CHAPTER 7

OUTREACH AND AWARENESS CAMPAIGN

In Phase 1, an Outreach and Awareness campaign was conducted by the project team members. Meetings were scheduled with neighborhood associations. After problem identification and determination of the various countermeasure treatments suitable for the proposed sites from the crash data and other parameters were completed, the outreach and awareness team members set out to create an opportunity for people to voice their concerns and participate in resolving safety issues. The outreach program was structured to encourage maximum participation from people who live in the target areas. Participants were invited to help identify problem areas and perceptions, and select possible countermeasures. The goal was to compare the countermeasures that the team had selected from their research efforts to the ones that the community thinks would be ideal for their neighborhood.

The team members worked in conjunction with the City of Las Vegas, Neighborhood Services, Planning and Services Department, to be included in the neighborhood association meetings so as to inform the residents in the area of the zone that were identified about the FHWA Pedestrian Safety Program and to obtain feedback. Presentations (see Appendix B) were made to the Neighborhood Associations to provide an overview of the Program, and its goals. The presentation also included graphical (photo, animations, and mock-ups) displays of potential countermeasures. Surveys were conducted using a two-page questionnaire to obtain feedback from attendees at the meetings.

The Safe Community Partnership (SCP) attended three neighborhood association meetings at the Huntridge Neighborhood Association, the John S. Park Neighborhood Association and the East Las Vegas Community Development Corporation. The objective of these neighborhood meetings was to educate the various community members about the on-going research and to introduce the candidate countermeasures. The first of the neighborhood meetings was held at the Huntridge Neighborhood Association with more than forty members from the neighborhood participating in the program. The Maryland Parkway and Sahara Avenue intersection (which is Site 24 under study for various countermeasures) falls in this neighborhood. Seventeen people attended the John S. Park Neighborhood Outreach Program. The Maryland Parkway and Charleston Avenue intersection (Site 6 under study) falls in this neighborhood. The third Outreach Program was at the East Las Vegas Community Development Corporation. Eastern Avenue from Bonanza Avenue to US - 95 (Site 12 under study) falls in this neighborhood. Eleven people attended this program from that neighborhood.

The presentation was adapted for each neighborhood meeting. The presentation to the Huntridge association was limited to 15 minutes and the meeting at the John S. Parks Neighborhood Association was 30 minutes in duration. The meeting with the East Las Vegas Community Development Corporation was two hours in duration. This was due to having to translate questions and answers to the predominantly Hispanic community.
Questionnaire
The questionnaire queried the community about several pedestrian safety related issues to get an idea about their perspective of looking into these issues and countermeasures. Each questionnaire included the following eight questions, the first three questions quantifying for the general information of the person taking part in the survey, then the remaining five questions focusing more on the safety aspects related to pedestrian safety. The last section was named as the *Visual Survey* where the members participating in the program are provided with visual aids depicting how an existing site would look with different countermeasures in the future and are asked to choose the most effective treatment for these sites.

The following questions were asked:

Gender
F =Female
M =Male

Age
1 =Under 20
2 =21-30
3 =31-40
4 =41-50
5 =61 and beyond

How often do you walk?
1 =Daily
2 =1 time per week
3 =2-3 times per week
4 =1 time per month
5 =2-3 times per month
6 =Never

Question 1
What do you think is the major cause of pedestrian/vehicle crashes in Las Vegas?
1 =Pedestrian error
2 =Driver error
3 =Vehicles traveling too fast to stop for pedestrians
4 =Insufficient night lighting
5 =Other

Question 2
How well do streets in the Las Vegas area serve the people who are walking and crossing?
1 =Excellent
2 =Good
3 = Fair
4 = Poor
5 = Other

**Question 3**
When you are crossing the streets, how do you select the point where you cross?
1 = I usually cross at a corner, even if there is no crosswalk
2 = I usually look for a marked crosswalk and cross there
3 = I usually look for a signalized crosswalk and wait for a walk signal
4 = I usually take the shortest possible route to my destination, even if there is no crosswalk
5 = Depends on the traffic and weather

