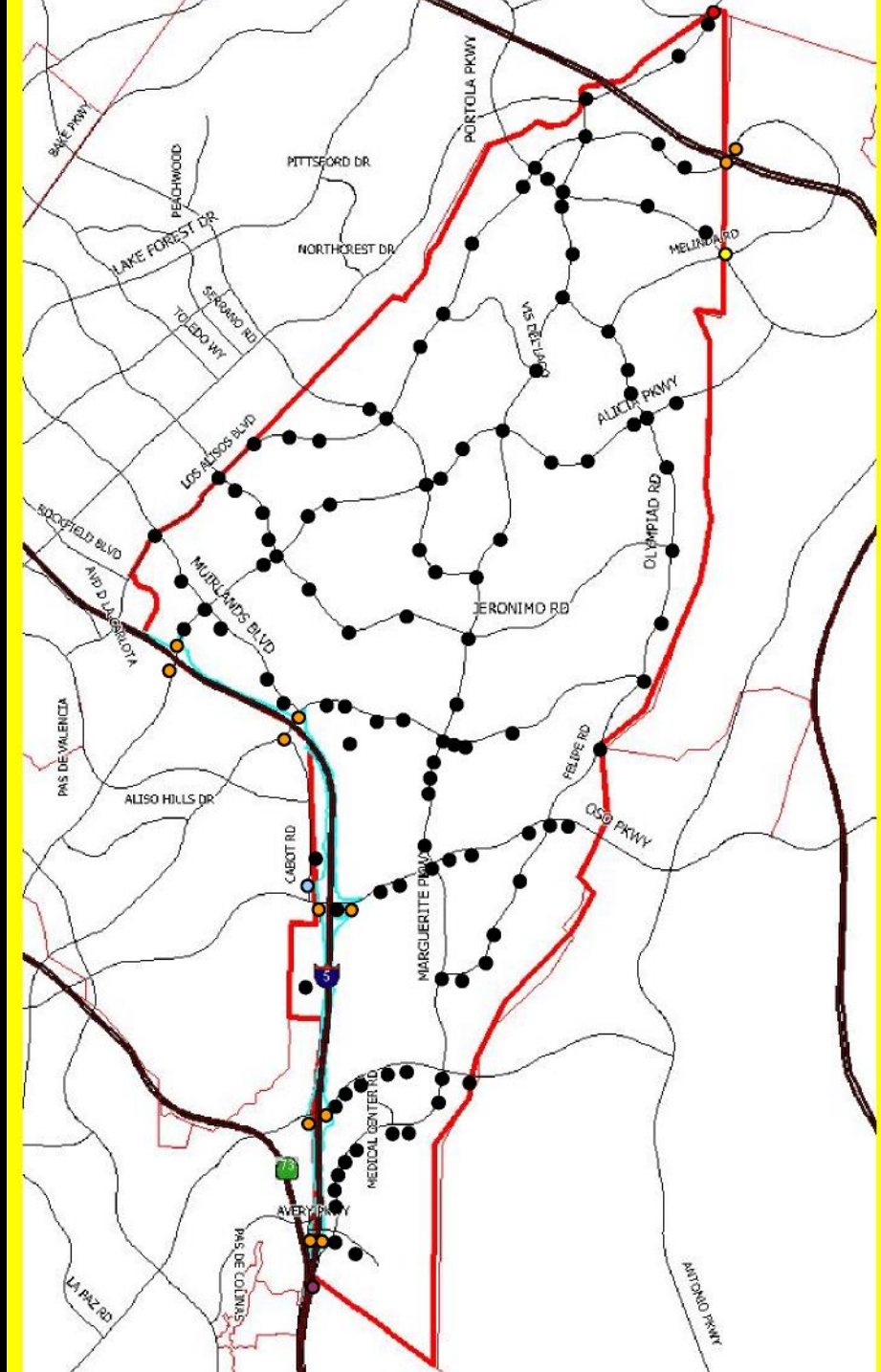
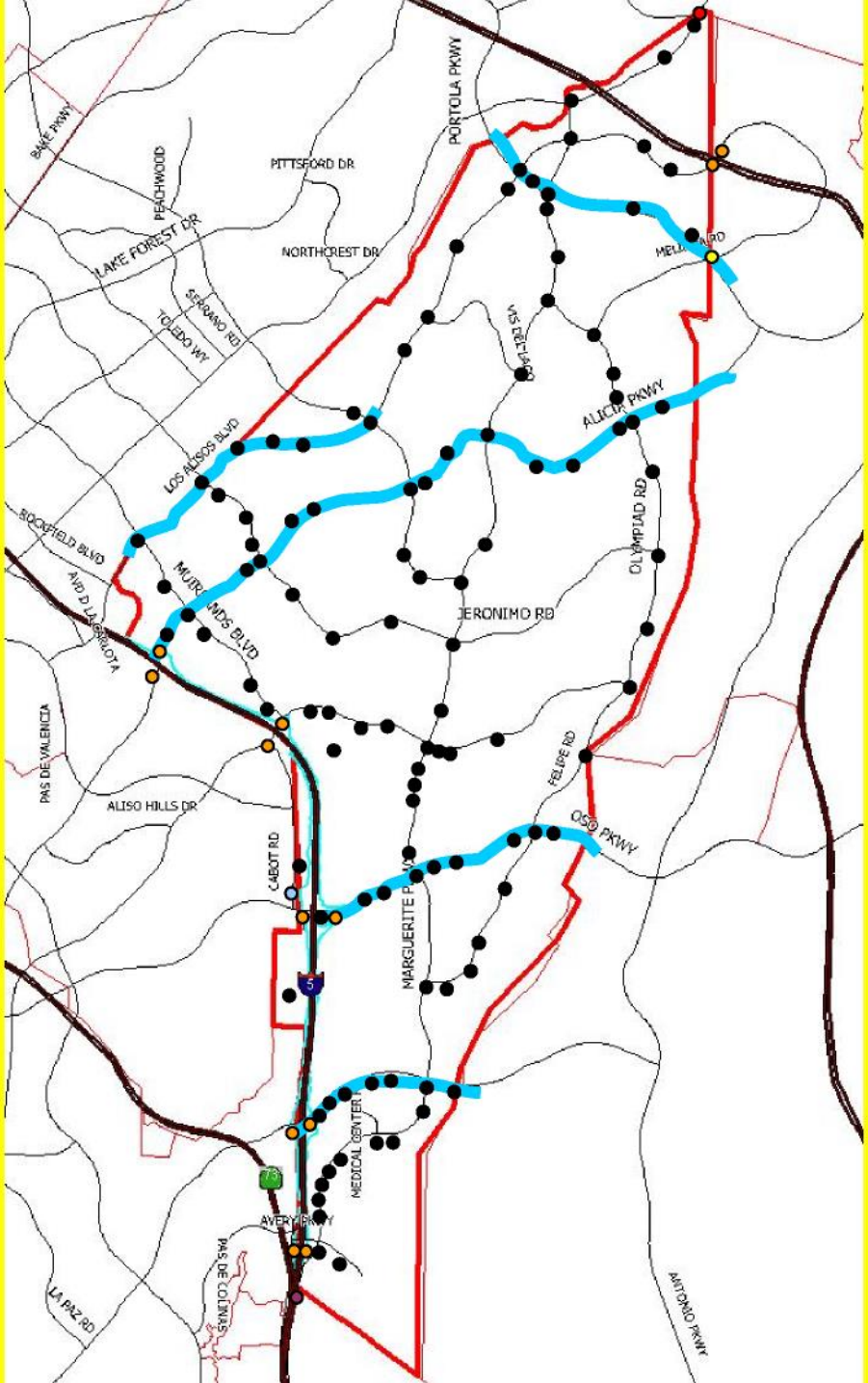
CITY OF MISSION VIEJO TRAFFIC SIGNALS AND COORDINATION



