

YMPO REGIONAL TRANSPORTATION PLAN 2018-2041 SCOPE OF WORK

Task 1 -Develop the Scope of Work

Kimley-Horn will refine the scope of services and project schedule. The scope will be submitted for review by the YMPO project manager and the TAC. Minor adjustments to the fee estimate may need to be made. A final Scope of Work and fee estimate will be submitted to the YMPO TAC for review and approval.

To keep the project on schedule, review and revision timeframes will be clearly identified on the project schedule. Teleconferences and electronic reviews of submittals are recommended to help move the process along expeditiously.

Technical Advisory Committee

As part of the project review process, Kimley-Horn will utilize the established YMPO TAC, plus additional key stakeholders as determined by the YMPO project manager, to review the work in progress and provide input from their perspectives. During the course of the project, the Kimley-Horn team will make up to eight presentations to the TAC during their regularly scheduled monthly meetings at the YMPO's office. The purpose of these presentations will be to review work in progress and discuss issues that arise during the course of the project. The TAC members will be responsible for briefing their respective agencies and commissions and representing their positions and views in the TAC meetings.

Products

- Draft scope of work and fee estimate
- Final scope of work and fee estimate
- Up to eight (8) TAC meetings
- Meeting minutes/summaries

TASK 2: Update TransCAD Model

A comprehensive update of the YMPO travel demand model was conducted in conjunction with the previous 2037 RTP effort. This model will provide the basis for this 2018-2041 RTP update. In conjunction with the recently completed City of Yuma TMP, the RTP 2014 existing conditions population data, employment data, Transportation Analysis Zone (TAZ) structure and roadway network connectivity and characteristics were further refined based on a more detailed local review.

Kimley-Horn will review these recent updates as well as the remainder of the YMPO planning area, and amend the model as necessary to reflect any known changes in land use and roadway network characteristics that may have occurred.

The network will contain roads of facility type collectors and above. Roadway changes will be requested from the YMPO and its member agencies. The network will be reviewed for roadway characteristics, such as connectivity, the number of lanes, speed, capacity, and type of pavement.

The latest external trip matrix will also be updated to the 2016 base year. Trip generation variables as well as trip rates will be reviewed to assess if current trip-making characteristics are reflected in the model.

We will perform TransCAD model runs for the 2016 calibration year. The calibrated model runs will output traffic volumes, speeds, vehicle miles traveled (VMT), and vehicle-hours traveled (VHT).

Kimley-Horn will coordinate with the YMPO to define calibration screenlines for the study area and with ADOT statewide modeling efforts. Modeled traffic volumes will be compared against available traffic counts for both highway links and screenlines.

The accuracy of the model validation process will be evaluated using the following statistics:

- Percent error and the percent root mean square error of the modeled volumes versus actual counts for the entire network grouped by facility type.
- Comparison of screenlines total traffic counts with screenlines total simulated traffic volumes. Differences between the counted screenline total volumes and the simulated screenline total volumes should be less than 20% of the most recent available counts (from YMPO).

Kimley-Horn will update the previous model documentation describing model assumptions, input data, and model validation results, to reflect the recent updates. This information will be submitted to the TAC for review and comment in PDF format.

Products

- Updated and calibrated TransCAD travel demand model (with updated existing and projected socioeconomic data)
- Updated model calibration and users guide documentation

Task 3: Collect and Review Existing Conditions Data

This task will update the Trends and Conditions (Chapter 3) within the RTP. To form a basis for the various elements of the RTP, a good understanding of past transportation system work, existing conditions, and planned future conditions is required. Kimley-Horn will review previously completed plans, and studies to update the Trends and Conditions chapter of the 2037 RTP. This will include an update to existing and future (2041) land use, population, dwelling units, and employment projections. Plans and studies to be reviewed include:

- Previous 2014-2037 RTP
- Current YMPO Transportation Improvement Program (TIP)
- Current comprehensive plans from each YMPO member agency
- YCIPTA transit plans and reports
- Available bicycle and pedestrian plans
- U.S. – Mexico Port of Entry programs and initiatives
- 2014 Air Quality Conformity Analysis
- Socio-economic data (U.S. Census, State Demographer's Office)
- Financial Data – Projected revenue (available for transportation expenditures)
- Other available reports – master plans, corridor studies, design concept reports, circulation studies, traffic impact studies, safety studies, traffic operations studies.