**Question 4**
What is the most important thing that could be done to improve pedestrian safety in your neighborhood?

**Question 5**
When a pedestrian is hit by a vehicle who is most likely at fault?
1 = Pedestrian
2 = Driver
3 = Both
4 = Other

**Visual Survey**
Site 1 = Charleston Blvd & Maryland Pkwy
Site 2 = Las Vegas Blvd & Charleston Blvd
Site 3 = Maryland Pkwy & Karen Avenue
Site 4 = Unsignalized mid-block

**Mid-Block Crosswalk Treatments**
1 = Advanced yield markings
2 = Embedded pavement lights
3 = Sign with a pedestrian symbol 50m before the crosswalk “Yield When Flashing” - sign at side of road
4 = “Yield When Flashing” sign mounted over traffic lanes
5 = Animated eyes to signal motorist to look for crossing pedestrians at an uncontrolled approach

**Intersection Treatments**
1 = High visibility crosswalk
2 = Advanced staggered stop bar
3 = Countdown pedestrian head
4 = Automated eyes pedestrian head - to signal to pedestrian to look for vehicles
5 = Motorist warning sign “Stop For Pedestrians (pedestrian symbol) When Turning”
**Questionnaire Results**
The outcomes from the different neighborhoods were analyzed and summarized next.

**Huntridge Neighborhood Association**
The questionnaire was updated for the Gender and Age sections after the team had visited the Huntridge neighborhood association. So the questionnaire included only the five questions and the visual survey that were listed above. The turnout was overwhelming with more than forty people turning out for the program at the Huntridge neighborhood association.

Thirty three percent of the group said that a pedestrian vehicle crash is caused by pedestrian error while 31 percent said it would be caused by errors from both the pedestrian and the driver.

When asked about how well the streets of Las Vegas are serving the pedestrians, 24 percent rated them good, 50 percent rated them fair, and 19 percent rated them poor.

When asked about where they cross a street, 30 percent said they will look for a signalized crosswalk and wait for a walk signal, 26 percent opted for a marked crosswalk, 14 percent said they cross at corners, and 5 percent said it depends on the traffic and weather conditions.

When asked about their best recommendation that would improve the pedestrian safety in their neighborhood, there were mixed answers, some saying to install speed bumps, stop lines, crosswalks, lights, warning signs and some of them asking to educate the users (drivers and pedestrians) about the various regulations and safety.

Forty-three percent of the group thought that the pedestrian might be at fault for a possible crash with a motorist, 43 percent thought that a driver and pedestrian both are at fault, and 7 percent had an opinion that the fault exclusively is with the driver.

Most of the entries did not give satisfactory information of what countermeasures they would suggest for the various test sites in the *Visual Survey* section. However, some thought providing in-pavement lighting, advanced yield signs, and animated eyes looking out for pedestrians would be effective at the Charleston Boulevard and Maryland Parkway intersection. As a second choice they chose the countdown pedestrian heads. For the intersection of Maryland Parkway and Karen Avenue, the most often selected choice was to provide Advanced Yield Signs followed by the installation of pedestrian countdown heads.

**John S. Park Neighborhood Association**
A total of 17 people participated in this outreach program of which 10 were females and seven were males. Nearly half of this group was in the age group of 31 to 40 and the second largest age group was above 61 with five people. When asked how often the attendees walked, 30 percent said they walk two to three times a month, 24 percent said...
that they walk daily, and 30 percent told that they do it as an exercise walking two to three times per week. For the various questions asked, many of them gave multiple answers.

When asked who they felt caused a pedestrian/vehicle crash, 50 percent selected pedestrian error while 35 percent selected driver error and vehicles traveling too fast to stop for the pedestrians.

