

Prepared for:
**Central Yavapai Metropolitan
Planning Organization**



DRAFT EXECUTIVE SUMMARY

2045 *Regional Transportation Plan*



February 2020

Introduction

The Central Yavapai Metropolitan Planning Organization (CYMPO) is a federally recognized Metropolitan Planning Organization (MPO) located in the population center of Yavapai County. An MPO is a federally designated organization as approved by the governor and the local governments (member agencies) of the designated MPO. Federal legislation designates that an MPO must be established to represent urbanized areas with populations exceeding 50,000 as determined by the U.S. Census during a decennial census count. The CYMPO region was designated following the 2000 Census and is currently comprised of the Town of Prescott Valley, City of Prescott, Town of Chino Valley, Town of Dewey-Humboldt and Yavapai County spanning approximately 435 square miles. The Town of Prescott Valley, City of Prescott, Town of Chino Valley, Town of Dewey-Humboldt, commonly referred to as the Quad Cities, account for only 37% of the land area of the CYMPO region but hold approximately 71% (98,611) of the population. Refer to **Figure E-1** for a visual representation of the CYMPO region.

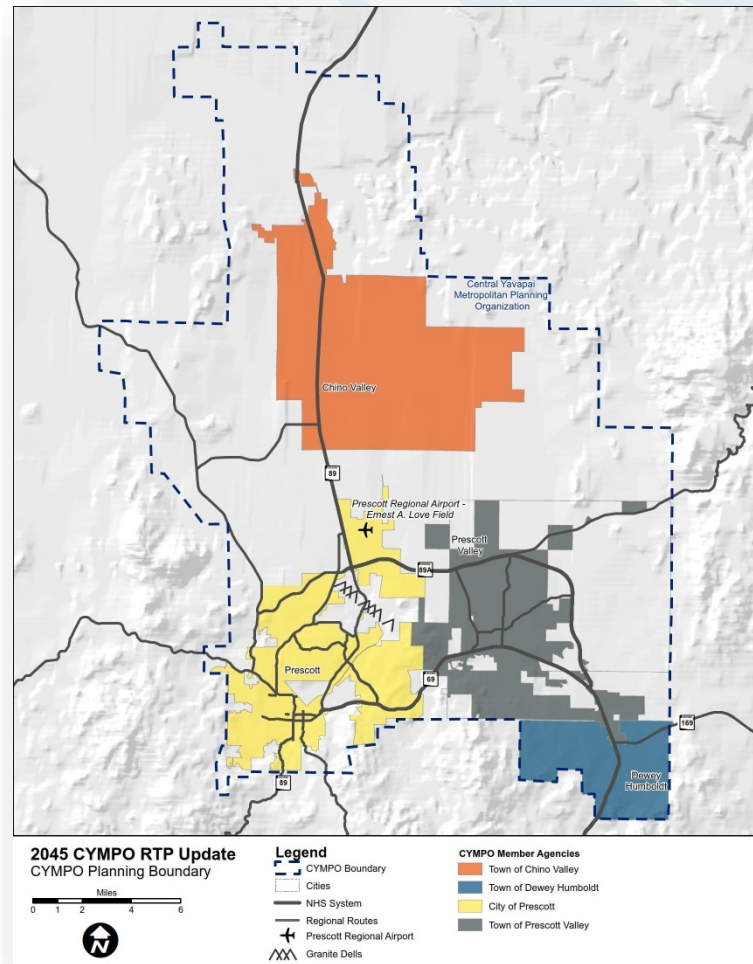
Regional Transportation Plan Purpose

The purpose of this Regional Transportation Plan (RTP) Update is to revise the 2040 CYMPO RTP Update, comprehensively assess regional transportation performance and needs and reprioritize previously recommended and new transportation investments for the CYMPO region with a 2045 target buildout. The plan focuses on short-, medium- and long-term transportation investments.

