Orange County
Traffic Signal System

Consolidation of Services Study
Commission Meeting
September 8, 2005
Presentation Outline

- Orange County Traffic Signal Operations Division Overview
- History
- Agreements
- Existing Efforts
- Use of Technology
- Program Cost
- Conclusions
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Orange County Traffic Operations Division

- 527 Traffic Signals
  - 341 Coordinated Signals along 41 Corridors
  - Timing Plans Updated Every 3 Years
- Maintain 6 Signals for City
- City maintains 6 signals for Orange County
- 55 Warning Beacons
- 95 School Flashers
- 68 Speed Radar Signs
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History

- 1985 first Metropolitan Orlando Signal System (MOCSS) installed
- First Phase 113 mostly CBD intersections
- Second Phase 240 intersections
- Orange County added 60 signals
- Winter Park and Maitland added 7 signals each
History

- 1995 MOCSS system suffers obsolescence
- FDOT provides funds to upgrade Regional Computerized Signal System (RCSS) to City of Orlando
- 2000 City issued RFP for Regional Computerized Signal System
- FDOT, Orange County, Seminole County participate in evaluating proposals
History

- City selected Naztec, Inc. for (RCSS) certified by FDOT, member of ITE and IMSA
- Orange County selected Eagle Traffic Control Systems member of National Electrical Manufacturers Association (NEMA), certified by ITE, ITS, AASHTO and FHWA.
- Both Naztec and Eagle are good products;
History

• 2000 Orange County installs SCOOT adaptive system on International Drive
  - 27 signals today
  - 47 by next summer

• 2000 FDOT provides funding to Orange County for signal system upgrade

• Orange County takes Proactive Approach to Signal Timing and Coordination

• Hires Engineer specifically to address traffic signal timing coordination
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Agreements

- Memorandum of Understanding thru FDOT
- MetroPlan Orlando ITS Subcommittee
- District 5; FDOT Traffic Signal Maintaining Agency Group
- FACERS - Florida Association of County Engineers and Road Superintendents
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Existing Efforts

$7.5M grant from FDOT in 2000 to:

- Facilitate sharing traffic information between FDOT and Central Florida counties and cities
- Expand fiber-optic communication
- Upgrade traffic management center
- Upgrade traffic signal system
- Improve traffic monitoring system
- Install traveler information system

Provide better responsiveness to roadway incidents
Existing Efforts
Phase 1A Layout
Existing Efforts

- County developed a comprehensive annual signal coordination program
- Proactive approach to correct potential operation problems before citizen complaints are received
- Studies considered adjacent signals ignoring jurisdiction ownership
- Success of the system is realized
- Coordination of systems is real – limited by congestion and existing intersection capacity
Existing Efforts
Signal Management Districts

Orange County, Florida
Traffic Engineering
Signal Maintenance Districts

Legend:
- Major Streets
- Streets Surface
- Hydrology
- County Boundary
Existing Efforts
Countywide Traffic Network
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Use of Technology

- Signal Timing Optimization Software
- Traffic Simulation/Animation Software
- GIS Background Map
- Electronic Counting Boards
- Traffic Management Software
- GPS Travel Time Surveys
Use of Technology
Products Used

ACTRA
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Program Cost

- **Initial Cost:** $5,000
  - Purchase Synchro, SimTraffic & GPS unit
- **Annual Cost:** $20,000
  - Collect volume and geometry data
  - Survey existing traffic control devices
- **Exploit Available Resources:** $0
  - 20 to 25 staff hours per intersection
Conclusions

- County and City have established informal agreements to coordinate maintenance and operation of traffic signals.
- There is a perception that traffic signals are not coordinated.
- The real problem is congestion and not enough intersection capacity.
- The County is committed to improving mobility, safety, fuel efficiency, and air quality.
- Since 2000 the number of timing complaints in the County has significantly decreased.
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