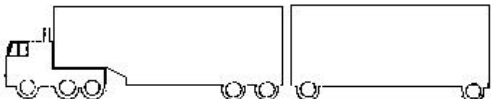
**Peak step** 7:00 (100)  **AM Peak step** 7:00 (100)  **PM Peak step** 14:00 (68)

## * Grand Total

| Time | Total | Vbin 0 5 | Vbin 5 10 | Vbin 10 15 | Vbin 15 20 | Vbin 20 25 | Vbin 25 30 | Vbin 30 35 | Vbin 35 40 | Vbin 40 45 | Vbin 45 50 | Vbin 50 55 | Vbin 55 60 | Vbin 60 65 | Vbin 65 70 | Vbin 70 75 | Vbin 75 100 | vPace 10 | Pace% 10 | Mean | Vpp 85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -- | 3217 | 2 | 23 | 94 | 197 | 505 | 942 | 814 | 455 | 141 | 32 | 9 | 3 | 0 | 0 | 0 | 0 | 24.5 | 55.27 | 29.1 | 36.2 |

# Attachment C: Tunnel Avenue Hourly Volume Data

# Attachment E - FHWA Vehicle Classification Scheme

**1** MOTORCYCLES

**2** PASSENGER CARS

**3** FOUR TIRE, SINGLE UNIT

**4** BUSES

**5** TWO AXLE, SIX TIRE SINGLE UNIT

**6** THREE AXLE, SINGLE UNIT

**7** FOUR OR MORE AXLE, SINGLE UNIT

**8** FOUR OR LESS AXLE, SINGLE TRAILER

**9** FIVE-AXLE, SINGLE TRAILER

**10** SIX OR MORE AXLE, SINGLE TRAILER

**11** FIVE OR LESS AXLE, MULT-TRAILER

**12** SIX AXLE, MULT-TRAILER

**13** SEVEN OR MORE AXLE, MULTI-TRAILER

Class 1-        **Motorcycles:**  All two- or three-wheeled motorized vehicles.  Typical vehicles in this category have saddle type seats and are steered by handle bars rather than wheels.  This category includes motorcycles, motor scooters, mopeds, motor-powered bicycles, and three-wheeled motorcycles.

Class 2-        **Passenger Cars:**  All sedans, coupes, and station wagons manufactured primarily for the purpose of carrying passengers and including those passenger cars pulling recreational or other light trailers.

Class 3-        **Other Two-Axle, Four-Tire, Single Unit Vehicles:**  All two-axle, four-tire, vehicles other than passenger cars.  Included in this classification are pickups, panels, vans, and other vehicles such as campers, motor homes, ambulances, hearses, carryalls, and minibuses.  Other two-axle, four-tire single unit vehicles pulling recreational or other light trailers are included in this classification.

Class 4-        **Buses:**  All vehicles manufactured as traditional passenger-carrying buses with two axles and six tires or three or more axles.  This category includes only traditional buses (including school buses) functioning as passenger-carrying vehicles.  Modified buses should be considered to be trucks and be appropriately classified.

> **Note:**  In reporting information on trucks the following criteria should be used:
>
> a. Truck tractor units traveling without a trailer will be considered single unit trucks.
>
> b. A truck tractor unit pulling other such units in a "saddle mount" configuration will be considered as one single unit truck and will be defined only by axles on the pulling unit.
>
> c. Vehicles shall be defined by the number of axles in contact with the roadway. Therefore, "floating" axles are counted only when in the down position.
>
> d. The term "trailer" includes both semi- and full trailers.

Class 5-        **Two-Axle, Six-Tire, Single Unit Trucks:**  All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., having two axles and dual rear wheels.

Class 6-        **Three-axle Single unit Trucks:**  All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., having three axles.

Class 7-        **Four or More Axle Single Unit Trucks:**  All trucks on a single frame with four or more axles.

Class 8-        **Four or Less Axle Single Trailer Trucks:**  All vehicles with four or less axles consisting of two units, one of which is a tractor or straight truck power unit.

Class 9-        **Five-Axle Single Trailer Trucks:**  All five-axle vehicles consisting of two units, one of which is a tractor or straight truck power unit.

Class 10-       **Six or More Axle Single Trailer Trucks:**  All vehicles with six or more axles consisting of two units, one of which is a tractor or straight truck power unit.
.
Class 11-       **Five or Less Axle Multi-Trailer Trucks:**  All vehicles with five or less axles consisting of three or more units, one of which is a tractor or straight truck power unit
.
Class 12-       **Six-Axle Multi-Trailer Trucks:**  All six-axle vehicles consisting of three or more units, one of which is a tractor or straight truck power unit.

Class 13-       **Seven or More Axle Multi-Trailer Trucks:**  All vehicles with seven or more axles consisting of three or more units, one of which is a tractor or straight truck power unit.