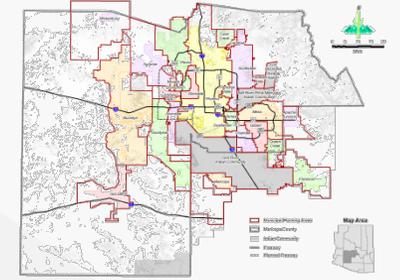




Management Committee



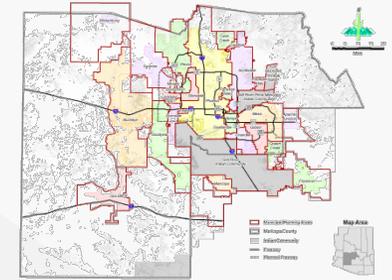
June 10, 2020







Agenda Item 3 Executive Director's Report



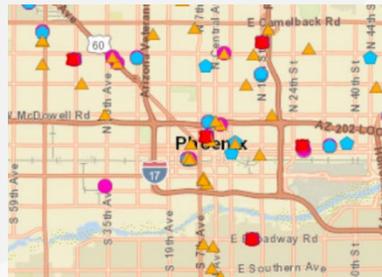
June 10, 2020





Heat Relief Network Needs Support

- 37 donation locations and 55 hydration locations.
 - Last year, we had 110 donation locations and 160 offering hydration. (*Approx. 2/3 less this year.*)
- All partners are listed on the interactive heat relief map posted on the MAG website.
- Innovative approaches to heat relief, such as using closed senior centers and convention centers.
- CDC guidance on COVID-19 and Cooling Centers can be found on the CDC and MAG websites.
- More water donations are needed.



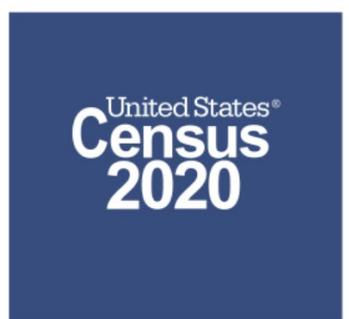
For more information, visit <https://www.azmag.gov/Programs/Homelessness/Heat-Relief-Regional-Network> or contact Brande Mead at bmead@azmag.gov



Census 2020 Response Rates Increase

- US 60.7%
- Arizona 57.1%
- Maricopa County 61.7%
- Pinal County 51.6%
- Top Five MAG Member Agencies:
 - Gilbert 71.8%
 - Fountain Hills 68.8%
 - Litchfield Park 68.3%
 - Chandler 67.8%
 - Peoria 67.0%

- For more information, visit <https://azmag.gov/Programs/Census-2020> or contact Scott Wilken at swilken@azmag.gov or Laurie Berg Sapp at lsapp@azmag.gov.



A screenshot of the United States Census 2020 website interface. The page has a dark blue header with the "United States Census 2020" logo on the left and "RESPOND" and "EN MENU" on the right. The main content area is white and features a large green "RESPOND" button under the heading "START HERE.". Below this, there are three sections: "It's Quick and Easy" with a clock icon, "It's Not Too Late" with a calendar icon and a green "OPEN" tag, and "It's Safe and Secure" with a shield icon containing a padlock.

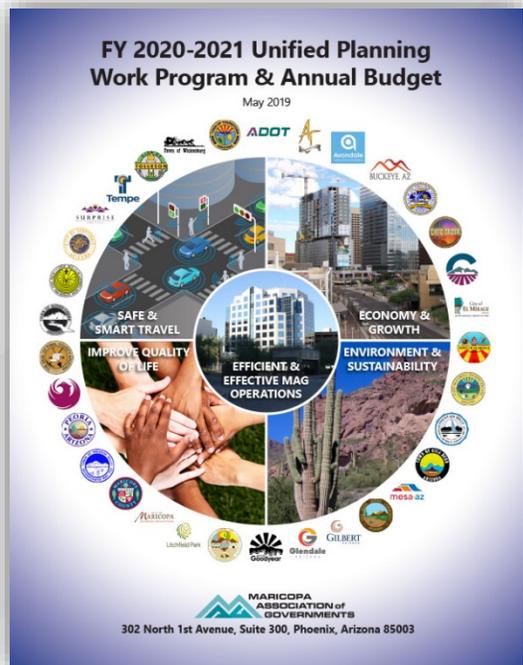


Meeting and Office Space Safety Assessment Underway

- MAG is being proactive in assessing safety.
- Meetings held with member agencies, building owner, property management, and MAG staff.
- Strategies will consider diverse preferences and priorities.
- Final plan will include timeline and phased menu of options.
- Project will conclude by the end of the year.
- For more information, contact Amy St. Peter at astpeter@azmag.gov



FY 2020-2021 Work Program and Annual Budget Wins GFOA Award



- Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to **Maricopa Association of Governments, Arizona**, for its Annual Budget for the fiscal year beginning **July 1, 2019**.
- This is the **20th Year** that MAG has won this award.



*Distinguished
Budget
PRESENTATION
Award*

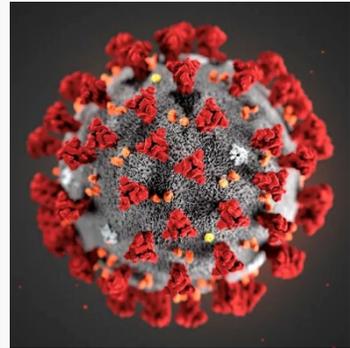


Agenda Item 4

■ ITEMS PROPOSED FOR CONSENT



Agenda Item 5



Graphic credit:
CDC/SCIENCE PHOTO
LIBRARY

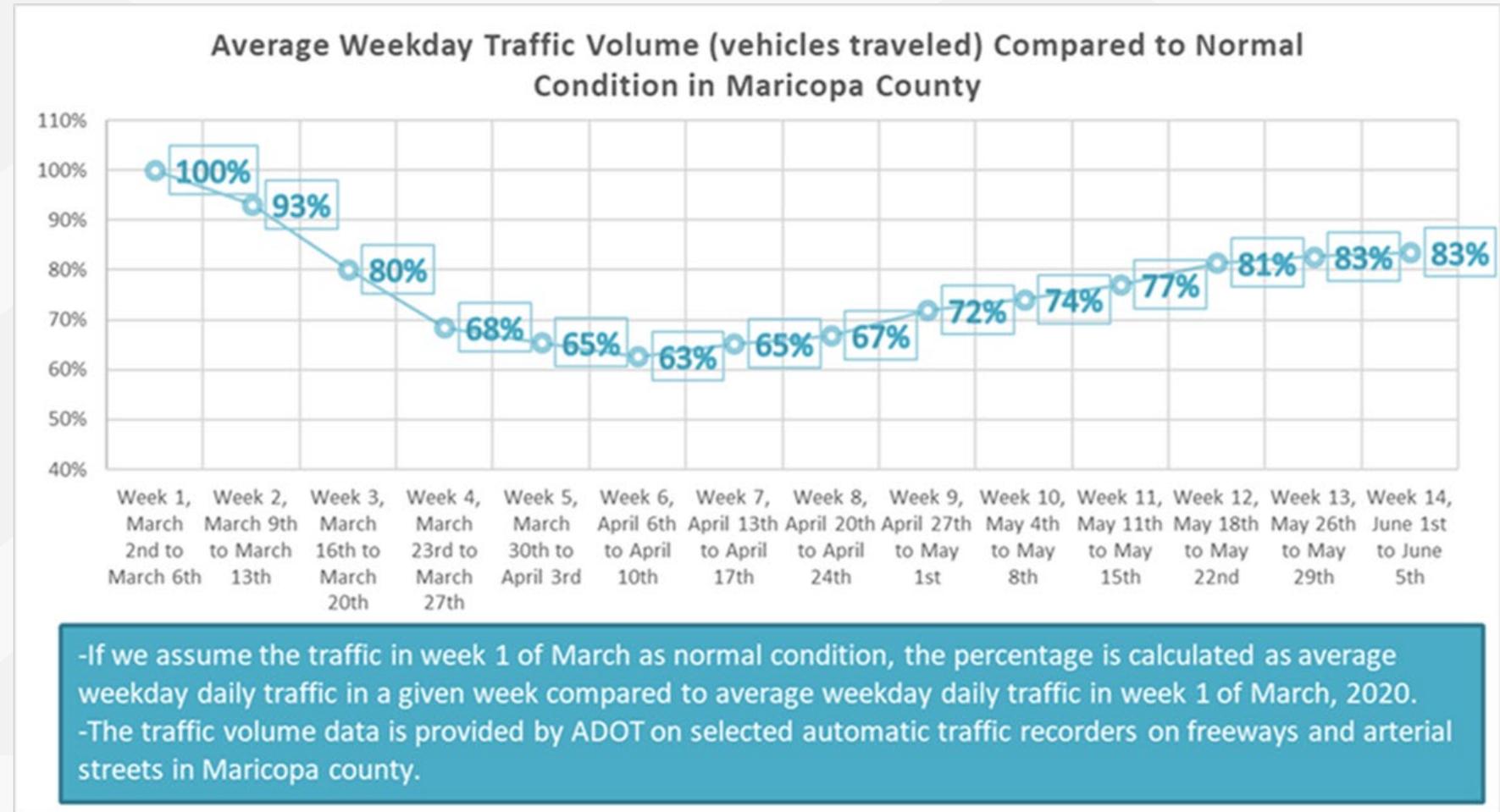
■ **Coronavirus Update**

- Eric Anderson,
MAG Executive Director
- Amy St. Peter,
MAG Deputy Executive Director



Traffic Volume (March – June 2020)

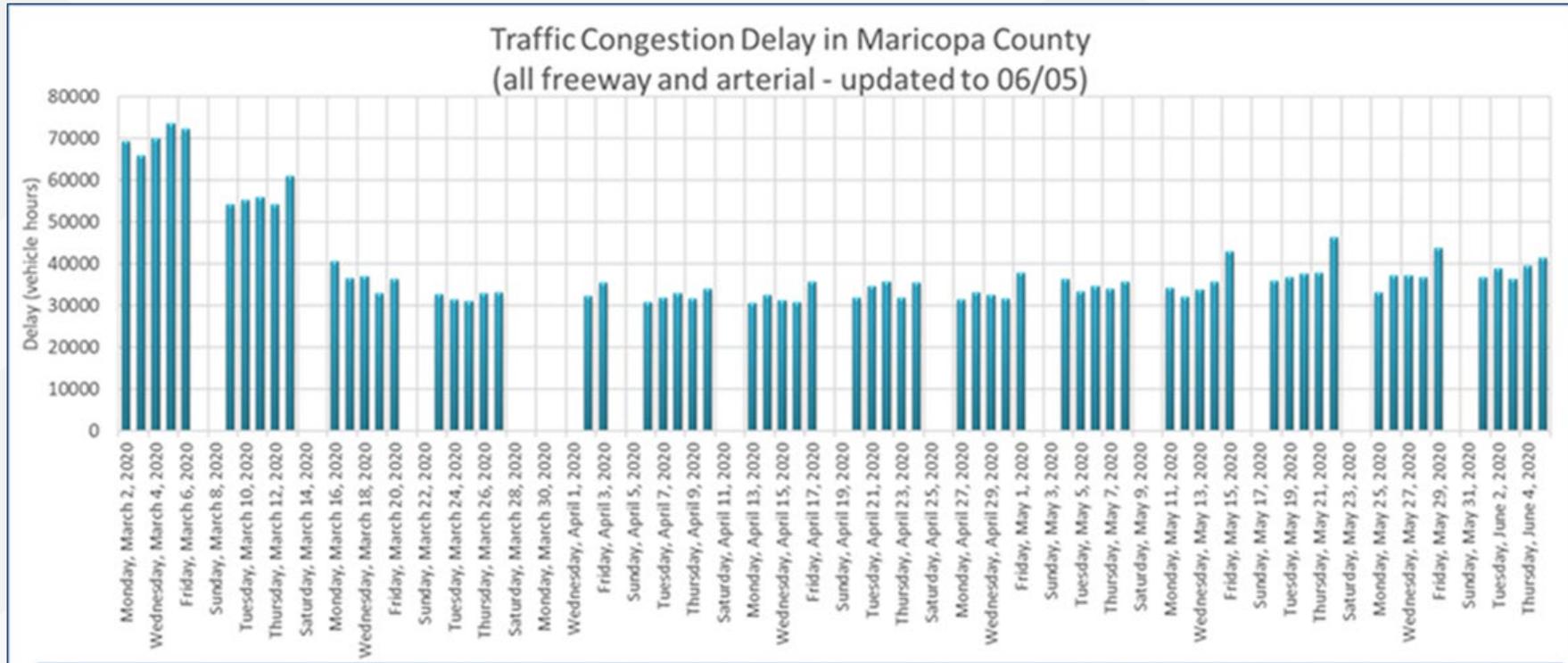
- Traffic recovery has reached to a stable level, 83% compared to normal condition (week 1 of March) for two weeks.
- Please note that typically traffic in June is at about 92% to March traffic, so we are only 10% lower than June's normal traffic.





