Deployment of ITS Projects in Pasadena – A Local Agency Perspective

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• Pasadena ITS Brief Timeline
• Funding Streams
• Master Plans
• Leveraging Existing Policies, Environment
• Ongoing issues and Lessons Learned
1991 – Pasadena TMC Created

- TWP network/Series 2000 Central TCS and
1994 – CCTV, CMS and HAR

- 10 CCTV
- 6 Fixed CMS
- 2 Portable CMS
- Highway Advisory Radio (HAR)
2003 – Fiber Optic Deployment

- Fair Oaks Ave and Arroyo Parkway
- Metro Gold Line – QuicNet TCS
- IEN (for Series 2000 TCS)
i2 Central System
Additional Fiber Deployment
Current ITS Deployment

- Over 25 miles of fiber
- 4 Central Traffic Control Systems (all on the IEN)
- 31 CCTV Cameras
- 5 Fixed CMS (6 legacy CMS no longer operational)
- SMART Signal Pilot
- Transit Vehicle Arrival Information System
- Bluetooth Pilot
- SCATS Adaptive System on Fair Oaks Ave
- Video Detection (65 intersections)
- System Detection (80 intersections)
Installation of SMART-Signal system at six intersections along Orange Grove Boulevard in Pasadena, CA in early 2011
SCAT-Sim Module

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Ongoing Projects

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• Transit Arrival Information System
  > Displays at stops, IVR, Web-based
  > Real-time bus position
  > On-time performance data by stop

• Parking Guidance System
  > Real-time off-street parking availability
  > Integrate with wayfinding signage
  > Provide dynamic guidance

• Emergency Vehicle Preemption
• Linda Vista Annandale Neighborhood Area
• Connector Streets
  > Linda Vista accesses both I-210 and SR 134
  > Lida links to Glendale
• Tracks travel patterns
  > Effect of event traffic
  > freeway to freeway bypass trips
Upcoming Projects

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- ITS Phase II (in final design)
  - 5 miles of fiber optic communication
  - Signal synch
- ITS Phase III (design in FY 2014)
  - 10 miles of fiber optic communication
  - Signal synch
- Mobility Corridors – Rose Bowl Access System (design in FY2016)
Upcoming Projects

- Metro Gold Line Supervised Loop Design (design in FY 2013)
  - Advance Gate Down Circuit
  - Serial Traffic Signal Cabinet to LRT Cabinet communication

- Bicycle Detection at Signalized Intersections (design in FY2014)
  - 4 bicycle corridors
  - 38 signalized intersections
Funding Streams

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- **GRANTS**
  - Federal Earmarks
  - Metro Grants
- **Prop A and C**
- **Private Capital**
  - Traffic Fees
  - Developer conditions
- **General Fund (Gas Tax)**
Importance of Master Plans

- Provides Strategic Blueprint by which system is expanded
- Fosters partnerships with all possible stakeholders from within and outside the organization for joint uses (fiber or video systems)
- Align goals to General City Policies and Objectives
- Allow agencies to compete well in seeking grant funds
Importance of Master Plans

- Traffic Control and Monitoring System
  Intelligent Transportation System (ITS) Project
  prepared by Meyer Mohaddes (ITERIS) in 2004 for about $250k-$300k

- ITS Master Plan Framework Update also prepared by ITERIS in 2012 will guide future expansion including consideration for short and long term effects of emerging technology
Leveraging Existing Issues

- Lack of 710 Freeway
- Metrogold Line LRT
- City’s Location and Significance to Regional Mobility (Roadways Parallel to Major Freeways)
- City’s General Plan
Issues – Lessons Learned

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- Maintenance and Operation
- Staffing Issues
- Performance Metrics
  > Adjusting to levels of expectation
  > Travel Speeds vs. Reliable Travel
  > System Monitoring
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