

# **Freeway Management System Expansion Revised Budget and Schedule**

**Transportation Review Committee  
April 24, 2014**



# Key Functions Performed by the FMS

- Monitor traffic flow on the freeway system
  - using vehicle sensors and cameras
- Reduce congestion through effective traffic management strategies during peak periods
  - Ramp Meters
- Manage traffic during traffic incidents
  - Crash Alerts/Detour Signs/Advisories
- Coordinate with DPS and emergency response agencies to manage traffic at crash site and restore traffic flow



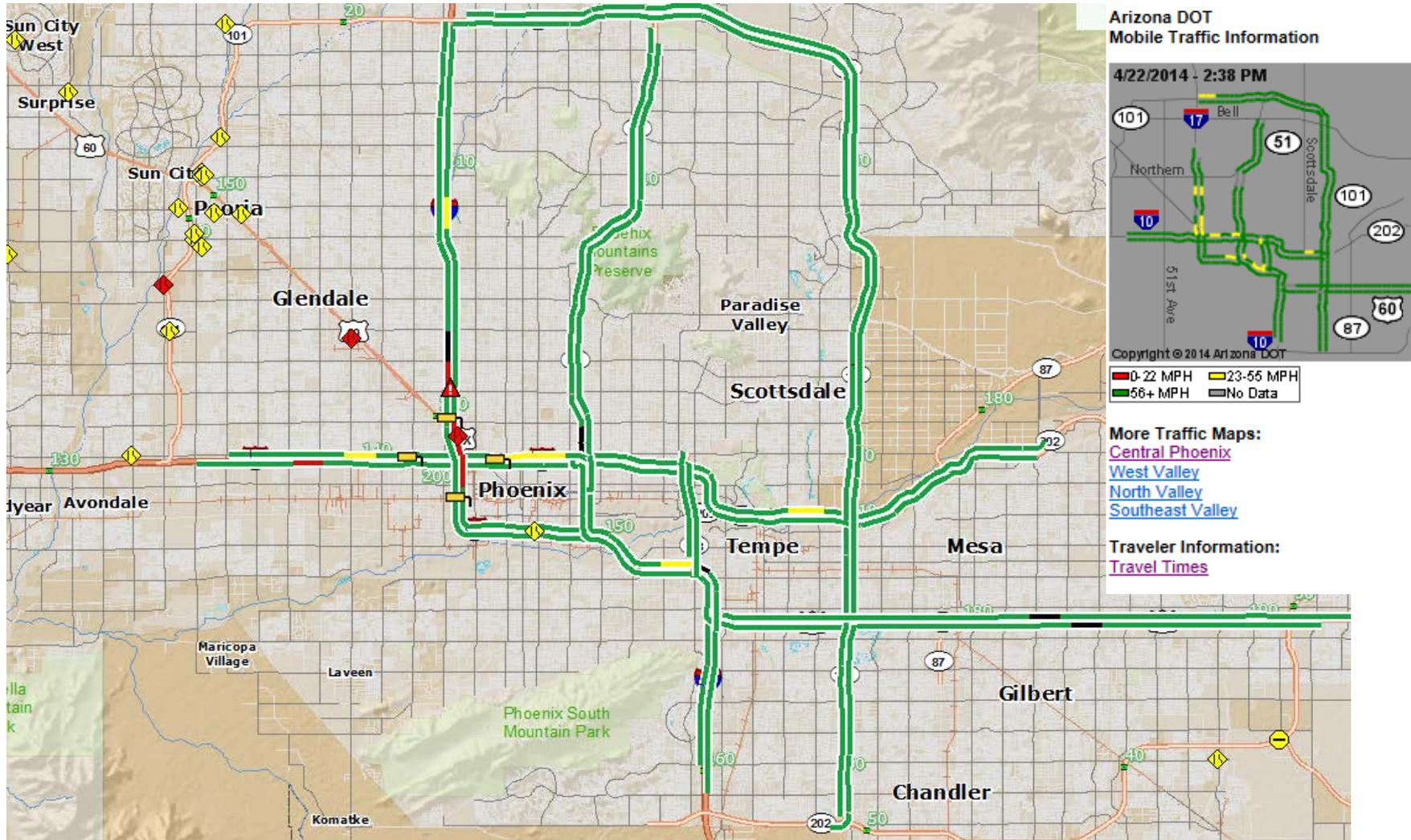
# ADOT Traffic Operations Center – 24/7



# Travel Time Display During Peak Periods



# Real-Time Freeway Traffic Speed Map



<http://www.az511.gov/adot/files/traffic/>

<http://www.az511.com/pda/Speed/>

# Benefits to the Region from the FMS

- Reduced freeway traffic congestion and associated negative impacts on air quality
- Improved safety through prompt crash clearance - Traffic Incident Management reduces secondary crashes
- Well informed travelers with access to real-time freeway condition information can use faster alternate routes
- Supports freeway performance measurement with data gathered via FMS sensors