Regional Transportation Plan Process

Transportation plans are an opportunity to reassess the existing and future regional conditions in order to provide updated guidance towards informed and accurate project identification and programming decision-making. As outlined in **Figure E-2**, the 2045 CYMPO RTP Update incorporated new elements into the planning process when compared to previous updates. Importantly, the development of the RTP was continually supported by regular input from an extended online public engagement effort as well as technical support and guidance from the CYMPO Technical Advisory Committee (TAC). The update process began with an update to the Plan's vision and goals directly followed by a comprehensive assessment of the existing community profile (including land use, zoning, population and employment)

Figure E-1 – CYMPO Planning Boundary



and transportation facility conditions (including pavement, bridge, mobility and safety conditions). A comprehensive future conditions assessment was conducted for the same categories to depict mid- and long-term projected conditions for the community profile and transportation performance and assets. The existing and future conditions were directly used as inputs in the needs assessment. This assessment was conducted in order to identify locations of elevated transportation need across the region as well as establish a performance-based scoring mechanism to score potential project recommendations based on their impact upon those needs. This process was an essential step to create a performance-based analysis system of prioritization, directly relating to performance-based requirements as outlined in the FAST Act.

The process to identify a Recommended Investment Choice (RIC) policy utilized direct input from Executive Board, TAC and public comment inputs to create a preferred strategy for regional transportation investments. The recommended plan, developed at both a mid- (2030) and long-term (2045) forecast, was comprised of the preferred RIC and accompanied list of prioritized project recommendations.

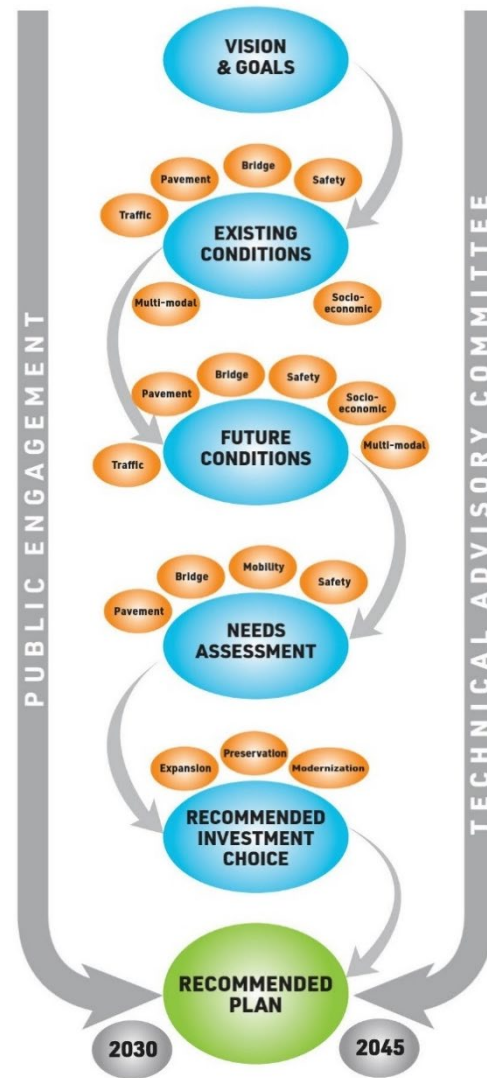
Vision and Goals

In December 2018 the CYMPO Executive Board & Stakeholder Workshop was conducted with the objective of introducing the plan development team, outline the plan development process and identify the vision and goals for the CYMPO RTP.

During the workshop the CYMPO Board Retreat goals and objectives were used to spur thinking about the goals and objectives for the CYMPO RTP. The workshop participants agreed that the CYMPO RTP Update's vision mirrored the CYMPO agency vision; *To promote and maintain a regional coordinated transportation system for the safe and efficient movement of people, goods, and services.* Through additional discussion, the workshop participants agreed upon the following CYMPO RTP goals:

- The RTP Update will be needs-based
- The RTP Update will incorporate the concept of *forward-thinking*
- The RTP Update will incorporate multimodal considerations
- The RTP Update will incorporate wildlife accommodations and considerations
- The RTP Update will place added emphasis on capacity and preservation

