Pilot Project to Co-locate DPS Officers in the ADOT Traffic Operations Center (TOC)

A Regional Strategy to Improve Freeway Traffic Incident Management

MAG Regional Council
August 27, 2014

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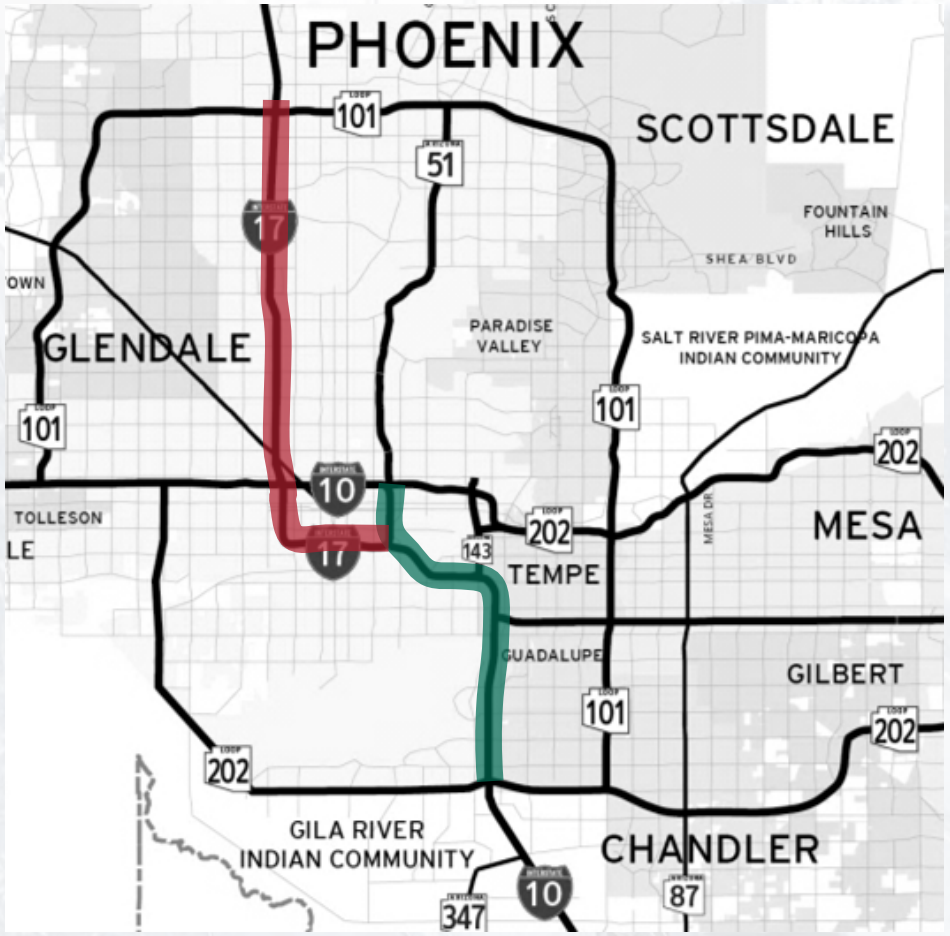
Background

- **$1.47B** programmed in the RTP for the 35-mile **I-10/I-17 "Spine" Corridor** improvements
- Previous Corridor EIS Studies were cancelled and a New Corridor Master Plan started in Jan 2014
- Need for a Plan to improve corridor traffic operations through near-term improvements
  - Task assigned to the ITS Committee
- ITS Committee recommended an Action Plan for Improving "Spine" Corridor Operations
  - Co-location of a DPS Officer at ADOT Traffic Operations Center – an effective strategy that could be implemented in a short-time



