

APOT

JUNE 2018

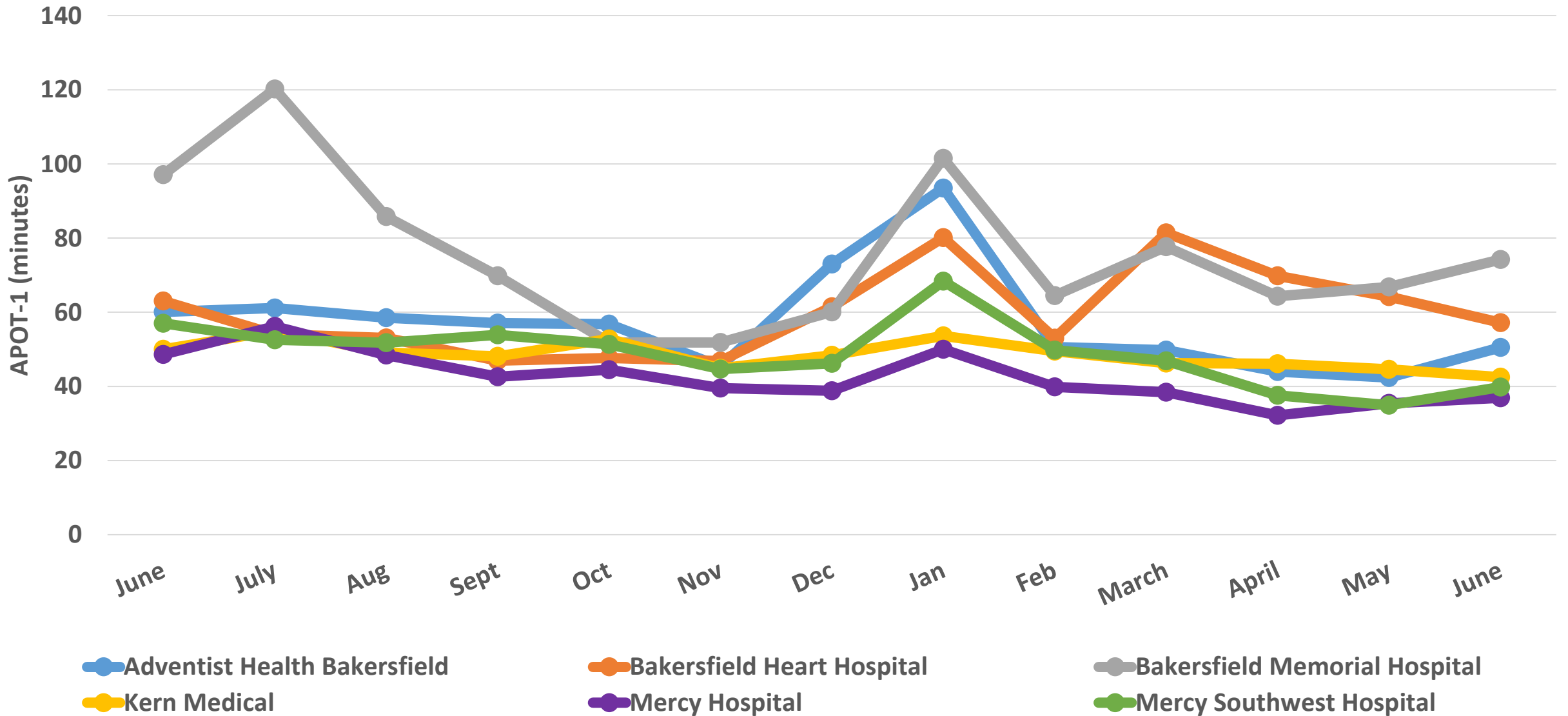
# Agenda

- APOT-1
  - Individual hospital data
- APOT-2
  - Individual hospital data
- APOT and Patient Outcomes
  - Review of Australian study and application to Kern County System

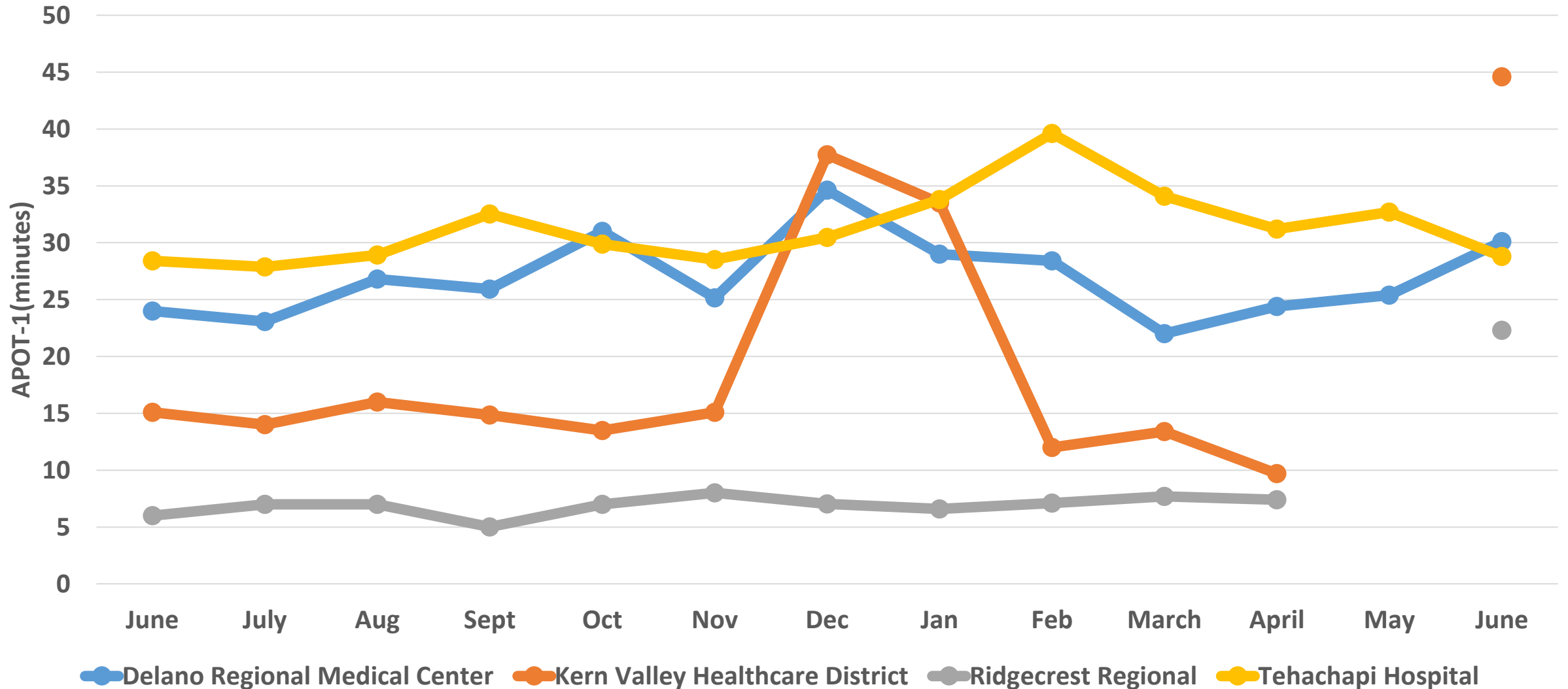
# A POT-1: June 2018

Rank	Hospital	Number of Transports	A POT-1 (Minutes)
1	Ridgecrest	83	22.3
2	Tehachapi	110	28.8
3	Delano	43	30.1
4	Mercy	444	36.9
5	Mercy Southwest	472	39.8
6	Kern Medical	764	42.5
7	KVHD	70	44.6
8	Adventist	1413	50.5
9	Bakersfield Heart Hospital	220	57.2
10	Bakersfield Memorial	1152	74.2