Traffic Congestion (March-June 2020)

- No significant change since COVID-19, since reopen of May 15th, we are still at 55% of normal condition (week 1 of March)



-The measure of congestion delay is calculated from speed data, which covers all major freeways and most of the arterial streets in Maricopa County, 24/7.

-The speed data is provided to MAG by a third-party company called INRIX via ADOT licensing (www.inrix.com) from an analytic platform powered by CATT lab(cattis.org).

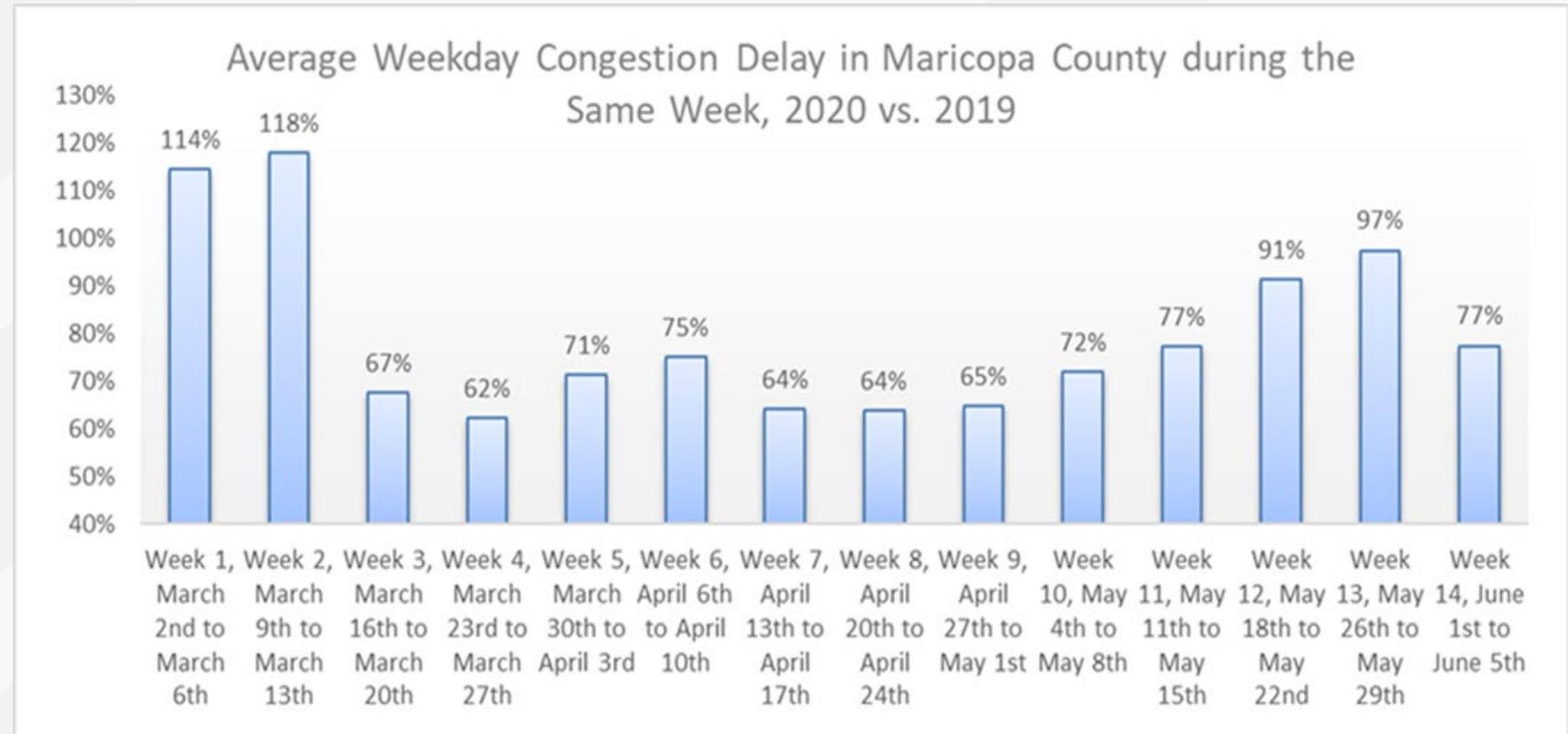
-The delay (vehicle hours) is calculated as the excessive travel time for all vehicles when average speed during a given hour is at least 20mph lower than the free-flow speed. The daily delay is calculated as the sum of hourly delay per day in the region.





Traffic Congestion (2019 & 2020)

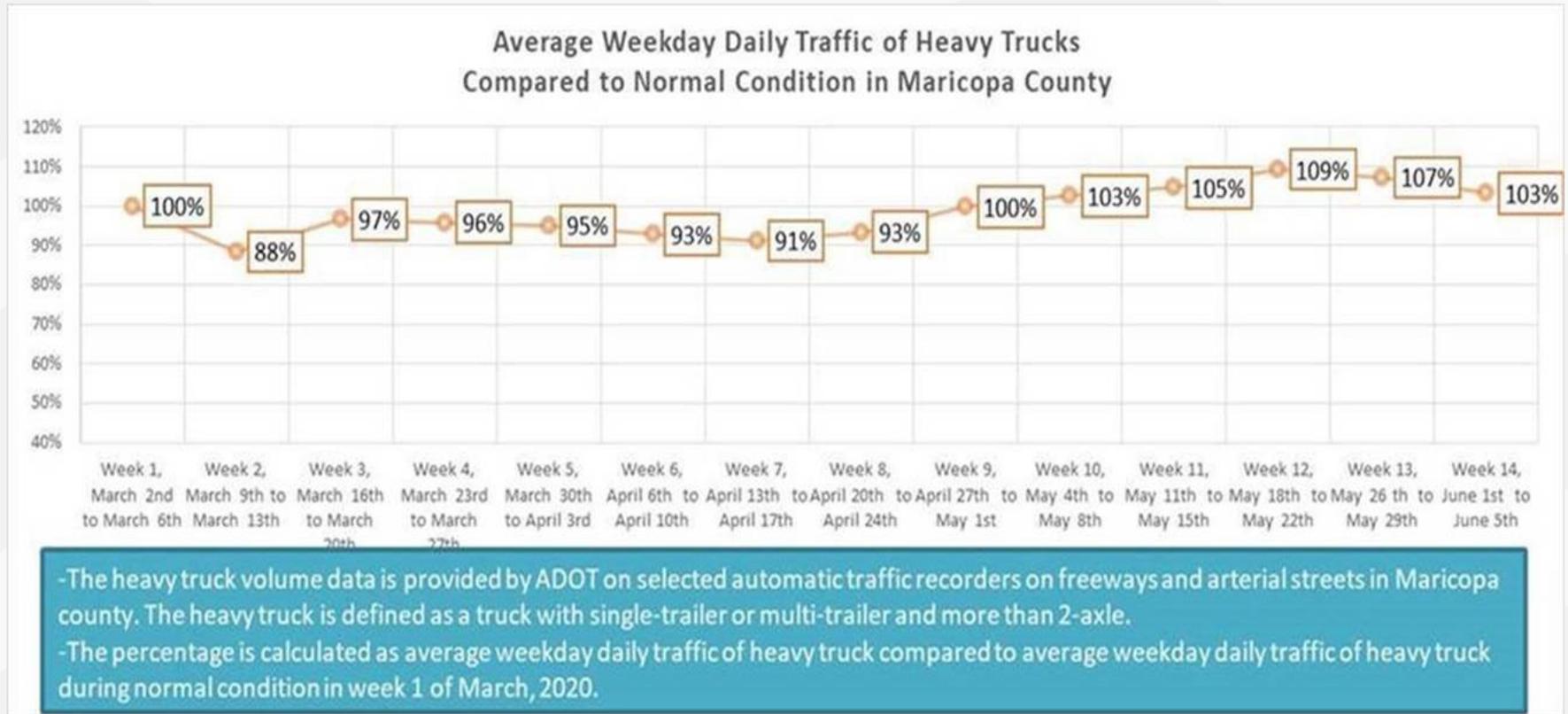
- When comparing current traffic congestion to 2019 during the same weeks, the congestion in May and June is at level of 70-90% in 2019 mainly because congestion has been increasing year by year in the valley.