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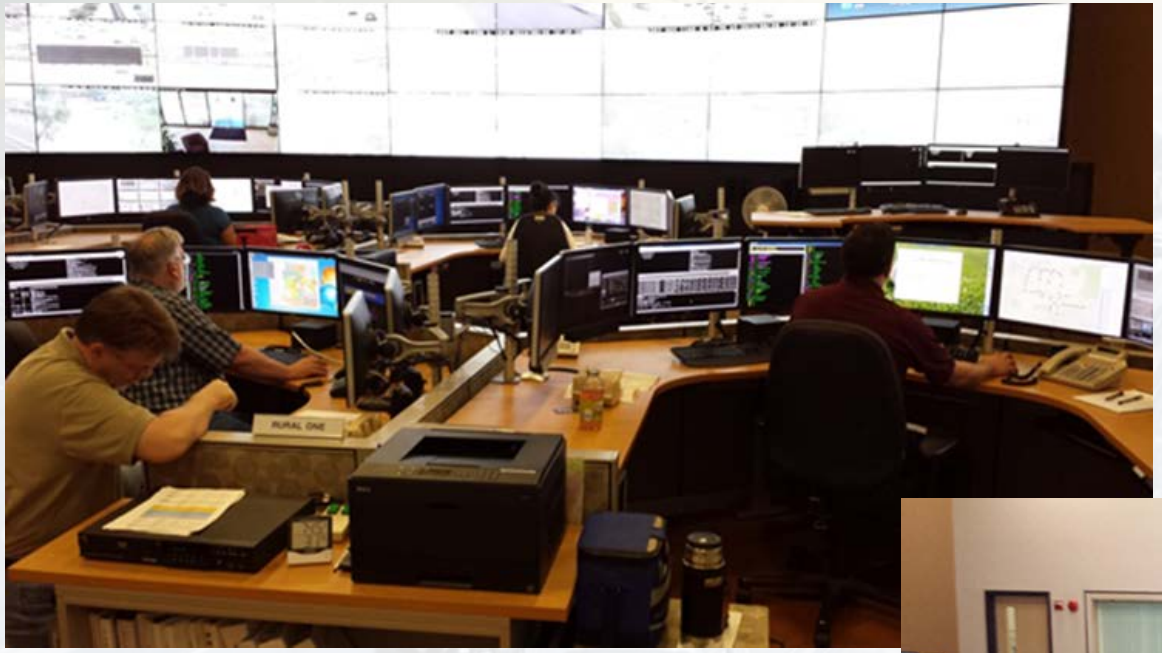
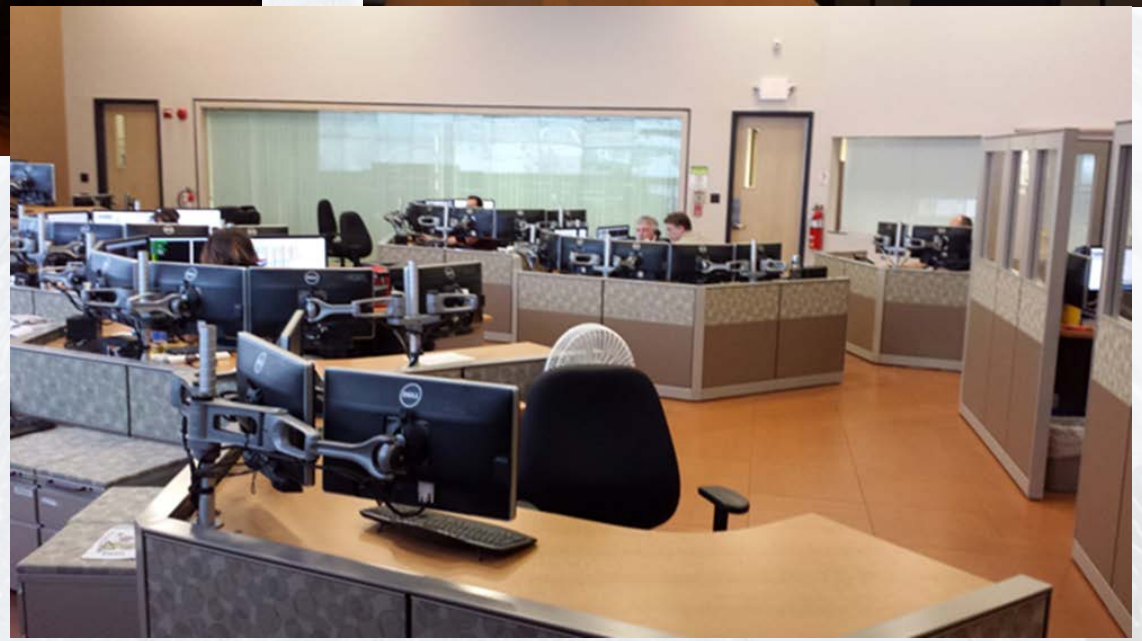
TOC Control Room





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Functions Performed by TOC Staff

- Traffic Operations Center (TOC) is staffed 24/7 365-days
- Constant monitoring of traffic using freeway cameras
  - Currently about 150 miles are instrumented with sensors and cameras
  - By 2022 all freeways in the MAG region will be instrumented
- Coordinates with DPS in responding to crashes and freeway traffic disruptions
- Dispatches a team to crash sites when requested by DPS
  - Traffic control barricades and clean-up of debris
- Post traffic alerts to motorists on electronic signs, media alerts
- Point-to-Point travel times during AM & PM peak periods – fully automated
- Ramp metering – fully automated

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Key Benefits of Co-locating a DPS Officer in the TOC

- Ability by DPS to monitor traffic incidents via ADOT cameras and mobilize and implement an effective response
- Help reduce the duration of freeway closures by as much as 25% (Utah DOT experience)
- Reduce secondary crashes at the back of the traffic queue
- A DPS officer would have unrestricted access to DPS Computer Aided Dispatch (CAD) system – helps gauge the impact of other activities on freeway traffic
- Serve as DPS Point of Contact
- During freeway incidents the DPS officer would coordinate timely updates to police, fire and other first responders

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Estimation of Potential Benefits Due to DPS Co-location

- Despite anecdotal evidence no studies documenting benefit-cost of co-location

- Benefits estimated through a traffic simulation analysis performed by MAG
  - **SCENARIO:** 2 hour closure of I-10EB between 51st & 43rd Avenue on a weekday 6am - 8am
  - **ASSUMED:** "25% reduction in closure duration due to DPS co-location" – based on Utah DOT experience
  - **RESULT: Overall traffic congestion (person-hours of delay) is reduced by 33 percent due to DPS co-location**

