

Regional Transportation Plan

Central Arizona Association
of Governments



Draft Working Paper No.1 Phase II Scope of Work

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ATTACHMENTS

Attachment A Proposed RTP Outline





REGIONAL TRANSPORTATION PLAN DEVELOPMENT - PHASE II

1.0 INTRODUCTION

Phase I of CAAG's development of the Regional Transportation Plan (RTP) consisted of a series of eight tasks outlining the purpose and context of the RTP. These tasks also provided foundational information for Phase II of the RTP development process. Efforts included:

- Formation of a Technical Advisory Committee (TAC) and development of a Draft Public Participation Plan (PPP)
- Reviews and summaries of over 100 relevant studies to identify transportation components and recommendations that may influence or affect the RTP
- Compilation of a list of planned projects within the CAAG Region based on previous study efforts
- Development of base maps to illustrate key features of the CAAG planning area, including the transportation network, land uses, and socioeconomic characteristics
- Research on the basis for and establishment of Metropolitan Planning Organizations (MPOs)
- Drafting of regional Vision, Values, Goals & Objectives to guide formulation of the CAAG RTP.

The results of each of these efforts has provided the foundation for further more detailed study of anticipated long-range transportation needs of the CAAG Region, which will be conducted during the Phase II. The following sections describe additional tasks to be completed in conjunction with the Phase II effort.





2.0 PHASE II SCOPE OF WORK

2.1 TASK 9 – TRANSPORTATION POLICIES & STRATEGIES

Transportation policies and strategies will be customized for the CAAG Region, and a series of performance measurement criteria will be established to evaluate the effectiveness of future multimodal transportation options in meeting defined strategies.

2.1.1 TASK 9A – DEVELOP TRANSPORTATION POLICIES & STRATEGIES

In this task, a framework of policies and principles specific to the region’s transportation infrastructure will be determined and assessed. Key objectives that may be considered while developing these transportation policies and strategies include:

- Optimize use of existing infrastructure by balancing land use development patterns that encourage efficient transport use
- Promote more efficient and affordable commuter options and improve infrastructure efficiency by encouraging greater use of public transportation, increased vehicle occupancy, and greater cycling and walking
- Ensure efficient and safe access for residents of, and visitors to, the CAAG Region.
- Account for environmental and social equity concerns in the planning, construction, and operation of all transportation system components and services
- Enhance regional and national transportation linkages to facilitate enhanced economic development of the CAAG Region.

2.1.2 TASK 9B – DEFINE PERFORMANCE MEASUREMENT CRITERIA

Performance measures are necessary to evaluate how well the RTP addresses the adopted vision for the CAAG Region and defined values and goals and objectives supporting the attainment of that vision. A set of measurable goals may include the principles of sustainability, economic development, enhanced environmental quality, and land use/transportation integration. The Transportation Advisory Group (TAG) will be given an opportunity to review and expand the set of performance measures and provide input on indicators, targets, and outcomes.

2.2 TASK 10 – FUTURE BASE TRANSPORTATION NETWORK DATABASE

This task will provide the foundation for assessing future conditions by establishing the primary characteristics of the Future Base Transportation Network reflecting key facilities expected to be in place in the Year 2035. It will be accomplished through a series of concurrent work streams, as detailed below.

2.2.1 TASK 10A – COORDINATE WITH ADOT ON SUBAREA MODEL

The Consultant Team will work with ADOT to establish a calibrated travel demand model for the CAAG Region. The fourth generation of the Arizona Statewide Travel Demand Model (AZTDM4) currently is under development by ADOT. ASTDM4 will be used to create





a subarea model of the region’s roadway and transit network. The CAAG Subarea Travel Demand Model will consist of all 1000+ Transportation Analysis Zones (TAZs) identified within the region coupled with consolidation of the remaining 5000+ TAZs outside the region. The CAAG Subarea Travel Demand Model will be calibrated to known existing conditions in a cooperative effort with the ADOT Multimodal Planning Division for use in analyzing future network conditions.

2.2.2 TASK 10B – CONFIRM FUTURE BASE TRANSPORTATION NETWORK INPUTS

The calibrated CAAG Subarea Travel Demand Model will be reviewed to identify any necessary revisions to the TAZ structure to accurately reflect future conditions. This process will include evaluation of characteristics of the Future Base Transportation Network (e.g., connectivity, functional classifications, number of lanes, facility capacities, etc.). Any currently funded transportation improvement projects will be incorporated into the network at this time.