Heavy Truck Volume (March-June 2020)

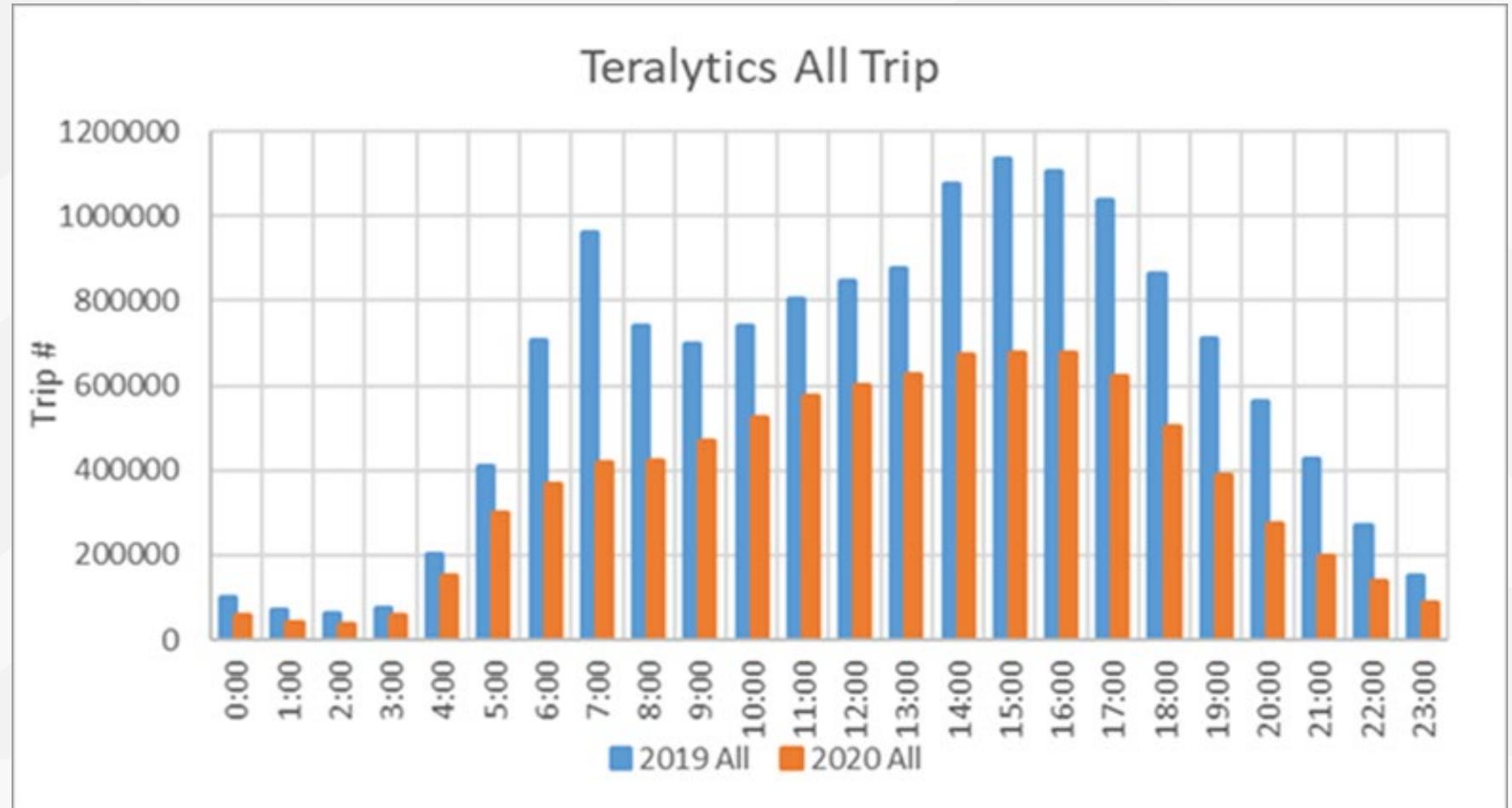
- Traffic of heavy truck has been higher than normal since May.





Weekday Trip Rates (April 2019 & 2020)

- Weekday trip rates comparison between April 2019 and April 2020 in the valley (using Teralytics trip OD data)
- It shows 39% reduction of travel in April of 2020 during COVID-19, and the time of day pattern also changed.



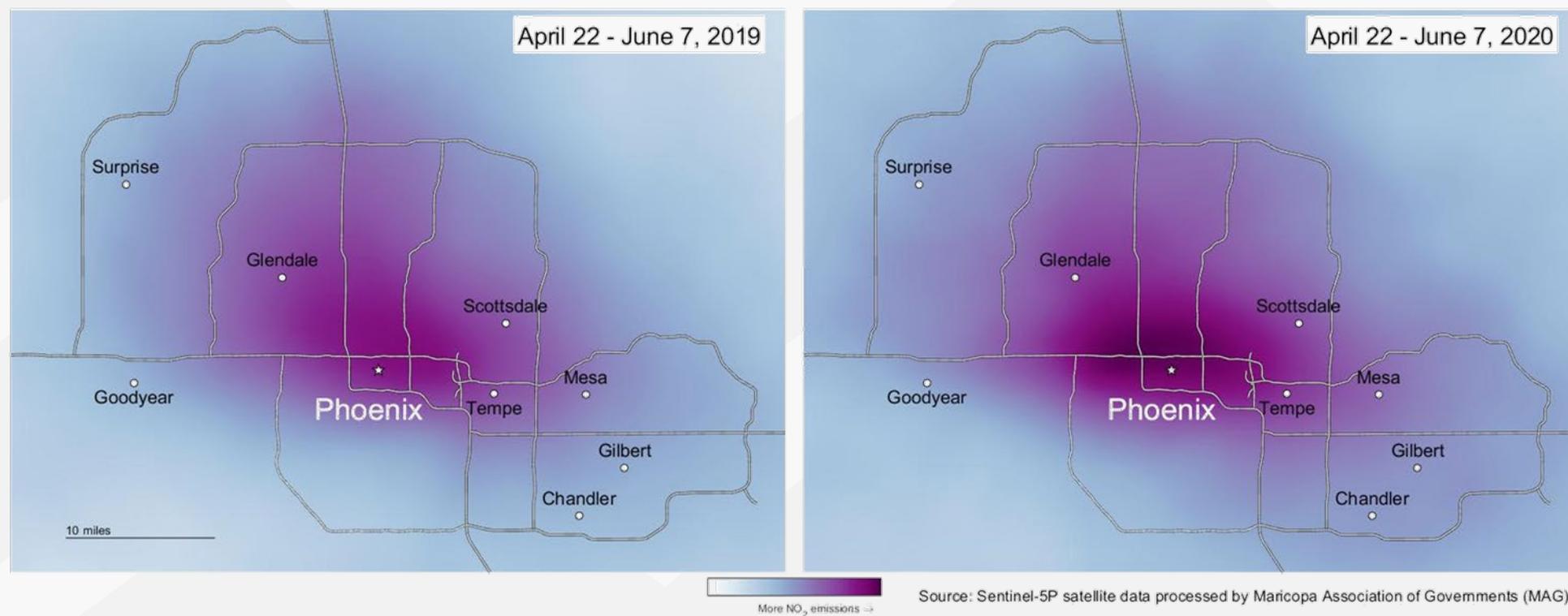
Trip by Purpose	Teralytics		
	2019 April	2020 April	% of Change
All	14,624,307	8,872,640	-39%



Nitrogen Dioxide Emissions

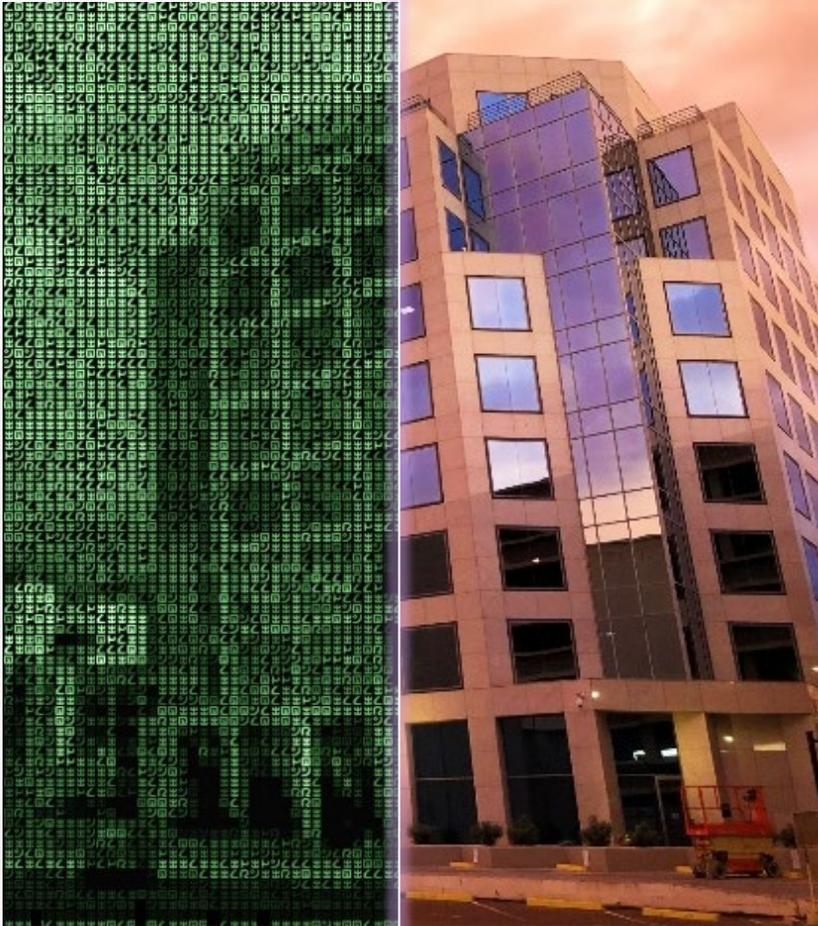
Satellite measured NO₂ emissions over Phoenix metropolitan area

- Between 2019 and 2020, the Nitrogen Dioxide emissions in 2020 have increased by 11.44% in comparison with 2019 for the period of April 22 – June 7.





Virtual MAG



- Transition plan under development with meeting and office space protocols.
- Staff survey gathering input on accommodations and innovations.
- Virtual meetings will continue through the summer at least.
- Telecommuting will be offered full-time to all staff through the summer.

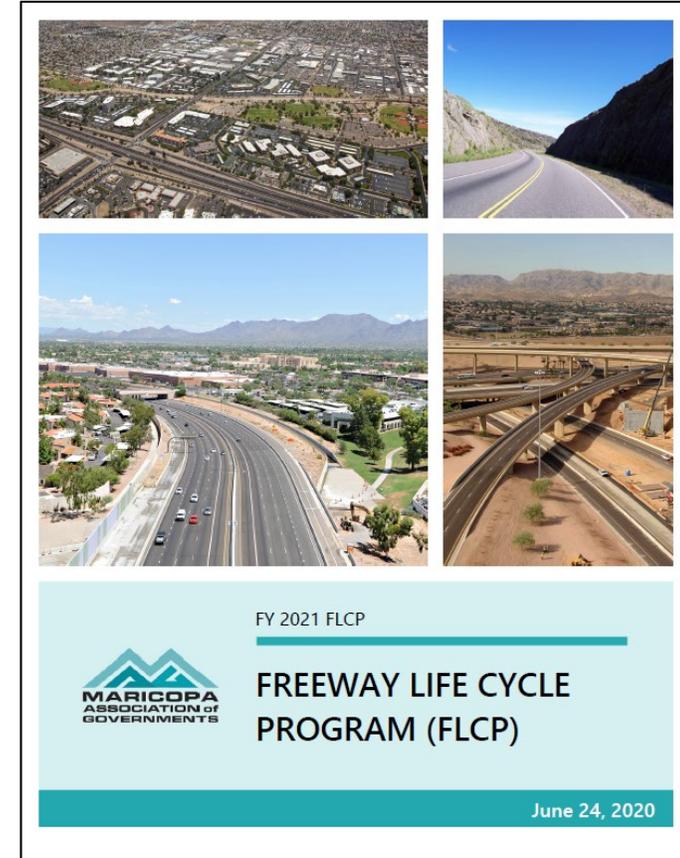


Agenda Item 6 Draft Fiscal Year 2021 Freeway Life Cycle Program (FLCP)