When asked about how well the streets of Las Vegas are serving the pedestrians, 47 percent thought that they were poor while 41 percent thought they were fair.

Forty one percent of the total people surveyed said they usually cross a street at a corner, even if there is no crosswalk, 30 percent said they look for a marked crosswalk, and 35 percent said it depends on the traffic and weather.

When asked for their opinion of what should be done to improve pedestrian safety in their neighborhood, the answers were to put more signs, warning lights, provide better lighting on streets, install speed bumps, provide crossing guards etc.

When asked who was at fault in a pedestrian/vehicle crash, 41 percent selected both the driver and the pedestrian, 30 percent selected the pedestrian, and 30 percent selected the driver.

The *Visual Survey* at this neighborhood revealed the following. Most of the people chose a sign with a pedestrian symbol 50 meters before the crosswalk with a “yield when flashing” sign at the side of road as their first choice for the mid-block crossing. Other choices for the mid-block crossing included the advanced yield markings and the embedded pavement lights. For the Charleston Boulevard and Maryland Parkway intersection the selections included the countdown pedestrian heads and the high visibility crosswalk.

**East Las Vegas Community Development Corporation**

Eleven people attended this awareness program, most of whom were females from all age categories. Out of this group, 45 percent walk for exercise (two to three times a week), and 27 percent said that they walk two to three times a month, and nine percent said that they walk daily.

Sixty-four percent of the attendees thought the major cause for a pedestrian/vehicle conflict is the vehicles driving too fast to stop for pedestrians, while 27 percent each thought it was because of the driver’s error and bad lighting of streets.

When asked to rate the level of service of the Las Vegas streets and how they serve the pedestrians 37 percent thought the streets were fair and 37 percent thought the streets were poor.
Sixty-four percent of the group said they cross a street at a signalized crosswalk and wait for a walk signal and 10 percent each said they cross at a corner, look for a marked crosswalk, depends on the weather and traffic, or take the shortest possible route.

Most of the attendees thought that by installing more stop signs and lights, the pedestrian safety in general would improve.

When asked about whose fault it would be in a pedestrian/vehicle crash, most of them thought it would be due to both pedestrian and driver errors.

The *Visual Survey* for this neighborhood had many discrepancies – i.e., they did not have the same choices being made for most of the cases. This may be because of the small number of participants in the program. However, for the Charleston Boulevard and Maryland Parkway intersection, a majority thought that Advanced Yield markings and the “Yield When Flashing” sign before the crosswalk and mounted on the traffic lanes are the ones that would prove effective, whereas most of the residents thought animated eyes to signal motorist to look for crossing pedestrians at an uncontrolled approach would be suited for the Las Vegas Boulevard and Charleston Boulevard intersection.

The results of the surveys were analyzed. These results are summarized in graphical form in Figures 68 – 72 (pages 7-11 through 7-13).

Evaluating the merits of the outreach and awareness program brought to light valuable information for the team. Evident from the survey forms, there was confusion in deciding how many answers one might respond to per question as to what type of countermeasure treatment would be beneficial. One cause could be the brevity of two of the association meetings, or the information was not presented in a comprehensive manner. Secondly, there was a lack of understanding about the benefits of a proposed countermeasure over the other for a particular site. This is apparent due to the conflicting choices that were made during the *Visual Survey*.

**Pedestrian Survey Project**

A mid-block pedestrian crosswalk, designed as Danish off-set, is located on Maryland Parkway. It is flanked on the west side by the University of Nevada, Las Vegas (UNLV) and the east side by a commerce plaza. Primarily UNLV students and employees traverse this mid-block crosswalk. Despite the Danish off-set’s excellent design and pedestrians going out of their way to use it, motorist compliance with yielding to pedestrians in the crosswalk is still very poor.