2.2.3 TASK 10C – CREATE GIS DATABASE/MAPS OF ALL PLANNED PROJECTS

During Phase I, numerous available completed and ongoing studies were reviewed and summarized to prepare a database of recommended multimodal transportation projects within the CAAG Region. This task will create a digital version of the information relating to the recommended projects employing accepted geographic information system (GIS) methods. GIS methods will permit creation of various layers, as appropriate, to display the different components of the regional transportation system (e.g., roadways, transit routes, transit facilities, etc.). All digitized GIS layers will be linked to the existing transportation infrastructure database. Existing datasets, such as county and city boundaries, road system, freight facilities, and airports, will be used as a base against which the planned projects layer will be matched.

The ultimate goal for this aspect of the RTP development process is to provide a user-friendly, web-based GIS application integrated with the Environmental System Research Institute, Inc. (ESRI). Integration with web-based ESRI applications permits connection with an expansive analytic knowledge base that enhances geographic capabilities. The ESRI GIS mapping application will provide an interface to give the CAAG staff the ability to search for planned projects based on certain criteria, such as Name, Location, and other descriptive parameters. The application also could contain an interactive mapping capability (pan, zoom, last selection, turn layers on/off, scale control, print maps, etc). The web-based GIS application will permit CAAG staff to monitor a dynamic representation of the region’s transportation and will facilitate periodic updates to integrate modifications, as necessary. This would ensure that accurate and timely information is made available to the appropriate governmental jurisdictions and officials, who then would be able to make the information available to the general public.





2.3 TASK 11 – REVENUE ANALYSIS

The RTP ultimately will establish the long-range transportation needs for the CAAG Region and identify a set of improvement options to meet those needs. The Consultant Team will identify potential funding sources, possible financing options, and estimated revenue amounts that may be available to implement necessary improvements. Ultimately, this effort will permit a “gap analysis” that will document potential additional funding needed to implement long-range recommendations.

2.3.1 TASK 11A – REVENUE ANALYSIS & PRELIMINARY ASSUMPTIONS

The funding overview and discussion of revenues and expenditures carried out during this task will draw from a variety of documents and data from federal, state, local, and private sources. Each document and data source report reviewed will be examined to identify all transportation-related revenues and expenditures in the region. The State of Arizona shares revenue with regional & local agencies and these agencies often cooperate on funding transportation projects. Therefore, some revenues and expenditures might be reported at multiple levels of government. Thus, it will be critical during the analysis to identify and account for any duplicate reporting of revenues or expenditures for transportation in the region.

Preliminary assumptions relating to available data will be detailed to fully describe program parameters associated with transportation-related revenues and expenditures over a variety of time periods. This will be necessary, as some data are related to actual revenues and expenditures and some are related to budgeted revenues and expenditures. Data gaps will be identified, and appropriate assumptions will be made to provide an adequate description of current funding conditions and opportunities impacting the CAAG Region.

2.3.2 TASK 11B – FUNDING GAP ANALYSIS FOR PREFERRED PLAN

This subtask will involve preparing a description of costs associated with maintaining, preserving, and improving the CAAG Region’s transportation system through Year 2035. Costs of the Preferred Plan will be compared to a fiscally-constrained revenue scenario to identify the funding gap associated with the likely capital, operations, preservation and maintenance costs of the Preferred Plan versus available funding through identified revenue sources. Additional research will be conducted to identify potential new or innovative revenue streams that could be utilized to diminish the identified funding gap.

2.4 TASK 12 – PREPARE PLANS FOR NON-ROADWAY COMPONENTS

This task will identify and analyze the various improvement options for the non-roadway aspects of the RTP, focusing on transit, goods movement, aviation, and non-motorized (pedestrian/bicycle/trails) components.





2.4.1 TASK 12A – TRANSIT SERVICES

This effort will consist of a compilation of relevant planning efforts related to planned, future transit services, including fixed route bus, specialized demand responsive routes, and commuter rail. This transit element will coordinate with and support preparation of the Coordinated Public Transit-Human Services Transportation Plan update for the CAAG region.

2.4.2 TASK 12B – GOODS MOVEMENT

Previous planning efforts will be reviewed to identify infrastructure needs to support goods movement in the CAAG region, including truck routes and rail/freight service access necessary to promote the long-range economic viability of the CAAG region.

2.4.3 TASK 12C – AVIATION

A review of planning efforts will be conducted to identify strategies for air transportation in the region, including airports, air services, and access.

