



City of Stockton Traffic Management System



What does the Traffic Management System do?

Improves traffic signal coordination

Makes traffic signals more responsive to traffic demands as they occur

Provides information for staff to respond rapidly to incidents and malfunctions

Coordinates City, County and Caltrans operations

Why is this important?

Most traffic delays occur at intersections

Well coordinated signals can reduce delay

Reducing traffic delays saves money

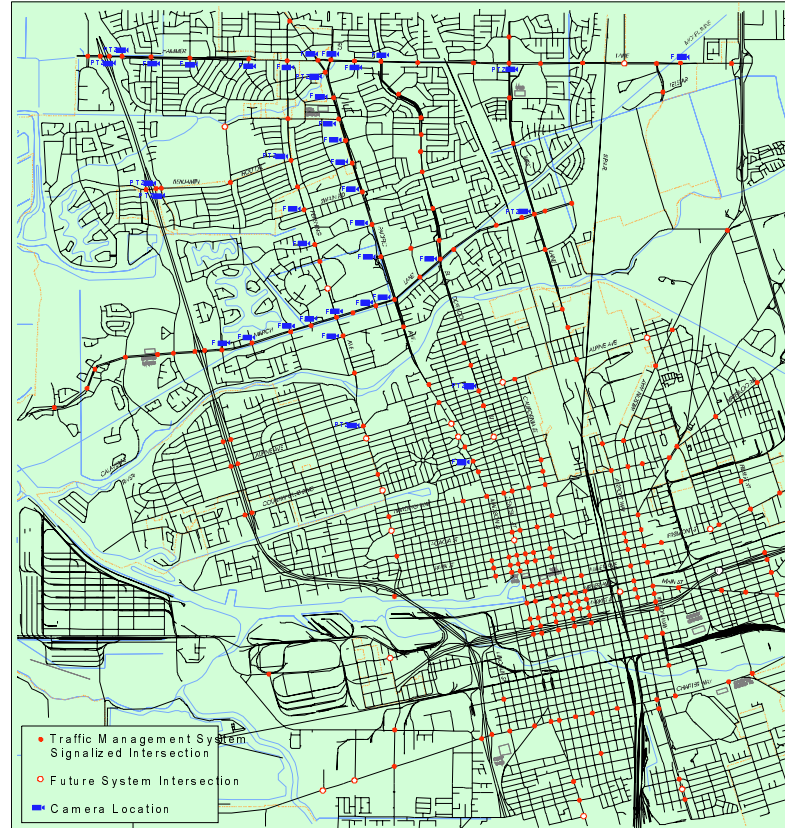
Reduced traffic delays results in the emission of fewer air pollutants

Closed Circuit TV Cameras

These cameras provide important information to operators and maintenance staff, allowing them to observe and fine-tune intersection operations in real time. Staff can assess each situation and make corrective adjustments immediately without having to travel to the site.



Intersection and Camera Locations



Benefits of the New System

- Improved signal coordination
- Reduced delay for drivers
- Reduced vehicle operating costs
- Reduced auto air pollutant emissions
 - Carbon monoxide (370 tons/yr)
 - Reactive organic gases (62.6 tons/yr)
 - Nitrous oxides (33.5 tons/yr)
- Reduced fuel consumption
- Improved maintenance staff response time
- Increased roadway capacity



Why were these locations selected?

- Existing traffic signals
- Major arterial intersections
- Potential for future expansion

Funding Sources

<i>Federal</i>	Intermodal Surface Transportation Efficiency Act (ISTEA)	\$3.0 Million
	- Congestion Mitigation/Air Quality (CMAQ)	
	- Surface Transportation Program (STP)	
<i>State</i>	Traffic Systems Management (TSM)	\$0.4 Million
	State / Local Assistance	\$0.2 Million
	REMOVE (State Vehicle Registration Fees)	\$1.3 Million
<i>City</i>	Development Fees	\$1.7 Million
Total		\$6.6 Million

System displays needed information

The system provides constant communication with computerized controllers at each traffic signal. Signal status and equipment malfunctions are reported every second. Traffic volumes are reported every few minutes. The central computer then selects the best coordinated timing pattern and transmits updated instructions to the signal controllers.