A survey was conducted at the mid-block pedestrian crosswalk located on Maryland Parkway. The objective of this research was to determine the level of driver compliance with pedestrian laws. The Nevada Revised Statutes (NRS) 484.325, states, “the driver of a vehicle shall yield the right of way, slowing down or stopping if need be so to yield, to a pedestrian crossing the highway within a crosswalk when the pedestrian is upon the half of the highway upon which the vehicle is traveling, or when the pedestrian is approaching so closely from the opposite half of the highway as to be in danger.”
Furthermore, NRS states, “Whenever a vehicle is stopped at a marked crosswalk or at an unmarked crosswalk at an intersection the driver of any other vehicle approaching from the rear shall not overtake and pass the stopped vehicle until the driver has determined that the vehicle being overtaken was not stopped for the purpose of permitting a pedestrian to cross the highway.”

The treatment consists of a Danish off-set, painted crosswalks separated by a raised, center median. Additional treatments include flashing lights and a high-visibility, fluorescent green-yellow pedestrian crossing sign located on the center median and on the approaches.

Data were collected in 15-minute intervals over three, several-hour-long periods each day for a total of 10 days. The periods covered morning and evening peak hour traffic times as well as a “lunchtime” period, to study driver behavior at varying times of the day. Two observers were positioned in the vicinity of the crosswalk. As pedestrian(s) first approached the crosswalk and prepared to cross, the driver’s reactions, if any were present, were recorded. Outcomes recorded were classified as “all drivers yielded” (to the pedestrian), “two drivers yielded”, “one driver yielded”, the “pedestrian had to wait” (because no drivers yielded), or “road clear” (if no vehicles were in a position to hinder the pedestrian’s movement). Additionally, the observers recorded if a police presence was visible near the crossing, which may have influenced driver’s reactions to the pedestrians. The results of these surveys are shown in Figures 73 through 78 (pages 7-13 through 7-16).

Analysis of the data collected suggested two observations. The first observation is that under normal circumstances when automobiles are present, in only about a third of the cases do all drivers yield to pedestrians at crosswalks. The second observation is that the presence of law enforcement officers does appear to have a significant affect on driver compliance.

Related Activities
The activities in this task include scheduling and participating in meetings with FHWA personnel and at topical professional conferences.

The Pedestrian Safety Program Executive Advisory Committee (EAC) met once a month to be apprised of the progress of the program and offer feedback, comments and suggestions on future activities. The first meeting was held on October 31, 2001 at UNLV to discuss the program’s inception and approach, and to solicit input and guidance. The EAC has continued with monthly meetings, which are listed in Chapter 2.

A meeting / press conference was held on November 5, 2001 to publicize the program. Attendees included various stakeholders and partners including elected officials, agency managers and technical staff, and the media.

The program has received significant coverage in the print, radio and television media. Copies of the news coverage by the local newspapers (articles as well as an editorial) are
included in Appendix C. Television coverage included reports during the newscasts on the local affiliate channels of ABC, CBS, Fox, and NBC (November 2 and 5, 2001). Erin Breen hosted an hour-long program on AM 970 on November 7, 2001, one of the local talk radio stations. The focus of this hour-long show was the FHWA agreement with UNLV to address pedestrian safety issues in the region. Appendix C lists the television, radio and newspaper media coverage generated by the program.

The PI also has communicated with the following individuals at FHWA: Ms. Tamara Broyhill, the AOTR and Mr. Leverson Boodlal, who is understood to be the designated individual for communications on technical activities on the program. The PI has been communicating via E-mail and telephone with Mr. Boodlal on technical aspects of the program. The notice to proceed on to Task 2 of Phase 1 was received from FHWA on November 9, 2001.

A project inception meeting was held in Washington, D.C. on November 19, 2001. Shashi Nambisan and Rich Romer represented the project team at the meeting. They made a presentation summarizing the team’s approach for Phase 1 of the program. The presentation was well received by the FHWA. The purpose of the meeting was to present the team’s approach, and to obtain feedback on the same. Further, they also attended the presentation made by the University of Florida (UF) team; another team awarded a similar agreement, and held discussions with them and FHWA representatives. The FHWA encouraged the TRC and the UF team to coordinate efforts and schedules on Phase One of the program. The TRC has been communicating with UF researchers in this regard.

