City of Lafayette
Advanced Transportation Management System (ATMS)

Active Traffic Signal Management
December 13th, 2011

Agency Panel and Perspective on System Needs

Jenny Miller, P.E.
City Engineer and Public Works Director
Existing Traffic Signals
Existing and Future Signals

- Signals currently integrated into Lafayette ATMS = 65 signals
- Existing traffic signals currently under Lafayette jurisdiction = 85 signals
- Anticipated future signals under Greater Lafayette regional jurisdiction = 150 signals
Existing Staff and Duties

1) Engineering Department
   Staff: City Engineer, Asst. City Engineer and 2 project engineers
   Duties: Public works director
            Permits / inspections / code enforcement
            Project management for water/sewer/road projects
            No in- house traffic engineer (use consultant)

2) Traffic Department
   Staff: Traffic Foreman and 2 staff members
   Duties: Traffic signals (including flashers)
            Signs
            Pavement markings
            Special events / other (parades, holidays, etc)
Existing Staff and Duties (Cont.)

Engineering Dept. - %Time

- Permits/Inspections/Code Enforcement: 5%
- Water: 25%
- Sewer: 25%
- Road: 25%
- Traffic Signals: 20%

Traffic Dept. - %Time

- Signs: 30%
- Pavement Markings: 30%
- Special Events / Other: 10%
- Traffic Signals: 5%
Capital and O&M Programs

Capital - % Funding (Eng. Dept.)

O&M - % Funding (Traffic Dept.)
Goals for Active Traffic Management

Utilize existing staff to achieve the following goals:

1) **Signal Equipment Maintenance**
   Need to be notified quickly with accurate information
   - priority reports, detector failures, signal flash

2) **Signal Timing Optimization**
   Need to be able to re-time signals with minimal effort
   - minimal data collection, minimal field adjustments, special events

3) **Traffic Data Collection**
   Need to be able to use signal equipment to collect traffic data
   - for signal timings, overall transportation planning
Needs for System Implementation

1) Capital Funding and Operations Funding
   - **Capital**: Used DOE grants and ARRA funds, but no traditional sources (FHWA, TIF, etc)
   - **Operations**: No additional staff or budget is available for Lafayette ATMS signal system

2) Need a “turn-key” or “commercial-off-the-shelf” system
   - Need minimal City staff involvement for both installation and operations of the system.
   - System needs to work with existing traffic signal equipment, existing staff resources and available funding sources.
Summary
Active Traffic Signal Management
City of Lafayette

City of Lafayette = small agency
1) Traffic Signals = 85 existing, 150 future
2) Engineering Dept Staff = 4 engineers, traffic consultant
3) Traffic Dept Staff = Traffic foreman and 2 staff members
4) Minimal time and funds allocated to traffic signals
5) Active management tools needed for equipment maintenance, signal timing optimization and traffic data collection

Active management tools currently used by the Lafayette ATMS:
1) Central signal system hardware and software
   - daily reports, traffic responsive, live data, historical database
2) Several performance measure add-ons
   - V/C ratios, % of vehicles arriving on green, etc
   - efficient management tool for assessing progress
Questions?

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