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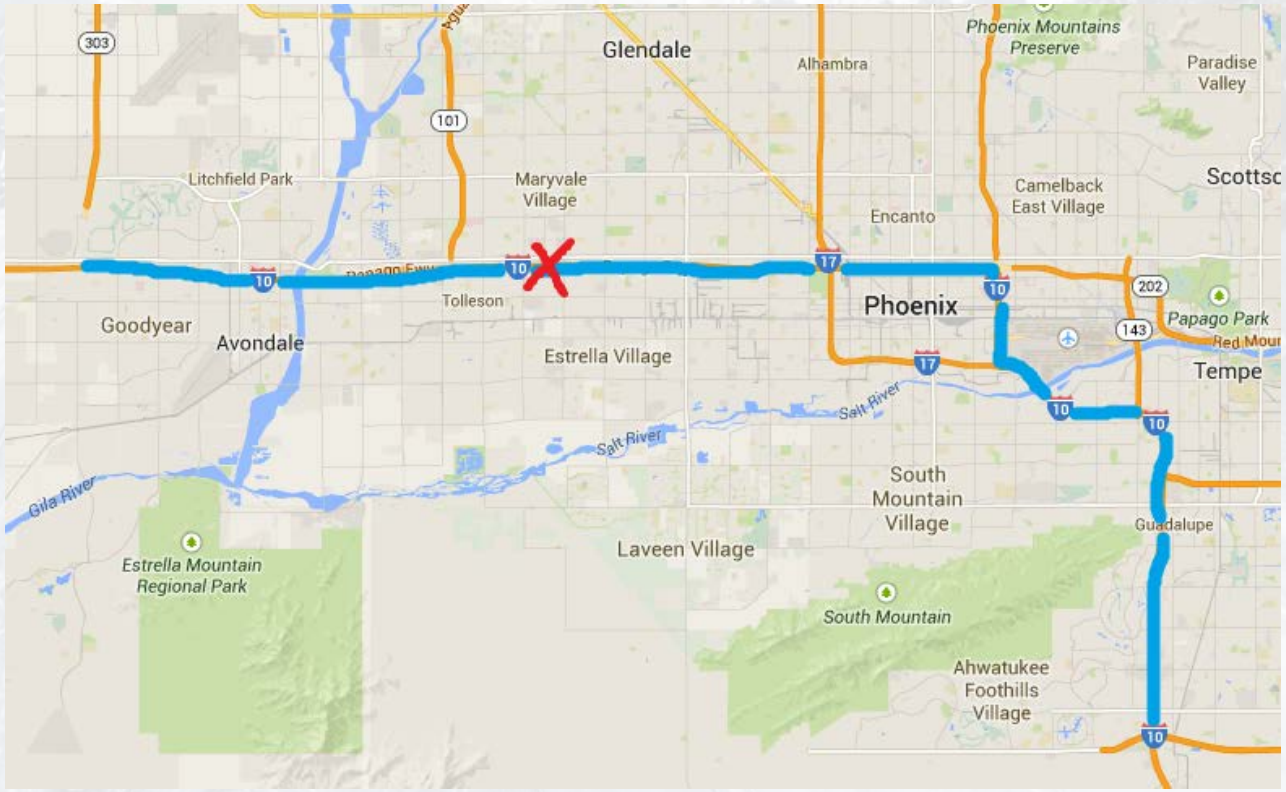
Estimation of Potential Benefits due to DPS Co-location

Value of Time Savings

- 33 percent reduction in traffic delay translates to $220,000 in savings
- For year ending June 30th, I-10 segment experienced 30 closures of average duration 3-hrs
- Annual Value of Time Savings for 36-mile I-10 segment = $6.6 million



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Proposed Pilot Project

- A 3-Year Pilot Project to fund the co-location of 3 DPS Officers and a DPS Supervisor at the ADOT TOC
- Project would be jointly funded by ADOT & MAG
- The project would include an Evaluation Component

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Evaluation Component

- MAG will coordinate with DPS and ADOT to establish a data archive for Traffic Incident Management metrics - based on best practices

- MAG will utilize archived data to produce an annual performance report on Freeway Traffic Incident Management (TIM) during the Pilot Project

- MAG will perform a comparison of freeway operations “before” and “after” DPS co-location to identify potential benefits

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Item for Action

- Approval to fund a **three-year pilot project** , with an evaluation component, to co-locate three DPS officers and one DPS supervisor in the ADOT Traffic Operations Center,
- Equally share the first year cost of $450,000 and subsequent annual cost of $425,000 with the Arizona DOT, and
- Redirect the MAG share from the MAG Regional Freeway and Highway Program Management Consultant funds of $225,000 for the first year and $212,000 annually for 2nd and 3rd years.

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Pilot Project to Co-locate DPS Officers in the ADOT Traffic Operations Center

Sarath Joshua
Senior Program Manager – ITS & Safety
Maricopa Association of Governments

Reza Karimvand
Assistant State Engineer
Arizona Department of Transportation

Sgt. John Paul Cartier
Highway Patrol Division
Department of Public Safety

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