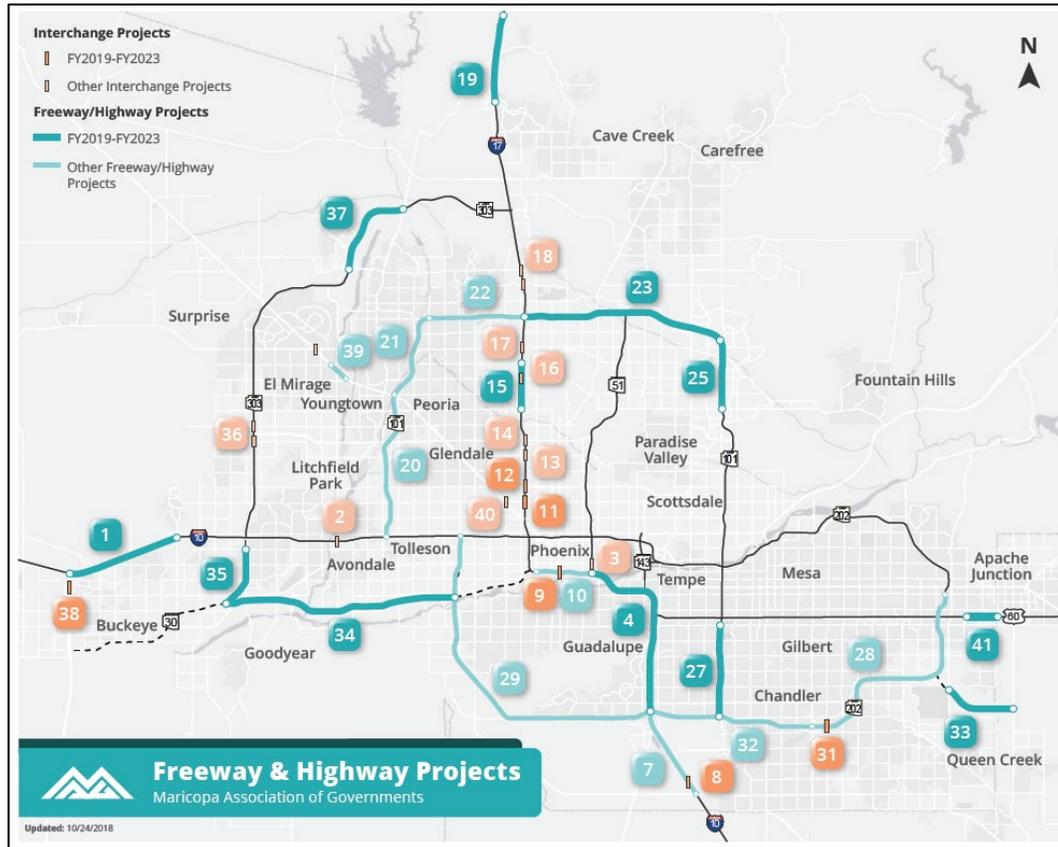
Management Committee
June 10, 2020

Draft FY 2021 FLCP

- The FLCP is the management tool for the implementation of freeway and highway projects funded through Proposition 400
- The FY 2020 FLCP was approved by the MAG Regional Council on September 25, 2019
- The program goes through an annual update process to reflect new revenue forecasts, updated cost estimates, and schedule changes



Program Financial Information



- Program revenue comes from three main sources:
 - Half-cent sales tax (RARF)
 - Highway User Revenue Funds (HURF)
 - Arizona Department of Transportation (ADOT) federal funds
- Updated RARF and HURF forecasts generated each fall
- The forecast of federal funds is generated using growth rates specified in the federal Fixing America's Surface Transportation (FAST) Act.



Freeway Life Cycle Program

Program Financial Information (Cont.)

- ADOT and their program management consultant generate biannual construction and right of way cost updates
- Project costs in the FY 2021 FLCP reflect estimates that were generated in January 2020



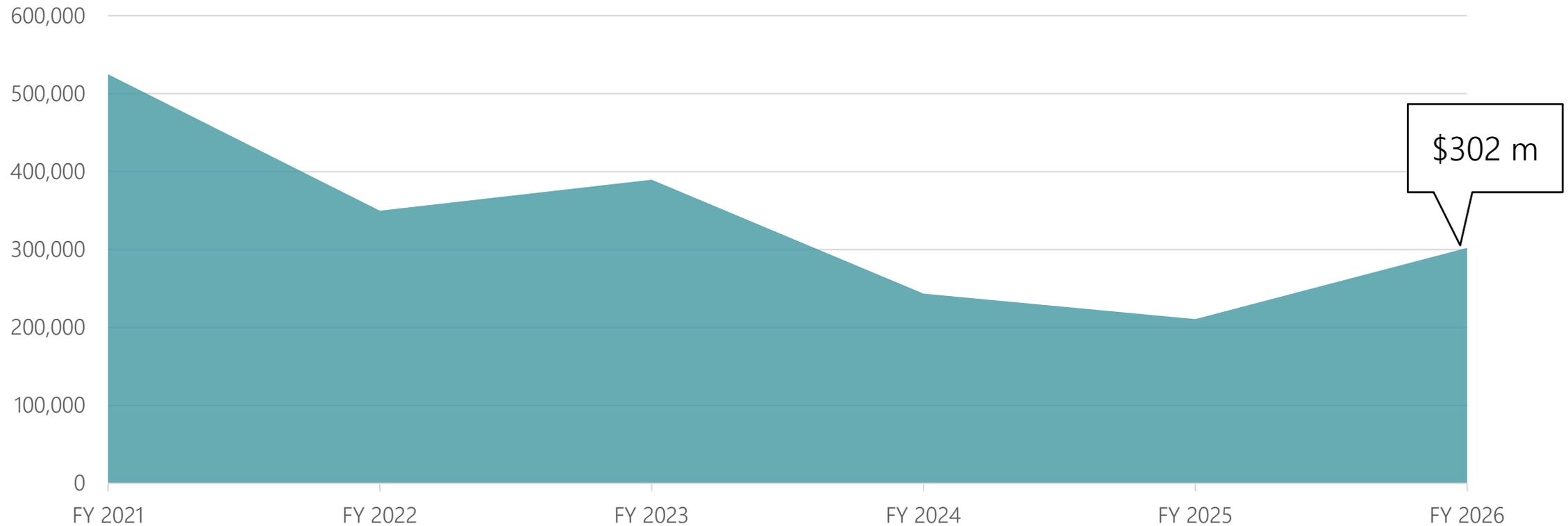
Draft FY 2021 FLCP: Notable Changes

- The Draft FY 2021 FLCP marks a shift to a year-of-expenditure based cash flow model
- Incorporates project updates, including:
 - I-10, SR-85 to Verrado Way
 - I-10, SR-202L to Riggs Road
 - SR-101L, 75th Avenue to I-17
 - SR-202L, Val Vista Dr to SR-101L



Draft FY 2021 FLCP Cash Flow

MAG Scenario
Fund Balance
(Millions, 2020\$)



Draft FY 2021 FLCP: Looking Forward

- The foundational elements of the draft FY 2021 FLCP were completed in February 2020
 - Do not include any changes caused by the COVID-19 pandemic
 - March sales tax collections down 8.5 percent relative to the 2018 forecasted amount
- ADOT finance has generated preliminary RARF and HURF estimates
 - Cumulative 14 percent decrease in the RARF forecast between FY 2020 – FY 2022
 - Cumulative 15 percent decrease in the HURF forecast between FY 2020 – FY 2022
- FLCP would remain in balance through the end of FY 2023
 - Staff will continue to monitor revenues
 - Decreases in right of way and construction costs may help mitigate some of the revenue losses



Requested Action:

Recommend approval of the Draft Fiscal Year 2021 Freeway Life Cycle Program, contingent on a finding of air quality conformity.