System components

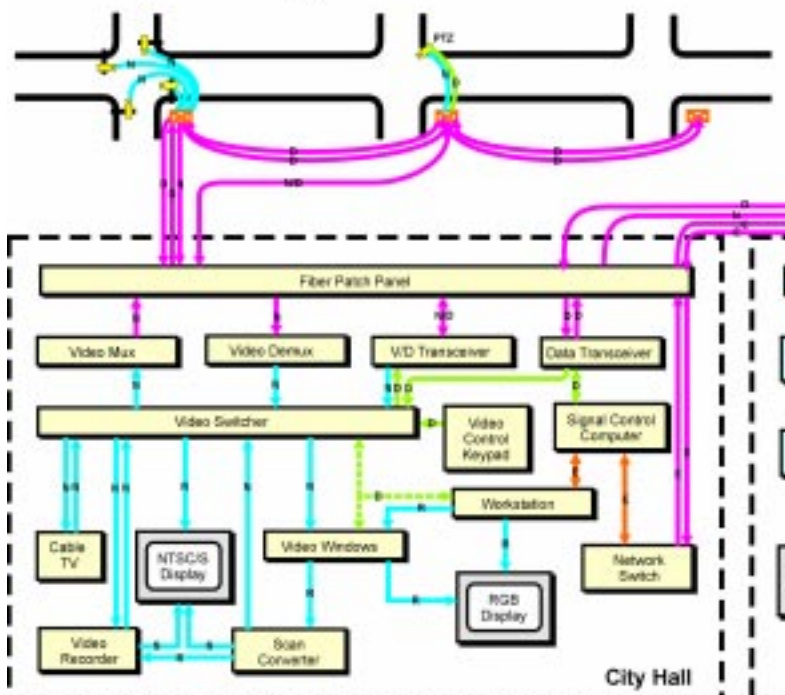
- Traffic signal management
- Video monitoring
- Automated traffic counting
- Video detection
- Information dissemination
- Communications network

More details

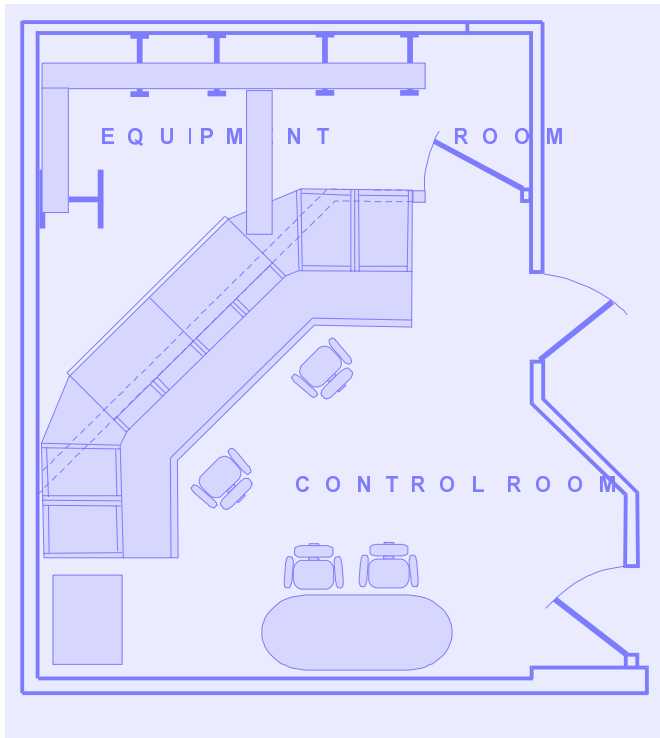
- Fully actuated signals, except downtown
- All signals connected to central computer
- Time-based coordination
- Traffic responsive pattern selection
- NEMA and Model 170 Controllers
- Series 2000 Master
- Fiber optic cable to all signals and devices



Stockton Traffic Management System
Overall System Configuration



Control Center at City Hall



Future needs

The system can be expanded as the city grows. More advanced traffic signal controllers and computer software can be incorporated into the system.

Other improvements being considered

- Freeway monitoring
- Changeable message signs
- Real-time travel information reports
- Cameras at all signalized intersections

Ongoing cooperation

Continued interagency cooperation is a key to the success of the Traffic Management System. All of the operating agencies now have a more economical resource available to them.



The City of Stockton wishes to thank:

- San Joaquin Council of Governments
- San Joaquin Valley Unified Air Pollution Control District
- Caltrans District 10
- San Joaquin County
- San Joaquin Regional Transit District

Major Contractors

- DKS Associates - Design
- Pacific Bell - Fiber optic network
- TransCore/JHK - Software
- IDC - Signal controllers
- Fibertron - Video equipment
- Collins Electrical - Video equipment installation
- CRF Integrated Solutions - Fiber optic data modems

*For more information:
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