Figure E-2 – CYMPO RTP Process



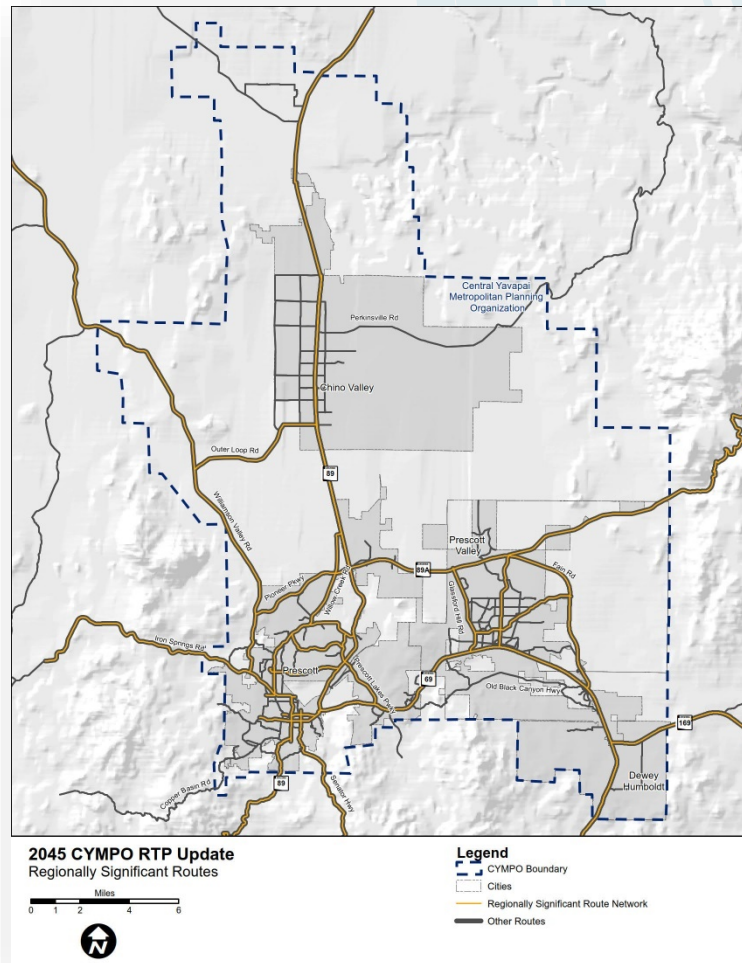
Existing & Future Conditions

In order to assess the CYMPO region in greater detail, a set of Regionally Significant Routes were identified. Twenty-four individual corridors, totaling approximately 144 miles were selected as a Regionally Significant Route, as shown in **Figure E-3**.

In order to be able to assess each corridor's performance, each route was categorized into segments. The segmentation of each route was determined based upon changes occurring in the route characteristics. Therefore, each segment is a unique length but consistent amongst the segment itself, whereas the route may differ throughout. A segment break was created based on one or more of the following occurrences:

- Urban vs rural facility
- Access management
- Speed Limit
- Through Lanes
- Traffic Volume

Figure E-3 – Regionally Significant Routes



Existing Pavement Conditions

Given that the regionally significant route network extends across ADOT, Yavapai County, City of Prescott and Town of Prescott Valley operated routes the pavement assessment incorporates multiple different pavement rating standards. In order to standardize the different reporting methodologies, a good, fair and poor range was applied to each standard.

Most of the regionally significant network has good pavement, with no specific segments with a poor rating.

- **Good** 132.29 miles
- **Fair** 13.36 miles
- **Poor** 0 miles

Pavement



There are multiple locations reflecting good conditions that are approaching fair, fair conditions that are approaching poor and directional hotspots. The following locations indicate hot spot locations with one or both directions of travel reflecting a poor rating for an extended portion within a full segment:

- **SR 69** MP 279 – MP 280 (eastbound only)
- **SR 89A** MP 330 – MP 331 (northbound and southbound)

Existing Bridge & Culvert Conditions

There are currently 110 bridges and culverts located throughout the CYMPO region. From that selection, only 67 structures, 34 bridges and 33 culverts, are located on the identified regionally significant routes. In order to assess each segment's bridge performance, a Bridge Index was established for each segment. A majority of bridges and culverts are in good condition. Only 15 individual structures were identified as a hotspot.