43 Miles of Arterial Streets

The majority of our traffic signals are located along these higher volume streets

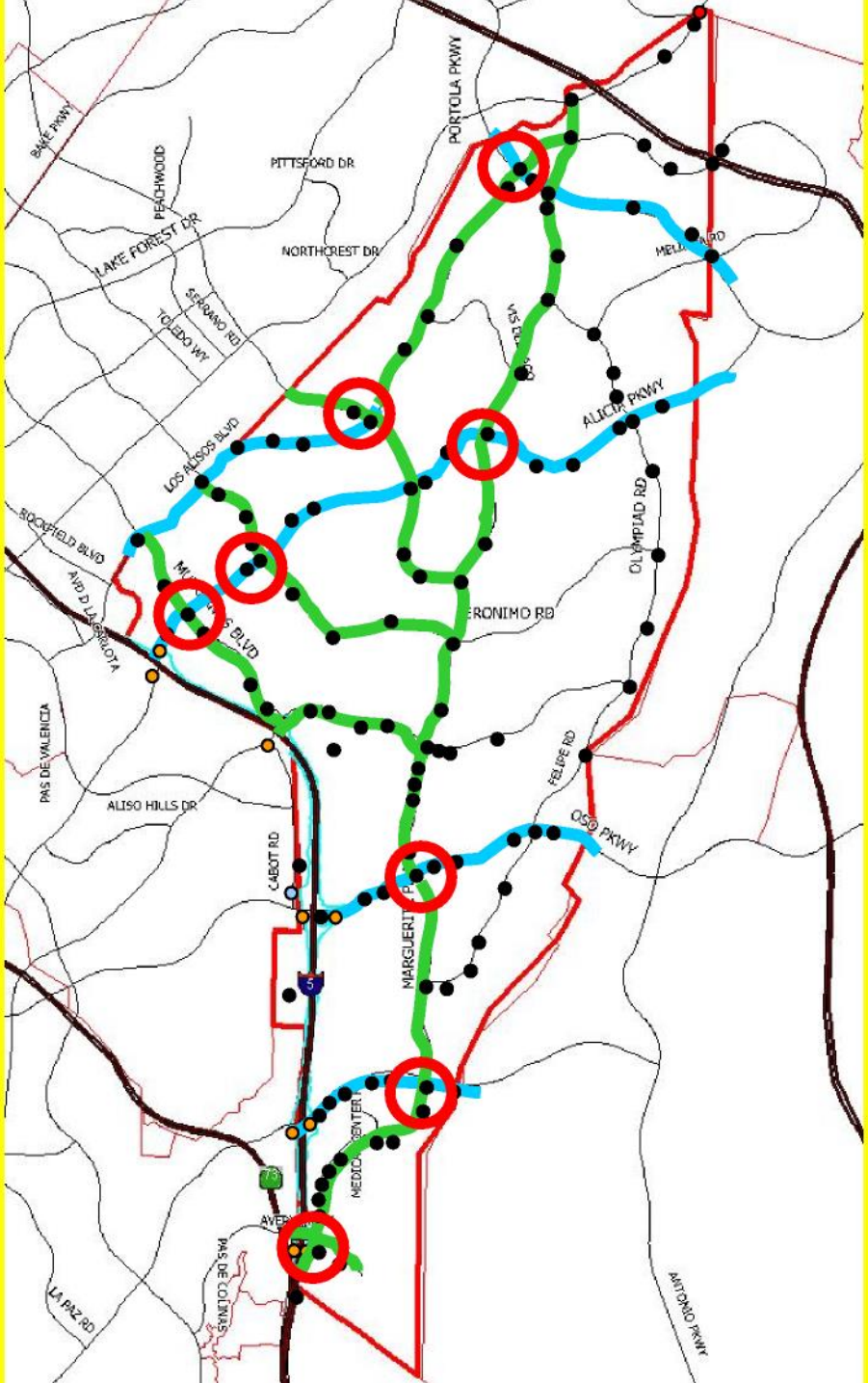


How much traffic are we managing?

Major Streets

6-lane facilities are designed to accommodate

45,000 Average Daily Traffic

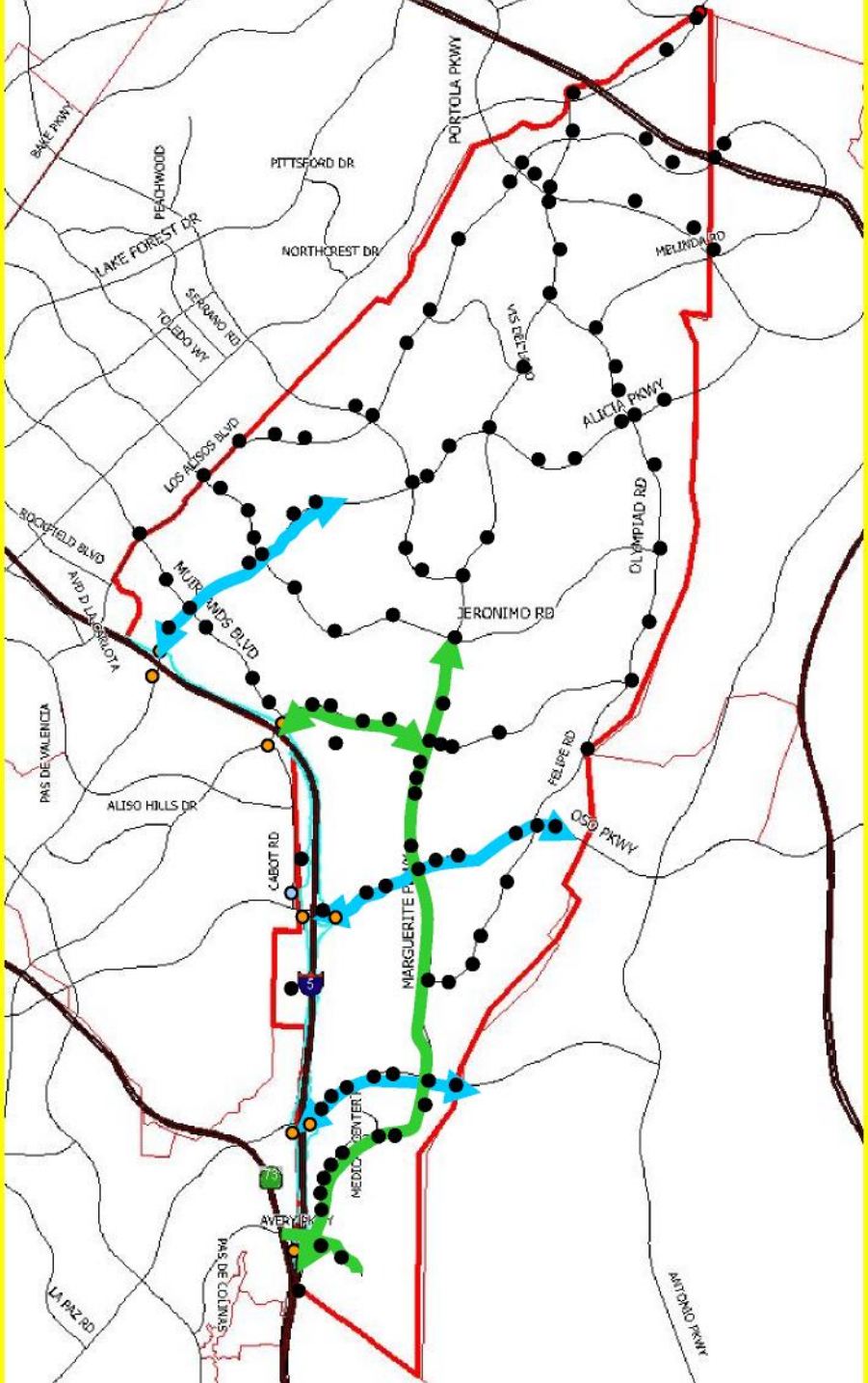


How much traffic are we managing?