Kimley-Horn will make a list of specific relevant plans and studies. The list will be reviewed and approved by the YMPO project manager.

Kimley-Horn will use the TransCAD model outputs (from Task 2) to assess current and projected traffic levels and congestion. Traffic volume and volume/capacity figures will be produced for the existing base and future roadway networks. A look-up table of levels of service versus volume/capacity will be established and levels of service will be color-coded on the figures.

Kimley-Horn will review non-roadway transportation data. We will update descriptions of the existing and planned urban trails and bikeway systems. Our team will describe existing transit information including current service and ridership. We will also describe transit service options and forecast ridership trends. Existing and planned freight information will be reviewed and summarized.

We will prepare figures to display the relevant collected data for the report and public meetings.

A bibliography will also be prepared that lists what data was reviewed.

As part of this task, we also propose that preliminary Regional Transportation Goals be established in collaboration with the TAC. Goal areas, consistent with MAP-21, may include the following:

- Infrastructure condition/preservation
- Safety
- Vehicle mobility
- Transportation alternatives (bicycle, pedestrian, transit)
- Economic vitality
- Environmental protection

The Trends and Conditions chapter will be submitted to the TAC for review and comment in a PDF format. The TAC will provide comments within one week of receiving the memorandum. TAC comments on the memorandum will be addressed and included in the Draft RTP Update document.

Goals will be presented, along with the Trends and Conditions, at the first round of public meetings.

Products

- Bibliography of data reviewed
- Draft RTP goals
- Updated socioeconomic data for 2016 and 2041
- Updated RTP Trends and Conditions Chapter

Task 4: Public Involvement

The Kimley-Horn team will closely collaborate with the YMPO and the TAC to draft a Public Involvement Plan (PIP) that is thorough, thoughtful, strategically sound, and efficient. The PIP will combine established best practices with outreach methods that are customized for the YMPO region and designed to result in the effective engagement.

The PIP will guide an inclusive and interactive approach that follows requirements outlined in MAP-21, Title VI, and Environmental Justice.

The PIP will define a process for providing stakeholders with reasonable opportunities to be involved in the metropolitan transportation planning process. Outreach methods that will be used are described below.

Stakeholder List

YMPO will be responsible for providing the initial mailing list to Kimley-Horn. Kimley-Horn will provide YMPO with additional stakeholder contact information obtained through the public meetings and other ongoing outreach.

Public Meetings

Public open house meetings will be held at key milestones on the study. YMPO will be responsible for selecting, arranging and coordinating the meeting spaces for the public meetings.

At the public open house meetings, the YMPO Executive Director and Kimley-Horn Project Manager will deliver short presentations followed by a question-and-answer session. For each public meeting, Kimley-Horn will provide a PowerPoint presentation and display boards, bilingual informational handouts, comment forms and directional signage. Sign-in sheets will be provided to record attendance, and nametags will help identify the project team. The Kimley-Horn team will provide Spanish interpretation opportunities at each public meeting.

The Kimley-Horn team will be responsible for three black and white advertisements (5 column by 5 inches) publicizing the public meetings. The ads will be placed in the Yuma Sun and Bajo El Sol. The advertisements will also include information on the mobile displays locations and opportunities for interaction with the YMPO website.

Kimley-Horn will produce digital bilingual meeting invitations based on the advertisements. The meeting invitations will be used by YMPO to advertise the meetings electronically to stakeholders via the stakeholder list.

The required comment period will be allowed for public review and comment after the public meetings. We will prepare a summary of each round of public meetings that documents meeting notifications, materials, attendance, and comments received.

Mobile Information Tables and Intercept Surveys

In conjunction with Round 1 and Round 2 public meetings, mobile open house information tables will be set up for a period of one to two hours at up to three (3) locations within the community—for example, at a mall or a busy shopping center. The three locations will be staffed within a single day, followed by the evening public meeting.

To gather information easily and quickly, while at the mobile information table, the team will conduct intercept surveys at the same locations as the mobile displays. The intercept surveys will contain a maximum of 7 questions and will be designed so they can be completed in less than five minutes using Survey Monkey. A link to the survey will also be placed on the YMPO website. The initial intercept surveys will be focused on determining public perception of the goals, existing conditions and deficiencies, plus informing the public about the regional transportation planning process. A secondary purpose of the survey outreach would be to invite people to the public meetings. We will work with the YMPO to determine the best locations for the intercept surveys.