# APOT-1 Bakersfield Hospitals: June 2017-June 2018



# APOT-1 Outlying Area Hospitals: June 2017- June 2018



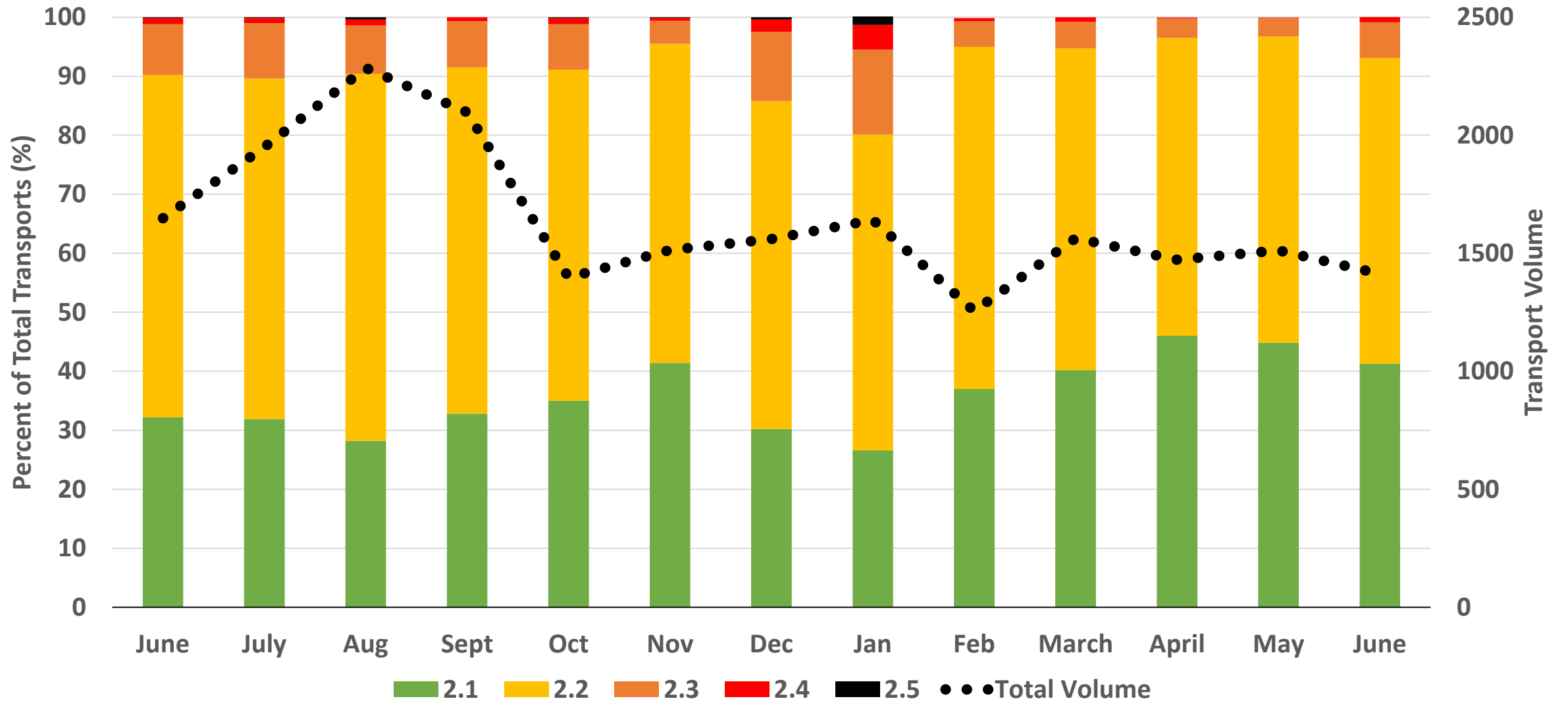
# APOT-2

Individual Hospital Data

# APOT-2: June 2018

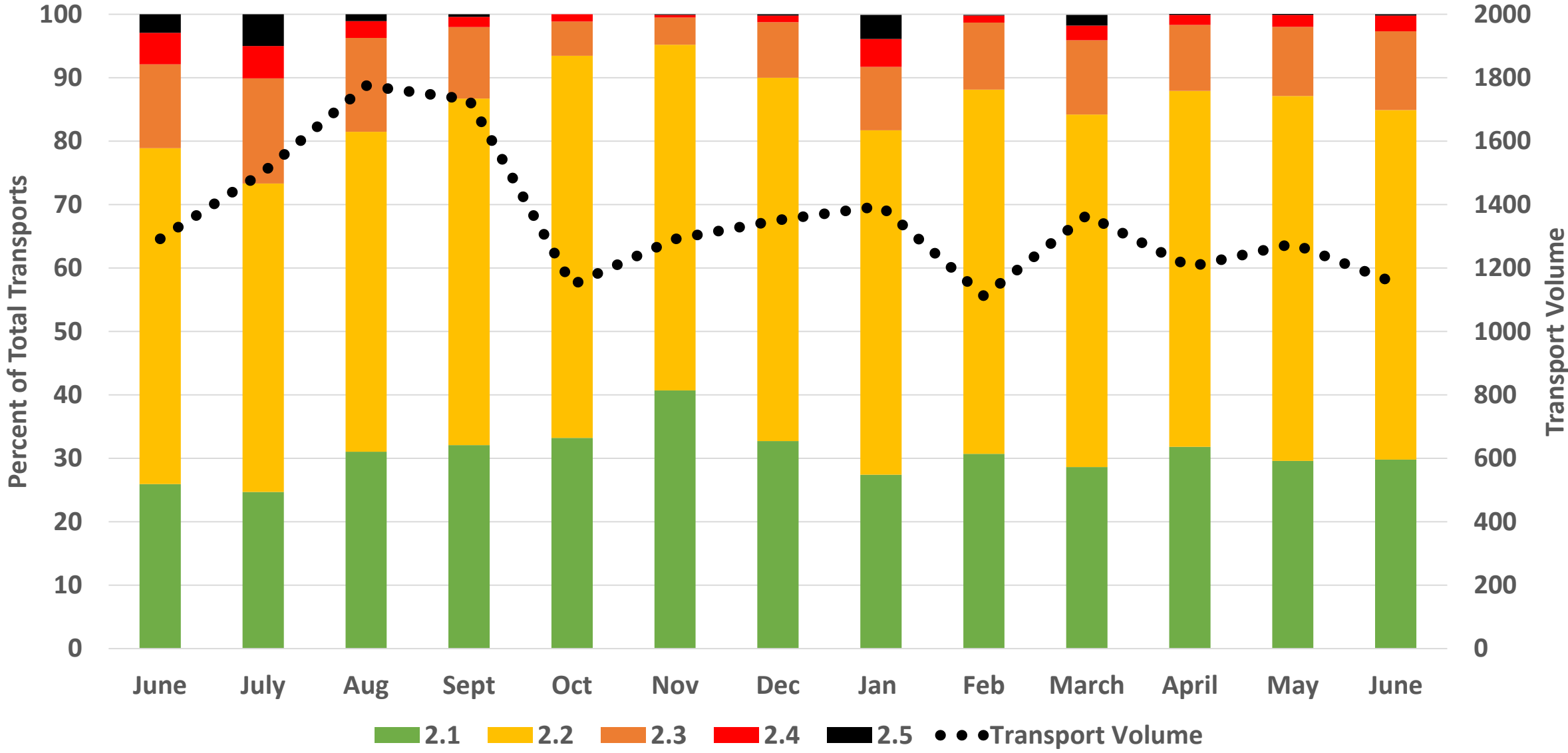
Hospital	2.1 (N, %) (≤20 min)	2.2 (N, %) (21-60 min)	2.3 (N, %) (61-120 min)	2.4 (N, %) (121-180 min)	2.5 (N, %) (>180 min)	Total Number of Transports
Bakersfield Heart	97 (44.1)	103 (46.8)	16 (7.3)	3 (1.4)	1 (0.5)	220
Bakersfield Memorial	343 (29.8)	635 (55.1)	143 (12.4)	29 (2.5)	2 (0.2)	1152
Kern Medical	331 (43.3)	413 (54.1)	18 (2.4)	0(0)	1 (0.1)	764
Adventist Health	583 (41.3)	732 (51.8)	85 (6.0)	13 (0.9)	0 (0)	1413
Mercy Southwest	266 (56.4)	193 (40.9)	12 (2.5)	1 (0.2)	0 (0)	472
Mercy	224 (50.9)	211 (48.0)	5 (1.1)	0 (0)	0 (0)	445
KVHD	45 (62.3)	24 (34.3)	1 (1.4)	0 (0)	0 (0)	70
Tehachapi	73 (33.4)	37 (33.6)	0 (0)	0 (0)	0 (0)	110
Delano	24 (55.8)	19 (44.2)	0 (0)	0 (0)	0 (0)	43
Ridgecrest	74 (89.2)	9 (10.8)	0 (0)	0 (0)	0 (0)	83