Draft FY 2021 Freeway Life Cycle Program

John Bullen
Transportation Economic and Finance Program Manager
(602) 254-6300



Agenda Item 7 Diamond Grind Pilot Program

Management Committee
June 10, 2020

Presentation Overview

1. Rubberized Asphalt and Freeway Pavement Noise Reduction Analysis Study Review
2. Diamond Grind Pilot Program

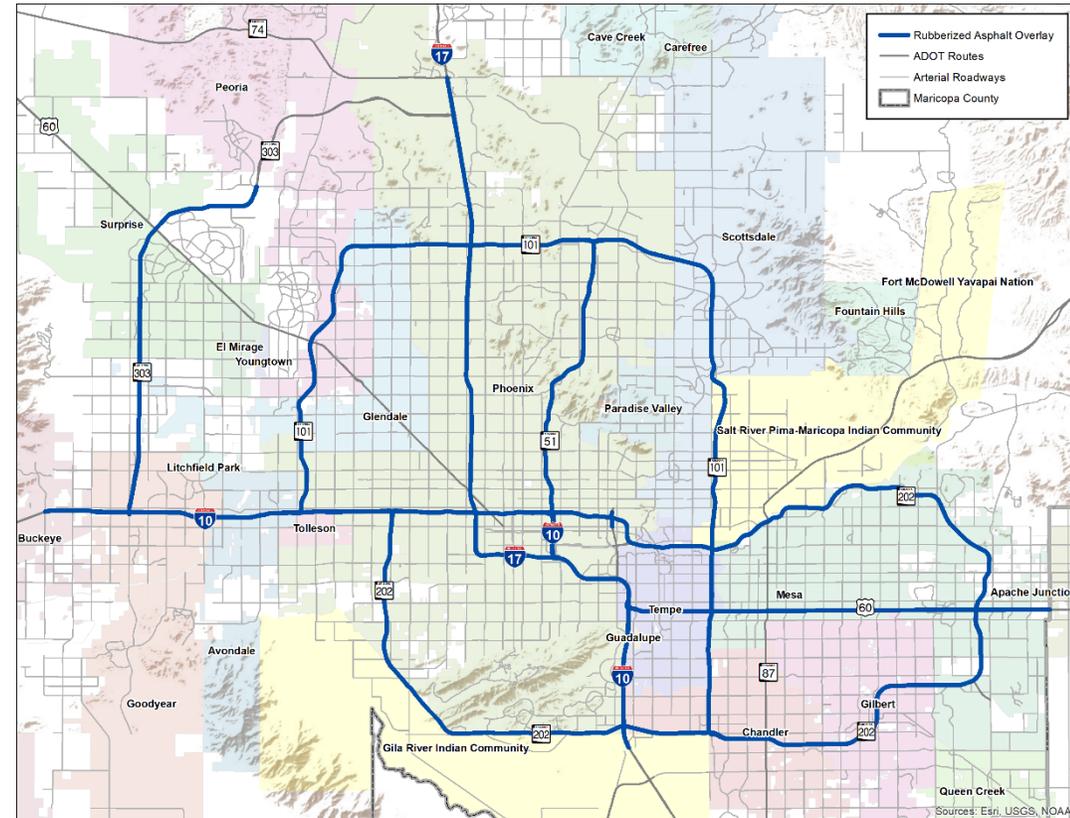


Photo Source: ADOT



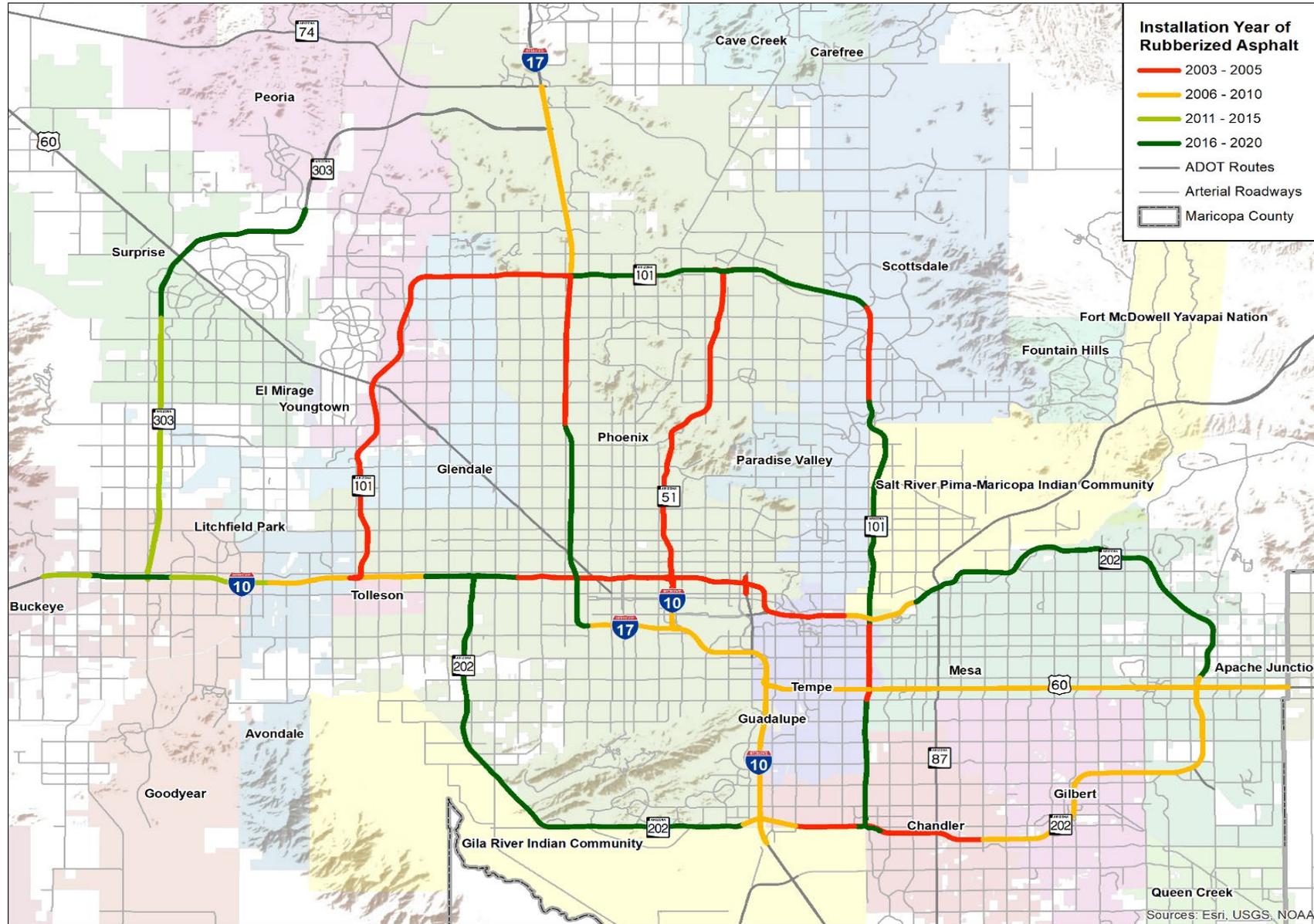
Rubberized Asphalt: Overview and History

- Concerns in the early 2000s about freeway noise
- ADOT began investigating ways to mitigate noise
- Ultimately decided on a rubberized asphalt overlay
 - Asphalt Rubber Asphaltic Concrete Friction Course (AR-ACFC)
 - Quiet Pavement/Quiet Pave