# RTP Funds for the FMS

- \$8,720,000/Yr in CMAQ funds
  - Includes \$4,000,000 in each 5-yr RTP Phase for FMS rehabilitation
- \$720,000/Yr in State funds for FMS Preservation
- \$120,000/Yr in State funds for Travel Time Displays
- On average \$9,560,000/Yr is allocated in the RTP to expand the FMS coverage

# FMS Coverage Planned & Proposed

<b>Existing in 2003</b>	<b>86</b>	miles
<b>Planned (2003)</b>	<b>125</b>	miles (excluded Loop 303)
<b>Total</b>	<b>211</b>	miles by 2025
<b>Actual (2014)</b>	<b>160</b>	miles (60% of final coverage)
<b>As Proposed</b>	<b>265</b>	miles by 2021 (includes Loop 303)

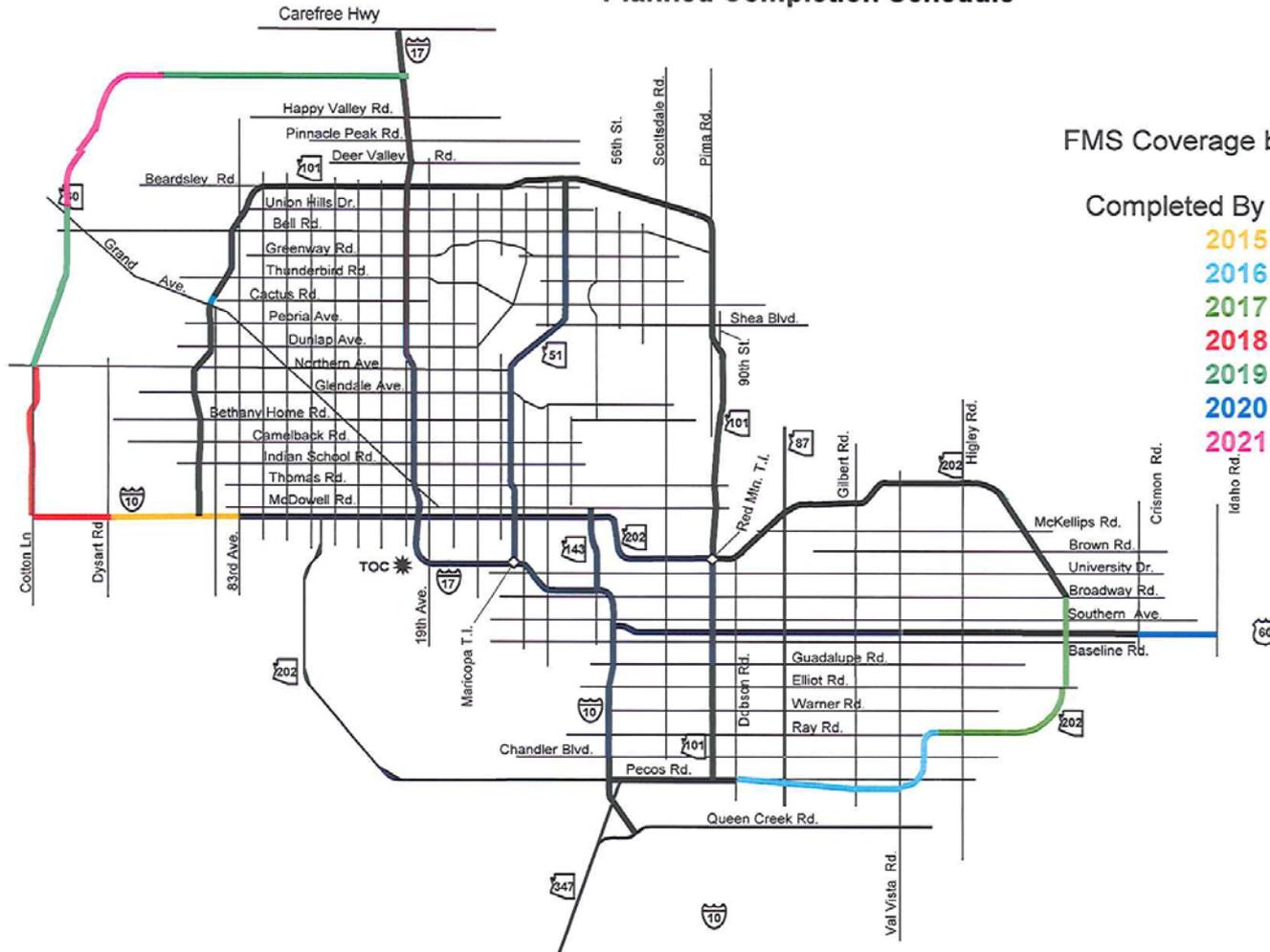


### Freeway Management System Coverage & Planned Completion Schedule

FMS Coverage by 2014:

Completed By :

- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021



# 2015-2025 MAG RTP Funds for FMS Expansion – Page 1 of 2

4-Mar-14

## 2015-2025 MAG RTP FUNDS FOR FREEWAY MANAGEMENT SYSTEM (FMS) EXPANSION

FREEWAY	FMS PROJECT/SEGMENT	LENGTH Miles	YEAR	RTP State Funds (\$1000s)	RTP CMAQ (\$1000s)	NOTES
San Tan 202L	ST: Ray to Broadway (Design)	10	2015		500	
I-10	Dysart to 83rd Ave (Constr)	6	2015		5500	
I-10	Cotton Ln to Dysart (Design)	5	2015		500	
L303	I-10 to Exit124 - Northern Ave (Design)	7	2015		500	
Misc	FMS Rehabilitation - New Project		2015		1720	
Regionwide	FMS Preservation		2015	720		All remaining 87 PADs will be replaced with induction loops: I-17(17), I-10 (23), SR 51(10) and US-60(37)
Regionwide	Travel time display cost			170		
	<b>Total CMAQ 2015</b>			<b>890</b>	<b>8720</b>	
L303	Northern Ave - Clearview Blvd (Design)	7	2016		550	
L303	Lake Pleasant Rd - I-17 Exit 221 (Design)	7	2016		550	
San Tan 202L	SN: Dobson to Ray (Constr)	8	2016		6300	
Misc	FMS Rehabilitation - New Project		2016		1320	4 DMSs at end of life cycle replaced with new support structures
Regionwide	FMS Preservation		2016	720		
Regionwide	Travel time display cost			170		
	<b>Total CMAQ 2016</b>			<b>890</b>	<b>8720</b>	
San Tan 202L	ST: Ray to Broadway (Constr)	10	2017		5120	
Regionwide	FMS Rehabilitation - RTP Ph 2		2017		3600	>> RTP Ph2 FMS Rehab total =400 (in 2014)+3600 = 4000
Regionwide	FMS Preservation (Non-CMAQ)		2017	720		
Regionwide	Travel time display cost			170		
	<b>Total CMAQ 2017</b>			<b>890</b>	<b>8720</b>	
I-10	Cotton Ln to Dysart (Constr)	5	2018		4160	
L303	I-10 Exit124 - Northern Ave (Constr)	7	2018		4160	
Regionwide	FMS Rehabilitation - RTP Ph 3		2018		400	
Regionwide	FMS Preservation (Non-CMAQ)		2018	720		
Regionwide	Travel time display cost			170		
	<b>Total CMAQ 2018</b>			<b>890</b>	<b>8720</b>	
L303	Lake Pleasant Rd - I-17 Exit 221 (Constr)	7	2019		3960	
US60	Crismon to Idaho (Design)	4	2019		500	
L303	Northern Ave - Clearview Blvd (Constr)	7	2019		4260	
Regionwide	FMS Preservation (Non-CMAQ)		2019	720		
Regionwide	Travel time display cost			170		
	<b>Total CMAQ 2019</b>			<b>890</b>	<b>8720</b>	

# 2015-2025 MAG RTP Funds for FMS Expansion – Page 2 of 2

US60	Crismon to Idaho (Constr)	4	2020		3500	
Loop 303	Clearview Blvd - Lake Pleasant Rd (Design)	14	2020		500	
TBD	FMS Design		2020		1120	FMS Projects TBD
Regionwide	FMS Rehabilitation - RTP Ph 3		2020		3600	>> RTP Ph3 FMS Rehab total =400+3600 = 4000
Regionwide	FMS Preservation (Non-CMAQ)		2020	720		
Regionwide	Travel time display cost			170		
<b>Total CMAQ 2020</b>				<b>890</b>	<b>8720</b>	
Loop 303	Clearview Blvd to Lake Pleasant Rd (Constr)	14	2021		5000	
TBD	FMS Design and Construction		2021		3320	FMS Projects TBD
Regionwide	FMS Rehabilitation (design) - RTP Ph 4		2021		400	
Regionwide	FMS Preservation (Non-CMAQ)		2021	720		
Regionwide	Travel time display cost			170		
<b>Total CMAQ 2021</b>				<b>890</b>	<b>8720</b>	
TBD	FMS Design and construction @\$7820k/year		2022-25		31280	FMS Projects TBD
Regionwide	FMS Rehabilitation (constr) - RTP Ph 4 @\$900k/yr		2022-25		3600	
Regionwide	FMS Preservation (Non-CMAQ) @\$720k/yr		2022-25	2880		
Regionwide	Travel time display cost at \$170k/yr in state funds		2022-25	680		
<b>Total 2022-2025</b>				<b>3560</b>	<b>34880</b>	
<b>GRAND TOTAL</b>				<b>9790</b>	<b>95920</b>	

# Recommended MAG Study

- A comprehensive re-evaluation of the life-cycle of current FMS technology infrastructure
  - State of the practice review of urban FMSs
  - Recommend Active Traffic Management Phase 1
  - Exploit new traffic data sources >> helps reduce infrastructure costs
  - Staffing needs and tools for complex traffic operations
  - Add new features such as >> reduce wrong-way entry
- Study to be funded by MAG through the Work Program by 2017
  - Study scope will be developed by the ITS Committee

# Action Required

**Recommend approval of:**

- 1) Proposed Budget and Schedule for the FMS expansion**
- 2) Initiate a MAG Study by 2017 to conduct a comprehensive re-evaluation of the life-cycle of current FMS-related technology infrastructure**