Online Materials

We will gain additional survey participation by inviting community members to complete the surveys via a YMPO web link distributed to stakeholders.

RTP elements and informational materials will also be posted online so that they are available for review to as many stakeholders as possible.

Presentation to Elected Officials and Commissions

Kimley-Horn will make presentations to elected officials, boards, or commissions.

The first presentation will be held around the time of the first public meeting to introduce the study team, explain the methodology and understanding of the project goals, and solicit ideas from the elected officials and commissions about their specific goals and questions about the process.

The second presentation will be held midway through the project and will be used to update the elected officials and commissions on the project's progress.

The third presentation will be held upon completion of the draft final RTP.

The following table summarizes public involvement activities that will be completed.

Public Engagement Round	Purpose	Online Materials and Survey	Mobile Display	Intercept Surveys at Community Locations	Evening/ Afternoon Public Meeting	Presentation to Elected Officials
<i>Round 1</i>	Input on goals and objectives and trends and conditions	x	Three Locations	x	x	x
<i>Round 2</i>	Present draft RTP and alternatives and benefits	x	Three Locations	x	x	x
<i>Round 3</i>	Present Final RTP	x	-	-	x	x

Products:

- Public Involvement Plan
- Three (3) rounds of bilingual public involvement/outreach, including public presentations, meetings, and materials including notices, newsletters, displays, fact sheets, and comment forms
- Up to four (4) presentations to elected officials, boards, or commissions

Task 5: Roadway System Alternatives

The purpose of Task 5 is to develop roadway system alternatives that will be subsequently applied to the performance-based evaluation criteria in Task 6.

Potential project alternatives will be based on Task 3 (current conditions) and analysis, and stakeholder and public input (Task 4).

The updated TransCAD model will be used to estimate future traffic volumes. Traffic assignments will be conducted for 2041 socioeconomic forecasts and the Existing plus Committed (E+C) projects network.

Deficiencies will be identified for the existing conditions, and the 2041 E+C transportation network.

Previous 2037 RTP recommendations will be reevaluated under the new traffic forecasts and will be revisited with the TAC with regard to meeting transportation needs.

A short-list (up to 20 roadway projects) of roadway system improvements will be developed considering RTP cost constraint resources. These improvements to the roadway system will be tested. These

improvements will include combinations of widening the existing roadways, creating new roadways, or removing existing roadways. The short-list will be identified based on current trends summary, and TAC, public, and stakeholder input. In addition, the Kimley-Horn team will assess the need for new interchanges or grade separations. Up to 20 projects will be tested within three alternative network scenarios.

Kimley-Horn will produce traffic volume and volume/capacity plots for each alternative network, and we will show VMT and VHT in tabular form by roadway facility type.

The resulting menu of projects will be advanced to Task 6 for performance evaluation.

Task 6: Performance-Based Evaluation of Alternatives

MAP-21 requires a performance-based regional transportation plan. A performance-based RTP serves the following purpose:

Performance measures communicate information about the use, condition, and impact of the transportation system. These measures are best thought of as indicators—data that is publicly reported for illustrative purposes or to demonstrate progress made toward established targets.

Performance-based project selection criteria assist in prioritizing and selecting projects for funding, leading to a transparent, public process. This process also relies on the professional judgment of transportation stakeholders and input from the general public.

Consistent with available MAP-21 published requirements, Kimley-Horn will review and update, as appropriate, the current (2037) YMPO RTP performance measures. Updated performance measures will be consistent with input received on RTP Goals, obtained at the Round 1 public meetings. RTP Goals, performance measures, and project selection criteria should also reflect livability principles.

The short-list of projects, identified in Task 6, will be prioritized and the highest scoring projects will be proposed to be included in the RTP. Kimley-Horn will generate appropriate tables, graphics, and matrices to illustrate how the alternative projects compare to each other, and present them to the TAC for consideration, concurrence, or modification. Once a consensus is reached on the recommended projects, cost estimates and implementation recommendations will be refined and presented in maps, graphics, schematics, and narrative in the draft and final RTP document. Presentation-style graphics will be prepared for use in the TAC and public meetings.

