

# **Task Assignment MPD 14-09**

**October 17, 2008**

**Northwest Cochise County**

**Transportation Plan**

## **SCOPE OF WORK**

### **Work Task 1: Refine the Work Plan**

#### **Responsible Parties: Technical consultant and Public Involvement Consortium**

Present the detailed work plan for the study, and document the following:

- Refinement of the study boundary.
- A detailed scope of work. (identify some of the critical transportation planning needs that will be addressed through the study)
- Project schedule.
- Staffing requirements.
- A plan for outreach to stakeholders and the public (Public Involvement Plan).

Finalize the detailed Scope of Work with refinements to address TAC input.

Products: Detailed Northwest Area Transportation Plan Scope of Work; Detailed Study Area Map

### **Work Task 2: Current Conditions**

#### **Responsible Party: Technical consultant**

Purpose: Establish a database to support subsequent study efforts, identify current roadway deficiencies, identify and map environmental resource areas of concern, provide the foundation for traffic modeling, review programmed network improvements, identify required short-range improvements, and document issues requiring attention.

- Synthesize all relevant studies completed within the last five years, including the Northwest Cochise County Transportation Study, the City of Benson General Plan, the previous Benson Small Area Transportation Study, the Cochise County Comprehensive Plan, and other relevant documents identified by TAC members.
- Compile a list of recommendations from these studies and identify which recommendations have been implemented and which are currently programmed or planned.
- Work with study area planning staffs to establish and document existing land use patterns.
- Identify and assemble all relevant traffic volume count data from the prior studies listed above and previous traffic impact studies conducted in the study area. Identify multi-modal transportation options currently available in the study area.
- Assemble current population and dwelling unit data from Census 2000, American Community Survey, Cochise County, City of Benson buildings permit data, and the

Southeastern Arizona Council of Governments (SEAGO). Use commercial employment database (e.g. InfoUSA, Dun & Bradstreet) together with data from TAC staff to estimate year 2007 employment levels. (Should be available in existing studies).

- Assemble physical, natural and cultural resource mapping from available resources to identify areas of environmental significance as an initial fatal flaw evaluation, understanding that future DCR efforts will examine the environmental resources at a much greater level of detail. (Should be available in existing studies).
- Identify existing pathway, trail systems and trail-heads within the northwest study area.
- Create a drainage constraint map(s) that include floodplain issues, washes, other drainage ways and riparian area constraints.
- Assemble an initial list of short-range (five-year dates FY 2015 – FY 2020) projects based on existing capacity deficiencies, hazardous locations, physical condition of facilities and deficiencies identified during this task. The list will be revised as appropriate during subsequent tasks to reflect modeling results, analysis of alternatives and public/stakeholder input.
- Prepare Technical Report on Current Conditions.
- Conduct project management coordination activities with Cochise County and ADOT.

Products: Technical Report 1: Current Conditions; Detailed Drainage Constraint Map(s)

### **Work Task 3: Develop Population and Employment Projections**

**Responsible Party: Technical consultant**

Purpose: This task will establish the year 2020 and 2040 population and employment projections used to generate future travel demand forecasts. Key steps include identifying planned and approved developments in the planning study area and reviewing the local agency plans to identify alternative land use options.

- Coordinate with TAC and Cochise College Center for Economic Research to identify planned and approved developments within the planning area.
- Review agency General Plans and development master plans to identify other development options, including infill.
- Using data from Census 2000 compile and map the minority and low income population data to aid in determining the potential impacts to these populations as transportation improvement projects are recommended by this study. (Should be available in existing studies).
- Coordinate with TAC members to develop year 2020 and year 2040 population and employment estimates and projected uniform annual rate growth rate for the study area.
- Prepare Technical Report on Population and Employment Projections.
- Conduct TAC Meeting 2 to obtain input on current northwest area conditions and review population and employment projections.
- Conduct project management coordination activities with Cochise County and ADOT.

Product: Technical Report 2: Population and Employment Projections; Tabular and graphic summaries showing year 2020 and 2040 population and employment projections

#### **Work Task 4: Compile and Develop Existing Traffic Data**

**Responsible Party: Technical consultant**

Purpose: Establish baseline traffic data and modeled results to identify the existing roadway network, capacity constraints, safety needs and deficiencies.