2.4.4 TASK 12D – NON-MOTORIZED

Non-motorized components of previous planning efforts will be compiled to develop a strategy for enhancing mobility of pedestrians, bicycle, and other non-motorized modes of transportation. Aspects of the non-motorized plan may include sidewalks, pedestrian malls, bicycle routes and paths, and multi-use or specialty trails.

2.5 TASK 13 – DEVELOP TOOLBOX OF STRATEGIES FOR CONGESTION MANAGEMENT

The Consultant Team will outline some basic strategies for addressing Congestion Management (CM) in the urbanizing areas of the CAAG Region. These strategies will be focused on:

- Eliminating person trips or reducing VMT (vehicle miles travelled) during peak hours
- Shifting trips from automobile to other alternative modes
- Improving roadway operations and efficiency
- Adding capacity to the transportation system.

Alternative strategies will be provided to the TAG for review, discussion, and comment. The final set of strategies will be developed into a “CM Planning Toolbox.” The CM Planning Toolbox will be designed to encourage alternatives means for addressing congestion and mobility problems beyond traditional capacity-increasing projects, e.g., roadway widening and new roadways. The components of the toolbox can be identified and defined to target specific categories of travel, such as commute to work, shopping, medical visitation, and specific components of the transportation system, such as highway projects, transit projects, bicycle and pedestrian projects, and development of commuter rail service.





2.6 TASK 14 – DEVELOP 25-YEAR SUB-COUNTY SOCIOECONOMIC PROJECTIONS

It is anticipated that updated population and employment projections will be available from the State Demographer in early summer 2012. These projections, based on the results of the 2010 Census will be reviewed, disaggregated for distribution to the TAZs contained with the CAAG Subarea Travel Demand Model. The disaggregation will be based on:

- Current and future population, households, employment, and other pertinent data from federal, state and local sources
- Available socioeconomic reports and studies for the region that reflect existing and anticipated future regional population growth and economic development
- Identification of major activity centers in the region, such as expansive shopping areas (e.g., downtowns), higher education centers, health care facilities, government centers, national, state and local parks, etc.
- Individual meetings with planning staff from the various communities within the CAAG Region to assure that allocated growth is spatially distributed in a manner consistent with and appropriate to the growth plans of each jurisdiction.

2.7 TASK 15 – FUTURE TRANSPORTATION OPTIONS & ALTERNATIVES

This task will consist of the development, modeling, assessment, and mapping of up to three (3) transportation network options to address the long-range needs of the CAAG Region. Improvement alternatives by mode will define each option which will be developed to address identified deficiencies in the region.

2.7.1 TASK 15A – DEFINING FUTURE TRANSPORTATION OPTIONS & ALTERNATIVES

The calibrated Year 2035 CAAG Subarea Travel Demand Model (developed in Task 10) will be coupled with socioeconomic projections (developed in Task 14) to forecast future network deficiencies in the CAAG Region under No-Build conditions. This assessment will be based on forecast travel associated with the Future Base Transportation Network. In addition to a No-Build Alternative, three transportation network alternatives will be defined to address identified network deficiencies at different levels of effort and expenditures. Additional network options, as may be identified by the TAG to address various policies, strategies, values, goals, and objectives, will be developed, as necessary.

2.7.2 TASK 15B – ASSESSMENT OF NETWORK ALTERNATIVES

Each of the formulated network alternatives will be assessed using the performance measures established and approved during the work conducted for Task 9. The CAAG Subarea Travel Demand Model output will be coupled with other evaluations to assess established RTP objectives that may include: enhancing the safety of motorists and pedestrians, providing access to developable areas, improving emergency response





capabilities, and reducing adverse environmental effects associated with traffic congestion and travel delay, and other areas of focus as may be identified during this process.

2.7.3 TASK 15C – CREATE MAPS OF FUTURE TRANSPORTATION OPTIONS & SCENARIOS

Each network alternative will be mapped in GIS and presented in graphic format to allow visualization of proposed transportation improvement options. The results of the network alternatives analysis also will be visually compiled onto different maps, reflecting measures of effectiveness that lend themselves to mapping. These graphic aids will assist in communicating the performance of the network alternatives and improvement options to stakeholders and the public. It is anticipated that portions of this mapping will be made available for interactive website applications.

2.8 TASK 16 – PREFERRED TRANSPORTATION NETWORK

This task consists of the development and documentation of components and relating to the performance of the preferred network.

2.8.1 TASK 16A – IDENTIFICATION OF PREFERRED NETWORK SCENARIO

Based on the analysis of the network alternatives conducted in Task 15, a Preferred Transportation Network will be derived. This Preferred Transportation Network initially will be comprised of the best performing aspects of the various network alternatives reviewed and evaluated using the performance criteria.