Products

- Evaluation of the 2041 RTP project alternatives

Task 7: Draft Regional Transportation Plan

In this task, the results of the assessment of existing and future conditions and the evaluation of alternatives (final list of RTP projects) will be integrated to update the RTP elements. The draft RTP elements will include the following:

Trends and Conditions

Land Use, Community Development, Livability, and the Environment

This element will update current trends (documented in Task 2), and will describe key trends in past and projected future travel behavior in the Yuma region, including land use, population/socioeconomic, and current and future transportation conditions.

Economic Development, Trade, and Tourism

The economic development update will include a discussion of the business activities that drive job creation in Yuma County. Trade and tourism are significant economic drivers requiring roadways that provide linkages for moving people and goods across the Mexican border.

This element identifies the transportation infrastructure investments needed to support regional work force and also identifies economic development strategies.

Roadway System

This will be the main element of the updated RTP. The Roadway System element will be based on TransCAD modeling (Task 5) and performance evaluation (Task 6).

The highest-scoring projects (final RTP project list) will be coded into the TransCAD model. Kimley-Horn will develop future daily traffic volume forecasts using for the recommended projects to produce the 2041 recommended network. The 2041 network will contain all new roadways and roadway improvements confirmed in the 2018-2041 RTP.

Kimley-Horn will evaluate five-year incremental traffic projections to determine when the improvements will be necessary. Model runs will also be done for the years 2016, 2017, 2018, 2028, 2038, and 2041. We will also prepare a roadway system element in map and tabular form showing the roadway system in terms of number of lanes, new grade separations, new interchanges, roadway widening, and intersection reconstruction. Phasing recommendations for major improvements will be provided in five-year increments.

Safety

The safety element will be based on available information from the on-going YMPO Strategic Transportation Safety Plan (STSP).

Improvements will be recommended for locations where corrective measures are expected to reduce crash rates, as recommended in the STSP. Where feasible, safety improvement recommendations will be consolidated with other recommended roadway improvements.

Transportation Alternatives

Intelligent Transportation Systems (ITS)

This element will be updated to reflect advancements in ITS technologies that may be considered for implementation with the YMPO region. ITS technologies use real-time travel-related information to maintain and enhance the efficiency, safety, and functionality of the transportation system. The continued advancement and development of smart phone applications can improve the efficiency of the transportation system. This approach can be significantly more cost-effective than reconstructing existing roadways or building new facilities.

Travel Demand Management (TDM)

TDM focuses on the demand side of transportation needs as opposed to the supply or capacity side. The goal of TDM is to reduce reliance on the single-occupancy vehicle (SOV) travel mode by eliminating the need for travel or by shifting the travel to another mode. TDM strategies that will be considered are

carpools, vanpools, transit, telecommuting, videoconferencing, walking, bicycling, and alternative work schedules.

Transit

The transit element will be developed in close consultation with the YMPO project manager and the Yuma County Intergovernmental Public Transportation Authority (YCIPTA) staff. The YMPO RTP will build upon and reflect the recent Short Range Transit Plan (2018-2019). The RTP will describe the desired long-range transit system to serve anticipated future needs. The RTP will identify key infrastructure improvements required to support the long-range transit vision.

The RTP will summarize known funding sources for transit services in the Yuma region and will research future funding options, including local match requirements associated with potential fixed-route system expansions.

Bicycle and Pedestrian Facilities

Non-motorized modes include bikeway and pedestrian facilities. The RTP will reflect recommendations to “mainstream” bicycle and pedestrian accommodation into other projects. For example, new roadway improvement projects should include bike lanes and sidewalks where they are needed. Based on stakeholder, TAC, and public input, the RTP will recommend segments and linkages needed by 2041. We will prepare maps showing locations of proposed segments and linkages.

Congestion Management

Although a Congestion Management Process (CMP), formerly known as the Congestion Management System (CMS), is not required for the YMPO region, a congestion management element will be developed to identify strategies for managing regional traffic congestion and enhancing operational efficiency and safety. The RTP will identify several relevant and applicable “best practices” from other jurisdictions that may be considered within the YMPO region.

