Orange County Triangle ICM

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OC Triangle ICM Project
Existing Condition – Rerouting During an Accident
ICM Strategy – Rerouting During an Accident
Regional Opportunities

- Event Management System
- Transportation Demand Management
- Integration of Internal and External Systems, Data, Videos & Operations
- Countywide Information Exchange Network
- Integrated Corridor Management System
- Enhanced Traveler Information System
- Application of Advanced Technologies & Analytics
- Support of Smart Community (City, Regional & County)
Triangle ICM Project Scope

- Improve Roadway Surveillance and Traveler Information
- Upgrade the Ramp Metering System
- Upgrade TMC Components
- Install Additional Communications Hubs & Connecting TMCs
- Acquire Countywide Real-Time Roadway Condition Data & Triangle Area Probe Data
- Deploy Countywide Information Exchange Network (IEN)
- Deploy Integrated Corridor Management System
- Deploy Connected Vehicles Technology at Intersections & Along Highways
Expansion of ITS Assets
Upgrade TMC Components

- New Video Wall
- Interim ATMS
- Adaptive Ramp Metering Application
- Upgrade Hardware & Networking
Connecting Agencies Network
Acquire Real-Time Data

- Countywide Real-Time Speed Data
- Major Routes Probe-based Speed, Travel Time and O/D Data
- WAZE Data
- Weather Data
- Others
Systems Deployment Phases

- Phase 1 – Countywide IEN
- Phase 2 – Triangle ICM
- Phase 3 – IEN Expansion and Integration with ICM
IEN Phase 1 - Functionality

- Real Time Information Integration and Sharing
- Video Sharing
- Event Management/ Sharing
- Construction Planning & Coordination
- Alerting
- Data Archiving
- Performance Measures and Management
- Data Sharing/Data Mart Portal
High Level IEN Architecture

Performance Measures/ Dashboards

Regional Partners
ISPs
511
PeMS
Others

Data Mart (Web Services)

IEN Application (Interactive Map)

Data Fusion and Data Archiving

Incidents

Construction

Speed Volume Occupancy

CMS

CCTV

WAZE

3rd Party Speed Data Providers

“Caltrans ATMS”

Manual Event Entry
ICMS Architecture
Smart Intersections
120 V2I Roadside Units
Some Thoughts.....

- Countywide Information Exchange Network
  - Traditional Operational Data and Videos
  - SPAT Data, CV, Others
- Triangle-wide Decision Support System and Strategies
  - Online Modeling, Expert Rules Engine
  - Analytics, Forecasting, Machine Learning, Others
- Performance Based Management of Corridors Operations
- Private Sector Partnership, Data and Operations
- Traveler Information Dissemination
  - 511, DMS, Third Parties
  - Mobility On Demand, V2I
- Connected Vehicles
- Others
Project Schedule

- IEN Contract Award: May 2020
- IEN Operational: Dec 2020
- ICMS Contract Award: Oct 2020
- ICMS Soft Launch: Sept 2022
- ICMS Operational: May 2023
Thanks

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