- Review and modify as needed Traffic Analysis Zone (TAZ) geography to reflect Census 2010 proposed zones.
- Allocate years 2020 and 2040 population and employment growth to the revised Traffic Analysis Zone (TAZ) geography.
- Organize all existing conditions traffic data into a database for modeling and analysis purposes. Where necessary, convert raw 24-hour counts to Average Daily Traffic (ADT) using day-of-week and seasonal adjustments provided by the cities, county, and/or ADOT.
- Collect and summarize roadway and traffic data, (available in existing studies) including:
  - Jurisdictional or agency responsibility
  - Roadway functional classifications
  - Roadway number of lanes and cross-sections, including right-of-way width, median type, curb/sidewalk and bicycle facilities
  - Pavement type (paved or unpaved)
  - Programmed/planned roadway improvements on the part of the cities, Cochise County, ADOT and SEAGO.
  - Traffic control device inventory
  - Locations and conditions of bridges, structures and drainage features

This information will be provided to the Project Team by the TAC. Where requested to do so, the consultant will carry out up to ten (10) hours of limited field observations to verify specific information.

- Collect, map and summarize roadway safety data to be provided to the Project Team by the TAC. (Should be available in existing studies).
- Using current roadway network information and socioeconomic data for the study area develop a state-of-the-practice TransCAD travel demand forecast model for the study area. This study effort will expand the travel demand model developed for the Benson Small Area Transportation Study to incorporate the other study efforts listed above.
- Calibrate the TransCAD model by adjusting model parameters to produce accurate comparisons of model-generated volumes with recent year 2007 traffic counts. Evaluate performance statistics and key cut line traffic volumes, and modify the traffic forecast model as necessary. Document results of the TransCAD model calibration for year 2007.

- Perform capacity analyses of major roadway segments to identify existing capacity deficiencies. Planning level capacity thresholds by facility type and width will be used to estimate daily Level of Service (LOS). (Should be available in existing studies).
- Coordinate with ADOT Safford engineering district to identify arterial facilities and/or intersections with potential safety concerns. Where existing data is available, accident rates will be compiled along the existing arterials in the study area. Analyze the last three (2005-2007) years worth of accident data to determine accident rates and identify problem areas. Stratify crashes by number & type, and identify potential mitigation measures to improve safety.
- Coordinate with Cochise County to convert, if needed, data for use in broader modeling efforts in a QRSII model. This study effort will inform a county-wide modeling effort that will, in turn, provide data for the northwest area plan.
- Conduct project management coordination activities with Cochise County and ADOT.

Product: Technical Report 3: Existing Year Calibrated Model Results; TAZ's, Dataset, Assumptions and Modeled Results

**Work Task 5: Develop Assumptions and Growth Scenario's**  
**Responsible Party: Technical consultant**

- Interview key elected and appointed officials, and other selected stakeholders, to obtain a wide range of views on transportation issues and needs. Interview notes will be included as an appendix.
- Develop a revised list of issues and special topics to be addressed by the remainder of the Study. This list will supplement the issues enumerated in the Request for Proposals.
- Create a map illustrating key issues in the study area.
- Conduct project management coordination activities with Cochise County and ADOT.

Products: Summary Report 1: Key Issues; Interview Notes; Key Issue Map

**Work Task 6: Develop Future Transit and Roadway Conditions**  
**Responsible Party: Technical consultant**

Purpose: Identify year 2020 and year 2040 roadway system capacity-related deficiencies.

- Update TransCAD model network with committed (programmed) and planned improvements for the years 2020 and 2040.
- Using the future socioeconomic projections and committed and planned street network as inputs to the TransCAD model, conduct traffic assignments for years 2020 and 2040.

- Using the model-generated traffic forecasts, estimate the LOS on all major roadway segments. List and describe year 2040 transportation system needs and deficiencies. Deficiencies will be based on analysis of daily traffic volumes versus capacity and overloaded links. City staff and community stakeholders will also be consulted to obtain their views on future transportation deficiencies and possible solutions.
- Create summary of future roadway conditions.
- Conduct TAC Meeting 3 to obtain input on northwest area planning assumptions and future roadway conditions.
- Conduct project management coordination activities with Cochise County and ADOT.