Border Regional and Commodity Flow

Air, Truck and Rail Freight

The RTP will be updated to reflect previous and ongoing rail and freight planning studies. We will coordinate with U.S. Customs and Border Protection (CBP), U.S. Border Patrol (BP), ADOT Enforcement and Compliance Division, Greater Yuma Economic Development Corporation (GYEDC), Greater Yuma Port Authority (GYPA), Yuma Airport Authority, and Yuma County Chamber of Commerce to update the freight element addressing truck, rail, and air segments and linkages.

The freight element will consider the potential for cross-border industrial growth, agriculture, agriculture food processing, and air freight to Pacific Rim areas. We will review and summarize freight information in tabular form. Major freight corridors will be described and shown on maps.

Border Infrastructure

The border infrastructure element will be updated to reflect the status of implementation of Arizona-Sonora Border Master Plan Recommendations. Over 20 projects evaluated during the Arizona-Sonora Border

Master Plan were among the needed capital improvement projects identified in the 2014-2037 RTP planning process.

Inland Ports, Warehousing, Distribution Centers

Key elements of the general economic activity in the region are warehousing functions and distribution to markets. Regional needs identified in the 2037 RTP include sites for new inland ports, as recommended in the Yuma County Rail Corridor Study. A status of implementation, and newly identified needs will be reflected in the RTP.

Implementation

Air Quality

A new air quality conformity analysis will be developed to assess the contribution of PM10 emissions to the ambient air quality resulting from the proposed roadway element of the RTP. The air quality analyses will be coordinated with the YMPO and ADOT to determine air quality impacts and conformance with environmental regulations.

VMT for the year 2041 for paved and unpaved roads will be estimated using the geographical information systems (GIS) comprehensive street coverage. Kimley-Horn will estimate vehicle particulate emission factors for both paved and unpaved roads using EPA AP-42 Methodology and the MOVES model as necessary to estimate speed and other air quality parameters. The total vehicle emissions for the 2037 preferred alternative will be computed as a product of the emission factors and VMT on paved and unpaved roads. Six analysis years will be evaluated for PM10 conformity: 2016, 2017, 2018, 2028, 2038, and 2041. Based on the air quality findings provided by Kimley-Horn, the YMPO will ascertain if air quality in the YMPO region is expected to conform to existing environmental regulations.

Financial Resources and Expenditures

In accordance with federal transportation planning requirements, the RTP will be fiscally constrained. That is, the cost of RTP improvements must match funding or revenues that can be expected within the time frame of the RTP.

In collaboration with YMPO, ADOT, and TAC members, Kimley-Horn will examine existing revenue sources and estimate funding that can reasonably be expected in future years. The forecasts will reflect, where appropriate, local, state, and federal revenue streams. Funding will be reasonably determined for each five-year increment to formulate development of the implementation plan.

The funding for the RTP time frame will be compared to the expected improvement needs. If the expected funding falls short of the proposed transportation expenditures, then some recommended investments would be moved to a “needs” status.

A 2018-2041 implementation plan will list the improvements that should be considered in five-year increments to correct existing deficiencies and meet future traffic demand. The implementation plan will consist of a series of tables that will identify the improvement, its limits, a brief description of the improvement, an implementation time frame, and the estimated cost.

Draft Regional Transportation Plan

The information developed for each of the RTP elements will be assembled into the draft RTP. The draft RTP will be submitted to the TAC for review and comment. The TAC will provide comments within two weeks of receiving the draft RTP. Responses will be prepared for all comments and the results of the comment resolution process will be reflected in the final RTP.

Products

- Draft 2017- 2041 Regional Transportation Plan

Task 8: Final Regional Transportation Plan Recommendations

Based on TAC, stakeholder, and public review, comments will be addressed and the Final RTP will be produced.

Products:

- 2017- 2041 Regional Transportation Plan

Task 9: Project Administration

Brent Crowther, P.E. will serve as the project manager and Ted Ritschard, P.E. will serve as the principal-in-charge and quality manager. Throughout the duration of the project, Kimley-Horn will conduct regular quality control reviews and provide monthly progress reports and schedule updates to the YMPO. Kimley-Horn will also maintain project records and, following acceptance, deliver copies of the records and deliverables to the YMPO, if desired

Products

- Monthly progress report(s)
- Monthly schedule updates
- Project records