

BICYCLE AND PEDESTRIAN FACILITY DESIGN TRAINING COURSE

Synopsis

This proposal requests funding for ADOT to conduct a series of bicycle and pedestrian facility design and implementation training courses and workshops to be held for agencies throughout Arizona. The purpose of the bicycle and pedestrian design courses and workshops is to increase the knowledge and design skills of engineers and planners of bicycle and pedestrian facilities. The proper design of bicycle and pedestrian facilities will improve the safety of the bicyclist and the pedestrian.

ADOT received funding through FY07 and FY08 Grant proposals to conduct a series of Bicycle and Pedestrian Facility Design courses. These were successfully completed with positive results. ADOT also received funding in FY09 to conduct bicycle and pedestrian facility design training courses. FY2009 courses are currently in the planning stages.

Bicycle and pedestrian facility design workshops and courses funded in FY2010 will provide follow-up training to the FY2007, FY2008, and FY2009 courses and workshops. FY 2010 funding is requested to:

- Continue to offer in-depth courses on pedestrian and bicycle facilities
- Expand the courses and workshops to other areas of the state including tribal communities

A. GENERAL INFORMATION

a). Professional and Technical Personnel

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B. Service Area

The web-based system will guide the applicant through the Service Area.

C. Project Proposal Outline (Narrative)

1. Background / Problem

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

Climate – The topography of the State of Arizona ranges from low-lying deserts in the south to high-elevation mountain peaks in the north. The weather and climate are as varied as the topography, with temperatures exceeding 100 degrees in the summer time in the desert valleys, and falling into the single digits and below in the high-altitude deserts and mountains of the north.

Population – The estimated population of Arizona in 2008 was 6,629,455, an increase of over 290,000 people from 2007 when the estimated population was 6,338,777. Arizona's population is projected to continue to increase, as demonstrated by historical population growth: Arizona's population increased nearly 40% between 1990 and 2000. The estimated percentage increase in population between April 1, 2000 and July 1, 2006 is 20.2%, according to U.S. Census Bureau estimates.

Demographics – The people of Arizona are as diverse as the topography and climate. Over ¼ 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%.

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 users 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.

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 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.

Not only is it important to educate engineers and planners on bicycle and pedestrian facilities, but to also educate them on how they can be implemented in conjunction with each other and other transportation projects.

2. Attempts to Solve Problem

The Arizona Bicycle and Pedestrian Plan was developed and completed in 2003. The Plan provided a review of existing conditions, development of a Statewide Bicycle Network, identified design guidelines for the design of safer bicycle and pedestrian facilities, and provided recommendations for bicycle and pedestrian programs that when implemented, will improve the accommodation and safety of bicycles and pedestrians on Arizona Highways. The need to educate engineers and planners of bicycle and pedestrian design guidelines and standards was identified as an important task. Subsequently, ADOT has begun development and implementation of several of the most critical recommendations of the Plan. This includes the 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.

In 2006, the Arizona Department of Transportation received FY2007 funding from the Arizona Governor's Office of Highway Safety to conduct a series of Bicycle and Pedestrian Facility Design workshops throughout the state of Arizona. Two 1 ½ day Bikeway Design Facility training workshops were held in April 2008. These workshops were held in Phoenix and Flagstaff. The workshops were attended by engineers, planners, and others 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 2008, the Arizona Department of Transportation received funding from the Governor's Office of Highway Safety (FY2008) for another round of bicycle and pedestrian facility design workshops. The FY2008 funds were used to conduct Complete Streets workshops for engineers, planners, and others involved in the planning and design of bicycle and pedestrian facilities. Complete Streets are planned, designed and operated to enable safe access for all users. The Complete Streets Workshops provide a background on the benefits of Complete Streets, and explain how existing streets can easily be retrofitted into Complete Streets. The Complete Streets workshops are appropriate for elected officials, transportation

agency leaders, transportation planners, traffic engineers, roadway designers, planning and engineering consultants, transit providers, pedestrian and bicycle advocates, health service and older adult providers, and any others who are interested. Three Complete Streets workshops were conducted in May 2009. Over 180 people participated.

In January 2009, ADOT received award of FY2009 funds to conduct additional bicycle and pedestrian facility design workshops. Planning for FY2009 workshops is expected to commence within the next few weeks.

3. Project Objectives

The purpose of the FY2010 funding request is to continue bicycle and pedestrian facility design training courses throughout Arizona that were started as part of FY2007, FY2008, and FY2009.

Training courses are most effective when they are continuous, so that the courses can not only reach more engineers and planners, but also present new information and techniques. The FY2010 Bicycle and Pedestrian Facility Design Training courses will:

(1) Expand on the curriculum taught in FY2007, FY2008, and in FY2009 and provide more in-depth training to the concepts introduced in the Fiscal Year 2009 courses.

(2) Enable the courses to be taught at additional locations throughout the state.

The FY2010 Bicycle and Pedestrian Facility Design Training courses will further the implementation of the ADOT Bicycle and Pedestrian Program, and improve bicyclist and pedestrian safety by educating engineers and planners of bicycle and pedestrian facility design considerations.