# Adventist: June 2017-June 2018

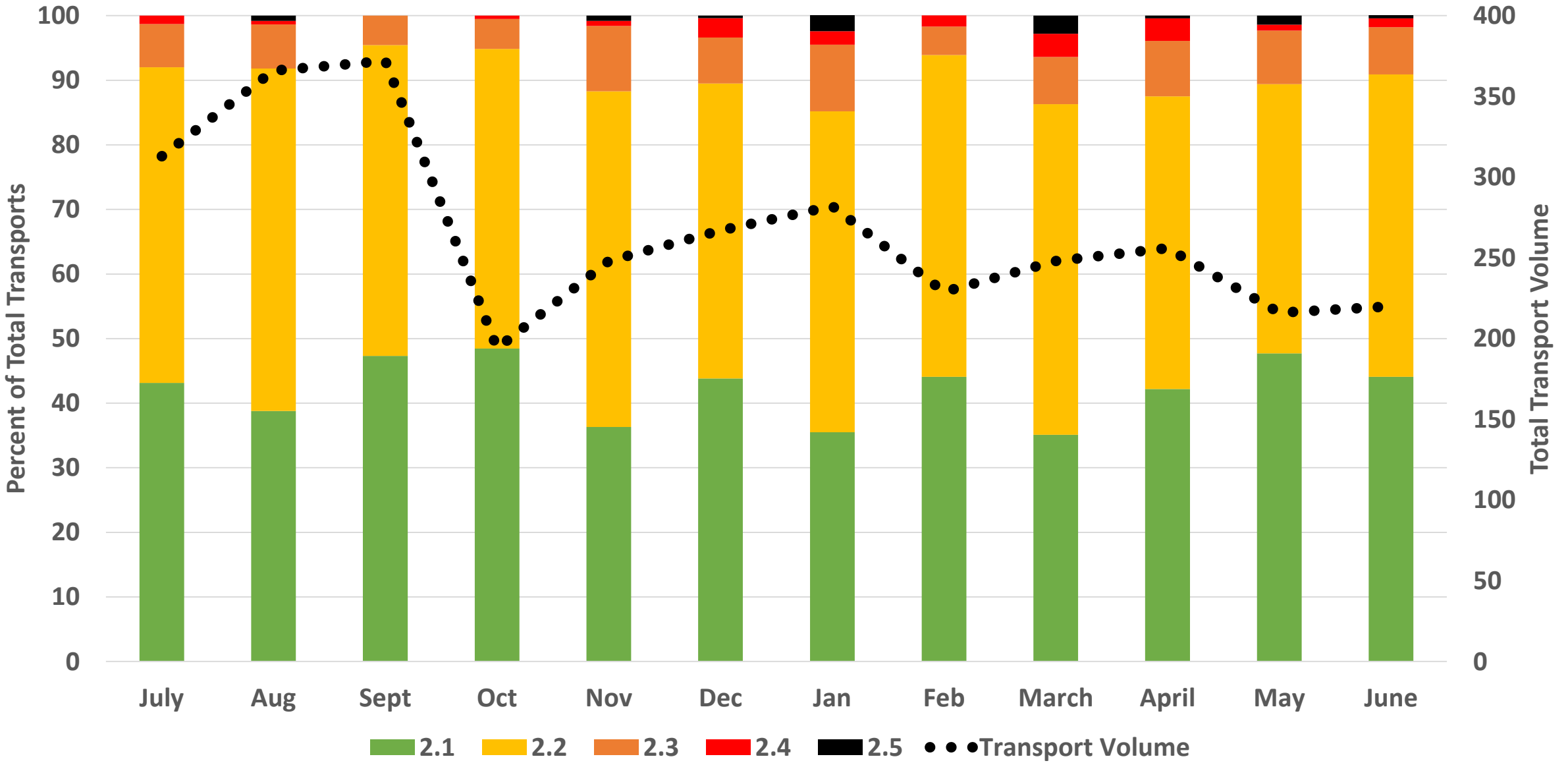




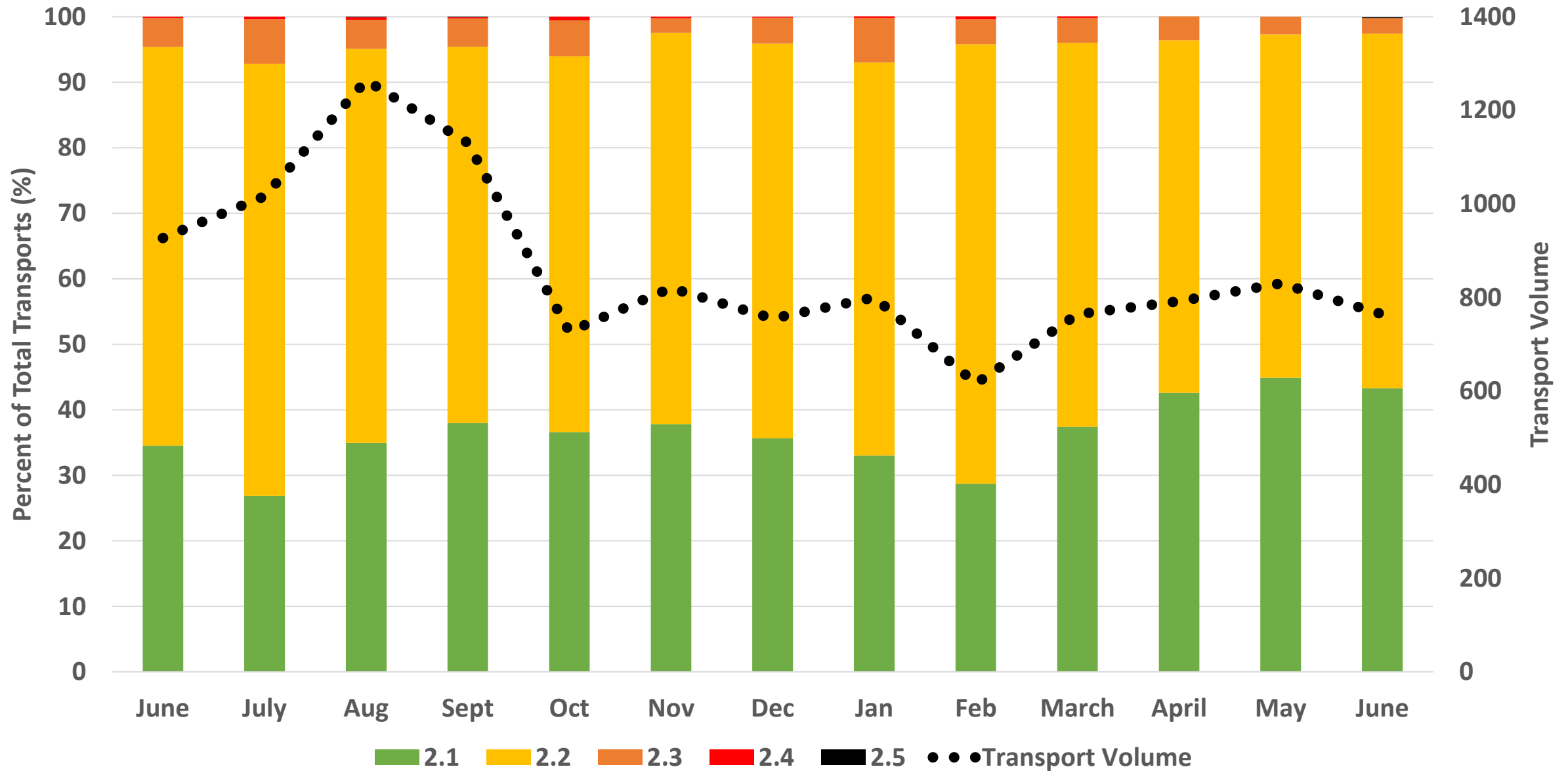