2.8.2 TASK 16B – ASSESSMENT OF PREFERRED TRANSPORTATION NETWORK

A final assessment of the Preferred Transportation Network will be conducted to document resulting measures of effectiveness. Adjustments to the network may be initiated that are not necessarily the best performing, as the RTP must address vision, values, and goals and objectives set forth for its development. Thus, some elements may need to be modified or adopted to meet demands of qualitative assessment rather than a quantified result. In addition, planning-level costs will be developed for each improvement option forming the Preferred Transportation Network included in the preferred network.

2.8.3 TASK 16C – MAP PREFERRED TRANSPORTATION NETWORK

The resulting Preferred Transportation Network and related analyses will be visually projected onto different GIS maps for presentation to stakeholders and the public. It is anticipated that portions of this mapping will be made available for interactive website applications.

2.9 TASK 17 – DEVELOP AN IMPLEMENTATION PROGRAM

The timeline and process for implementing projects included in the Preferred Transportation Network will be developed through the work effort associated with this task.





2.9.1 TASK 17A – DEVELOP INTERIM SOCIOECONOMIC DATA FOR PREFERRED TRANSPORTATION NETWORK

Estimates of population and employment in the CAAG Region will be derived for five-year increments. The CAAG Subarea Travel Demand Model will be modified to include these various interim-year forecasts and applied to the Preferred Transportation Network.

2.9.2 TASK 17B – PROJECT PRIORITIZATION & IMPLEMENTATION

This subtask will involve development of strategies for the recommended projects comprising the RTP, as reflected in the Preferred Transportation Network. The task will include prioritization of recommended improvement options, based on need, project feasibility, cost, connectivity with the transportation network, and other factors deemed appropriate by the TAG. Special attention will be given to identifying an array of projects that meet the needs of the CAAG Region, while maintaining consideration of the need to have the flexibility to maximize projects completed.

A scoring mechanism will be developed as part of this task to provide a gauge for the potential value of the project. Scores will be assigned to each proposed improvement project based on its merits. The projects they will be categorized into first-, second-, and third-tier priorities based on viability, public support, investments, air quality, and other factors determined appropriate by the TAG. It is important to note that any of particular improvement project can proceed when funding and political conditions warrant. Thus, this scoring activity is intended only to provide general guidance with respect to specific issues, needs, and concerns. Other factors certainly may have a bearing on whether an improvement project ultimately is included in the RTP based on priority.

2.10 TASK 18 – CONFORMITY ANALYSIS

The 1990 Clean Air Act Amendments (CAAA) outline requirements for ensuring federally supported transportation plans, programs, and projects are consistent with (“conform to”) the purpose of the State Implementation Plan (SIP). Conformity to the purpose of the SIP means that planned transportation activities transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the national ambient air quality standards (NAAQS). A conformity finding demonstrates that the total emissions forecast to be associated with implementation of an RTP or Transportation Improvement Program (TIP) are within the emissions limits (“budgets”) established by the SIP, and that transportation control measures (TCMs) will be implemented in a timely fashion. Conformity requirements apply in all nonattainment and maintenance areas for transportation-related criteria pollutants and precursor pollutants for which the area is designated a nonattainment or maintenance area.

Conformity analysis can be based on the latest planning assumptions for the CAAG Region. Regional on-road motor vehicle emissions for future years can be estimated using the Subarea Travel Demand Model, created and calibrated under Task 10, to forecast estimate vehicle activity in the region. Details regarding travel and air quality modeling assumptions used in this conformity analysis will be established upon completion of the Subarea Travel Demand Model.





2.11 TASK 19 – FINAL REGIONAL TRANSPORTATION PLAN

The purpose of this task is to create a comprehensive, long-range (25-year) Regional Transportation Plan for the CAAG region, comprised of Gila & Pinal counties. The RTP will be a multimodal plan that charts the region’s transportation future and guides strategic investments over the 25-year planning horizon.