The training courses and workshops will be open to ADOT staff, as well as representatives from local city, county, and MPOs/COGs. ADOT may draw upon resources of national organizations such as the Complete Streets Coalition and the Association of Pedestrian and Bicycle Professionals for the training courses. Course content could include:

- Pedestrian Crossings Warrants and Designs:
 - Marked Crosswalks
 - Crosswalks in School Zones
 - Two-Stage Signalized Pedestrian Crossings
 - Pedestrian Hybrid Signals
- Improved Intersection Design for Pedestrians
- Context Sensitive Design (consistent with ITE Recommended Practice for Building Walkable Communities)
- Complete Streets Policy Development
- Complete Streets Implementation

4. Method of Procedure

October 1, 2009 – December 31, 2009

- Analyze the previous years' design courses to identify what worked and what can be improved upon

January 1, 2010 – March 31, 2010

- Consult with possible instructors and create a list of courses
- Create a stakeholder list consisting of ADOT staff, local, city, county, and tribal community representatives, as well as statewide engineers and planners

April 1, 2010 – June 30, 2010

- Finalize the course list and workshop agenda

- Announce the courses and workshops
- Open registration for the courses

July 1, 2010 – September 30, 2010

- Hold two (2) 1-day training courses – one (1) day for pedestrian facilities and one (1) day for bicycle facilities

FY 2010 Bicycle and Pedestrian Facility Design Workshops curriculum will be determined in consultation with the Arizona Governor's Office of Highway Safety. Existing curriculum and experienced instructors will be utilized. A list of existing available courses, from which the FY2010 course may be selected, are identified in Table 1. Continuation and expansion of Complete Streets Workshops (topic of FY2008 courses, held in May 2009) will be given particular consideration for FY2010 funds.

Attendance at the FY2010 Bicycle and Pedestrian Facility Design 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.

Table 1 – Bicycle and Pedestrian Facility Design Courses

National Highway Institute, Pedestrian Facility Design Course - 1 ½ days - \$330 per participant. Assume 30 participants per workshop, or a total of \$8,400 - 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 day - Assumes 40 participants per course for full day workshops, and 100 participants for 3 hour overview session. Workshops are typically conducted a lump sum basis. FY2008 workshops cost approximately \$16,000 for 2, 1-day workshops, and 1, 3-hour overview workshop. 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.

APBP National Complete Streets Workshops, Policy Development Workshop - 1 day - Assumes 40 participants per course for full day workshops, and 100 participants for 3 hour overview session. Workshops are typically conducted a lump sum basis. FY2008 workshops cost approximately \$16,000 for 2, 1-day workshops, and 1, 3-hour overview workshop. Complete streets policies help communities create road networks that are safe and inviting for everyone, including bicyclists, drivers, transit operators and users, and pedestrians of all ages and abilities. The National Complete Streets workshops help state and local agencies develop and implement effective policies to routinely create complete streets. The National Complete Streets Coalition offers two interactive workshops developed with APBP to help you learn how to balance the needs of all users. Both workshops are led by national experts. The Policy Development Workshop helps state and local agencies develop effective policies to routinely create "complete" streets. In a collaborative process, participants review existing policies and internal procedures and work together to start to create a complete streets policy customized to the community, region, or state.

APBP National Complete Streets Workshops, Policy Implementation Workshop - 1 day - See above - This interactive workshop uses a hands-on exercise based on a local street to learn a new six-step decision-making process for routinely including and balancing the needs of all users. Workshop participants also learn about the four steps to complete streets implementation and assess how well existing policy and implementation compare to an ideal complete streets policy.

5. Budget

There is a considerable range in program costs for implementing the Bicycle and Pedestrian Facility Design Training Courses, dependent upon the number of course/workshops that are held and the number of attendees at each course/workshop. A final decision as to the number of courses/workshops held and the number of attendees at each course/workshop would be made in consultation with GOHS and dependent upon the funding provided.

All courses/workshops will be held in Arizona. No out of state travel will be required. It is anticipated that each course/workshop would be attended by approximately 30 to 40 participants. The proposed program budget is outlined in the following table.

Agency: Arizona Department of Transportation, Transportation Planning Division

BUDGET

I. Personnel Services

\$ 0.00

II.	Employee Related Expenses		\$ 0.00
III.	Professional and Outside Services		\$31,200
	Instructor fee* / course registration fee 3 sets of 2-day courses - 120 participants	\$25,200	
	Course preparation fee	\$6,000	
IV.	Travel In-State		\$1,910
	Ground Transportation	\$750	
	Per Diem (Statewide Bicycle and Pedestrian Coordinator, 2 days each @ 3 events)	\$ 264	
	Lodging	\$ 900	
V.	Travel Out-of-State		\$0.00
VI.	Materials and Supplies		\$2,000
	Miscellaneous course materials, advertising costs, postage, etc.	\$2,000	
VII.	Other Expenses		\$ 0.00
VIII.	Capital Outlay		\$ 0.00
	<u>TOTAL ESTIMATED COSTS</u>		<u>\$35,110.00</u>