

**Professional and Technical Personnel**

**Project Title:** Bicycle and Pedestrian Facility Design  
Training Course

**Project Director Contact Information:** victor mendez

**Project Administrator Contact Information:** Michael Sanders

## Synopsis of Proposal

### Type of Proposal:

- Law Enforcement
- 410 Impaired Driver
- Fire Department/Medical Emergency
- 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 and FY08 Grant proposal to conduct Bicycle and Pedestrian Facility Design workshops. FY07 workshops were completed in April 2008. The two workshops were attended by 50 students.

Funding provided for FY09 workshops will provide follow-up training to the FY07 and FY08 workshops. Fiscal Year 2009 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) 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 - 001  
Cochise County - 003  
Coconino County - 005  
Gila County - 007  
Graham County - 009  
Greenlee County - 011  
La Paz County - 012  
Maricopa County - 013  
Mohave County - 015  
Navajo County - 017  
Pima County - 019  
Pinal County - 021  
Santa Cruz County - 023  
Yavapai County - 025  
Yuma County - 027

**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  
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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.

ADOT's, Multimodal Planning Division, supports and manages the Bicycle and Pedestrian Program. Its purpose is to plan, develop, and support implementation of facilities and programs that serve the mobility needs and improve accessibility and safety of bicyclists and pedestrians on Arizona roadways.

The topography of the State of Arizona ranges from low-lying deserts in the south to high-elevation mountain peaks in the north. Climate is as varied.

over 170,000 people from 2006 when the estimated population was 6,166,318. Arizona's population is projected to continue to increase, as demonstrated by historical population growth. Over  $\frac{1}{4}$  of the population is of Hispanic origin. Nearly 13% of the population is age 65 or over, higher than the national average of 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.

ADOT is responsible for the maintenance and operations of over 9,000 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 serve cyclists on all Arizona roadways, including local city and county owned roads. All total, there are about 58,000 miles of roadways in Arizona.

It is ADOT's goal, through our Bicycle Policy, to develop a transportation infrastructure that provides safe and convenient bicycle access. It is also ADOT's Roadway Design policy to provide a transportation infrastructure that provides safe and convenient pedestrian access. ADOT further advocates that bicyclists have the right to operate in a legal manner on all roadways open to public travel, with the exception of some fully controlled-access highways where specifically excluded by regulation and where posted signs give notice of a prohibition.

**Background/Problem cont'd**

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

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 need to educate engineers and planners of bicycle and pedestrian design guidelines and standards was identified as an important task in the 2003 ADOT Statewide Bicycle and Pedestrian Plan.

In 2006, ADOT received funding from GOHS to conduct Bicycle and Pedestrian Facility Design workshops. Two 1½ day Bicycle Facility Design workshops - one in Phoenix and one in Flagstaff - were held in April 2008. The workshops were attended by 50 engineers, planners, and others who are involved in the planning and design of bicycle and pedestrian facilities.

The purpose of the workshops was 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.

Course evaluations submitted to ADOT Technical Training staff found that participants rated the workshop "above average" to "excellent." Several attendees stated that there should be follow up training on bicycle / pedestrian design.

In 2007, the Arizona Department of Transportation received funding for a second round of bicycle and pedestrian facility design workshops (for Fiscal Year 2008). Notice to proceed has not yet been received from the Governor's Office of Highway Safety to carry out the workshops.

## 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' of bicycle and pedestrian facility design considerations.

The Fiscal Year 2008 funding received from the GOHS will allow for bicycle and pedestrian facility design training courses to be held at 2 locations accommodating another 50 people. This represents maybe 10% 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, while they do not specialize in the design of transportation facilities, 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 FY09 funding request is to continue the training courses that were completed as part of FY2007 courses, the FY2008 courses that will be completed upon receipt of notice to proceed from GOHS, and continue to reach out to others throughout the state. This will be accomplished by holding a third round of Bicycle and

**Project Objectives continued**

Pedestrian Facility Design Training courses that will:

(1) Expand on the curriculum taught in FY2007 and FY2008 and provide more in-depth training to the concepts introduced in the Fiscal Year 2008 courses. It is proposed that the Fiscal Year 2009 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: Procurment of course instructor / course location arrangements

Duration: 2 Months

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

**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 2009 Bicycle and Pedestrian Facility Design training course will follow-up to the Fiscal Year 2007 course that was taught in April 2008, and the Fiscal Year 2008 course that will be taught upon receipt of notice to proceed from the GOHS. A list of existing available courses, from which the Fiscal Year 2009 course may be selected, is identified below.

