A photograph of a busy city street intersection. In the foreground, a man is riding a bicycle across the frame. In the background, there are several cars stopped at a traffic light. A traffic light pole is visible on the right side of the image, with a green light illuminated. The scene is set in a sunny, urban environment with buildings and trees in the distance.

Traffic Signal Optimization Program

MAG Transportation Policy Committee
November 12, 2014

What is Traffic Signal Optimization?

- “Coordinated” or “Synchronized” Traffic Lights
- You know it works when you
- “Speed of Progression”
- Needs to be adjusted at least once every 3 years – to keep up with changing traffic patterns
- Other disruptions – crashes, emergency vehicles





Benefits of Improved Signal Coordination

- Reduced delay & fuels costs
- Improved air quality due to reduced emissions
- Reduced driver frustration
- Improved safety
- Benefit- Cost Ratios
 - National studies show B/C >> 17:1 to 40:1

MAG TSOP Goal & Objectives

Goal: Help improve traffic operations on arterial streets

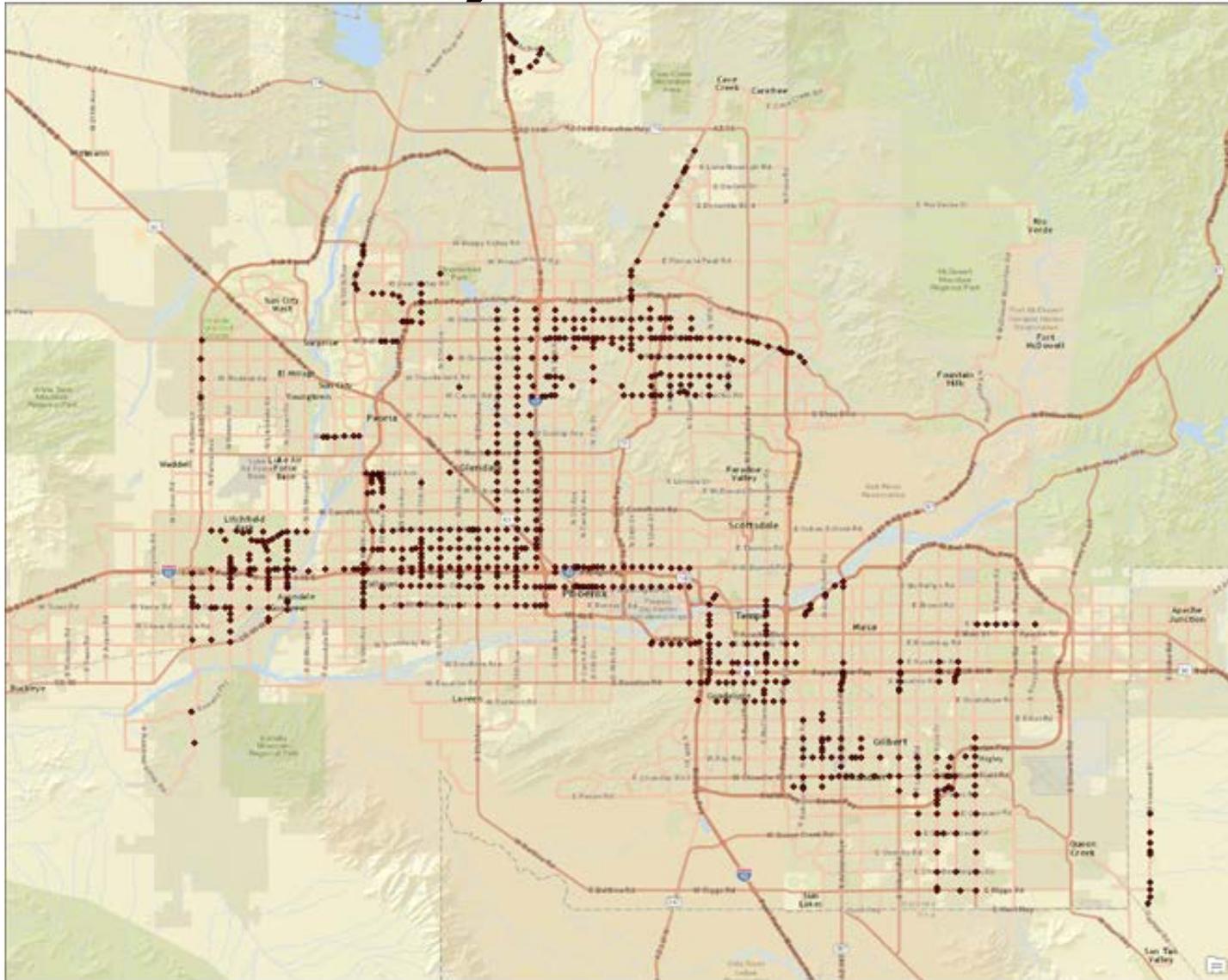
Objectives:

- Provide technical assistance to local agencies for addressing complex traffic signal coordination tasks
 - Utilizing MAG On-Call Consultants
- Provide local agency staff an opportunity to receive training on the key software used signal timing
 - 3-Day Workshop on SYNCHRO software

MAG Program & Accomplishments

- Started in 2004
- A total of 101 projects addressing 1000 signalized intersections (total approx. 3200)
- MAG issues a call for projects, projects reviewed and recommended by the ITS Committee
- 10-12 projects each year, addressing on average about 100 intersections
- Cost - \$300,000 per year
- Project costs range from \$30k- \$50k
- No cost to the local agency

TSOP Project Sites 2011-2014



Next Generation Traffic Signals

- Adaptive Traffic Control Systems (ATCS)
 - Uses algorithms to change signal timing based on real-time traffic patterns
 - SCATS from Australia & SCOOT from UK
 - RHODES developed by University of Arizona
- MAG funded ATCS projects
 - 2012 City of Mesa, SCATS at Superstition Springs Blvd - \$1.4M
 - 2014 Bell Road Adaptive Control System – \$2.7M currently being implemented – MCDOT, Surprise, Peoria, Glendale, Phoenix, Scottsdale

Thank You!

Sarath Joshua, P.E., Ph.D.

Senior Program Manager - ITS & Safety

sjoshua@azmag.gov

FY2015 TSOP Recommendation

- 11 Projects
 - Traffic operations at 220 intersections in 10 agencies
 - Before-and-After comparison at 23 intersections
 - Projects scheduled to begin in February 2015 using MAG On-Call consultants
- 3-Day Workshop on SYNCHRO Traffic Signal Timing Software (typical attendance 25):
 - No cost to member agencies
 - Maricopa County Training Facility
 - Dates: February/March 2015