

Wildlife Linkages Research RTA Wildlife Linkages Project Funding Proposal

1. NAME/ORGANIZATION

Arizona Department of Transportation, Office of Environmental Services, Natural Resources Management Group

Arizona Game and Fish Department, Research Branch

2. PROJECT TITLE

RTA Pima County Area Wildlife Linkages Workshop

3. INTRODUCTION

Project Purpose

Arizona is one of the fastest growing states in the nation, and Pima County is similarly and concurrently experiencing explosive human growth. A rapidly expanding transportation system accompanies this growth and presents huge challenges to the persistence of many of Pima County's varied, and in some cases, unique wildlife species. Roadways not only kill large numbers of animals through vehicle collisions and other impacts, but they also present barriers to animal movements leading to habitat fragmentation, which in turn leads to animal population declines and even extinctions. The Regional Transportation Authority (RTA) recognized the problems a burgeoning transportation system will have on Pima County's wildlife and was authorized to deal with some of the wildlife/transportation issues in a comprehensive fashion.

Loss of connectivity and other impacts on wildlife caused by transportation networks is by no means inevitable, and the outcome of Pima County's human population growth does not have to result in a proliferation of wildlife death traps and barriers to movements. Although road-widening projects generally increase vehicular traffic, this need not result in more wildlife/vehicle collisions, or a decrease in animal movements. As the RTA has recognized, road-widening projects present the greatest opportunity to provide crossing structures to accommodate wildlife movement. Because most of Pima County's roads were not originally designed to accommodate wildlife movement, current road improvement projects can dramatically restore permeability (the ability of an animal to move around in its environment). – However, County planners and engineers must be aware of the best locations and designs needed to enhance wildlife permeability and habitat connectivity early in the planning process.

The RTA has identified roadways and projects that will be constructed or reconstructed on a prioritized basis. However, planners now lack information on 1) how to move a variety of species safely across those roadways and 2) where those crossing features should be placed. The first problem of how to move animals across roadways is addressed in other work being done through the RTA. The second problem of where to place crossing features on RTA projects is addressed in this proposal. Identification of key wildlife connectivity areas by the RTA will allow early input into engineering plans to ensure wildlife connectivity and will also allow efficient use of resources.

Therefore, the overall purpose of this project is to exhaustively identify areas of wildlife connectivity within Pima County that can then be referred to in RTA transportation and development plans. This proposed Workshop will build on the statewide inventory and specifically focus on Pima County.

This project will:

- 1) Identify areas within Pima County that need to be protected to maintain wildlife permeability across highway corridors, development areas and other associated infrastructure.
- 2) Organize the gathered material into a document that can be used by planners within Pima County to reduce the incidence of wildlife/vehicle collisions and incorporate wildlife connectivity needs into state and regional transportation and regional development plans.

Ramifications of no action

There is a need to identify potential wildlife connectivity zone locations for use in the design and placement of wildlife crossings in RTA transportation planning. We anticipate that information gained by this workshop will be incorporated into a wide variety of roadway plans in the Sonoran Desert. If this project is not implemented, roadway engineers may inadvertently design roads that continue to seriously impact wildlife. Our lack of understanding into where existing wildlife connectivity zones are located may continually lead to further fragmentation of wildlife connectivity and habitat throughout the RTA area of concern.

4. OBJECTIVES

This project proposal focuses on the following objectives:

- 1) Conduct a workshop to exhaustively identify key wildlife and habitat connectivity zones and permeability corridors across Pima County.
- 2) Compile the resulting data into a document that will be made available to planners, and developers to include wildlife considerations into transportation and development plans and to serve as a starting point for detailed consultation regarding habitat connectivity within Pima County.
- 3) Use the project prioritization developed by the RTA and ADOT's five year plan to determine those potential wildlife connectivity zones requiring immediate action.
- 4) Enhance and integrate interagency coordination in addressing habitat connectivity, highway and wildlife conflicts in Pima County.

5. APPROACH

The first step in designing this roadway planning tool is to identify key regional contacts within Pima County that have expertise on wildlife conservation and roadway planning. A Workshop will then be convened among these key contacts (assorted sponsors, facilitators, GIS technicians, and moderators) with the proper technical materials made available (i.e. the Wildlife Linkages Data forms, land use and vegetation coverage maps, current and planned roadways, etc.).

Following a process similar to that described in Arizona's Wildlife Linkage Assessment (www.azdot.gov/Highways/OES/AZ_WildLife_Linkages), the Workshop will focus on identifying potential wildlife connectivity zones needed to maintain wildlife movement, species in need of connectivity in each zone and the threats to wildlife movement within each zone. These will include areas of particular interest to RTA planners. Participants will sketch each potential connectivity zone on a base map. Facilitators will be used to help moderate discussion,

coordinate the completion of the data forms and ensure that each potential wildlife connectivity zone is clearly identified on the base map.

Those linkages with the highest ecological value coupled with the most pressing threats/opportunities (as determined by the RTA prioritization plans and the ADOT five year plans) will be given the highest priority. Nevertheless, all the potential wildlife linkage zones will be regarded as important. In the future, all potential wildlife linkage zones that have imminent plans for construction will need to be addressed relative to maintaining or enhancing wildlife connectivity.

Breakdown of Approach

A. Identify participants for RTA Pima County Wildlife Linkages Workshop

Procedure 1. Draw up list of participants. This list will include knowledgeable regional biologists, land managers, planners and engineers.

B. Logistics of the RTA Pima County Wildlife Linkages Workshop

Procedure 1. Determine location and date for the Workshop. Prepare materials (i.e. the Wildlife Linkages Data form, name tags, etc.) for Workshop. Coordinate guest speakers, sponsors, facilitators, and moderators. Determine technical needs.

Procedure 2. Develop and distribute invitation for the Workshop to regional experts list developed in A. Procedure 1.

C. Determine existing GIS information available for Pima County. Create a base map and associated reference maps for the Workshop.

Procedure 1. Using available information, prepare and print GIS-generated maps for the Workshop.

D. Conduct a RTA Pima County Wildlife Linkages Workshop to exhaustively identify wildlife linkages within Pima County.

Procedure 1. We will utilize Arizona's Missing Linkages Workshop as the model for the Workshop (www.azdot.gov/Highways/OES/AZ_WildLife_Linkages).

Procedure 2. We will use a Wildlife Linkage Data sheet that is designed to gather relevant information regarding each potential wildlife linkage zone.

E. Compilation of data from the RTA Pima County Wildlife Linkages Workshop into a single document.

Procedure 1. Digitize identified potential wildlife linkage zones from the Workshop. Create a GIS layer of all identified potential wildlife linkage zones in Pima County for distribution.

Procedure 2. Compile data from the Wildlife Linkages Data forms.

Procedure 3. Intersect identified potential wildlife linkage zones with existing County data.

Procedure 4. Assemble all data and maps into a document (PDF format) and CD. GIS layer will also be included with this document. Utilize the Arizona's Wildlife Linkages Assessment as the model.

F. Print and distribute the RTA Pima County Wildlife Linkages Assessment.

6. FINAL DELIVERABLES

A final report consisting of the information gathered through the RTA Pima County Wildlife Linkages Workshop along with any ancillary information obtained through the process will be produced. The documents produced will be made available to all ADOT planners and engineers, and all municipalities within Pima County so that the limited available resources may be spent wisely.

7. PROJECT COMPLETION SCHEDULE AND DELIVERABLES

We propose to accomplish this project in 1 year, with the majority of the time committed to conducting the digitizing the identified potential wildlife linkage zones and assembling the compiled data. The table below details the projected timeframes associated with accomplishment of each project objective and procedure. The specific deliverables associated with this proposed project and the timeframe for their completion or submission include:

TIME	ACTIVITY
–Jan-March 2009	Coordinate and plan the RTA Pima County Wildlife Linkages Workshop
April 2009	Conduct the RTA Pima County Wildlife Linkages Workshop
April 2009 – Dec 2009	Compile, digitize and assemble the document resulting from the RTA Pima County Wildlife Linkages Workshop
Jan 2010	Submit the completed RTA Pima County Wildlife Linkages Document

8. PROJECT BUDGET

Task	Cost
Prepare materials for Workshop and convene Workshop	3,000
Analyze data and prepare draft maps / linkage reports	17,000
Prepare final linkage reports and maps (250 hardcopies & 500 CD's)	20,000
TOTAL	\$40,000
TOTAL RTA FUNDING REQUEST	\$40,000
ADOT and AGFD IN-KIND CONTRIBUTION ADOT and AGFD In-Kind Administration (contracts administration, funding oversight and follow-up, review of preliminary findings and draft research report, use of GIS facilities)	8,000 (20% of Requested Funds)

9. PRINCIPAL INVESTIGATORS/ORGANIZATIONAL EXPERIENCE

Siobhan Nordhaugen, ADOT, Office of Environmental Services, Natural Resources Management Group, GIS/Special Projects Consultant
 Dr. Ray Schweinsburg, AGFD, Research Branch, Program Manager

10. LIST OF COOPERATORS

The project is located in Pima County. Many agencies and non-profit organizations have been involved with the initial formulation and discussion of this project. All interested and affected jurisdictions, agencies and parties will be kept well informed as this research project progresses.

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