# Bakersfield Memorial: June 2017-June 2018



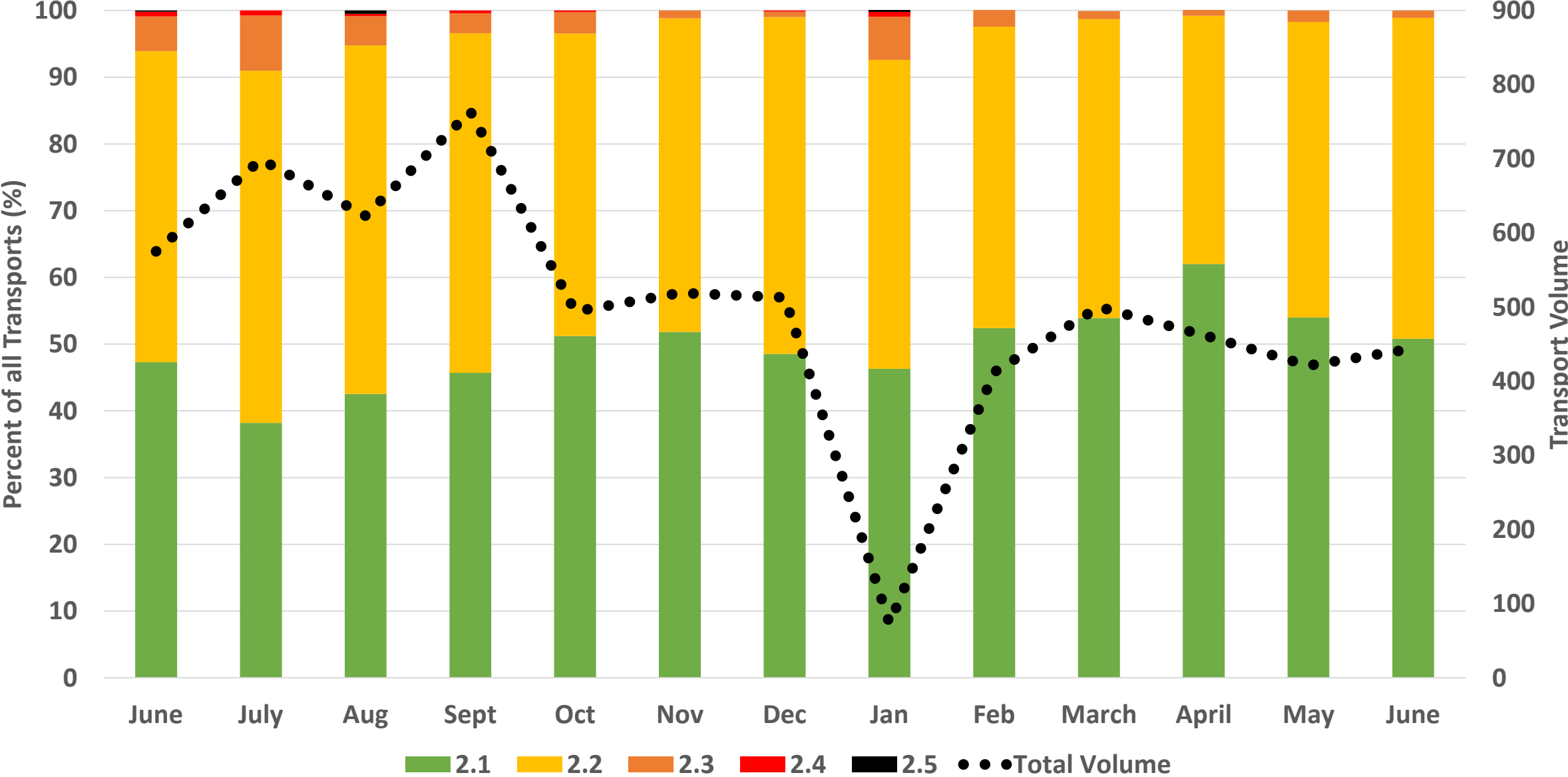
# Bakersfield Heart Hospital: June 2017-June 2018



