

## REPRESENTATIVE PROJECTS

### CLIENT / OWNER

City of Visalia

### CONTACT

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### PROJECT DATES

February 2008 – April 2008

### CONSULTANT COST

\$8,690

### FIRM INVOLVEMENT

Prime Consultant

### PROJECT STATUS

Complete



### CALDWELL AVENUE TRAFFIC EVALUATION

#### CITY OF VISALIA

TPG recently prepared a traffic evaluation to assess the impacts of synchronizing several traffic signals along a portion of Caldwell Avenue in Visalia. Synchronizing traffic signals along a corridor involves coordinating the timing of a group of signals, then fine tuning, or “optimizing” the timing so that they operate more efficiently as a group. The result is less “stop and go” driving, which in turn reduces vehicle emissions, driver delay and fuel consumption.

TPG analyzed 12 signals along the Caldwell corridor, from Akers Street to Ben Maddox Way. TPG’s analysis revealed that in a one hour p.m. peak period, over 23,000 vehicles accessed the study intersections on this major arterial. The analysis also found that on an annual basis:

- Over 22,950 lbs. of carbon dioxide (CO<sub>2</sub>), more than 4,080 lbs. of nitrogen oxides (NO<sub>x</sub>), and over 5,100 lbs. of volatile organic compounds (VOC) are released into the air;
- Nearly 153,000 gallons of gas are consumed at the study intersections;
- Drivers experience a total delay of 43,860 hours.

TPG took the existing traffic signal timing plans for all intersections within the study corridors, and, using traffic signal operation software, coordinated and optimized the signals. The result of this optimization process showed that once the signals within the Caldwell corridor are synchronized, a significant reduction in emissions, driver delay and fuel consumption would occur annually, including:

- A savings of 2,550 lbs. of CO<sub>2</sub>, 51 lbs. of NO<sub>x</sub>, and 306 lbs. of VOC;
- Total driver delay will be reduced by over 4,590 hours;
- A savings of 17,595 gallons of gas will be realized (or approximately \$61,600 in fuel savings to motorists).