Culverts beyond 50-year life span:

Government Wash RCB #4275 (SR 69); Government Draw RCB #4799, Willow Creek RCB #6042, Target Range Wsh RCB #4800, RCB #4803, #4804, #4805, #4806 (SR 89); Granite Creek RCBC #10360 (White Spar Road)

Culverts



Bridges beyond 50-year life span:

Paulden ATSF RR UP #1577 (SR 89), Butte Creek Bridge #9786 (Gurley Street), Granite Creek Br #1 & #2 #105/#106 (White Spar Road), Mint Wash Bridge #9106 (Williamson Valley Road)*

Bridges



*Bridge is scheduled as a bridge widening / modernization project by NACOG for FY-20

Poor Bridge Rating

Willow Creek Bridge #9108 (Iron Springs Road)*

*Bridge was reconstructed in March 2019

Existing Safety Conditions

As part of the 2018 Regional Strategic Transportation Safety Plan (RSTSP), a comprehensive safety assessment was conducted, creating a regional safety profile for the CYMPO region, using 2012 – 2016 crash data. In order to maintain continuity with this recently completed effort, the same crash data range was used in this RTP Safety Assessment. The crash analysis was performed for each individual segment across the entire regionally significant route network, identifying crash rates and crash severities at a granular level.

Table E-1 Highest Total Crash Rate Locations

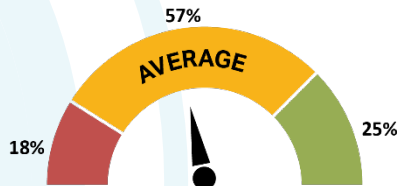
Rank	Route	Limits	Crashes / 1,000,000 VMT
1	Gurley St	Mount Vernon Ave - McCormick St	17.983
2	Montezuma St	Sheldon St - S of Carleton St	9.989
3	Sheldon St	Alarcon St - Montezuma St	6.608
4	Sheldon St	SR 69 / SR 89 - Alarcon St	6.112
5	Robert Rd	SR 69 - N of Lakeshore Dr	4.846
CYMPO Weighted Average Crashes / Million VMT			1.307

Existing (2012-2016)

57%

"average" F&I Crash Rate

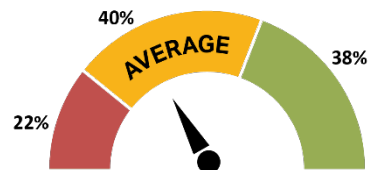
Safety



Existing (2012-2016)

40%

"average" Total Crash Rate



Existing Mobility Conditions

The existing traffic volumes and level of service (LOS) were calculated through the use of a CYMPO Travel Demand Model using the 2018 street network, as shown in **Figure E-4**. The model provides the full network volume coverage and LOS values. Areas of elevated LOS operating at LOS D - F include:

- SR 89 between Willow Creek Rd – Deep Well Ranch Rd
- SR 69 throughout Prescott Valley, Prescott and near Fain Rd
- SR 89 between Road 3N and Road 5N
- Various intersections along Willow Creek Rd
- Small portions of Glassford Hill Rd
- Miller Valley Rd south of Iron Springs Rd

Mobility



Existing (2018)
325 lane-miles
with "good" LOS



Future Mobility Conditions

The future No-Build traffic models (2030 & 2045) were developed using a socioeconomic analysis as shown in **Figure E-5**. Both models represent the project future traffic conditions across the CYMPO region as reflected on the No-Build scenario, which represents current roadway configurations as well as under-development or presently funded improvements. Areas of elevated LOS operating at LOS D - F include:

- SR 89 between Willow Lake Rd – SR 89A
- Willow Creek Rd between Willow Lake Rd – Pioneer Pkwy
- Willow Lake Rd between SR 89 – Willow Creek Rd
- A majority of SR 69 between SR 169 – Prescott Lakes Pkwy
- SR 89 north of Road 3N
- Various portions of Glassford Hill Rd
- Viewpoint Dr & SR 89A Interchange