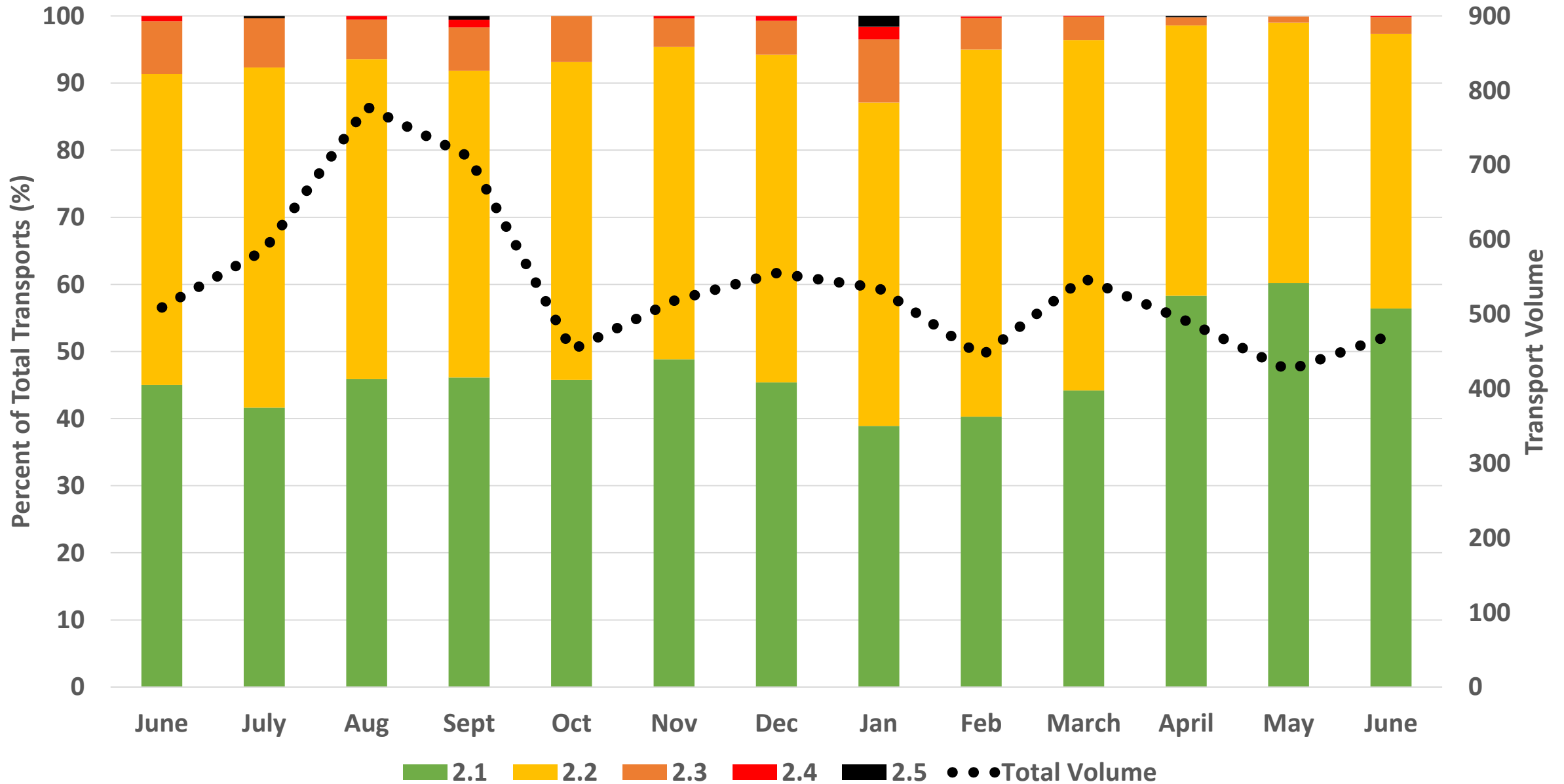
# Kern Medical: June 2017-June 2018



# Mercy: June 2017-June 2018

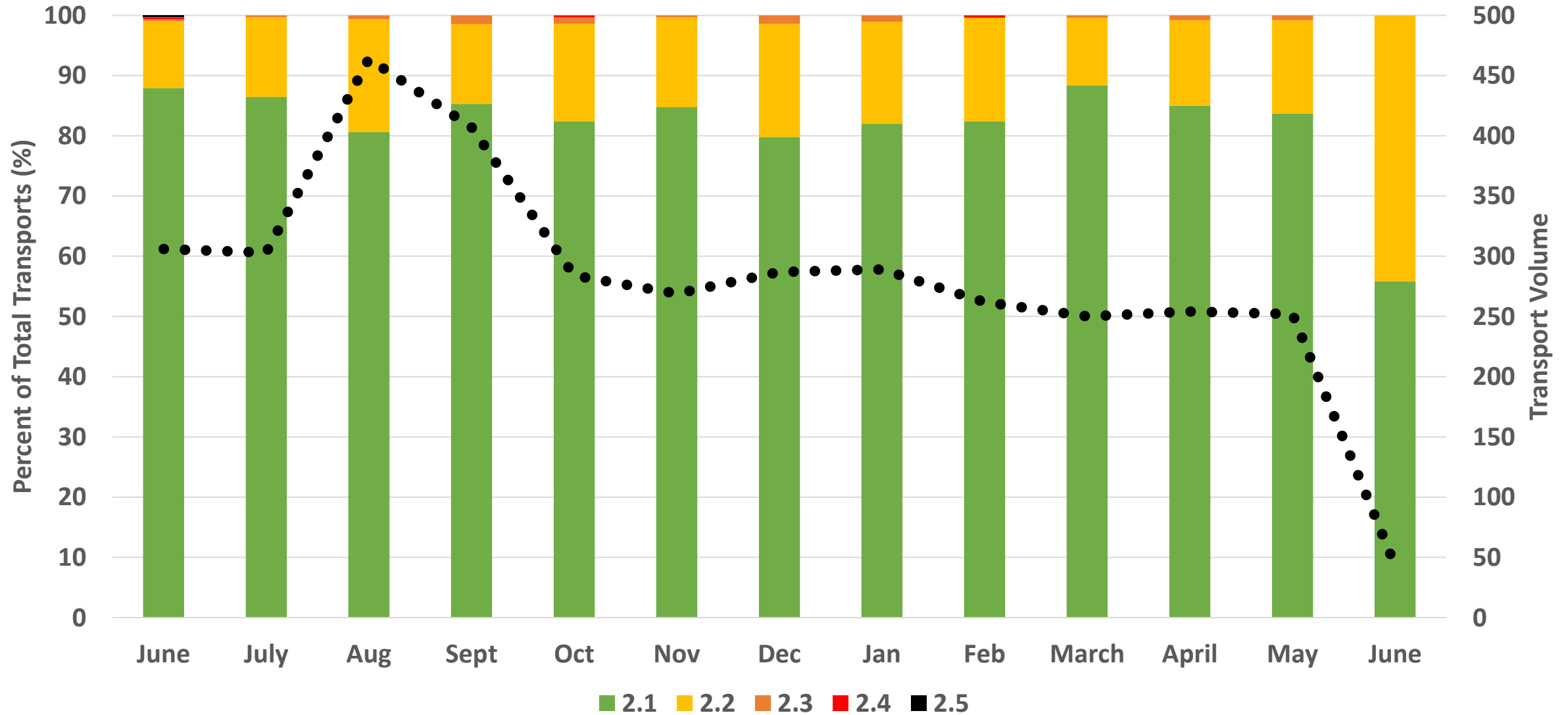


# Mercy SW: June 2017-May 2018

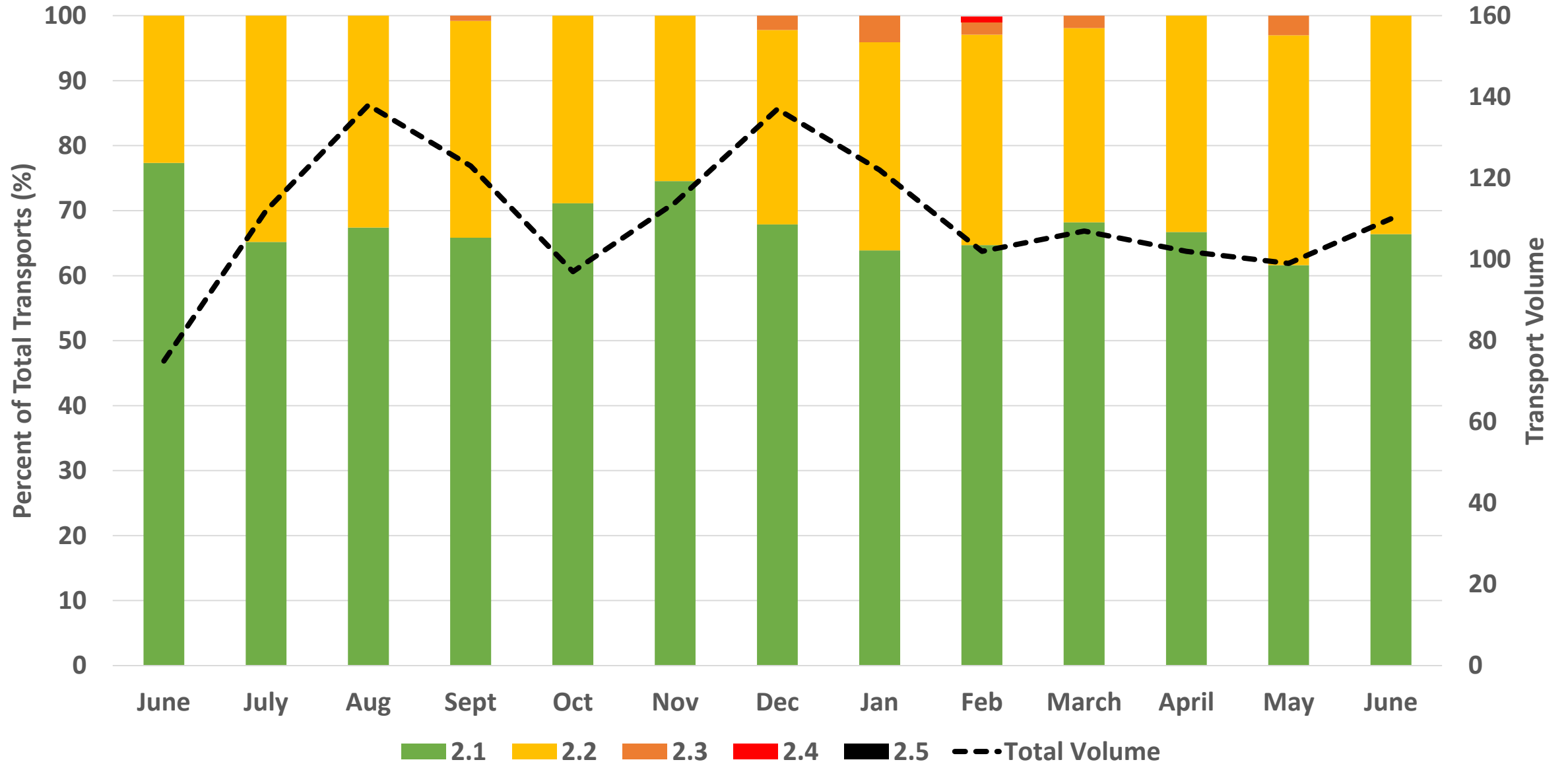


# Delano: June 2017- June 2018

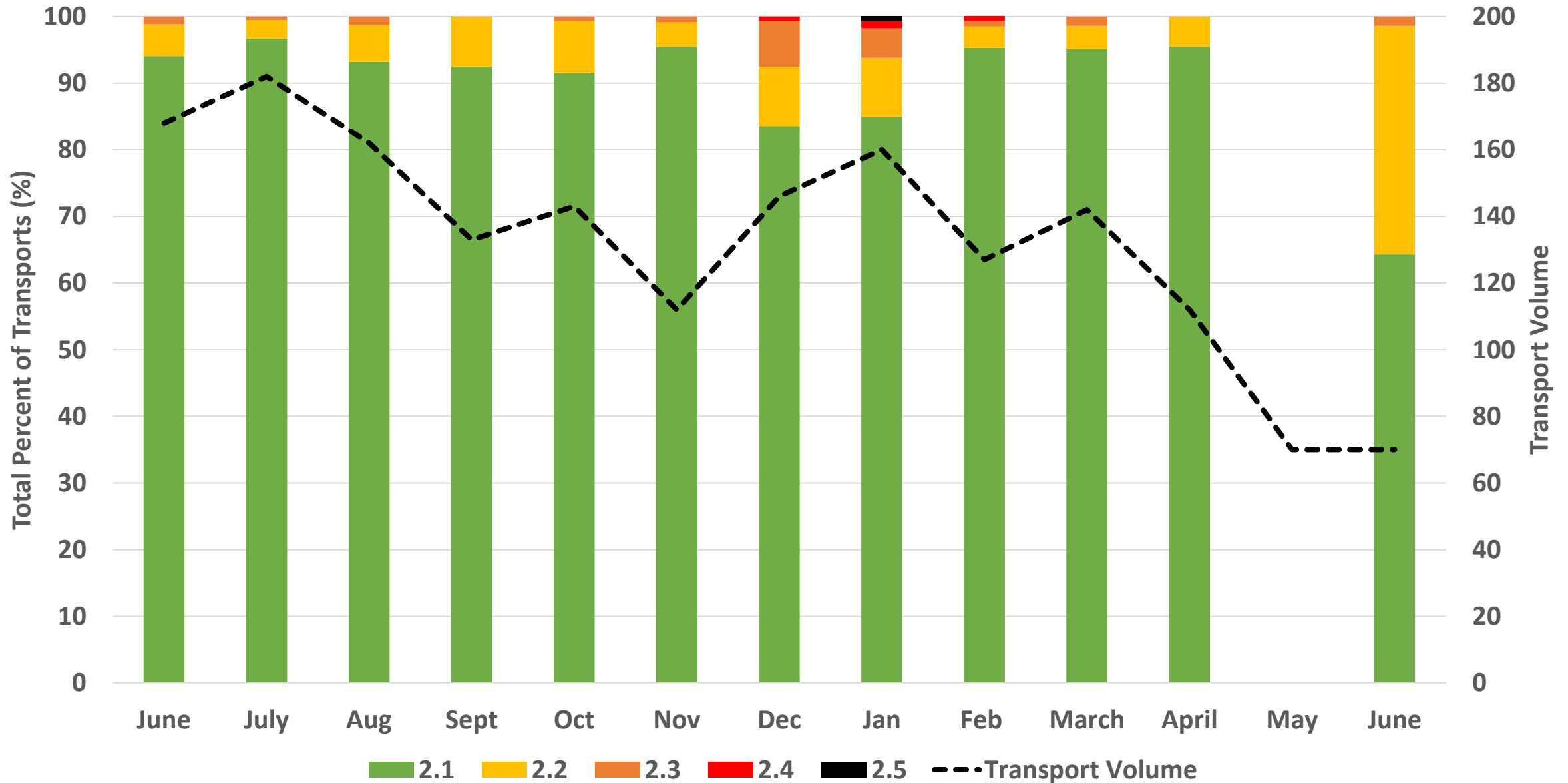
Delano APOT-2: June - December 2017



# Tehachapi: June 2017-June 2018

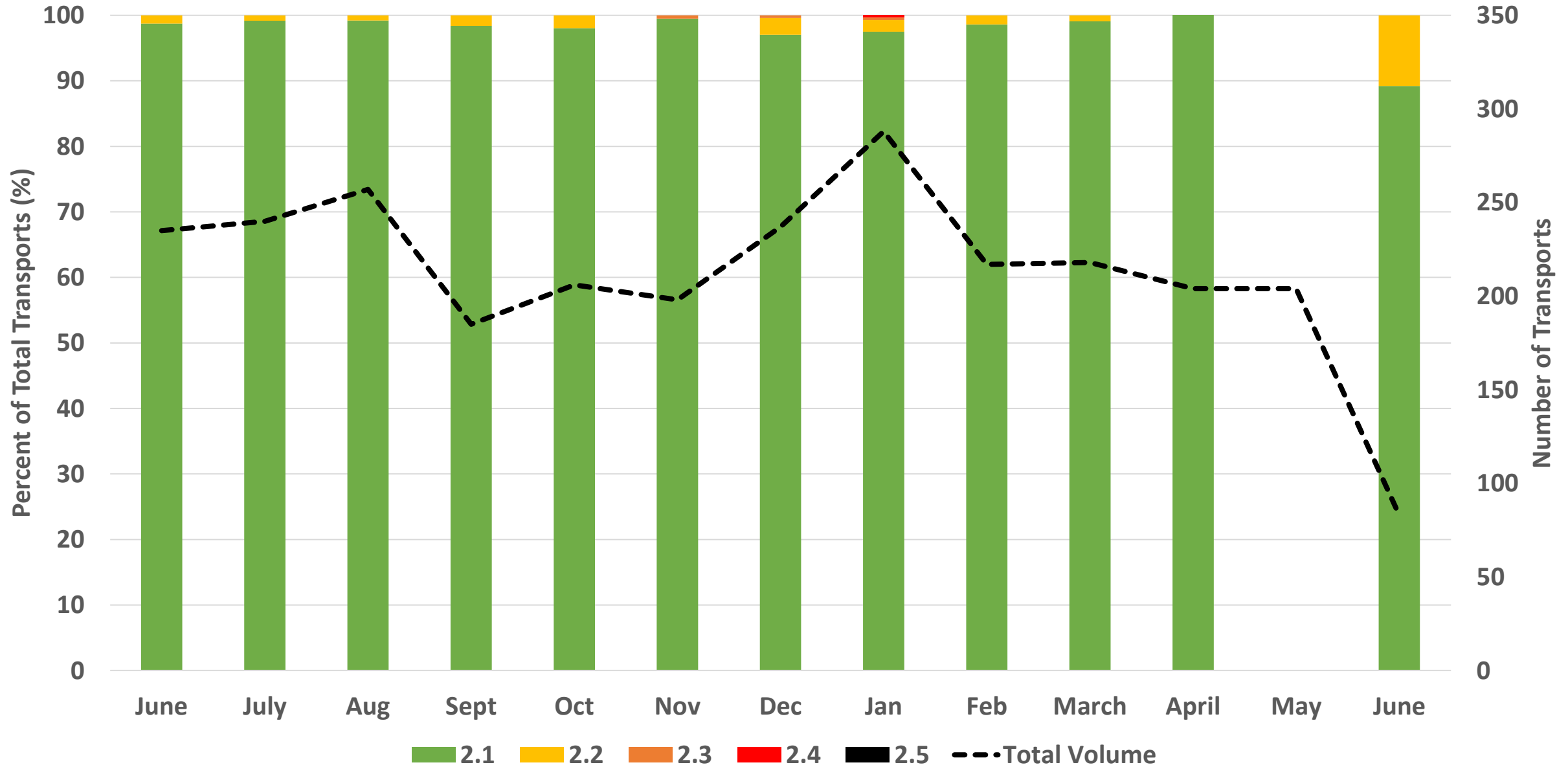


# KVHD: June 2017-June2018





# Ridgecrest: June 2017-June 2018



# APOT and Patient Outcomes

Review of an Australian Study on patient outcomes and ambulance offload delays in emergency departments

# Background

- Ambulance offload delay is an emerging issue world-wide that is affecting care quality, patient safety, and resource availability for both EDs and ambulance providers
- In the US, the national wait time doubled from 20 minutes to 45 minutes from 2006-2014
- Patient-level consequences have not been well studied, but it is hypothesized that offload delays could lead to delays in definitive care, poor pain control, increased morbidity, and increased mortality
- Understanding when delays are most likely to occur may guide quality improvement efforts

# Australian Study

- Objective: to describe and compare characteristics and outcomes of patients who arrive by ambulance to ED
  - Compare patients with a delayed ambulance (<30) offload time with those who were not delayed

# Methods

- Retrospective study in 3 major public hospitals in Queensland, Australia
- Patients
  - Ambulance users from September 2007-2008
  - Linked data from 3 separate databases: ambulance, ED, and hospital discharge
- Compared outcomes for ambulance offload times designated “delayed” or “non-delayed”
  - Delayed: >30 min