Product: Technical Report 4: Future Roadway Conditions

**Work Task 7: Assess Commuter and Goods Movement Rail Service**  
**Responsible Party: Technical consultant**

Purpose: This plan will specifically address UPRR Railroad crossing locations and identify future rail related infrastructure improvements that might be warranted.

- In consultation with the TAC and primary stakeholders develop alternative UPRR Railroad crossing locations.
- Coordinate with UPRR to identify feasible railroad location and to explore potential funding partnerships.
- Evaluate the performance of alternative new crossing locations using year 2040 travel demand forecast model to identify a preferred river/railroad crossing location.
- Perform planning/concept level crossing feasibility analysis based on the data from this study to develop planning level construction costs for the preferred crossing location. The crossing location will serve as a foundation for further work efforts.
- Obtain the current as well as 2020 and 2040 ADT's for train traffic in this corridor. This will help determine the need for grade separated crossings in Benson and rural areas.
- Conduct project management coordination activities with Cochise County and ADOT.

Product: Technical Report 5: Commuter and Goods Movement

**Work Task 8: Develop Evaluation Criteria & Plan for Roadway Improvements**  
**Responsible Party: Technical consultant**

Purpose: To develop locally tailored evaluation criteria to judge the performance and benefit of future roadway improvement programs. Evaluate and prioritize short-, mid-, and long-range alternatives, develop and map recommended year 2020 and 2040 transportation plan.

- Select criteria for evaluating the short-, mid-, and long-range alternatives. these criteria will include:
  - Traffic safety impacts

- Impact on traffic congestion/operations
- Natural, physical, and cultural resources
- Drainage impacts and constraints
- Economic development impact
- Construction cost and/or cost-effectiveness
- Affordability and funding potential
- Suitability for phased implementation/funding constraints
- Community support
- Using the travel demand modeling tool, develop and test one (1) 2020 network scenario for the preferred long-range network plan and up to three (3) alternative network improvement scenarios for year 2040. The number of alternative concepts will vary by the type and location of the deficiency. Critical long-range deficiencies affecting key facilities may require considerations of alternatives involving improvements to existing facilities, development of new roadway corridors, and new freeway access traffic interchanges.
- Prepare Access Management Control Strategies for the communities to use in determining access locations along arterial, collector and local roadway facilities.
- Identify and map preferred roadway network alternative.
- Identify and map potential transit routes and trails and/or trail heads in context of the preferred roadway network.
- Conduct TAC Meeting 4 to obtain input on preferred future alternatives.
- Conduct project management coordination activities with Cochise County and ADOT.

Products: Technical Report 6: Preferred 2020 and 2040 Roadway Network; 2020 and 2040 Roadway Network Maps, 2040 Transit and Trails Maps

**Work Task 9: Develop Improvement Costs and Impact Fee Guidance**  
**Responsible Party: Technical consultant**

Purpose: Prepare a financially constrained implementation program to maximum return on investment.

- Identify operations and maintenance costs, existing revenue sources, and potential alternative funding strategies, with discussion about their revenue potential and limitations of use.
- Develop a year 2040 forecast of revenues for transportation improvement projects, based on reasonably expected transportation revenue streams such as the Highway User Revenue Fund (HURF) and development impact fees. The forecasts will take into account the maintenance needs of existing roadways, as well as existing commitments to fund specific projects.
- Consult with the TAC and stakeholders to develop an initial list of improvement priorities by timeframe (short-, mid- and long-range).

- Develop a financially constrained, short-range Transportation Improvement Program for fiscal years 2015 through 2020. Projects will be listed by recommended year of implementation, subject to available funding. Those projects for which funding has already been committed through local Capital Improvement Programs will be included.
- Develop a financially constrained, long-range Action Plan for fiscal years 2020 through year 2040.
- Develop improvement alternatives for TAC initial review and comment.
- Develop planning level improvement costs.
- In coordination with the TAC and primary stakeholders, the consultant will develop an impact fee plan that will identify the process and cost/benefit analysis.
- Prepare a summary report on Roadway Improvement Plan
- Conduct project management coordination activities with Cochise County and ADOT.