2.11.1 TASK 19A – PREPARATION OF DRAFT RTP

The purpose of this subtask is to develop a Draft RTP following the guidelines set forth in the regional transportation planning process as defined by the FHWA. The proposed outline for this document is provided for review in Attachment A. This outline may be modified in accordance with input obtained during conduct of various tasks and during review of the draft RTP document. This Draft RTP will be provided to the TAG for review, the results of which will be considered input to the Final RTP. In addition to documentation of the previously described work efforts, the RTP will include a general overview and documentation of the following elements:

- **Systems management and operations**
 - Intelligent transportation systems (ITS)
 - Advanced public transportation systems
 - Funding and expenditure summary
- **Performance monitoring and assessment**
 - Performance monitoring and assessment concepts for roadway and transit systems
- **Transportation safety**
 - Methodology
 - Crash summary
 - Existing safety activities
- **Transportation security**
 - National, state, and regional programs
 - Future security program efforts
 - Evacuation planning
- **Sustainability**
 - Land use and transportation linkages
 - Community Access
 - Economic Development Opportunities/Linkages to Transportation

2.11.2 TASK 19B – PREPARATION & ADOPTION OF FINAL RTP WITH PREFERRED TRANSPORTATION IMPROVEMENT PLAN

The results of each of the previous tasks will be compiled into a cohesive Final RTP document containing an identified Preferred Transportation Improvement Plan and a prioritized Implementation Program. The Final RTP will reflect reviews and, where appropriate, suggested changes, additions, and deletions made by the CAAG staff, TAG, and CAAG Regional Council





2.11.3 TASK 19C – MAPS OF FINAL IMPLEMENTATION PLAN

The RTP will consist of all previously developed maps, in addition to the mapping of incremental implementation program recommendations. Each of the generated maps will be made available, as applicable, for use in an interactive web-based GIS application. All generated products will be available for inclusion in presentations of the RTP and recommendations contained therein to the CAAG Regional Council, public, and stakeholders.

2.12 TASK 20 – STAKEHOLDER & PUBLIC INVOLVEMENT

Throughout the RTP planning process, a series of public and stakeholder outreach activities will be conducted to assure adherence to federal requirements for preparation of an RTP. The ultimate goal the the outreach effort will be to ensure opportunities for stakeholder and public feedback which will allow for greater support of the resulting RTP recommendations. Outreach activities will include:

- Technical Advisory Group (TAG) Meetings
- Subregional Workshops
- Small Group Meetings
- Public Meetings
- Transportation Technical Advisory Committee (TTAC)
- Newsletters & Public Media Updates
- Management Committee and Regional Council Updates.

Details regarding these outreach efforts are included in the separate *Public Participation Plan* prepared in conjunction with the Phase I work effort.





3.0 PHASE II SCHEDULE

The following schedule for completion of Phase II compiles the 20 tasks outlined above. Phase II products will be published for review and comment, first as drafts, then as final reports. The schedule shows completion of Phase II is anticipated to occur in January, 2014.