A second project meeting was held in Washington, D.C. on May 30, 2002. Shashi Nambisan represented the project team at the meeting and made a presentation summarizing the team’s progress on Phase 1 of the program. The presentation was well received by the FHWA. The purpose of the meeting was to present the countermeasures selected by the team, and to obtain feedback on the same. Further, they also attended the presentation made by the UF team and the San Francisco team, other teams awarded similar agreements. The meeting also included participation by representatives of SAIC, who serve as independent evaluators for the program, and FHWA representatives. The FHWA encouraged the TRC and the UF team to coordinate the selection of countermeasures, and data collection efforts to quantify measures of effectiveness for Phase 2 of the program. The TRC has been communicating with UF researchers and the SAIC personnel in this regard.

The City of Henderson and the City of North Las Vegas expressed interest in participating in the program. Meetings were arranged with entities, Henderson on December 20, 2001, and City of North Las Vegas December 24, 2001. Both entities decided not to contribute matching funds to the program. However, the RTC has provided matching funds for Phase 2 only if the Cities of Henderson and North Las Vegas are also included in the EAC.
Presentations
The following presentations were made by members of the TRC team at various conferences and professional meetings:

Shashi Nambisan was the Luncheon speaker at the Institute of Transportation Engineers Nevada Chapter’s Monthly Meeting in December 2001. He spoke about the Pedestrian Safety Program.

Rich Romer was the invited speaker at the UNLV ITE Student Chapter in December 2001. His presentation was about the Pedestrian Safety Program.


Srinivas Pulugurtha presented a summary of the program to the Regional Transportation Commission of Southern Nevada’s Executive Advisory Committee on May 30, 2002.


Shashi Nambisan and Srinivas Pulugurtha attended the 7th International Conference on Application of Advanced Technology in Transportation, August 5-7, 2002, in Cambridge, Massachusetts


Prepare professional journal paper(s)
This task is to prepare and submit at least two papers for publication in appropriate professional journal(s), in consultation with FHWA’s Technical Representative for the program. Two papers were submitted for publication and presentation at the 2003 Annual Transportation Research Board Meeting to be held in Washington, DC. The titles of the papers are as follows.


Shashi S. Nambisan and Srinivas S. Pulugurtha. *Selection of Pedestrian Safety Treatments for Evaluation*. Submitted in August 2002 for publication in Transportation Research Record, the Journal of the Transportation Research Board, National Research Council, National Academy Press. Washington, D.C. Paper Number 03-4217. This paper was not selected for presentation or publication.
FIGURE 68 How Often Do People Walk?

FIGURE 69 Pedestrian’s Opinions on the Major Cause for Pedestrian / Vehicle Conflicts
FIGURE 70 Pedestrian’s Opinions on Level of Service Offered by the Streets of Las Vegas

FIGURE 71 Pedestrian's Opinions on Whose Fault it is when a Vehicle hits a Pedestrian
FIGURE 72 Where do Pedestrians Cross Streets?

FIGURE 73 Mid-Block Crossing Survey Result, Maryland Parkway Northbound Vehicles, Morning Average
FIGURE 74 Mid-Block Crossing Survey Result, Maryland Parkway Southbound Vehicles, Morning Average

FIGURE 75 Mid-Block Crossing Survey Result, Maryland Parkway Northbound Vehicles, Mid-Day Average
FIGURE 76 Mid-Block Crossing Survey Results, Maryland Parkway Southbound Vehicles, Mid-Day Average

FIGURE 77 Mid-Block Crossing Survey Results, Maryland Parkway Northbound Vehicles, Evening Average
FIGURE 78 Mid-Block Crossing Survey Results, Maryland Parkway Southbound Vehicles, Evening Average