Product: Technical Report 7: Construction Cost Estimate and Impact Fee Analysis

**Work Task 10: Complete Final Draft Reports and Draft Executive Summary**  
**Responsible Party: Technical consultant**

Purpose: Prepare final draft report and an executive summary of the entire study including regional analysis and recommendations.

- Compile all review comments and stakeholder input received during public involvement activities.
- Incorporate required revisions to Summary Reports and compile revised reports into outline established for the Final Draft Report.
- Include all relevant information from the Public Involvement process as documented in the revised versions of Summary Reports.
- Produce internal draft of the Final Draft Report for Quality Control Check prior to distribution to co-project managers for review and approval. After review, incorporate comments and send to Cochise County project manager for client review and approval. It is intended that the individual technical reports for the individual study tasks detailed in this work plan will serve as the primary body of the Final Draft Report.
- Conduct TAC Meeting 5 to obtain feedback on final draft report including public input received during the planning process.
- Produce 20 bound copies of the Final Draft Report and Final Draft Executive Summary for distribution to the TAC and other selected stakeholders. Produce electronic copies of the final draft report and final draft executive report. Electronic copies will be in a software compatible with the both ADOT's and the County's software programs.
- Present revised final draft reports to the Cochise County Board of Supervisors in a joint work session with the Planning & Zoning Commission and to the Cochise County Board of Supervisors during a regular public meeting to be held in Bisbee, Arizona. Present revised final draft reports to the City of Benson City Council in a work session and/or City Council meeting to be held in Benson, Arizona. Prepare presentation materials and

draft copies as needed. It is anticipated that presentation boards prepared for prior public meetings may be placed on display for review.

- Conduct project management coordination activities with Cochise County and ADOT.

Product: Final Draft Northwest Cochise County Transportation Plan; Final Draft Executive Summary

### **Work Task 11: Complete Final Reports and Executive Summary**

**Responsible Party: Technical consultant**

Purpose: To finalize and produce all final project reporting documents.

- Compile all responses and comments received during the review of the Final Draft Report and Final Draft Executive Summary by the TAC, key stakeholders and the public.
- Develop appropriate responses and revisions to be incorporated into the Final Report and the Joint Executive Summary.
- Produce internal draft of the Final Report for Quality Control Check prior to distribution to co-project managers for review and approval. Professional editing review of the full document prior to finalization is expected. After review, incorporate comments and submit to Cochise County project manager for client review and approval.
- Finalize the Northwest Cochise County Transportation Plan and Executive Summary, including graphic design.
- Complete update to the project Web-site describing the final plan and maintain link for a minimum of one (1) year after plan adoption or acceptance by the Cochise County Board of Supervisors.
- Final electronic copies will be in a format compatible with both ADOT and Cochise County's software programs.
- Complete project management coordination activities with Cochise County and ADOT.

Products: Northwest Cochise County Transportation Plan and Executive Summary

## **STUDY PRODUCTS**

The following is a summary of milestone deliverable documents.

- **Technical Memorandum 1 - Work Plan** (including the public involvement plan)
- **Technical Report 1 : Current Conditions with Detailed Drainage Constraint Map**
- **Technical Report 2: Population & Employment Projects with Tabular and Graic Summaries for 2020 and 2040 projections**
- **Technical Report 3: Existing Year Calibrated Model Results**
- **Summary Report 1: Key Issues with Stakeholder Interview Notes and Key Issues Map**

- **Technical Report 4:Future Roadway Conditions**
- **Technical Report 5: Commuter and Goods Movement**
- **Technical Report 6: Preferred 2020 and 2040 Roadway Network with Maps**
- **Technical Report 7: Construction Costs and Impact Fee Analysis**
- **Draft Final Report**
- **Final Report**
- **Executive Summary of the Final Report**
- **One or more Public Involvement Summaries to document outreach to the stakeholders and the public.**