

MAG ITS Committee

October 12, 2016



4a. City of Buckeye ITS Strategic Plan

- Project requested by the City of Buckeye
 - Funded with MAG Planning funds and \$10k City contribution
 - Total budget \$100,000
- Proposal review panel established and the Scope of Work finalized
- Mini- RFP process initiated with four on-call consultants
 - KHA, Lee, Jacobs and AECOM
- Panel recommendation will be presented to the ITS Committee in November

4b. ITS Arizona Annual Conference

DPS Co-location project's Benefit – Cost Evaluation Wins Best ITS Planning Award



5. FY2017 TSOP Call for Projects Applications Received

	Lead Agency/Project ID	Other Agencies	Brief Description	Estimated Cost
1	ADOT	Peoria, Glendale	Grand Ave. (Loop 101 to 51st Ave.) - 12 Intersections	\$36,000.00
2	ADOT	Phoenix	Thomas Rd. Corridor at I-17 - 6 Intersections	\$20,000.00
3	Buckeye	N/A	Yuma Rd. & Watson Rd. Corridors - 10 Intersections	\$30,000.00
4	Gilbert	N/A	Higley Rd. & Baseline Rd. Corridors - 12 Intersections	\$30,000.00
5	Glendale	ADOT	67th Ave. (Union Hills Dr. to Parkside Ln.) - 12 Intersections	\$36,000.00
6	MCDOT	N/A	Riggs Rd. & Alma School Rd. Corridors - 7 Intersections	\$30,000.00
7	Phoenix	ADOT	Dunlap Ave. & Peoria Ave. Corridors at I-17 - 18 Intersections	\$60,000.00
8	Phoenix	N/A	Southern Ave. (19th Ave. to 24th St.) - 8 Intersections	\$30,000.00
9	Scottsdale	N/A	Thompson Peak Pkwy., 94th St. & 92nd St. Corridors - 12 Intersections	\$30,000.00
10	Surprise	N/A	Greenway Rd. (Dysart Rd. to Cotton Ln.) - 9 Intersections	\$27,000.00
11	Tempe	N/A	Broadway Rd. (48th St. to Loop 101) - 16 Intersections	\$30,000.00
	MAG		3-day SYNCHRO Training	\$13,000.00
	MAG		B/A Evaluation of selected corridors	\$30,000.00
			Total Requests	\$402,000.00
			TSOP Funds Available	\$300,000.00

5. FY2017 TSOP Call for Projects - Schedule

- | | |
|---|---|
| Oct 7 th 2016 | - Project applications received by MAG |
| Oct 7 th 2016 | - Applications distributed to Committee |
| Oct 12 th 2016 | - Initial Review of Projects |
| Oct 12 th - 17 th | - Committee review of projects |
| 10am on Oct 17 th | - Submit project rankings to MAG |
| 2pm on Oct 17 th | - Special ITS Committee meeting to recommend a list of projects |
| Oct – Nov 2016 | - MAG Approvals |
| Dec '16 – Jan '17 | - Task Order Development |
| Feb – Jun 2017 | - Project Execution |

6. Test of Adaptive and Responsive Ramp Metering on SR 51

Presentation by ADOT

SR 51 NB from I-10 to SR 101L

Metering Rate Rule #1: Base

Metering Rate controlled by Freeway Right Lane

	Freeway Right Lane Speed (mph)	Freeway Right Lane Flow Rate (vph)	Metering Rate (vph per lane)
Level 1	61+	use of flow rate and thresholds are location specific	720
Level 2	60 to 56		600
Level 3	55 to 51		480
Level 4	50 to 46		400
Level 5	45 to 41		300
Level 6	40 to 0		240

typical Speed and Metering Rate thresholds shown, may vary by location

#2: Increase of Base Metering Rate to Meet High Entrance Ramp Demand

When vehicles are continuously present for 90 seconds

Then the metering rate will increase 1 level every 90 seconds until demand is met

#3: Increase of Base Metering Rate to Avoid Queue Spill Back

When a queue is detected

Then the rate will increase to the maximum rate until the queue is cleared

Metering Time of Day

Turn On time set to a fixed time based on historical freeway traffic conditions

Turn Off time variable based on freeway conditions after a set time of day (typical variable off times begin at 8:30 AM for morning peak, 5:30 PM for afternoon peak)

Traffic Responsive Metering

- Fully utilizes existing ramp meter system capabilities
- Ramp meter program automatically selects the best metering rate based on freeway congestion and queue at the ramp meter
- Metering rates will be slower
- “Before” and “after” delay will be evaluated. Safety, fuel use, air quality impacts will be evaluated in the future

SR 51 **SB** from SR 101L to SR 202L

- Corridor Adaptive Ramp Metering
 - **Upstream & downstream ramp meters work together:** At locations where ramp meter queues become excessive, the metering rate will be sped up while another ramp meter with less queue will be slowed down
 - **Proactively fight congestion:** Individual ramp meters can “see” traffic detectors miles downstream and meter as needed to keep the corridor below capacity
 - **Cost-effective:** Less than \$100k for hardware, software, consultant, and ADOT staff time. New plug-and-play processor chip and software in existing controllers, and new central control software by Intelight.
 - **Algorithm:** Custom algorithm developed for SR 51 using the built-in capabilities of Intelight system.
 - **Benefits:** “Before” and “After” delay will be evaluated. Safety, fuel use, air quality impacts will be evaluated in the future.

7. Regional Community Network Report

8. Reports by Committee Members

9. Requests for Future Agenda Items

10. Next Meetings

Special Meeting - Teleconference
2:00 p.m. Monday October 17, 2016
MAG Cholla Room

Next Regular Committee Meeting
9:30 a.m. Wednesday November 9, 2016
MAG Chaparral Room