Mobility



Future (2045)
190 lane-miles
with "good" LOS

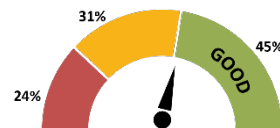


Figure E-4 – 2018 Traffic Volumes

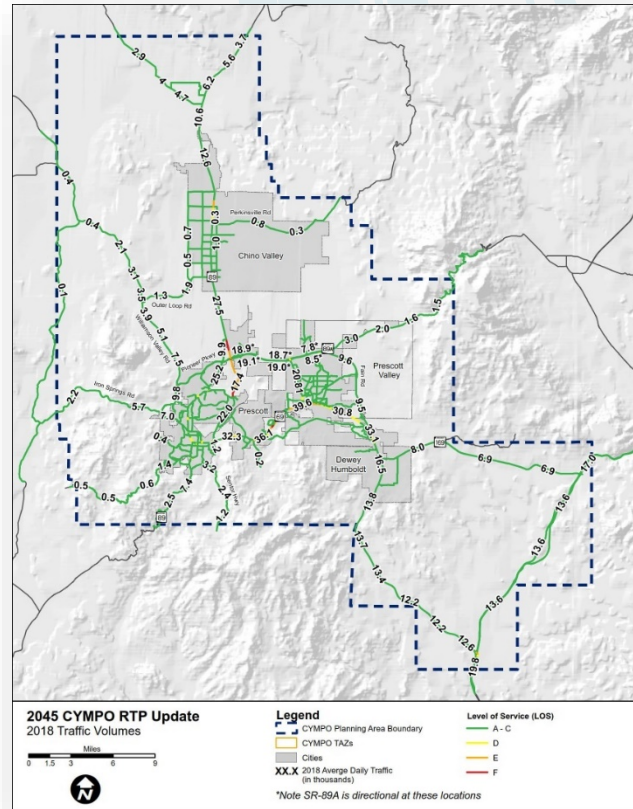
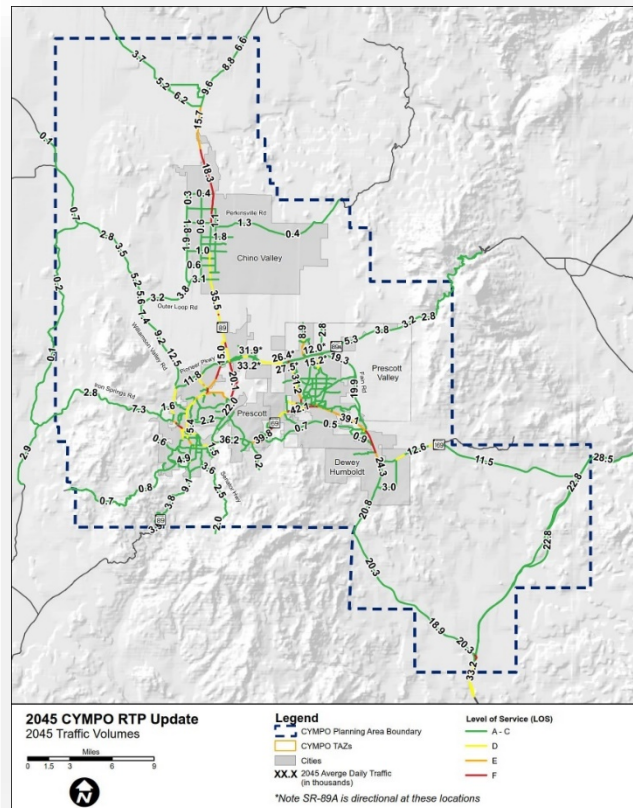


