

Professional and Technical Personnel

Project Title: Bicycle and Pedestrian Facility Design
Training Course

Project Director Contact Information: Michael Sanders

Project Administrator Contact Information: Michael Sanders

Synopsis of Proposal

Type of Proposal:

Law Enforcement
Fire Department/Medical
Other

Synopsis of Proposal:

This proposal requests funding for ADOT to conduct a series of Bicycle and Pedestrian Facility Design workshops throughout the state of Arizona. The purpose of the workshops is to increase the knowledge and design skills of engineers and planners for bicycle and pedestrian facilities. The proper design of such facilities will improve the safety of the bicyclist and the pedestrian.

ADOT received funding through a FY07 Grant proposal to conduct a series of Bicycle and Pedestrian Facility Design workshops. Funding provided for these workshops will allow for day-long workshops to be held in 3 locations - Flagstaff, Tucson, and Phoenix. Fiscal Year 2008 funding is requested to:

(1) Offer a more in-depth 2-day workshop: Day 1 for bicycle facilities, and Day 2 for pedestrian facilities.

(2) Per funding availability, expand the workshops to other areas of the state to communities such as Yuma, Prescott, Kingman and tribal communities.

County Served

Select a County: Apache County
Cochise County
Coconino County
Gila County
Graham County
Greenlee County
La Paz County
Maricopa County
Mohave County
Navajo County
Pima County
Pinal County
Santa Cruz County
Yavapai County
Yuma County

Political District Served

Select a Political District Served

- U.S. Congress:** Congressional District 1
Congressional District 2
Congressional District 3
Congressional District 4
Congressional District 5
Congressional District 6
Congressional District 7
Congressional District 8

Political District Served cont'd

Arizona Legislative District: Arizona Legislative District 1
Arizona Legislative District 2
Arizona Legislative District 3
Arizona Legislative District 4
Arizona Legislative District 5
Arizona Legislative District 6
Arizona Legislative District 7
Arizona Legislative District 8
Arizona Legislative District 9
Arizona Legislative District 10
Arizona Legislative District 11
Arizona Legislative District 12
Arizona Legislative District 13
Arizona Legislative District 14
Arizona Legislative District 15
Arizona Legislative District 16
Arizona Legislative District 17
Arizona Legislative District 18
Arizona Legislative District 19
Arizona Legislative District 20
Arizona Legislative District 21
Arizona Legislative District 22
Arizona Legislative District 23
Arizona Legislative District 24
Arizona Legislative District 25
Arizona Legislative District 26
Arizona Legislative District 27
Arizona Legislative District 28
Arizona Legislative District 29
Arizona Legislative District 30

Background/Problem

General Characteristics - Description of the applicant agency including, but not limited to, information on population, demographics, topography, and climate.

a) **General Characteristics:** The applicant Agency, Arizona Department of Transportation, Transportation Planning Division, supports and manages the Arizona Bicycle and Pedestrian Program. The purpose of this program is to plan, develop, and support implementation of facilities and programs that serve the mobility needs and improve the accessibility and safety of bicyclists and pedestrians on Arizona roadways.

Climate - Topography ranges from low-lying deserts to high-elevation mountain peaks. Temperatures exceed 100 degrees in desert valleys and fall to single digits and below in high-altitude deserts and mountains.

Population - Estimated population in 2006 was 6,166,318. Population increased nearly 40% between 1990 and 2000. The estimated percentage increase in population between April 2000 and July 2006 was 20.2% (U.S. Census Bureau estimates).

Demographics - Over $\frac{1}{4}$ is Hispanic origin. Nearly 13% is age 65 or over, higher than the national average (12.4%).

Background/Problem cont'd

Streets and Highways - Description and listing of all roadway mileage within the agency's jurisdiction if applicable to the project for which funds are being sought.

b) **Streets and Highways:** ADOT is responsible for the maintenance and operations of over 6,800 miles of state highway throughout Arizona. However, influence of the ADOT Bicycle and Pedestrian Program expands beyond the state-owned highways. Programs implemented by the ADOT Bicycle and Pedestrian Program serves cyclists on all Arizona roadways, including local city and county owned roads. In all total, there are more than 60,000 miles of roadways in Arizona.