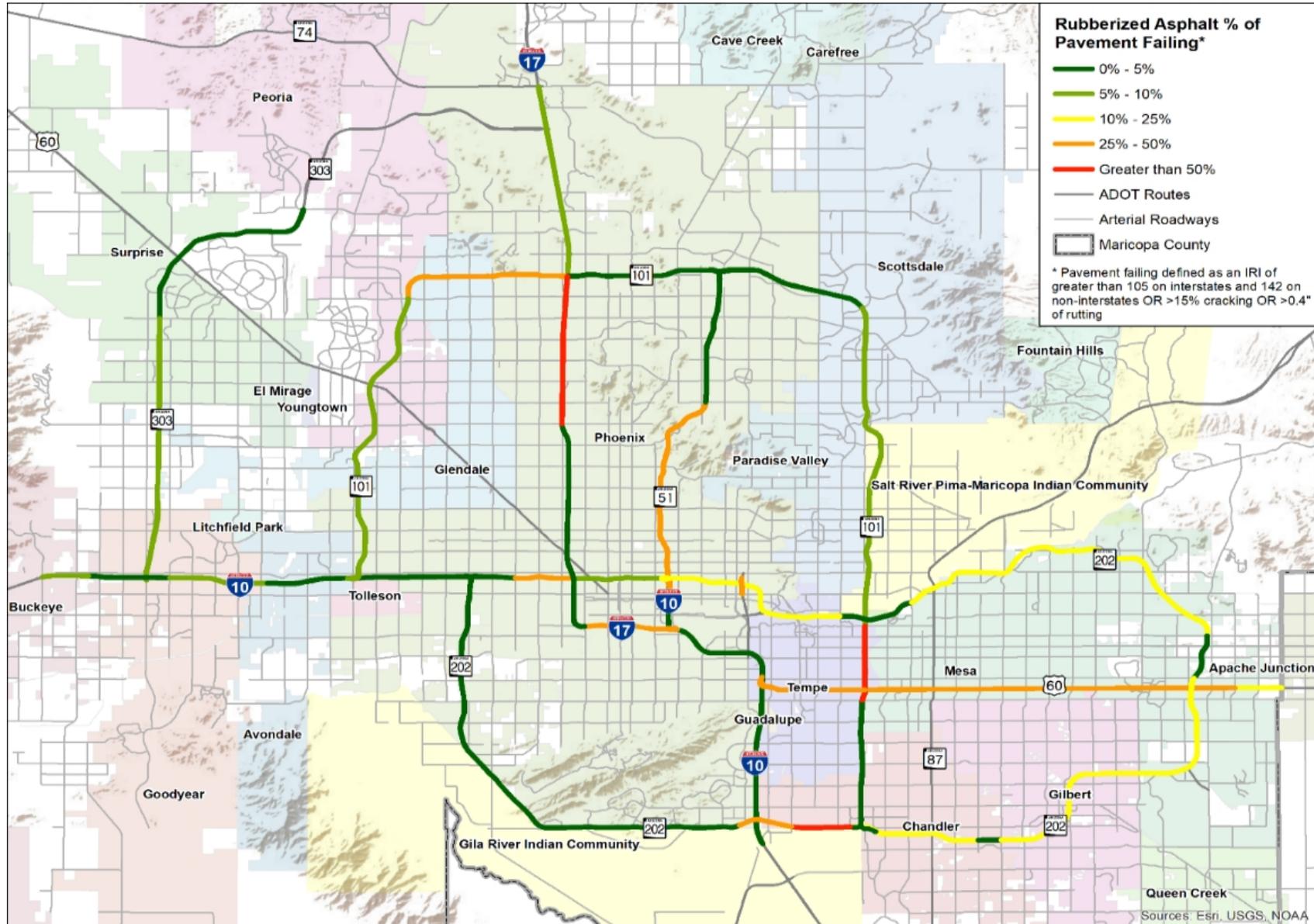


Freeway Life Cycle Program

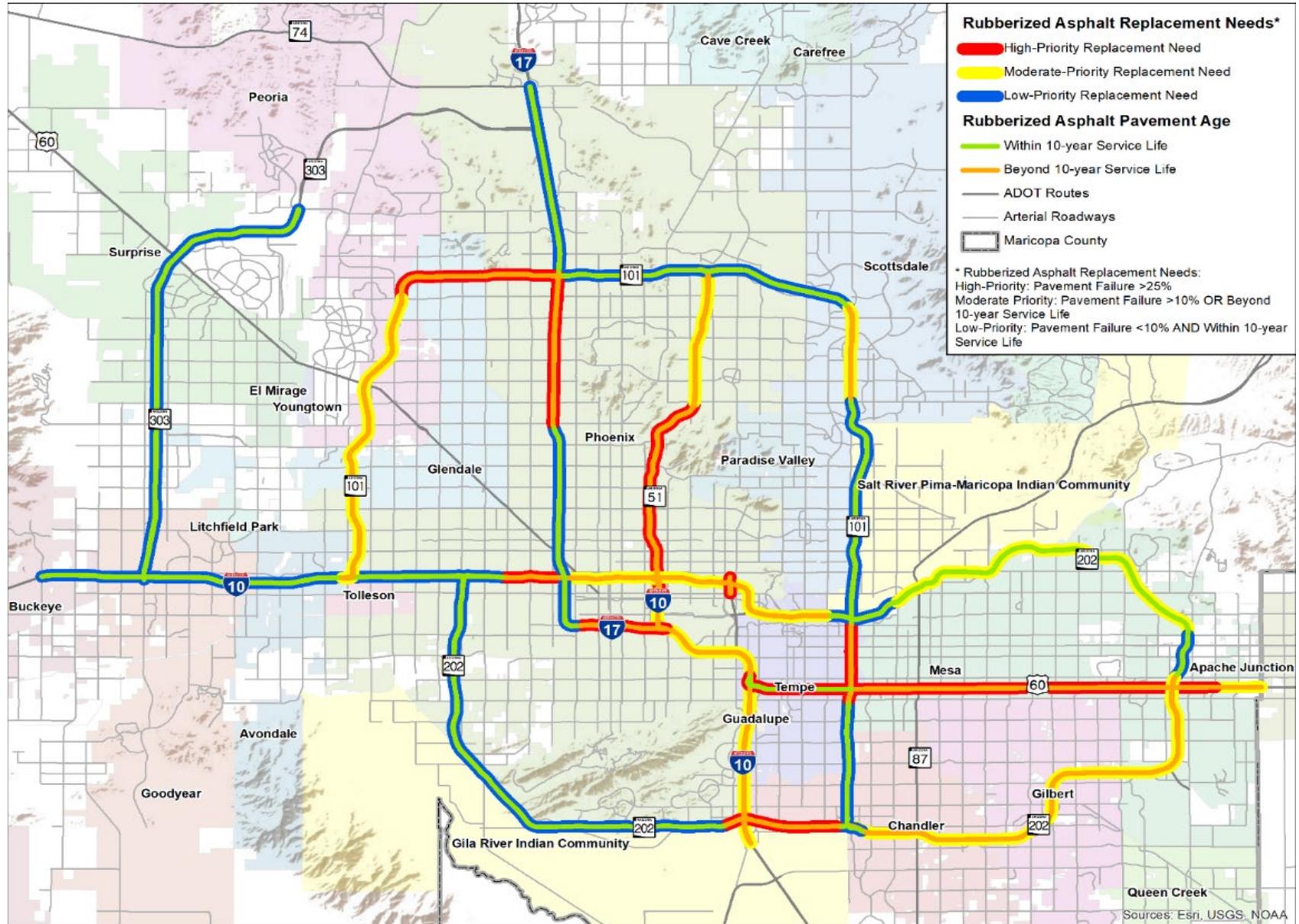
Rubberized Asphalt: Installation Year



Percentage of 'Failing' Rubberized Asphalt Pavement in 2018 by Segment

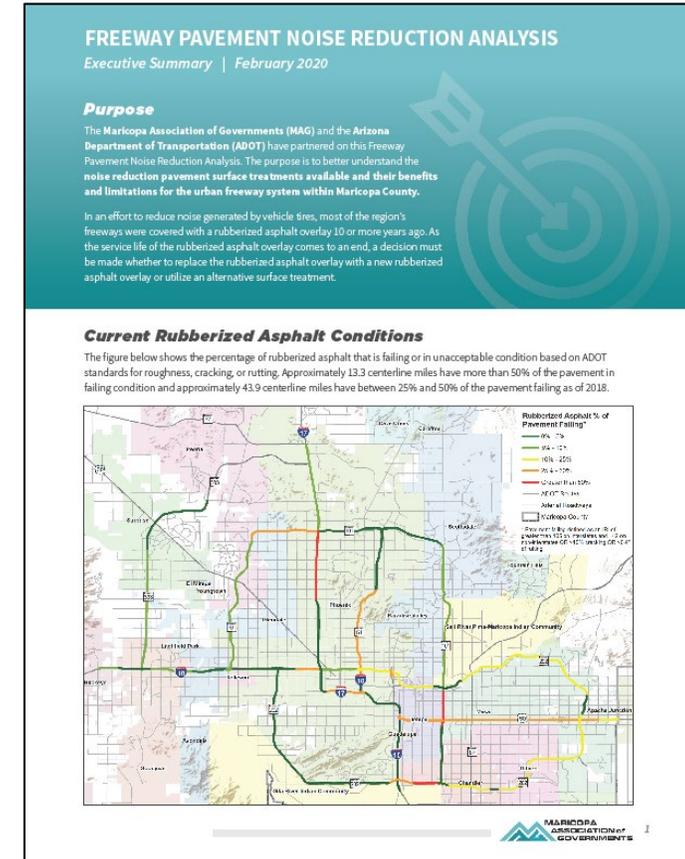


Rubberized Asphalt Replacement Needs



Freeway Pavement Noise Analysis Reduction Study

- ADOT is testing Pavement Surface Treatment Alternatives
- MAG and ADOT partnered on the Freeway Pavement Noise Reduction Analysis Study
- Presented to the RTP Management Committee Work Group on March 4, 2020
- Presented to MAG Management Committee on March 11, 2020



Freeway Life Cycle Program

Advantages and Disadvantages of Surface Treatments

Surface Attribute	Concrete Surface	Asphalt Surface
 NOISE LEVEL	<ul style="list-style-type: none"> + Little change over time - Typically higher than asphalt initially 	<ul style="list-style-type: none"> + Typically lower than concrete initially - Increases over time, ultimately being equal to or higher than concrete
 LIFE-CYCLE COST	<ul style="list-style-type: none"> + Lower than asphalt over service life - Typically higher than asphalt initially 	<ul style="list-style-type: none"> + Typically lower than concrete initially - Higher than concrete over service life
 ROAD SMOOTHNESS	<ul style="list-style-type: none"> + Little change over time - Has expansion cracks from heat/cold cycles 	<ul style="list-style-type: none"> + Has no expansion cracks - Raveling and cracking increase over time, especially when traffic volumes are high or there are many heavy vehicles (trucks)
 AESTHETICS	<ul style="list-style-type: none"> + Little change over time - Hard to see white pavement markings unless black outline of markings on white concrete surface are provided 	<ul style="list-style-type: none"> + Easy to see white pavement markings on dark asphalt surface - Deteriorates over time
 ENVIRONMENTAL IMPACTS	<ul style="list-style-type: none"> + Cooler than asphalt during the day - Hotter than asphalt at night; cannot easily be recycled 	<ul style="list-style-type: none"> + Cooler than concrete at night; can easily be recycled; provides slight reduction in PM-10 emissions compared to untreated concrete - Hotter than concrete during the day



Noise Levels, Life Span, and Costs

Pavement Noise Reduction Treatment	Typical Noise at Beginning of Service Life (dBA)	Typical Noise at End of Service Life (dBA)	Life Span (years)	Costs ¹			
				Per Lane Mile	Corridor ²	Life-Cycle Corridor ³	Life-Cycle System ⁴
Rubberized Asphalt	97	103	10	\$116,000	\$9,280,000	\$41,760,000	\$1,239,901,000
Diamond Grind	102	103	15	\$123,000	\$9,840,000	\$29,520,000	\$912,784,000
Whisper Grind	100	103	15	\$150,000	\$12,000,000	\$36,000,000	\$1,098,290,000
Skidabrader	104	106	15	\$90,000	\$7,200,000	\$21,600,000	\$686,054,000

1. Bridge joint replacement work is included in the diamond grind, whisper grind, and Skidabrader cost estimates.

2. Corridor costs based on a new 10-mile, eight-lane section (four lanes in each direction) with auxiliary lanes and shoulders.

3. Life-cycle costs based on corridor costs over a period of 25 years.

4. System costs based on maintenance and construction cost of the treatment for the entirety of the freeway system that currently has rubberized asphalt over a period of 25 years.

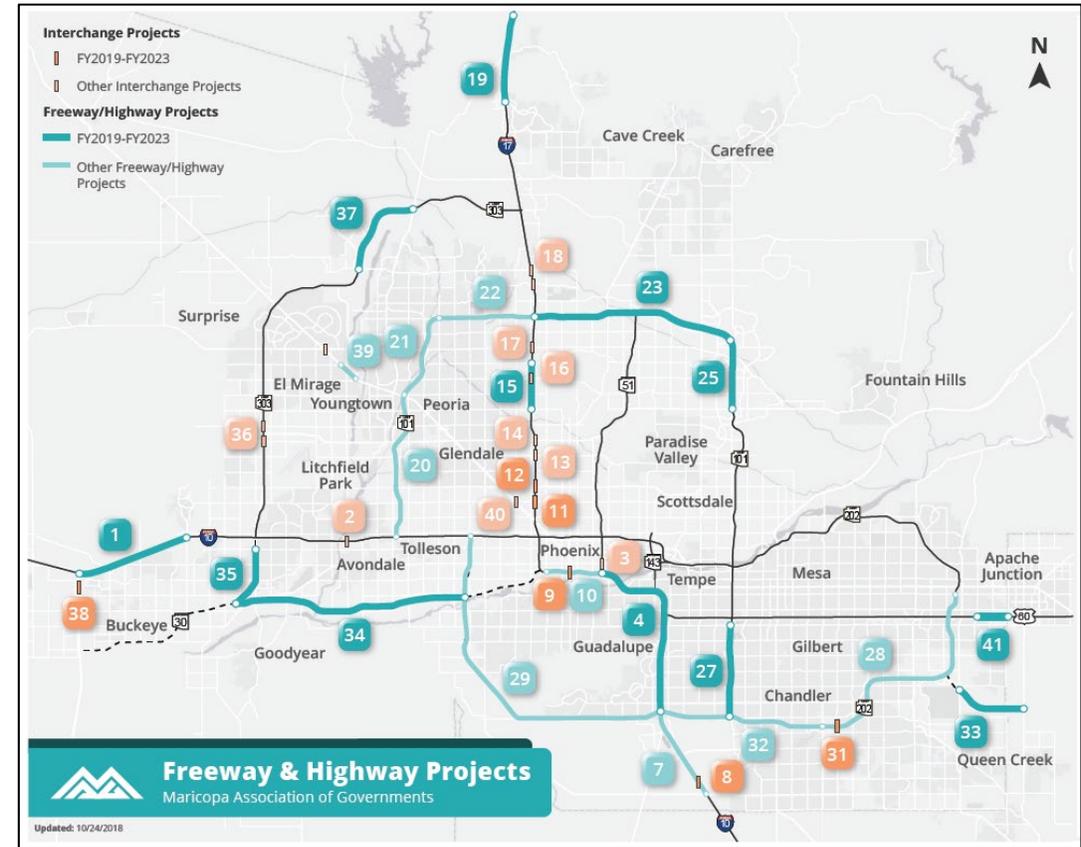


Diamond Grind Pilot Program



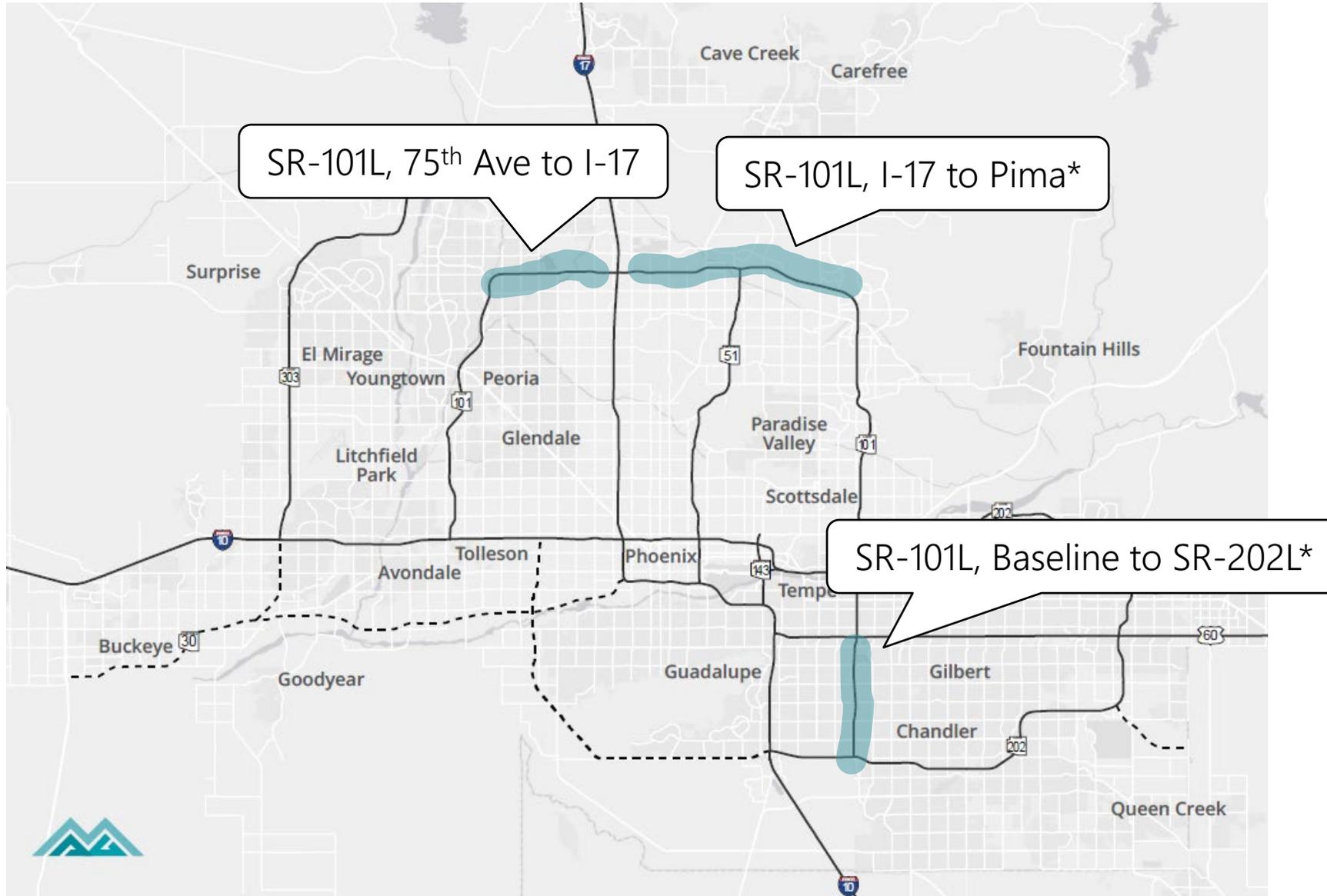
Diamond Grind Pilot Program

- Direction was provided to explore concrete-based surface treatments as an alternative to a rubberized asphalt overlay
- MAG has been working with ADOT to determine which FLCP projects could be candidates for a diamond grind pilot program