Major Streets
6-lane facilities are designed to accommodate
45,000 Average Daily Traffic

Primary Streets
4-lane facilities are designed to accommodate
30,000 Average Daily Traffic

Critical Intersection at Two High-Volume Arterials



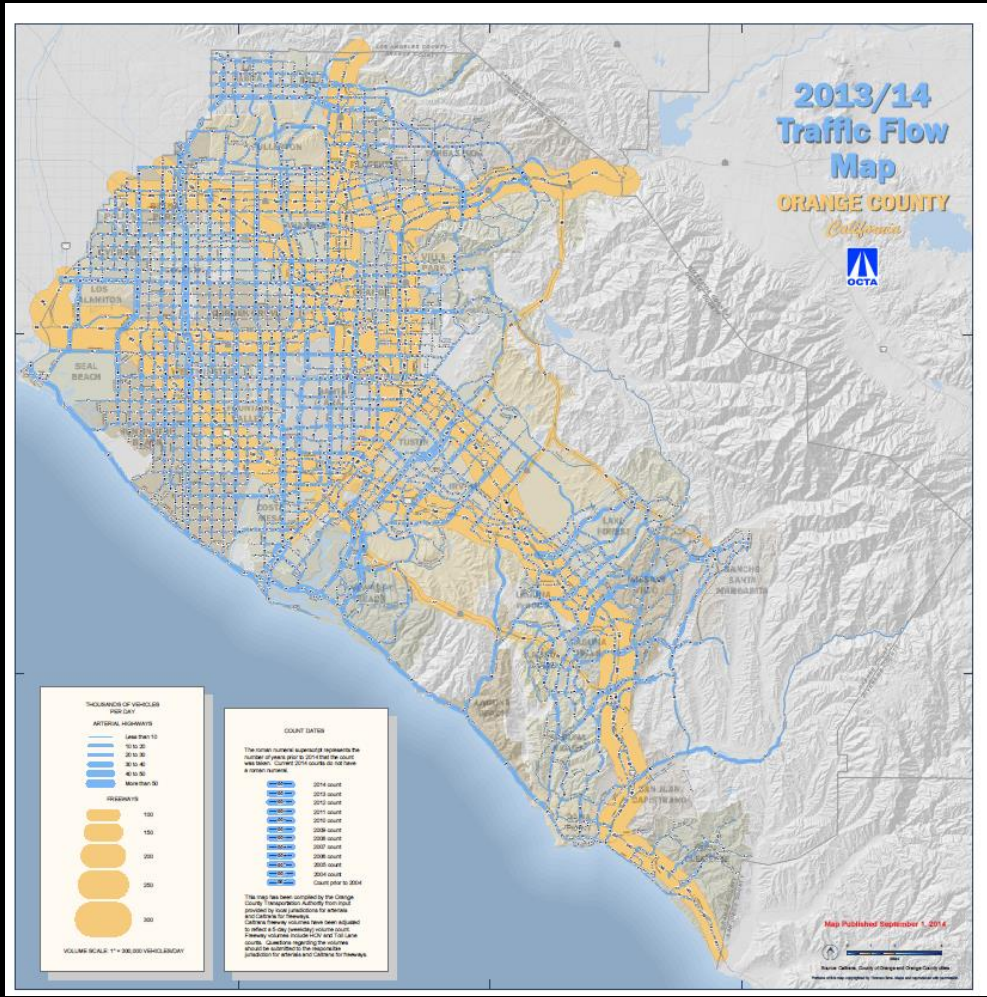
Traffic volumes on many of our streets are <u>at</u> the expected maximum, and some segments exceed their designed capacity by 20% to 50%

<u>Major Streets</u>
45,000 Average Daily Traffic

Alicia Pkwy	28,000 - 61,000 ADT
Oso Pkwy	37,000 - 57,000 ADT
Crown Valley Pkwy	38,000 - 56,000 ADT

<u>Primary Streets</u>
30,000 Average Daily Traffic

La Paz Rd	8,000 - 36,000 ADT
Marguerite Pkwy	12,000 - 30,000 ADT



Traffic volumes on many of our streets are <u>at</u> the expected maximum, and some segments exceed their designed capacity by 20% to 50%

<u>Major Streets</u>
45,000 Average Daily Traffic

Alicia Pkwy	28,000 - 61,000 ADT
Oso Pkwy	37,000 - 57,000 ADT
Crown Valley Pkwy	38,000 - 56,000 ADT

<u>Primary Streets</u>
30,000 Average Daily Traffic

Beach Blvd	26,000 – 83,000 ADT
Bake Pkwy	19,000 – 67,000 ADT
Jamboree Rd	21,000 – 94,000 ADT
El Toro Rd	9,000 – 54,000 ADT
La Paz Rd	8,000 - 36,000 ADT
Marguerite Pkwy	12,000 - 30,000 ADT

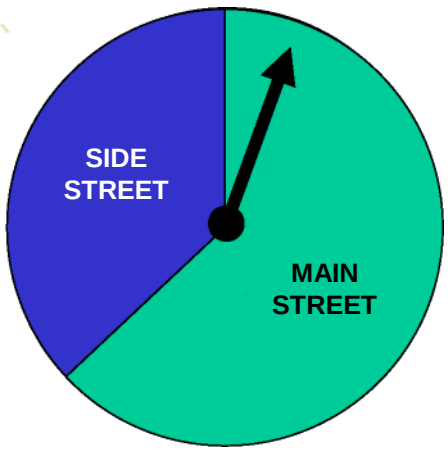
The City operates 114 traffic signals. They are all "actuated", which means they respond to the traffic demands.

Actuated signals adjust to the traffic demands measured by “loops” in the pavement

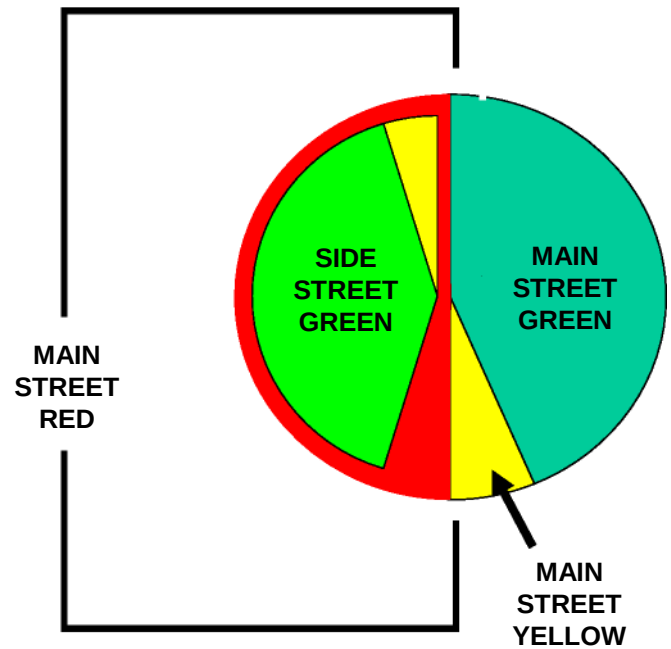
or other detection devices such as camera imaging.

The signal timing is adjusted based on this data measured at the intersection and on the approaches.