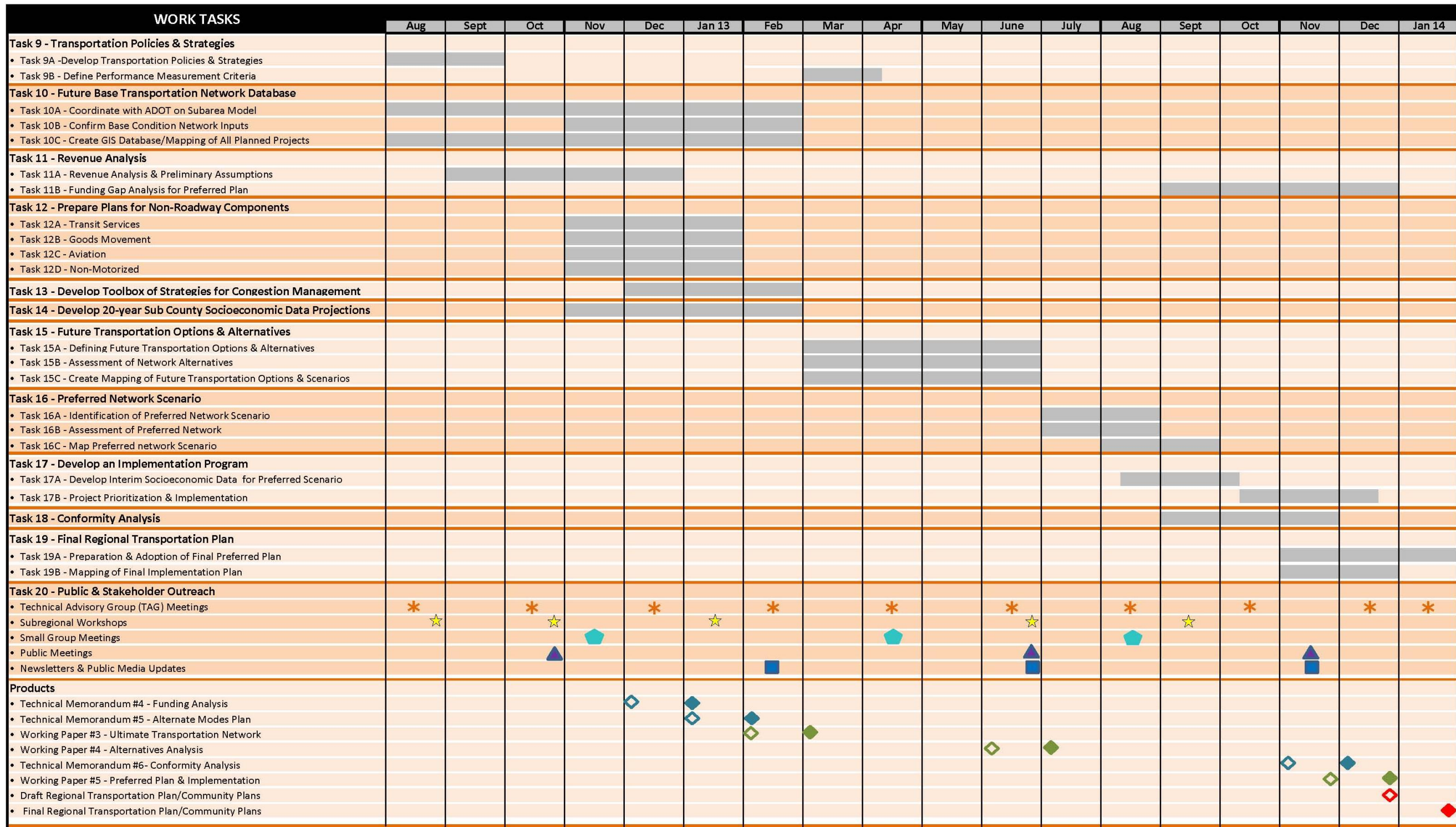
During Phase II, the TAG will meet regularly, every two months. Five subregional workshops are planned with three in the beginning of the Phase II effort to ensure the Consultant Team has full and verified information regarding the CAAG Region. Two workshops conducted later in the study will provide opportunity for input regarding transportation improvement alternatives. Other important outreach efforts will include Small Group Meetings, Public Meetings, and the release of Newsletters and Public Media Updates.





CAAG Regional Transportation Plan

FIGURE 3.1 PHASE II WORK STREAMS & PROJECT SCHEDULE FOR THE CAAG REGIONAL TRANSPORTATION PLAN



LEGEND ◆ Draft Working Paper ◆ Draft Technical Memorandum ◆ Draft Final Report * TAG Meeting ▲ Public Meetings ■ Newsletters & Media Updates
 ◆ Working Paper ◆ Technical Memorandum ◆ Final Report ☆ Subregional Workshops ◆ Small Group Meetings

June 12, 2012

PHASE II SCHEDULE





ATTACHMENT A Proposed Outline for the Central Arizona Association of Governments Regional Transportation Plan

1.0 OVERVIEW

- 1.1 CAAG Planning Area
- 1.2 Vision
- 1.3 Public Participation Plan, Actions, and Involvement Opportunities

2.0 REGIONAL TRANSPORTATION PLANNING APPROACH

- 2.1 Regional Roles and Responsibilities
- 2.2 Federal Requirements - SAFETEA-LU
- 2.3 Arizona Revised Statutes
- 2.4 Planning Period Phases

3.0 GOALS, OBJECTIVES AND PERFORMANCE CRITERIA

- 3.1 Defining Goals and Objectives
- 3.2 Performance Criteria

4.0 PUBLIC INVOLVEMENT

- 4.1 Development of the Public Participation Plan
- 4.2 CAAG Public Involvement Process
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5.0 TITLE VI AND ENVIRONMENTAL JUSTICE

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- 5.3 Communities of Concern
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 - 7.6.5 Bicycle Issues and Opportunities
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 - 7.7.1 Pedestrian Planning
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- 7.9 Year 2040 Forecast of Future Conditions





- 7.9.1 Travel Demand Model
- 7.9.2 Existing Plus Committed Transportation System
- 7.9.3 Year 2035 Traffic Forecasts
- 7.9.4 Year 2035 Mobility Deficiency Analysis

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 - 9.1.2 Freight
 - 9.1.3 Roadways
 - 9.1.4 Transit
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- 9.2 Performance of Recommended Plan
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- 17.3 Community Access
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