## 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 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;

**MethodProcedure continued**

## 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 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

**MethodProcedure continued**

- Shared use paths
- Bicycle parking
- Advanced bikeway designs

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 allowed for the two 1 ½ day workshops to be held in 2 locations - Flagstaff and Phoenix. It is envisioned that Fiscal Year 2008 funding will be used to follow-up on these 2 locations and offer a more in-depth 2-day workshop: Day 1 for bicycle facilities, and Day 2 for pedestrian facilities.

Fiscal Year 2009 workshops will continue the education and outreach efforts. Depending upon funding levels received, workshops could be offered in other communities such as Yuma, Kingman, Prescott, Tucson, 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.

**Personnel Services**

<b>Personnel Services</b>	<b>Amount</b>
Holiday DUI Task Force:	\$0
Selective Traffic Enforcement Program:	\$0
Other Personnel Services:	\$0
<b>Subtotal:</b>	<b>\$0</b>



**Employee Related Expenses**

Percentage of Employee Related Expenses: 0%

<b>Employee Related Expenses</b>	<b>Amount</b>
Holiday DUI Task Force:	\$0
Selective Traffic Enforcement Program:	\$0
Other Personnel Services:	\$0
<b>Subtotal:</b>	<b>\$0</b>

**Professional And Outside Services**

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

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

Description: Ground transportation, per diem

	<b>Quantity</b>		<b>Unit Price</b>	<b>Total</b>
Lodging Expenses -	12	Nights @	\$166.66	\$1,999.92
Per Diem Expenses -	12	Days @	\$44.00	\$528.00
Registration Fees -		Persons @		\$0
<b>Subtotal:</b>				\$2,527.92

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

Description: None

Round Trip Airfare:

**Total**

Round Trip Ground Transportation:

	<b>Quantity</b>	<b>Unit Price</b>	
Lodging Expenses -	Nights @		\$0
Per Diem Expenses -	Days @		\$0
Registration Fees -	Persons @		\$0
<b>Subtotal:</b>			<b>\$0</b>

**Materials and Supplies**

<b>Materials and Supplies Description:</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Total</b>
1) Course materials, advertising costs, postage, etc.	1	\$1,000.00	\$1,000.00
2)			\$0
3)			\$0
4)			\$0
5)			\$0
<b>Subtotal:</b>			\$1,000.00

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

Description: None

\$0

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) None	0	\$0	\$0
2)			\$0
3)			\$0
4)			\$0
5)			\$0
6)			\$0
7)			\$0
8)			\$0
9)			\$0
10)			\$0
<b>Subtotal:</b>			\$0

**Budget Summary**

<b>Summary of Budget</b>	<b>Total</b>
Personnel Services:	\$0
Employee Related Expenses:	\$0
Professional Outside Services:	\$43,500.00
Travel In-State:	\$2,527.92
Travel Out-of-State:	\$0
Materials and Supplies:	\$1,000.00
Other Expenses:	\$0
Capital Outlay:	\$0
<b>Total Estimated Cost:</b>	<b>\$47,027.92</b>



**Law Enforcement Three-Year Traffic Citation and Collision Data**  
**Summary**

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Description	Last Year (2007)	Two Years Ago (2006)	Three Years Ago (2005)
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**

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<b>Description</b>	<b>Last Year (2007)</b>	<b>Two Years Ago (2006)</b>	<b>Three Years Ago (2005)</b>
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:**

**410 Application for Funding**

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**Agency CEO:**

**Title:**

**Agency:**

**Project Administrator:**

**Title:**

**Email Address:**

**Phone Number:**

**Fiscal Contact:**

**Title:**

**Email Address:**

**Phone Number:**

**BAC Records Contact:**

**Title:**

**Email Address:**

**Phone Number:**

**Requested Funding Level For**

Agency Only

Task Force

I agree that my agency will participate in at least one DUI Task Force enforcement program (to include sobriety checkpoints and saturation patrols) each month, the BAC test results of each driver involved in a fatal crash will be reported to the Arizona Department of Transportation, Traffic Records Section, and that an RCI will be submitted monthly for reimbursement.

I Agree