Figure E-5 – 2045 Traffic Volumes

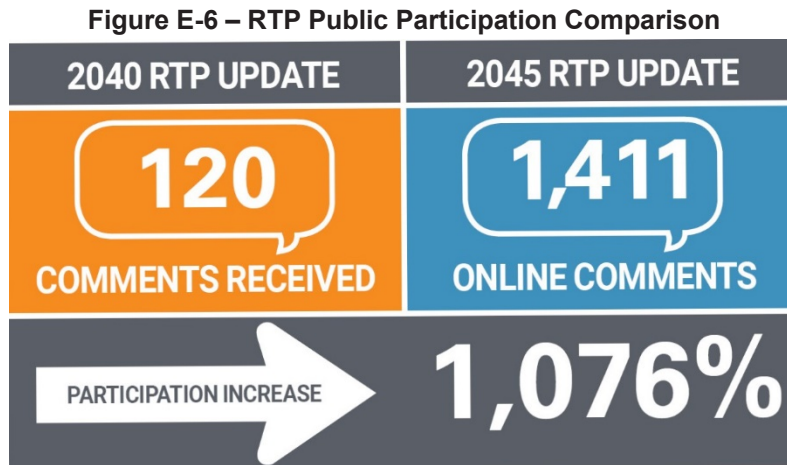


Public Participation

For the first time, CYMPO dedicated public involvement efforts to an online, digital campaign. A digital campaign allows the public to participate when they want to, and from where they want to.

A thoughtful online engagement campaign was designed to understand the community’s perspective of regional transportation for the 2045 RTP update. Opening up digital engagement opportunities in the beginning of a plan update allows for public input to truly shape and drive the plan. This is in contrast to a standard public meeting approach, that can often happen as a study is completing, where residents are provided open-ended comment forms that do not guide a resident as to what feedback is expected. In addition, a public meeting requires additional time commitment from a resident including travel time and time for the duration of the meeting.

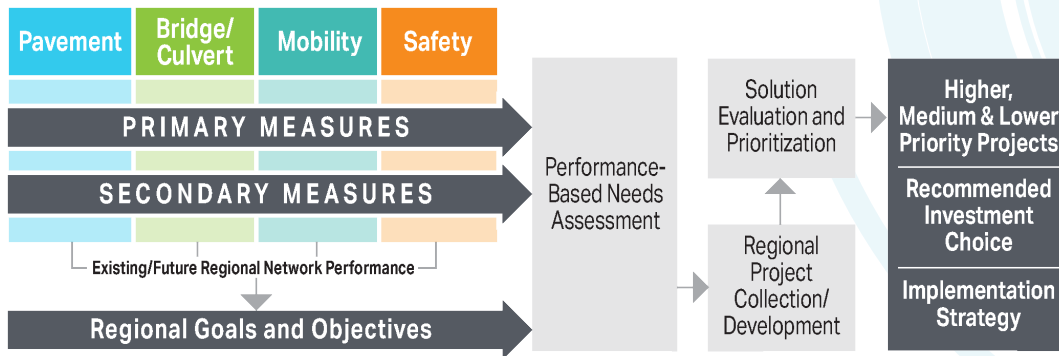
By engaging in this new form of public engagement, participation in the RTP 2045 update soared 1,076% from 120 individual comments received during the 2040 RTP development during two public meetings to 1,411 individual comments collected via online for this 2045 RTP effort as shown in **Figure E-6**. The results of having such a large response is compounding; agencies with jurisdiction over some of the comments received during this effort also received copies of public comments as well as GIS files, helping them to address the issues and providing due diligence to those members of the public who took time to comment.



Performance-Based Planning Approach

In order to assess the overall performance and needs of the Regionally Significant Routes, the individual performance measures assessed in the existing and future condition analysis were combined into four performance areas (Pavement, Bridge, Mobility and Safety). The process from identifying performance, translation to needs, project development, project prioritization and plan development is outlined in **Figure E-7**.

Figure E-7 – Performance-Based Planning Approach



Following the evaluation of segment performance, scores for each performance measure were converted to a universal level of Need. This conversion is necessary because the performance score for each separate measure is not calculated on the same scale. The performance score for each measure was converted to a None, Low, Medium or High level of Need to allow for comparison across performance areas.

Table E-2 – Conversion from Performance to Need

Performance Level	Initial Level of Need	Description
Good	None	All levels of Good
Good		
Good		
Fair	Low	Upper portion of Fair
Fair		
Fair	Medium	Lower portion of Fair and upper portion of Poor
Poor		
Poor	High	Lower portion of Poor
Poor		

The resulting highest Need segments are shown in Table E-3.