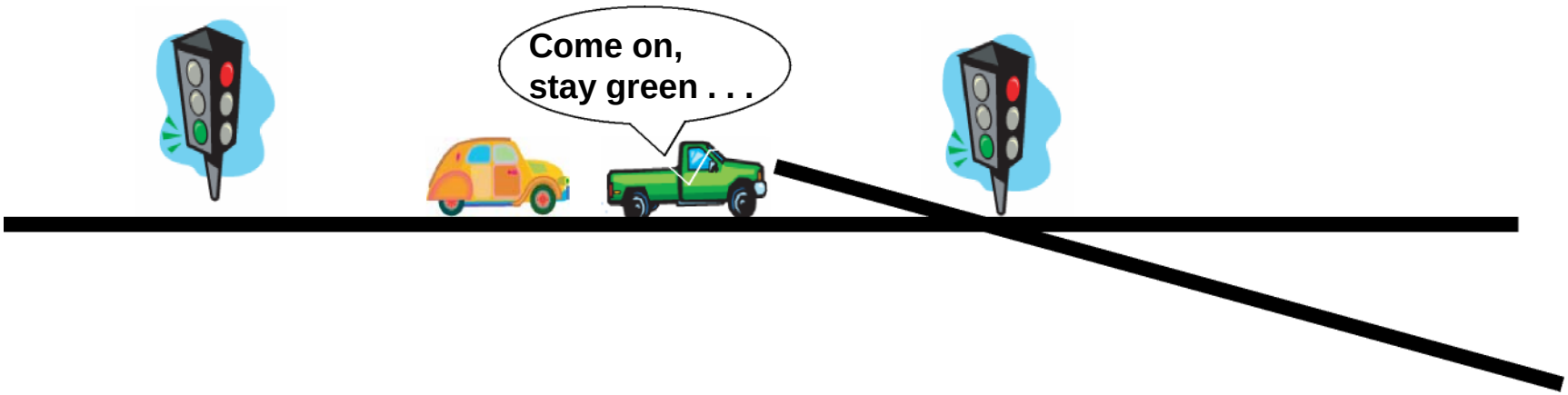
The traffic signal “cycle” length is the <u>maximum</u> timing at an intersection



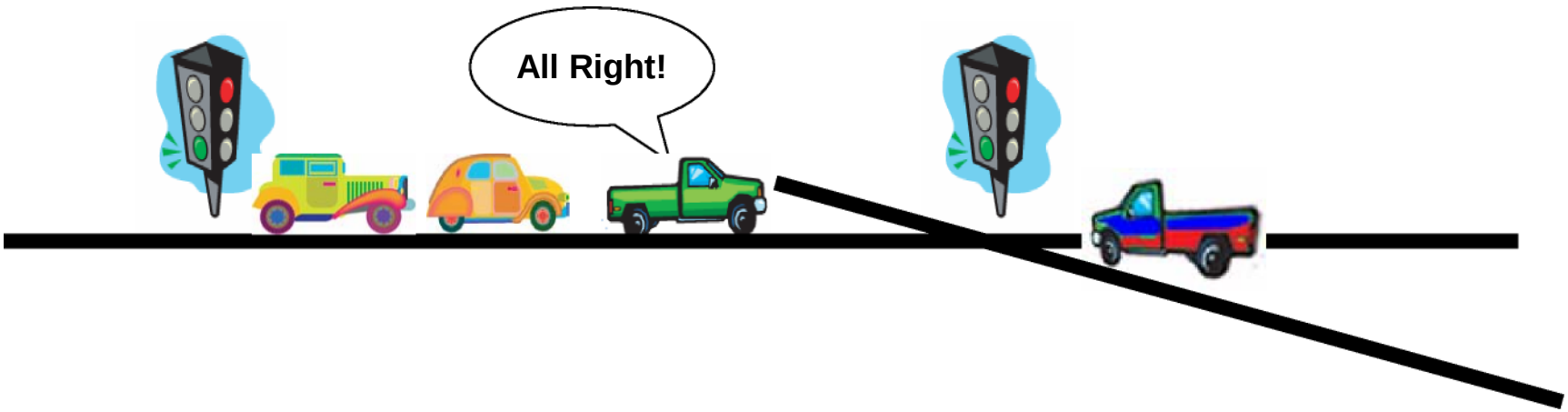
90 sec or 1.5 min
120 sec or 2.0 min
150 sec or 2.5 min



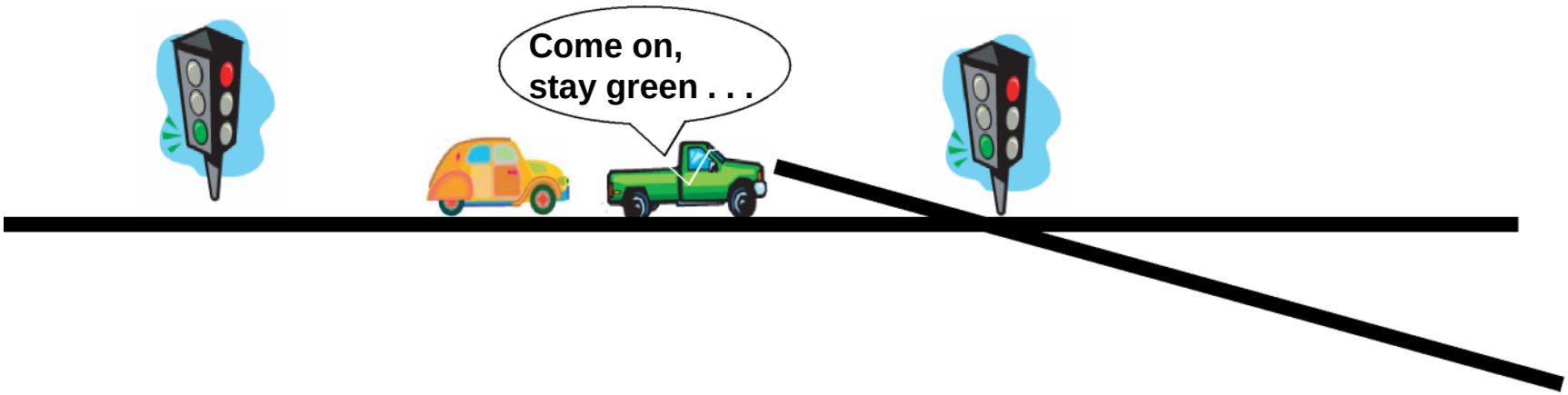
Normal “actuated” traffic signal operation will adjust to the traffic demands so . . .



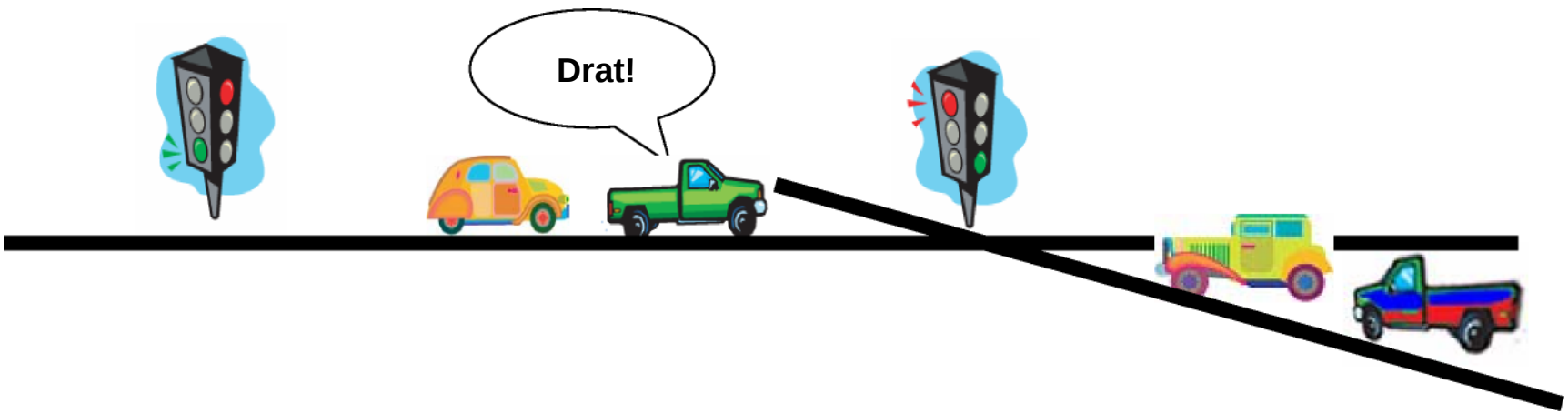
It could stay green if the “cycle” still has timing left on the main street and the side street demands were low in number or recent arrivals.



