Actuated Traffic Signals

Traffic signals assign the right-of-way to various conflicting traffic movements at an intersection.

In Pleasant Hill, all traffic signals are actuated. Actuated traffic signals use detectors located in the pavement on the approaches to a traffic signal to monitor and assign the time intervals for right-of-way based on traffic demand.

The signal must be effective and functional for pedestrians, bicyclists, automobiles, buses, and large trucks. By figuring out the heaviest usage of each intersection, the city is able to figure out the best possible timing scenario at each intersection.

What is Signal Coordination?

Signal coordination provides a means by which the sequence (begin and end) of green lights is established along a series of traffic signals to allow for the uninterrupted flow of traffic between these traffic signals. Signal coordination is most typically used along heavily traveled arterial streets with a frequent presence of traffic signals.

The goal of signal coordination is to get the greatest number of vehicles through a corridor with the fewest stops in the safest and most efficient manner. It would be ideal if every vehicle entering a corridor could proceed without stopping. This is not possible, even in the most well designed system. Therefore, with signal coordination, the heaviest traffic movements are given precedence over the smaller traffic movements.

Benefits of Signal Coordination

The benefits of coordination are as follows:

- Reduces overall stops and travel delays.
- Allows for large groups of vehicles to efficiently flow through a series of traffic signals without stopping.
- Reduction in the number of stops reduces vehicle emissions and thus improves air quality. Most of the vehicle emissions occur during acceleration (stop and go traffic).

Disadvantages of Signal Coordination

The main disadvantage of signal coordination is that side street traffic typically experiences a longer wait time.

In the development of signal coordination, the city has to manage the competing interests of providing continuous flow of traffic on the arterials, providing adequate time for pedestrians to cross the street, and minimizing the wait time for side street

traffic.

Limitations of Signal Coordination

As the city strives to improve signal progression and coordination within the City, it is important that the public understand the limitations of signal coordination. While traffic signal coordination can reduce stops and travel delays along a particular corridor, travel along a particular street may not completely experience non-stop free-flow conditions due to the following conditions:

- Capacity issues as a result of increased traffic caused by growth.
- Complexity of the street system.
- Equipment malfunction.
- Street construction.
- Traffic incident.