Table E-3 – Segment Overall Need Scores

Rank	Road	Segment	Overall Need	Mobility Need	Safety Need
1	Gurley St	E of Mt Vernon Ave to McCormick St	1.88	0.23	5.40
2	SR 69	E of Truwood Dr to Glassford Hill Rd	1.65	2.77	2.19
3	Senator Hwy	Mount Vernon Ave to South CYMPO Boundary	1.63	0.23	4.65
4	SR 69	Glassford Hill Rd to W of Stoneridge Dr	1.59	3.12	1.10
5	Willow Lake Rd	SR 89 to Willow Creek Rd	1.34	0.19	3.83
6	Lakeshore Dr	Glassford Hill Rd to E of Robert Rd	1.21	0.23	3.41
7	Prescott Lakes Pkwy	N of SR 89 to Willow Lake Rd	1.17	0.23	3.30
8	SR 89A	Robert Rd to East CYMPO Boundary	1.12	0.08	4.40
9	SR 89	Road 5 N to North CYMPO Boundary	1.12	2.04	2.43
10	Iron Springs Rd	W of Williamson Valley Rd to West CYMPO Boundary	1.08	0.08	2.47

In order to best capture both existing projects as well as identify new projects, a comprehensive list of projects was developed by

1. referencing previously completed studies, plans and reports,
2. direct TAC input,
3. public comment and
4. project team identification of high need location solutions.

Each project was evaluated based on their performance effectiveness which included determining a Performance Effectiveness Score (PES) based on how much each solution impacts the existing performance and needs scores for each segment. Higher prioritization scores indicate more immediate project priority. Projects that address multiple performance areas tend to score higher in this process.

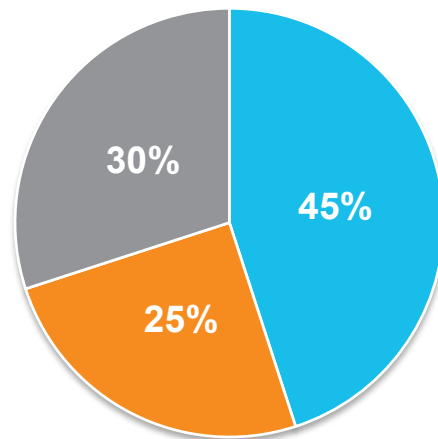
Regional Transportation Plan

Recommended Investment Choice

The establishment of a Recommended Investment Choice (RIC) is a new method of establishing CYMPO's RTP. A RIC is a policy which outlines investment allocations across three transportation investment categories; Preservation, Modernization and Expansion. The development of a RIC allows for greater flexibility in planning and programming decision-making, identifies an investment approach congruent with the agency's vision, goals and performance targets and allows for greater plan compliance in the event of variable funding environments.

Historically, CYMPO has developed an RTP resulting in list of future projects across mid-, long- and extended timeframes, creating a list of project recommendations for future consideration at the town, city, county and/or MPO level. This 2045 CYMPO RTP Update is anchored by the RIC policy as established by TAC, Executive Board and public inputs as shown in **Figure E-8**. This policy provides the investment framework for CYMPO and its member agencies to make regional transportation planning decisions that best serve the regional needs and promote compliance with the adopted federally performance targets.

Figure E-8 – 2045 CYMPO RTP Update RIC



■ Preservation ■ Modernization ■ Expansion

Policy and Project Implementation

The CYMPO preferred RIC and prioritized list of projects provide both a programmatic framework and actionable improvements to drive future transportation regional investment prioritization. The CYMPO preferred RIC is to be used to guide regional transportation investment distributions across various priorities. Specific locations have not been identified for preservation activities, including both pavement and bridges. The existing efforts CYMPO member agencies and ADOT conduct have shown to be effectively maintaining high quality pavement and bridge facilities. In extraordinary circumstances, including extreme weather events, programmatic mechanisms in place have allowed for swift reactions to address suddenly emerging concerns.