Background/Problem cont'd

Identify the Problem or Deficiency - that the proposal intends to correct.

c) Problem or Deficiency: Approximately 20 percent of U.S. citizens, or nearly 41 million people, ride bicycles at least one or more times per month. Bicycling and walking are basic, fundamental modes of transportation that in today's motorized world of travel are a viable and necessary option to help manage our circulation and congestion issues. In recent years, the availability of Federal, State, and local transportation funding for bicycle and pedestrian facilities has resulted in a significant increase in the number of facilities being planned, designed, and constructed. However, there are no Federal design standards for bicycle and pedestrian facilities, though a number of design resources exist including the AASHTO Guide for the Development of Bicycle Facilities and the Manual on Uniform Traffic Control Devices. Proper application of these resources for the design and construction of bicycle and pedestrian facilities requires significant engineering judgment. Education of engineers and planners from throughout Arizona, including state, city, county, and tribal staff, is needed to help them learn how to properly apply these guidelines to design and construct safe bicycle and pedestrian facilities.

Attempts to Solve the Problem

Describe past efforts to resolve the problem, if any, and include reasons why the efforts have been either partially successful or unsuccessful.

The Arizona Bicycle and Pedestrian Plan was completed in 2003. The Plan provides recommendations for the ADOT Bicycle and Pedestrian program that when implemented, will improve the accommodation and safety of bicycles and pedestrians on Arizona Highways.

Upon completion of the plan, ADOT has begun development and implementation of several of the most critical recommendations of the Plan, including production of a Statewide Bicycle User Map, Bicycle Share the Road Guide, Sharing the Road with Pedestrians Guide, Arizona Bicycling Street Smarts, website enhancements, a Grant and Funding Plan, an Education Plan and a Pedestrian Action Plan. The need to educate engineers and planners of bicycle and pedestrian design guidelines and standards was identified as important task.

In 2006, the ADOT received funding from the GOHS to conduct a series of Bicycle and Pedestrian Facility Design workshops throughout the state of Arizona. The purpose of the workshops is to increase the knowledge and design skills of engineers and planners for bicycle and pedestrian facilities. The proper design of such facilities will improve the safety of the bicyclist and the pedestrian. The FY07 funding received from the GOHS will provide for the training for approximately 100 engineers and planners throughout the State of Arizona by holding 3 one-day courses on bicycle design in 3 locations throughout the state. It is anticipated that these courses will be held in fall, 2007.

Project Objectives

State the objectives of the project in terms of the goals to be reached in expanding or modifying present activities or creating new programs. Objectives should be:

- a) Stated in measurable terms directly related to the identified problem.
- b) Concise and deal with a specific item.
- c) Realistic, with a reasonable probability of achievement.
- d) Related to a specific time frame.

The objective of the Bicycle and Pedestrian Facility Design Workshop is to further the implementation of the ADOT Bicycle and Pedestrian Program, and specifically to improve bicyclist and pedestrian safety by educating engineers and planners about bicycle and pedestrian facility design considerations.

As mentioned above, Fiscal Year 2007 funding received from the GOHS will allow for bicycle and pedestrian facility design training courses to be held at three locations throughout the state, accommodating approximately 100 people. This represents just 10% to 20% of the estimated 500 to 1,000 engineers and planners throughout the state who would benefit from bicycle and pedestrian facility design training.

As an indication of the size of the target audience, a recent review of membership roles of the Institute of Transportation Engineers, a national professional organization for traffic engineers, transportation planners, and roadway engineers indicates an Arizona membership of nearly 500 individuals. This membership does not include hundreds of other land development engineers who don't specialize in the design of transportation facilities but have a significant impact on the state's transportation infrastructure as they design and plan new subdivisions and communities. Education of these engineers and planners will result in safer designs that better accommodate pedestrians and cyclists.

The purpose of the FY08 funding request is to continue the training courses held in Fiscal Year 2007 and continue to reach out to others throughout the state. This will be accomplished by holding a second round of Bicycle and Pedestrian Facility Design Training courses that will:

Project Objectives continued

(1) Expand on the curriculum taught in year 1 and provide more in-depth training to the concepts introduced in the Fiscal Year 2007 courses. It is proposed that the Fiscal Year 2008 Bicycle and Pedestrian Design Training courses include three sets of two-day courses (day 1 on bicycle facilities, and day 2 on pedestrian facilities)

(2) Enable the courses to be taught at additional locations throughout the state, in locations such as Yuma, Sierra Vista, Kingman, and on the Indian reservations.

Method of Procedure

I understand that all law enforcement related projects/proposals must include an educational component as described in the method of procedure below.