Freeway Life Cycle Program

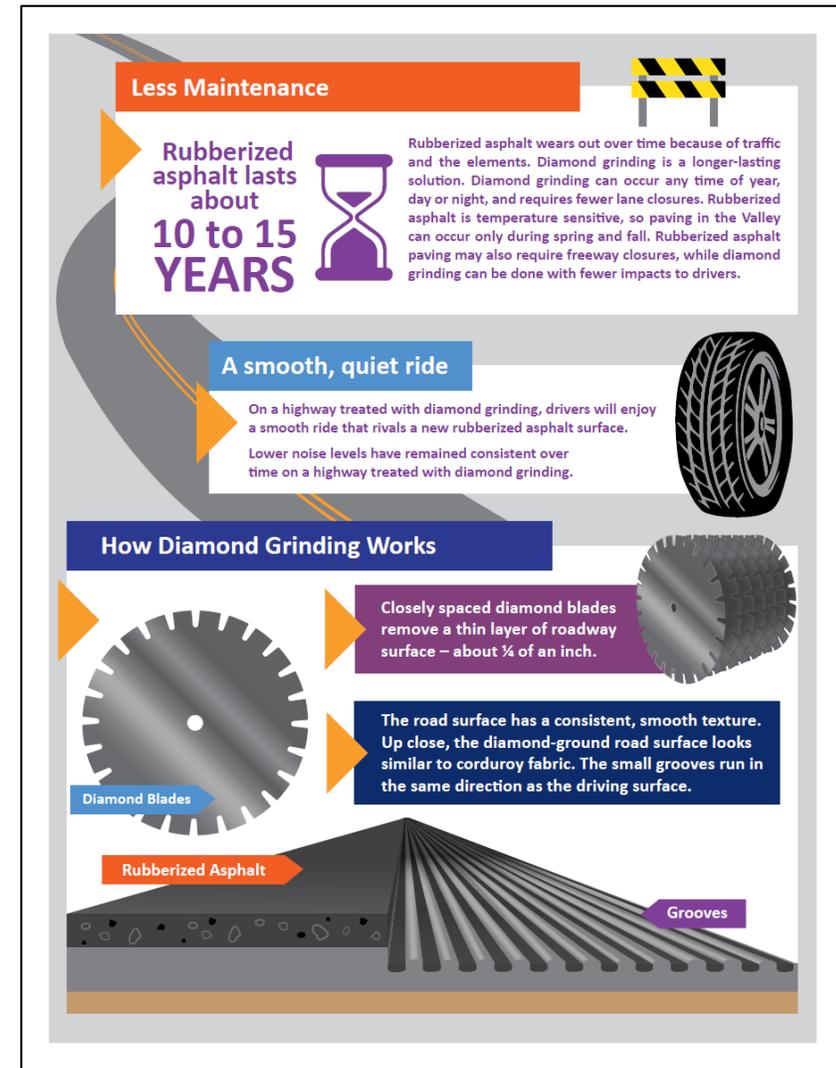
Diamond Grind Pilot Program: Projects



*Under Construction

Diamond Grind Pilot Program: Moving Forward

- ADOT will assess:
 - Life cycle costs
 - Quality of ride
 - Public acceptance of a ground concrete surface
- Formal approval to modify the project scopes to replace rubberized asphalt with a diamond grind surface treatment
- If the pilot demonstrates diamond grind is less effective, funding would be provided for a rubberized asphalt overlay



Freeway Life Cycle Program

Requested Action:

Recommend approval of the diamond grind pilot program.



Agenda Item 8 Update on the Development of a New Regional Transportation Plan

Management Committee

June 10, 2020



Today's Focus

- RTP Call for Projects Update
 - Summary of submissions
 - Updated sketch estimates
- Performance-Based Evaluation Framework
 - Draft Vision, Goals
 - Draft Regionally Significant Definitions
- Next Steps



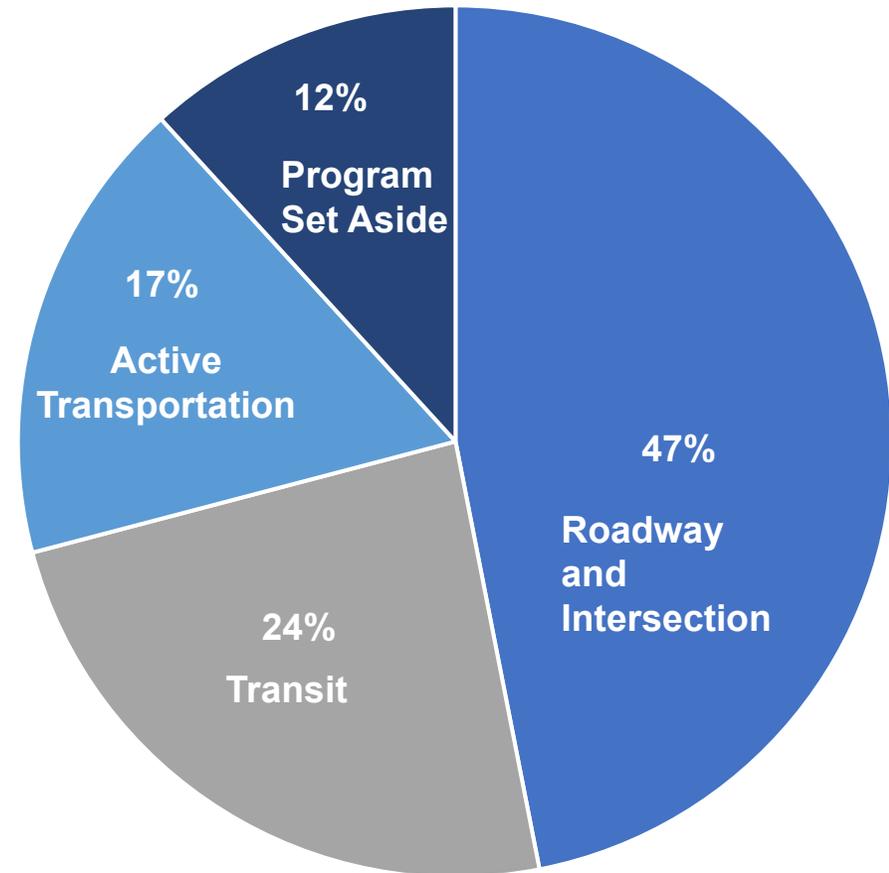
RTP Call for Projects Update: Summary of Submissions

Recap: Existing Prop 400-era Programs

- Freeway Life Cycle Program
- Transit Life Cycle Program
- Arterial Life Cycle Program
- Seniors and Persons with Disabilities Transportation (Enhanced Mobility, §5310)
- Active Transportation
 - Infrastructure
 - Design Assistance
- Safety
 - Safe Routes to Schools
 - Regional Roadway Safety Assessments
 - Regional Safety Program
- Systems Management & Operations
- Air Quality
 - Regional Ride Share
 - Trip Reduction Program
 - Streetsweepers
 - Paving of Unpaved Roads
- Don't Trash Arizona, litter and landscape
- Pinal County Arterial and Bridge Program

Member Agency Call for Projects

- Closed April 17, 2020
(extended due to COVID-19)
- Nearly 1,300 individual
project and program
submissions received



“Buckets” of Submissions

1. Freeway, Highway and Parkway
2. Arterial Roadway
3. Arterial Intersection
4. Roadway Other
5. Pavement Preservation
6. Commuter Rail
7. High Capacity Transit
8. Regional Bus Service
9. Other Transit
10. Active Transportation
11. Safety
12. Intelligent Transportation Systems
13. Transportation Demand Management
14. Planning, Support
15. Other Infrastructure

1. Freeway, Highway and Parkway (capital)

- New facilities
- Capacity improvements, system interchanges, traffic interchanges
- Reconstruction, modernization



Source: ADOT

2. Arterial Roadway (capital)

- New facilities
- Capacity improvements
- Reconstruction, modernization
- Freight plan implementation



3. Arterial Intersections (capital)

- Major arterial intersections
- Minor arterial intersections
- ITS improvements
- Safety improvements*



4. Roadway Other (capital)

- Local collector
- Bridges
 - New river crossings
 - Railroad crossings
 - Reconstructions
 - Preservation
 - Maintenance
- Roundabouts
- Complete Streets
- ADOT roadway turnbacks
- Safety improvements*



Source: MCDOT

5. Pavement Preservation

- Arterial, et al



Source: City of Phoenix

6. Commuter Rail

- Capital
- Operations



Illustrative commuter rail

7. High Capacity Transit (capital and operations)

- Light rail extensions, overlay service
- Streetcars
- Bus Rapid Transit



Source: Valley Metro

8. Regional Bus Service (capital and operations)

- Regional grid service
- Express/commuter bus
- Fleet/asset management
- Park and rides
- Operations and maintenance centers
- Transit centers/mobility hubs



Source: Valley Metro

9. Other Transit (capital and operations)

- Circulators
- Microtransit
- First/last mile solutions
- Localized transit (flexible, on-demand)
- Transit accessibility
- Transit stops
- ADA
- Seniors and Persons with Disabilities Transportation (\$5310, etc.)



10. Active Transportation

- Active Transportation Plan implementation
- Separated/protected bike lanes, bike boulevards
- Multiuse paths
- Bridges and connections (freeway, arterial, waterway/canal, railroad crossings)
- Trail, path, and sidewalk lighting
- Sidewalks
- ADA
- Design assistance



11. Safety*

- Safe Routes to Schools
- Roadway Safety Assessments (multimodal)
- Educational programming
- Traffic calming
- Incident response, analysis, REACT
- Infrastructure improvements
 - Spot safety
 - Left turn lanes
 - Intersection improvements
 - Variable messages signs



Source: ADOT

12. Intelligent Transportation Systems

- Transportation systems management and operations
- Integrated Corridor Management (ICM)
- Fiber
- Traffic Management Centers (capital, operations)
- Signal infrastructure, programming, optimization (priority, transit pre-emption)
- Emerging technology
- Equipment (radios, traffic cameras, etc.)
- Emergency support, connectivity



13. Transportation Demand Management

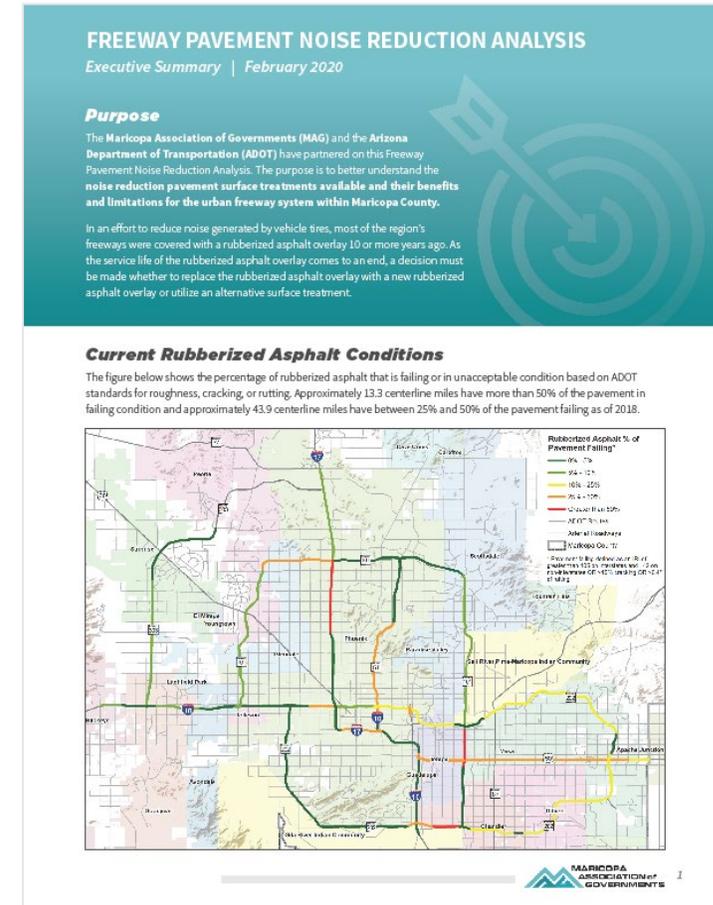
- Capital
- Operations
- Programmatic and policy support



Source: Valley Metro

14. Planning, Support

- Transportation studies
- Pilot programs
- Traffic counts
- Inventory, asset management
- Administration support (federal grant management)



15. Other infrastructure

- Street sign replacement
- Traffic signals, replacements
- Streetlights, LED conversions
- Electric vehicle charging stations
- Utility relocations
- Public art maintenance
- Landscape, beautification, tree replacement program



What Wasn't Submitted?