Normal “actuated” traffic signal operation will adjust to the traffic demands so . . .

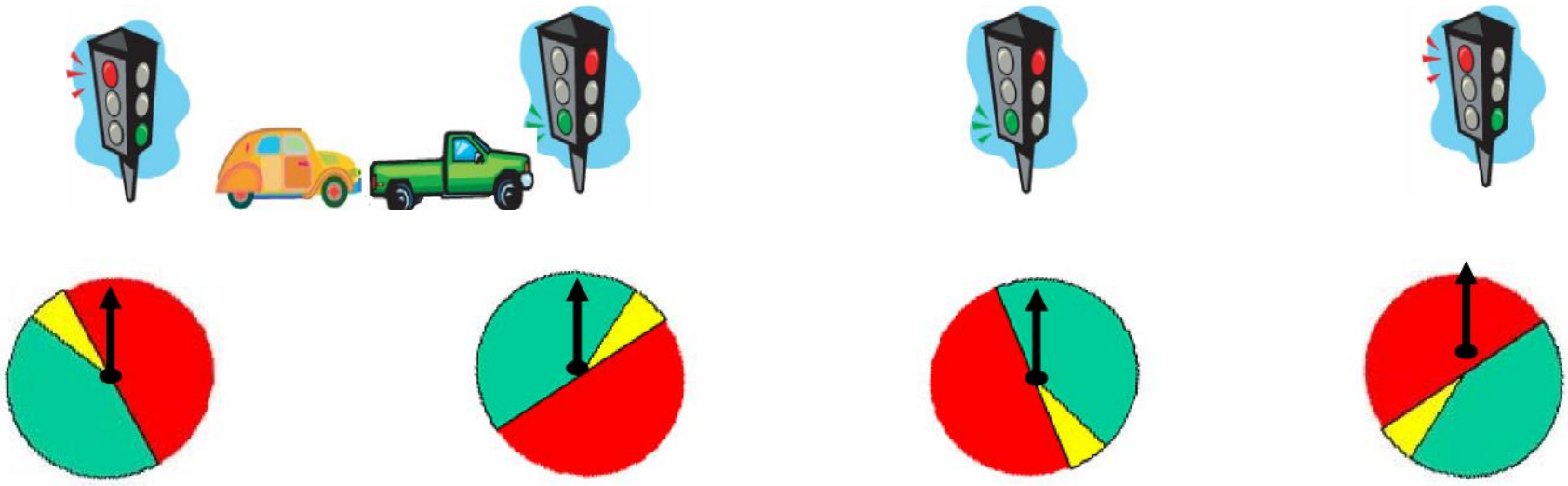


The light could change to red if the cycle length has finished on the main street and there are the side street or even left-turn demands.

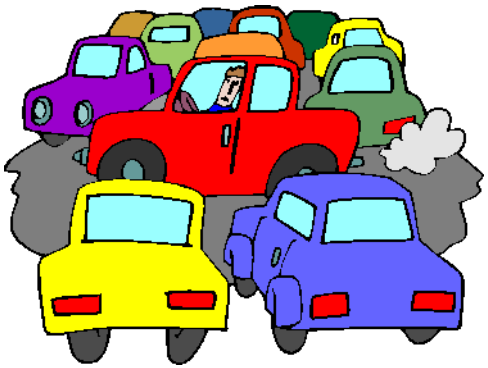


TRAFFIC SIGNAL COORDINATION

What is Traffic Signal Coordination?



“Synchronize” the timing of a series of adjacent signals to optimize the movement of traffic “platoons” or groups of vehicles.



SUBURBAN MYTHS

TRUE or FALSE?

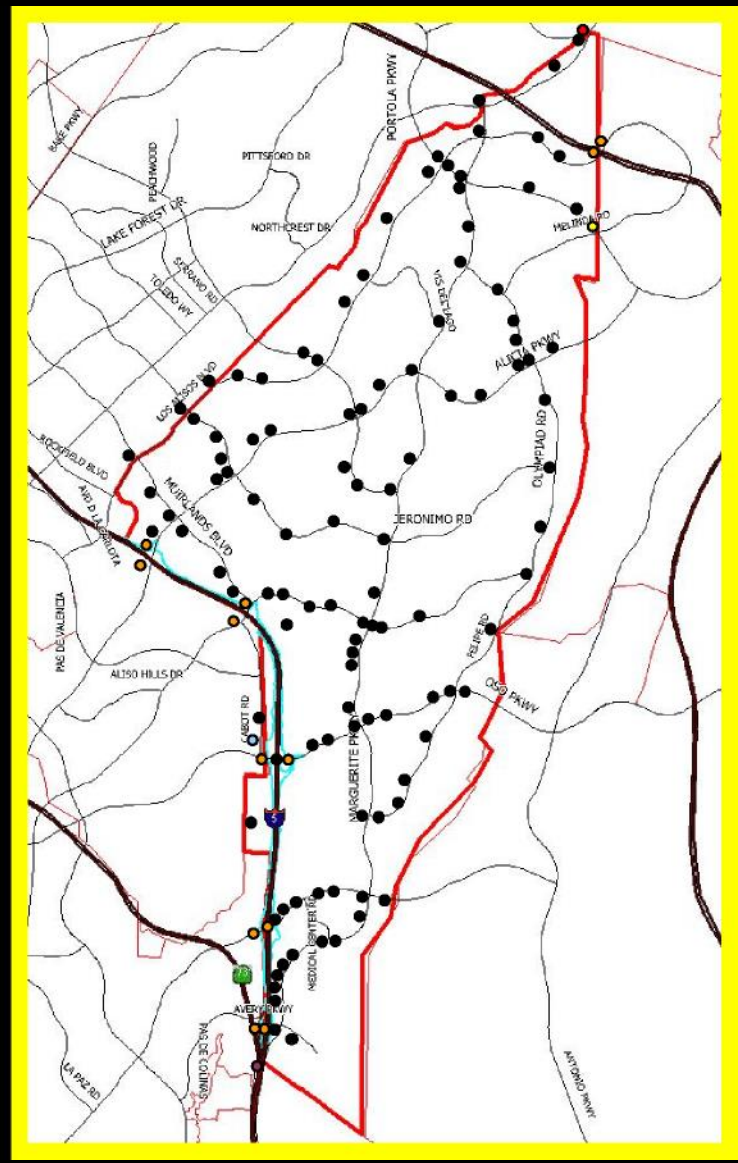
If the signals are coordinated, you drive the speed limit and you will get all green lights.

FALSE

It could be true if all of our streets were:

- **One-way street systems or two-way with few/no left turns**
- **Evenly spaced signals**
- **High through-traffic demand in one direction**
- **No heavy cross-traffic**
- **Narrow streets so pedestrians' walk time is equal to vehicular traffic.**

≠



SUBURBAN MYTHS

TRUE or FALSE?

If the signals are coordinated, it would eliminate congestion on our streets.