# Results: Patient Demographics

- Total Patient Population: 40,783
  - 6,122 (15%) experienced offload delay
- Patients who experienced offload delays compared to those who did not experience delays were:
  - Older
  - Transported during evening shift (between 15 and 22.59hr)
  - Transported on a Friday
  - Transported during winter months

# Results: Patient Demographics (Hospital B)

Characteristic	Non-delayed n=12711 (74.1%)	Delayed n=4444 (25.9%)	P-value (non- delayed vs delayed)
Median Age	42 (22-64)	52 (32-72)	<0.001
Shift Presentation			<0.001
	Morning 38.7%	43.1%	
	Evening 36.9%	46.1%	
	Night 24.4%	10.8%	
Weekday/Weekend			<0.001
	Weekday 69.2%	77.1%	
	Weekend 30.8%	22.9%	
Season			<0.001
	Summer 28.6%	23.4%	
	Autumn 23.2%	24.1%	
	Winter 21.2%	28.6%	
	Spring 27.0%	23.9%	

# Results: Patient Outcomes

- Overall, patients offloaded within 30 min had better outcomes for:
  - Time to triage
  - Ambulance time at ED
  - Time to see healthcare professional
  - Being seen within triage scale time frame
  - ED length of stay for both admitted and non-admitted patients
  - Admission rates (for 1 out of 3 hospitals)
  - Median hospital length of stay (for 1 out of 3 hospitals)
- No statistically significant differences for in-hospital mortality rates



# Results: Patient Outcomes (Hospital B)

Outcome	Non-delayed n=12711 (74.1%)	Delayed n=4444 (25.9%)	P-value (non- delayed vs delayed)
Seen within Triage Scale Time Frame (n, %)	4758 (39.4%)	1034 (23.9%)	<0.001
Median ED LOS (min)	265	357	<0.001
Admitted (n, %)	4121 (32.4%)	1651 (37.2%)	<0.001
Median hospital LOS (days)	2	3	<0.001
In-hospital mortality, all admits (n, %)	144 (3.5%)	56 (3.4%)	0.848

# Conclusions

- Off load delays affect how quickly patients can access medical care
- Off load delays may also affect hospital functioning
  - Potential for more higher admission rates and longer hospital stays for those with longer delays
- Off load delays may not have an affect on mortality rates for all admissions

# Limitations

- Hospital system evaluated in study may not be generalizable to Kern County System
- Lack of comparisons within specific patient groups/diagnostic or triage categories

# Kern County System

January – June 2018

## Queensland System

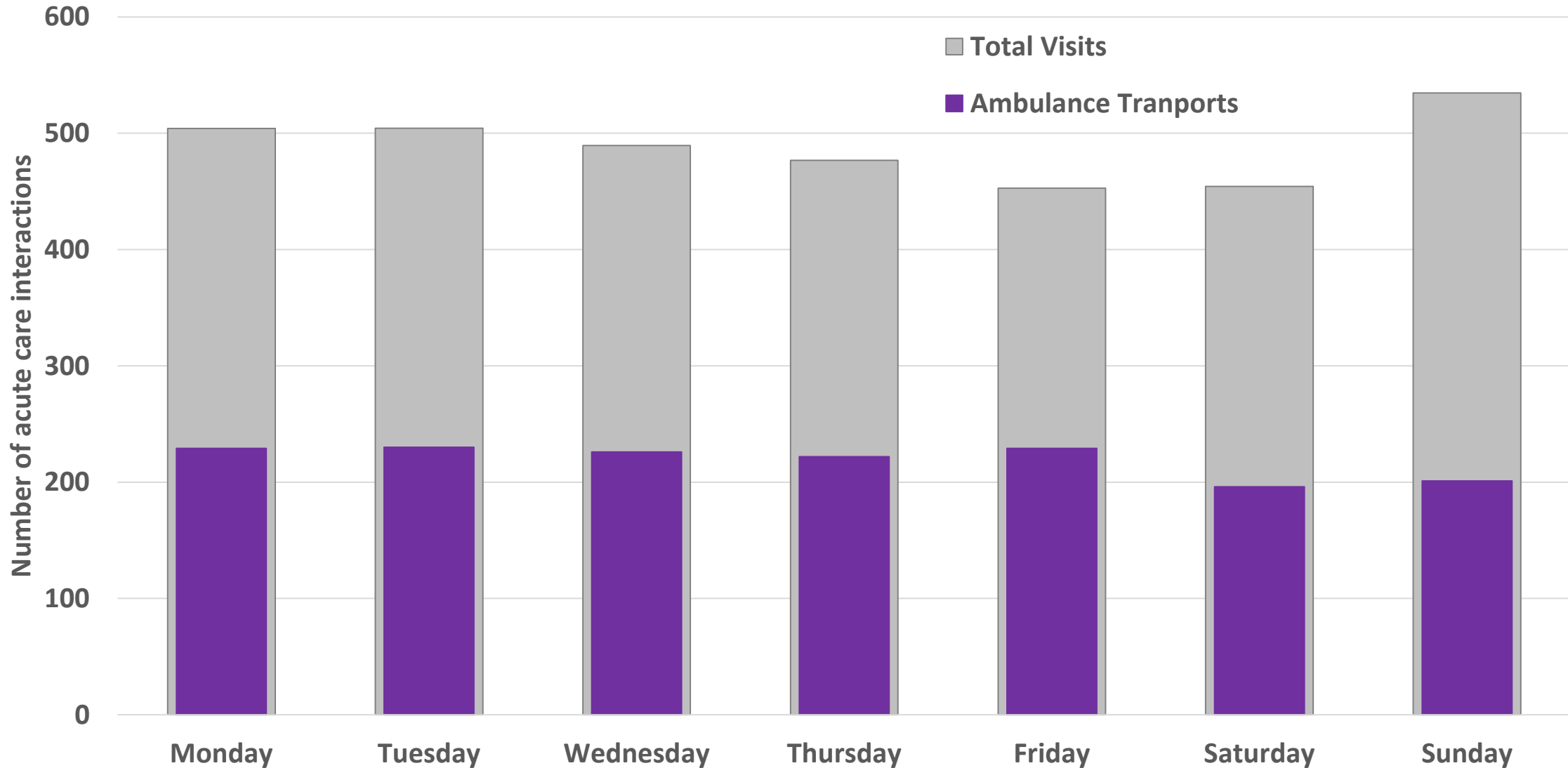
- Overall, **6,122 (15%)** transports experienced delays
- Median age of delayed vs. non-delayed: **52 vs. 42**
- Experienced highest percent of delays on **weekdays**

**VS**

## Kern County System

- Overall, **12,199 (30.8%)** transports experienced delays
- Median age of delayed vs. non-delayed: **58 vs. 53**
- Experienced highest percent of delays on **weekdays**

The **largest proportion** of acute care visits arrive via ambulance during the **weekdays**.



Despite **Sunday** being the **busiest** day for acute care visits, most **offload delays** occur **Wednesday-Friday**