- Air quality programs
 - Streetsweepers
 - Paving of unpaved roads*
 - Rideshare
- Freeway management system (FMS), large-scale technology



Updated Sketch Estimates

Sketch System Costs - Review

- Last fall, as part of activities related to enabling legislation, preliminary, high-level estimates (“sketch”)
- The information was intended to provide order-of-magnitude context
 - Included known and studied projects
 - Did not include several other categories (arterial, safety, technology)
 - Did not include any direct member agency submissions



Fall 2019 Summary: Sketch System Costs, Revenues

Sketch Costs (2026-2050)

Studied Freeway Capital	\$14.40 b
Commuter Rail	\$3.34 b
Active Transportation	\$0.50 b
System Mgmt & Operations	\$0.63 b
Arterial O&M	\$2.84 b
Freeway O&M	\$7.00 b
Bus Transit	\$13.45 b - \$17.86 b
High Capacity Transit	\$7.07 b - \$11.66 b
Total	\$49.23 b - \$58.23 b

Sketch Revenue Estimates (2026-2050)

Sales tax (half-cent)	\$14.94 b
ADOT funds	\$8.89 b
MAG federal funds	\$3.17 b
Transit funds*	\$2.06 b
Total	\$29.08 b

**Transit federal discretionary funds* \$1.82 b – \$4.28 b

Total with discretionary \$30.88 b – \$33.34 b



Sketch Estimate Updates - Methodology

- Updated the sketch estimates based on a high-level analysis of the RTP Call for Projects submissions.
- Intended to demonstrate relative amounts for project categories, not actual submission data.
 - Approximately half of submissions did not include cost estimates
 - Inconsistency across submission estimates
 - Extrapolation of submission concepts



Updated Summary: Sketch System Costs, Revenues

Sketch Costs (2026-2050)

Freeway Capital	\$17.00 b - \$20.00 b
Commuter Rail	\$3.34 b
Active Transportation	\$0.68 b - \$2.75 b
SM&O, Technology	\$1.00 b - \$2.00 b
Arterial O&M	\$4.00 b - \$8.00 b
Freeway O&M	\$7.00 b
Bus Transit*	\$13.45 b - \$17.86 b
High Capacity Transit	\$10.00 b - \$16.00 b
Arterials	\$6.00 b - \$12.00 b
Safety	\$0.50 b - \$1.75 b

Total **\$62.97 b - \$90.70 b**

Sketch Revenue Estimates (2026-2050)

Sales tax (half-cent)	\$14.94 b
ADOT funds	\$8.89 b
MAG federal funds	\$3.17 b
Transit funds*	\$2.06 b

Total **\$29.06 b**

Transit federal discretionary funds* **\$2.00 b - \$6.50 b

Total with discretionary **\$31.06 b - \$35.56 b**



Draft RTP Vision & Goals

Draft RTP Vision & Goals

The transportation system plays a critical role in ensuring a high quality of life for residents of the MAG region. The purpose of the Regional Transportation Plan is to establish a sustainable, resilient, multimodal transportation investment program that connects people with opportunities to prosper and thrive. Residents deserve a world-class transportation system that reflects the following mission-critical goals:

- **Economic Vitality** – support economic competitiveness and prosperity through strategic transportation investments.
- **Resiliency** – invest in a transportation system that expand travel choices, accommodates future growth, and is flexible to adapt to changing needs and innovations.
- **Quality of Life** – invest in a transportation system that supports health and well-being, and sustains the environment.
- **Safety** – provide for the safety and security of the traveling public.
- **System Preservation** – maintain our region’s transportation infrastructure to protect existing investments and ensure continued mobility.
- **Mobility** – develop a multimodal transportation system that provides ease of movement for people and goods throughout the region and provides equitable access to essential services and destinations.



Alignment of MAG Draft Goals to FHWA Planning Factors

	Draft MAG Goal Areas					
FAST Act Planning Factors	Economic Vitality	Resiliency	Quality of Life	Safety	System Preservation	Mobility
1. Support Economic Vitality	Direct	Support	Support	Support	Support	Direct
2. Increase Safety	Support	Support	Direct	Direct	Support	Support
3. Increase Security	Support	Support	Direct	Direct	Support	Support
4. Increase Accessibility	Direct	Support	Direct	Support	Support	Direct
5. Protect & Enhance Environment	Support	Direct	Direct	Support	Support	Direct
6. Enhance Integration and Connectivity	Direct	Direct	Direct	Support	Support	Direct
7. Promote System Efficiency	Support	Direct	Direct	Support	Support	Direct
8. Emphasize System Preservation	Support	Direct	Direct	Support	Direct	Support
9. Resiliency and Reliability	Support	Direct	Support	Support	Direct	Direct
10. Enhance Travel & Tourism	Direct	Support	Support	Support	Support	Support

FHWA's Metropolitan Transportation Planning Factors



Draft Regional Significance Definitions

Federal Guidance

- FHWA definition
- At a minimum, principal arterial highways and fixed guideway transit
- Projects need to demonstrate a **regional benefit**

Other RTPs

- Identify regional system
- Define Rough Order of Magnitude (ROM) cost threshold
- Proportionality test

Call for Projects

- 1,300 submissions with a wide range of project/program ideas
- Informed by agencies responses to project justification narrative
- Regional significance informed by submissions

Historical Precedent

- Prop 300 (Freeways/Highways)
- Prop 400 (Freeways/Highways + Arterials + Transit)
- **Do projects funded under Prop 300 & 400 meet the definition? Yes!**



Draft Regional Significance Definition

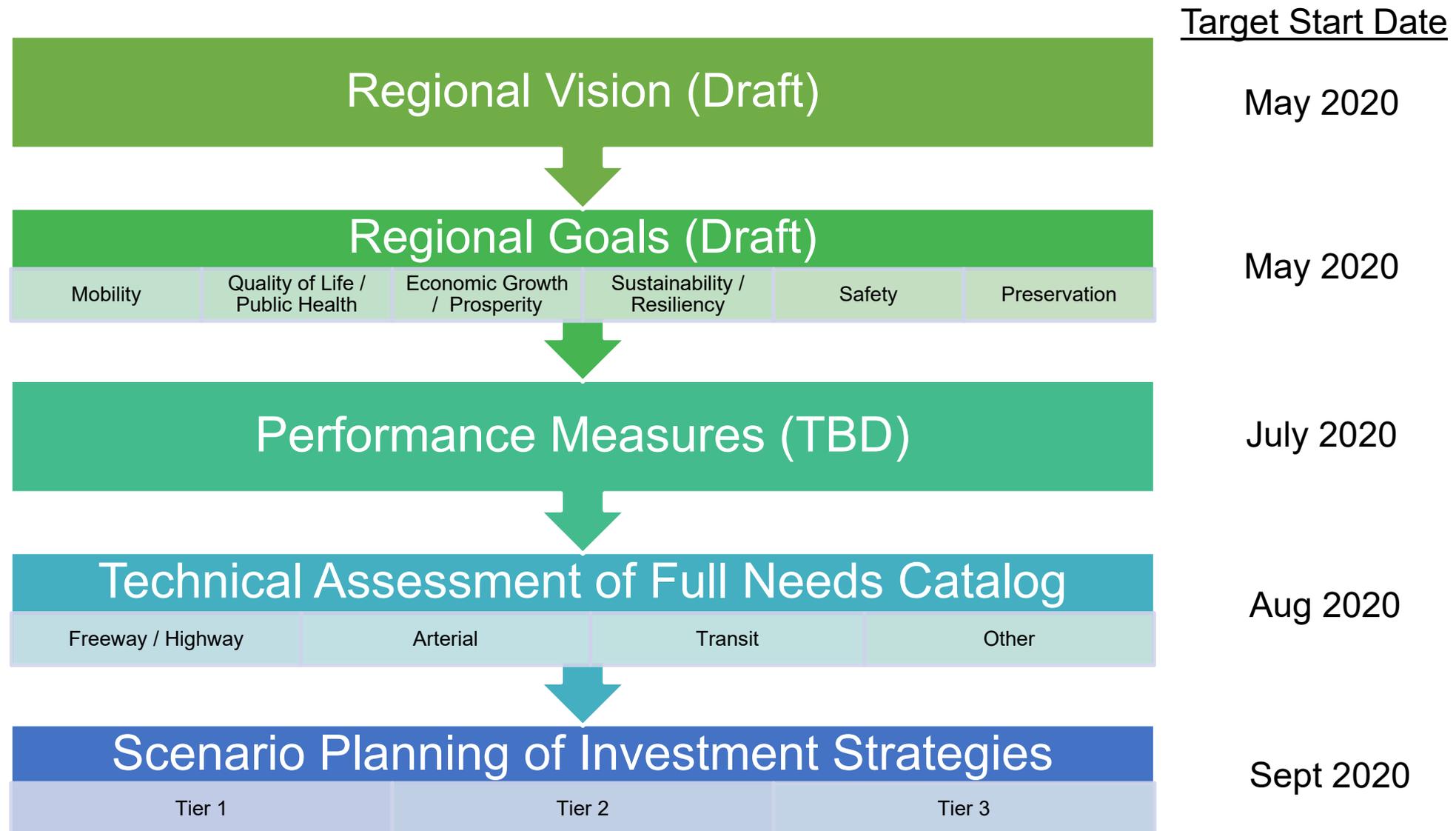
A **regionally significant project** is one that substantially contributes to the regional transportation system, benefitting the movement of people and goods across jurisdictions and connecting communities, activity centers, and destinations. The benefits of a regionally significant project should be as high for users outside the jurisdiction for which it is located as it is for those that reside within that jurisdiction. Projects are often high capacity (e.g., freeway, highway, rail, BRT) or contribute to a system network (e.g., regional bus network, grid arterial network, bridge/connect a gap).

A **regionally significant program** is one that is consistent with the regions values/vision and achieves unique or distinct priorities shared across the region.



Where do we go from here?

Project Assessment Activities





Agenda Item 9

■ Election of Officers



Agenda Item 10

- **Request for Future Agenda Items**



Agenda Item 11

- **Comments from the Committee**