FALSE

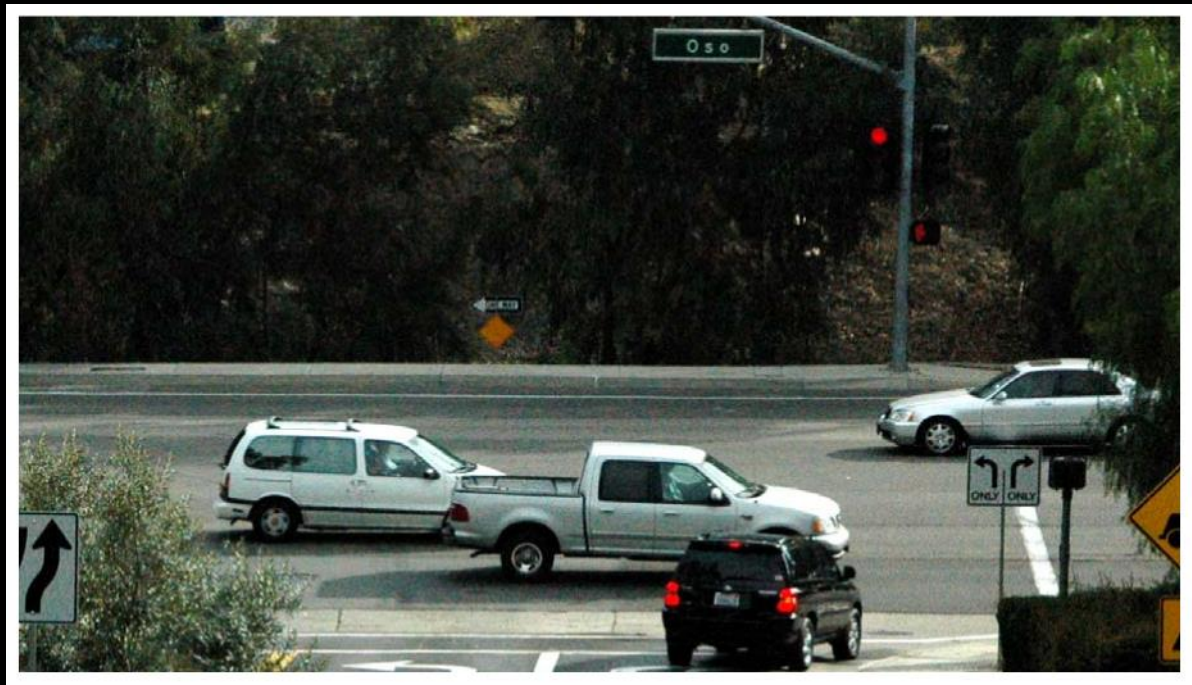
Traffic signal coordination does not eliminate congestion. It is a tool to better manage and help facilitate the traffic during these peak demands.

SUBURBAN MYTHS

TRUE or FALSE?

If the signals are coordinated, traffic signals will be more responsive to traffic demands.

FALSE



Traffic signal coordination is a group effort. The local signal is not permitted to be "responsive" to the demands at the individual intersection. The Central Traffic Signal Master timing will hold the heaviest or critical movements longer and make the other movements (such as left turns and side street traffic) wait.

SUBURBAN MYTHS

TRUE or FALSE?

The City of Mission Viejo coordinates traffic signals.

Traffic Signal Coordination in Mission Viejo is NOT A MYTH

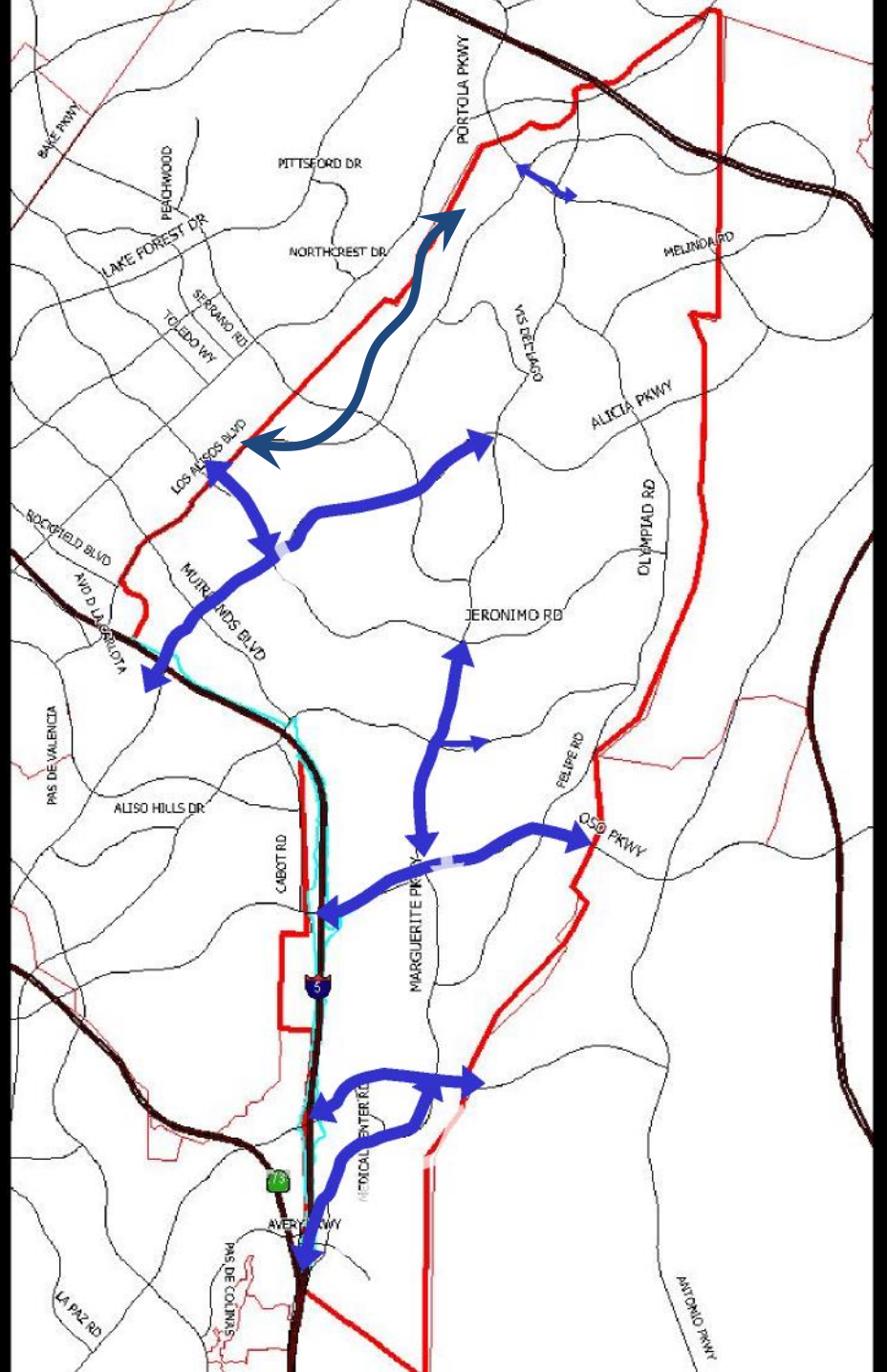
We coordinate segments of:

- Alicia Parkway
- Crown Valley Parkway
- Jeronimo Road
- Los Alisos Boulevard
- Marguerite Parkway
- Oso Parkway
- Santa Margarita Parkway
- Trabuco Road

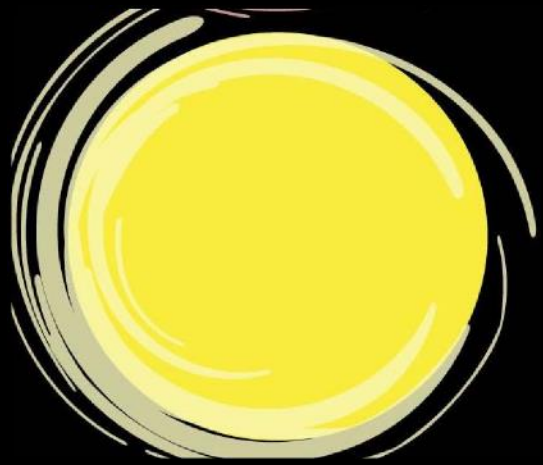
The timing is implemented

- Monday through Friday
- 6 am and 10 pm
- and certain periods on weekends

with adjustments for directional travel based on time of day

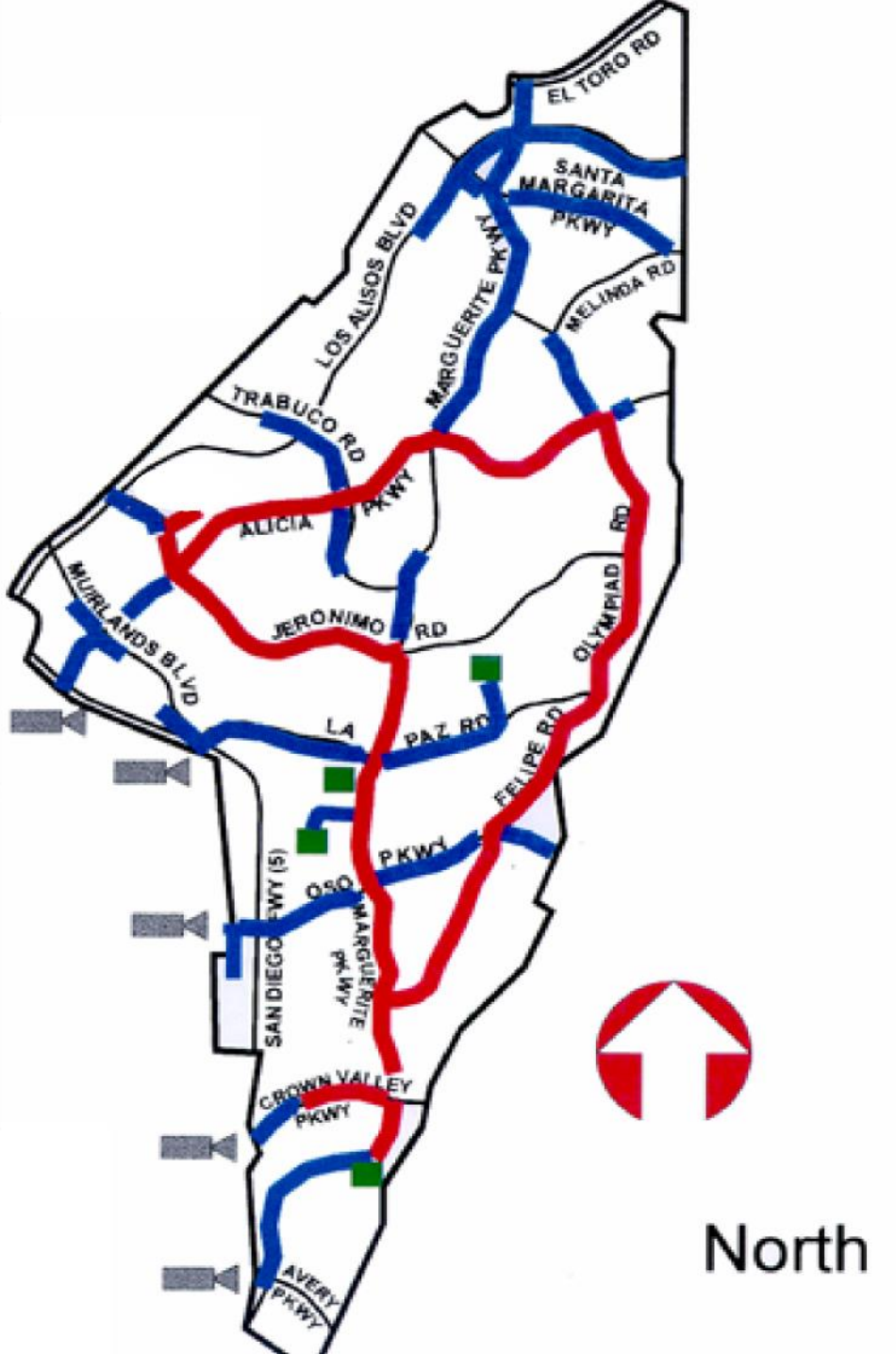


COORDINATION REQUIRES COMMUNICATION



We are able to reach all 114 traffic signals through a City-owned 33-mile network of traffic signal interconnect (wire and fiber).

It has been in operation since 1993-1996.

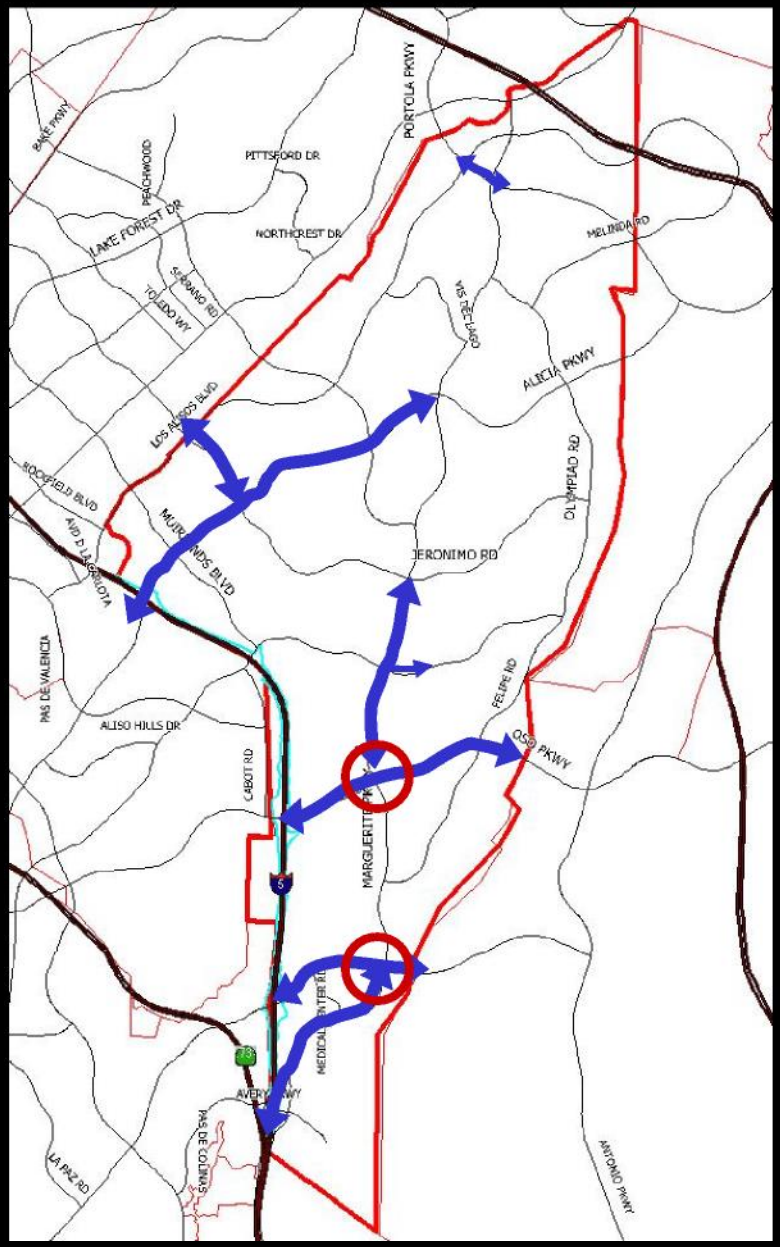


COORDINATION REQUIRES A TRAFFIC SIGNAL MASTER CONTROLLER

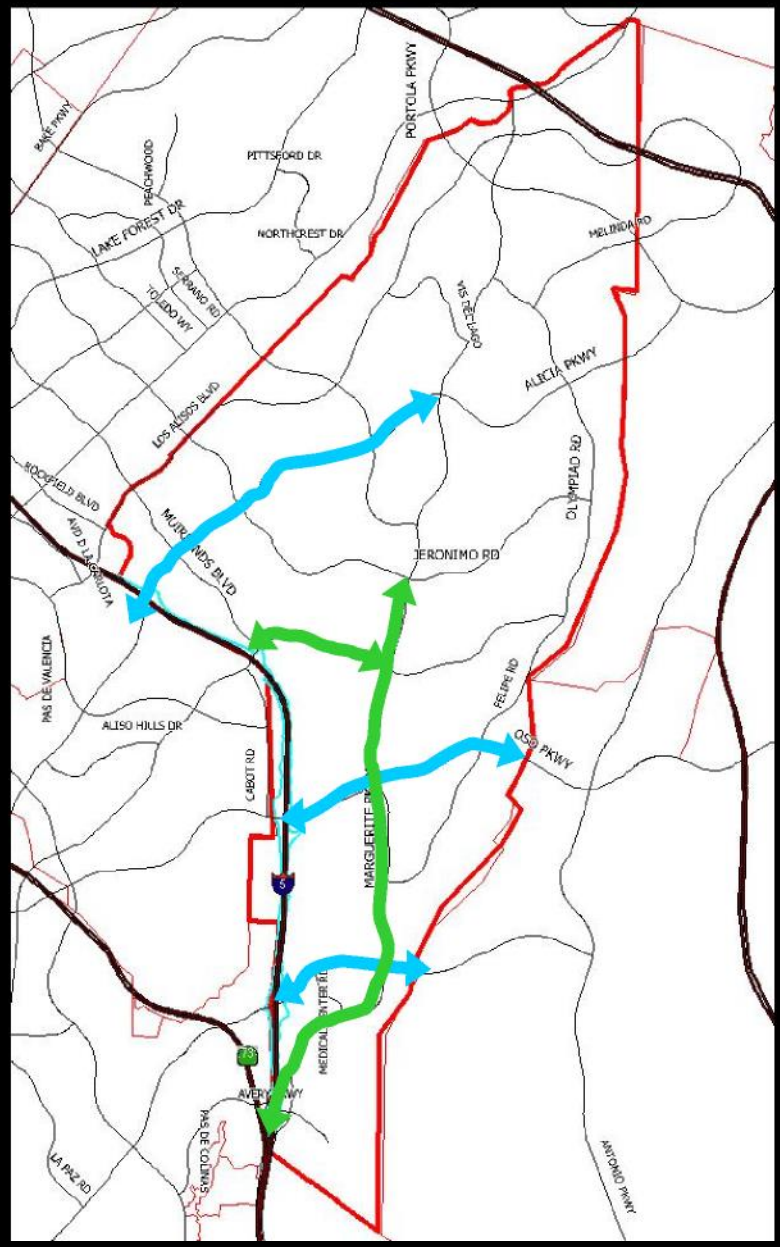
It is currently located in City Hall and has been in operation since 2009.

The Central Traffic Signal Master Controller uses the interconnect to communicate with the traffic signals so we can monitor their status and/or remotely control the signals.

Coordinated Streets



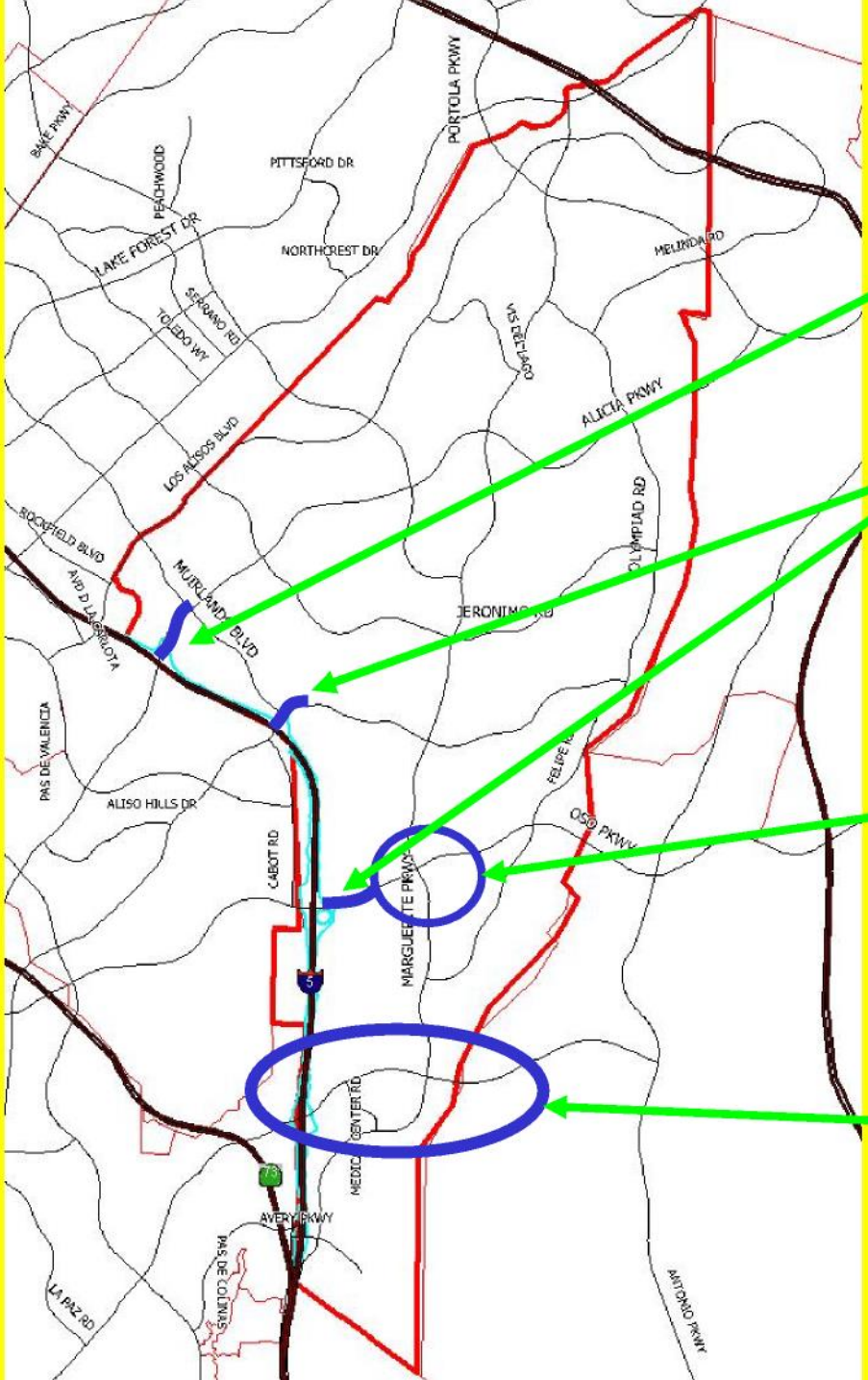
High-Volume Streets



So what's next to help accommodate our traffic and reduce congestion?

INTELLIGENT TRANSPORTATION SYSTEMS

Traffic signal coordination requires review, updates, and monitoring.



CAPACITY IMPROVEMENTS

Alicia Parkway widened to add one more lane–completed in 2008

Oso Parkway and La Paz Road are planned for widening in late 2014 to 2015

Oso and Marguerite Intersection improvements-construction completed in 2012

Crown Valley widening from 6 lanes to 8 lanes (with dual left turns)-construction completed in 2009

INCIDENT MANAGEMENT

Replacements and updates to our signal system, including the reconnection of our closed circuit TV cameras and completion of a direct communication link with Caltrans, was completed in 2006.

Installation of emergency pre-emption devices in cooperation with OCFA along key corridors. This does not help traffic signal coordination but assists emergency responses through congested corridors– construction to be completed in 2015.

Watch for Community View--an internet and MVTV source for local and regional traffic advisories.