Estimate total time required for preparation ("gearing up")

Description: Procurement of Course Instructor / Course Locations Arrangments

Duration: 2 Months

Comments: Minimal preparation time is required to procure, contract with a course instructor, and to make arrangements for the workhops.

Method of Procedure cont'd

Explain how you propose to solve the problem and meet the objectives. Provide a description of the work to be done on the project and the method of doing the work. The description should be detailed for proper evaluation. If you do not know how you would solve the problem, say so. It may be possible to provide funds to develop a work plan designed to solve your problem.

The Fiscal Year 2008 Bicycle and Pedestrian Facility Design training course will follow-up to the Fiscal Year 2007 courses that will be taught in fall 2007. As stated in the Fiscal Year 2007 GOHS Funding Proposal, the selected course may be modified in consultation with GOHS to meet local Arizona agencies needs. A list of existing courses is identified below.

Attendance at the workshops will be targeted towards public agency staff from all agencies throughout Arizona including ADOT staff, local cities and counties, and tribal entities, as well as consultants and engineers who are directly involved in the design and planning of Arizona's roadways. Funding provided for the Fiscal Year 2007 workshops will allow for the 1-day workshops to be held in 3 locations - Flagstaff, Tucson, and Phoenix. Fiscal Year 2008 funding will be used to follow-up on these 3 locations and offer a more in-depth 2-day workshop: Day 1 for bicycle facilities, and Day 2 for pedestrian facilities. In addition, if FY08 funds are provided, it is proposed that the 1-day workshops be taught in smaller communities: Yuma, Prescott, Kingman and tribal communities.

It is anticipated that the workshops could be completed within a reasonable time frame, as workshop content is based on existing curriculum and courses.

BICYCLE AND PEDESTRIAN FACILITY DESIGN COURSES

National Highway Institute, Pedestrian Facility Design Course

* 1 ½ days

* \$310 per participant

Target audience are engineers with planning, design, construction, or maintenance responsibilities; pedestrian and bicycle specialists; planners; disability and orientation specialists, transportation planners, architects, landscape architects, as well as decision makers at the project planning level. This course broadens the design user to include persons with disabilities, offers class design exercises, and demonstrates how designing facilities for

MethodProcedure continued

pedestrians can be done while also meeting the needs of other facility users such as motorists and bicyclists.

National Highway Institute, Bicycle Facility Design Course

* 1 ½ days

* \$260 per participant

Target audience are Federal, State, or local engineers with planning, design, construction, or maintenance responsibilities; bicycle specialists; transportation planners; landscape architects, as well as decision makers at the project planning level.

This course employs the AASHTO Guide for the Development of Bicycle Facilities (1999 edition) as the source document.

Designing Streets for Pedestrians (Michael Ronkin)

*Option # 1: 2- and 3-day combined bike and pedestrian courses

*Option #2: 1 or 2-day separate bicycle or pedestrian facility design courses also available.

* Standard fee is \$3,500 per workshop day, plus direct expenses, \$750.00 for modification of curriculum to include in-depth local focus. Assume 30 participants at each workshop, cost is \$135 each, plus approximately \$25 per participant for facility/room rental and miscellaneous costs.

*Focus is on street designs that better accommodate bicycles and pedestrians.

The courses can be customized to fit local needs. Course content includes:

- Introduction
- Basics of sidewalk design
- Other sidewalk design issues:
- ADA- "Universal Design":
- Street crossings (mostly midblock)
- Intersection design part 1 and part 2

Designing Streets for Bicyclists (Michael Ronkin)

*Option # 1: 2- and 3-day combined bike and pedestrian courses

*Option #2: 1 or 2-day separate bicycle or pedestrian facility design courses

MethodProcedure continued

also available.

* Standard fee is \$3,500 per workshop day, plus direct expenses, \$750.00 for modification of curriculum to include in-depth local focus. Assume 30 participants at each workshop, cost is \$135 each, plus approximately \$25 per participant for facility/room rental and miscellaneous costs.

*Course content includes:

- The principles of bicycling:
- On-road bikeways:
- Surface design details:
- Restriping roads with bike lanes
- Intersection design:
- Signing and marking
- Shared use paths:
- Bicycle parking
- Advanced bikeway designs

As illustrated in the Bicycle and Pedestrian Facility Design Courses description, there is a considerable range in program costs dependent upon the number of workshops that are held and the number of attendees at each workshop. A final decision as to the number of workshops held and the number of attendees at each workshop would be made in consultation with GOHS and dependent upon the funding provided.

All workshops will be held in Arizona. No out of state travel would be required. It is anticipated that each workshop would be attended by approximately 30 participants. It is proposed that 2-day workshops be held in Flagstaff, Phoenix, and Tucson. It is proposed that 1-day workshops, as funding allows, be held in Yuma, Kingman, Prescott, and tribal communities. Particular outreach would be extended to tribal entities to encourage their participation. The proposed program budget is outlined in the following table.

Personnel Services

Personnel Services	Amount
Holiday DUI Task Force:	\$0.00
Selective Traffic Enforcement Program:	\$0.00
Other Personnel Services:	\$0.00
Subtotal:	\$0.00

Employee Related Expenses

Percentage of Employee Related Expenses: 0%

Employee Related Expenses	Amount
Holiday DUI Task Force:	\$0.00
Selective Traffic Enforcement Program:	\$0.00
Other Personnel Services:	\$0.00
Subtotal:	\$0.00

Professional And Outside Services

Professional and Outside Services	Amount
1) Instructor fee/course registration fee. 6 sets of	\$43,500.00
2)	
3)	
4)	
5)	
6)	
7)	
Subtotal:	\$43,500.00

Travel In-State**Travel In-State**

Description: Ground Transportation**, Per Diem (Statewide Bicycle and

	Quantity		Unit Price	Total
Lodging Expenses -	12	Nights @	\$166.66	\$1,999.92
Per Diem Expenses -	12	Days @	\$44.00	\$528.00
Registration Fees -		Persons @		\$0.00
Subtotal:				\$2,527.92

Travel Out-of-State**Travel Out-of-State**

Description: 0

	Total
Round Trip Airfare:	
Round Trip Ground Transportation:	

	Quantity	Unit Price	
Lodging Expenses -		Nights @	\$0.00
Per Diem Expenses -		Days @	\$0.00
Registration Fees -		Persons @	\$0.00
Subtotal:			\$0.00

Materials and Supplies

Materials and Supplies Description:	Quantity	Unit Price	Total
1) Miscellaneous course materials, advertising costs, postage, etc.	1	\$1,000.00	\$1,000.00
2)			\$0.00
3)			\$0.00
4)			\$0.00
5)			\$0.00
Subtotal:			\$1,000.00

Other Expenses**Other Expenses****Amount**

Description: 0

\$0.00

Capital Outlay

NOTE: Fire and EMS agencies requesting extrication equipment must itemize each piece of equipment (spreader, cutter, RAM, Duo Pump, etc...) and cost.

Capital Outlay Description	Quantity	Unit Price	Amount
1) 0	0	\$0.00	\$0.00
2)			\$0.00
3)			\$0.00
4)			\$0.00
5)			\$0.00
6)			\$0.00
7)			\$0.00
8)			\$0.00
9)			\$0.00
10)			\$0.00
Subtotal:			\$0.00

Budget Summary

Summary of Budget	Total
Personnel Services:	\$0.00
Employee Related Expenses:	\$0.00
Professional Outside Services:	\$43,500.00
Travel In-State:	\$2,527.92
Travel Out-of-State:	\$0.00
Materials and Supplies:	\$1,000.00
Other Expenses:	\$0.00
Capital Outlay:	\$0.00
Total Estimated Cost:	\$47,027.92

Law Enforcement Three-Year Traffic Citation and Collision Data
Summary

Page does not apply

Description	Last Year (2006)	Two Years Ago (2005)	Three Years Ago (2004)
Total Fatalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Injuries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol-Related Fatalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol-Related Injuries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speed-Related Fatalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speed-Related Injuries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Fatalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Injuries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Fatalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Injuries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child Restraint Citations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seat Belt Citations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speed Citations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Red Light Running Citations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DUI Alcohol Arrests - 21 and over	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DUI-Drug Arrest - 21 and over	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DUI Alcohol Arrests - Under 21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DUI-Drug Arrest - Under 21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth Alcohol Violations - under 21 - Title 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth Alcohol Violations - 21 and over - Title 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation of not available (N/A) stats:

Fire and Emergency Medical Services Three-Year Collision Data
Summary

Page does not apply

Description	Last Year (2006)	Two Years Ago (2005)	Three Years Ago (2004)
Traffic Calls for Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Injuries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fatalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Average Response Time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation of not available (N/A) stats: