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Background
The University of Nevada, Las Vegas Transportation Research Center (TRC) was established in 1988 initially as the Nuclear Waster Transportation Research Center. In 1991, its name was changed to the Transportation Research Center. Housed in the Howard Hughes College of Engineering, since its inception, TRC’s activities have included participation by a number of faculty from the Departments of Biological Sciences, Civil and Environmental Engineering, Electrical and Computer Engineering, Geo-sciences, Mathematical Sciences, Mechanical Engineering, and Public Administration. To date, the TRC has involved over eighty undergraduate and graduate students in over eighty sponsored projects conducted at the center. These projects have supported a wide range of sponsors including several federal, state and local government agencies and a few from the private sector. The center also has benefitted from three generous grants from the TRW Foundation. In addition, the center has hosted several workshops, training sessions, and conferences.

The following are the mission, goals, and focus of the TRC.

Mission
Promote and Conduct Transportation Research, Educational, and Outreach Activities.

Goals
• Develop and Maintain a Nevada-based Center For Multi-modal Transportation Research and Policy Analysis.
• Educate And Prepare Students For Careers In Transportation.
• Provide Extension and Outreach Services to Public and Private Sector Organizations.

Location
The TRC is physically located in the Thomas Beam Engineering complex with a laboratory-cum-office suite in Room 363 of the “B” building. Additionally, faculty, staff and students associated with the TRC have other offices in the “B” building of the Howard R. Hughes College of Engineering.
Personnel
The following individuals worked at or participated in activities of the TRC during a part or all of 2001. The faculty members hold tenure track positions with academic departments at UNLV.

Faculty:
Mohamed Kaseko, Ph.D. (Civil Engineering)
Shashi Nambisan, Ph.D., P.E., Director (Civil Engineering)
Ed Neumann, Ph.D., P.E. (Civil Engineering)
Ashok Singh, Ph.D. (Statistics/ Mathematical Sciences)
Walter C. Vodrazka, Ph.D., P.E. (Civil Engineering)

Professional Staff:
Erin Breen, Coordinator, Safe Communities Partnership
Srinivas Pulugurtha, Ph.D., Assistant Research Professor, Assistant Director
Maggie Saunders, BA, Coordinator, Pedestrian & Bicycle Safety Program
Walter C. Vodrazka, Jr., E.I., M.S.C.E., Transportation Systems Analyst

Consultants:
Jeff Jensen, M.S.E.
Tom Miller, B.S.E.

Students:
Undergraduate Students:
Sarah Boswell (BS - Undecided) (through August 2002)
Jonathan Ford (BS - English/History)
Micah Kagimoto (BSE - Civil Engineering) (through August 2002)
Tommy Lawson (BSE - Civil Engineering) (through September 2002)
Mani Mani (BSE - Pre-Engineering)
David Moss (BSE - Computer Engineering)
Jordan Slocum (BS - Fine Arts)
Jennifer Tracey (BS - Fine Arts)
Nick Warnke (BSE - Civil Engineering)

Graduate Students:
Mukund Dangeti (PhD - Civil Engineering)
John Green (PhD - Civil Engineering)
Ganesh Karkee (PhD - Civil Engineering)
Kondala Mantri (MSE - Civil Engineering)
Anil Mudigonda (MSE - Civil Engineering)
Paul Oglebay (MST - Transportation)
Venu Parimi (MSE - Civil Engineering)
D.V. Rao (MSE - Computer Engineering)
Vinod Vasudevan (MSE - Civil Engineering)
Natachai Wongchavalidkul (MSE - Civil Engineering)
High School Students:
Frisco Elangiyil
Sanjay Menon
Andrew Nelson (Summer Business Institute Program 2002)
Lily Tan (Summer Business Institute Program 2002)
Jocelyn Wallace (Summer Business Institute Program 2002)

SUMMARY OF ACTIVITIES IN 2002
Faculty, staff and students at the TRC work on a wide range of topics and projects. These include efforts that are akin to those undertaken by traditional academic programs as well as non-traditional efforts and projects. Traditional research efforts include the development of decision support tools, transportation routing and risk analysis related to radioactive materials transportation, and evaluation of urban traffic congestion. One of the key outcomes of such efforts has been the development and deployment of an Internet and GIS-based system to assist state and local agencies better manage transportation infrastructure and operate the same efficiently.

The Safe Community Partnership program and the Pedestrian and Bicycle Safety Program undertaken by the TRC are non-traditional projects. The Safe Community Partnership program’s mission is to further the pursuit of improved safety on the transportation network. The Pedestrian and Bicycle Safety program’s mission is to reduce pedestrian and bicycle crashes. The focus of these programs’ products is on continued outreach and technology transfer to stakeholders, and not so much in peer reviewed publications, conference presentations and technical reports.

The Safe Community Partnership program is discussed next and it is followed by discussions of the Pedestrian and Bicycle Safety program and the Federal Highway Administration (FHWA) Pedestrian Safety programs. It is followed by a summary of activities of the TRC for the calendar year 2002. This summary includes the following categories: publications, presentations and conference activities, sponsored research projects and grants, professional society activities, supervision of graduate student thesis/dissertation, honors and awards, and conference and workshop attendance. (NOTE: this reflects outcomes and products of the efforts of individuals associated with the TRC. Many of these activities benefitted from financial support from sources outside the TRC related funds. The faculty members were also associated with academic departments. Thus, items with their involvement would also be reflected in reports submitted by their respective departments).
SAFE COMMUNITIES PARTNERSHIP

The Safe Community Partnership is made up of representatives from 48 local agencies and programs in the urbanized Clark County area. The goal of the Partnership is to enhance transportation safety by lessening the burden of traffic crashes on residents and visitors in Clark County. The program is funded through the Nevada Office of Traffic Safety with Federal 402 Highway Safety money that each state receives.

All of the objectives established for the partnership were exceeded in 2002. These objectives are discussed next with highlights of the year’s activities. Even though the goals of the program may not fit into the “traditional” mold for university success, the program is a great asset to the university and helps to achieve several of the goals established to become a premier urban university.

Objective One: To continue to generate membership in the traffic safety coalition, to ensure that at least five of the following interest areas are represented on the coalition:

- Education - Elementary School
- Education - High School
- Emergency Medical Services
- Enforcement
- Engineering / Public Works
- Injury prevention
- Insurance Industry
- Judiciary
### 2002 UNLV’s Safe Community Partnership Member List

<table>
<thead>
<tr>
<th>AAA Insurance</th>
<th>KVBC Channel 3</th>
</tr>
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<tbody>
<tr>
<td>American Medical Response</td>
<td>Las Vegas Area Computerized Traffic System</td>
</tr>
<tr>
<td>American Society of Safety Engineers</td>
<td>Las Vegas Metropolitan Police Department - Community Policing</td>
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<tr>
<td>The Driver’s Edge</td>
<td>Las Vegas Metropolitan Police Department - Traffic Division</td>
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<tr>
<td>Aztec Communications</td>
<td>Las Vegas Traffic School</td>
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<tr>
<td>CAT Paratransit</td>
<td>Nevada Beverage</td>
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<tr>
<td>Chayra Communications</td>
<td>Nevada Highway Patrol</td>
</tr>
<tr>
<td>Citizens from the community at large</td>
<td>Nevada Insurance Institute</td>
</tr>
<tr>
<td>City of Las Vegas Engineering</td>
<td>Nevada Trial Lawyers Association</td>
</tr>
<tr>
<td>Clark County Coroners Office</td>
<td>North Las Vegas Fire Department</td>
</tr>
<tr>
<td>Clark County Court Education Program</td>
<td>North Las Vegas Police Department</td>
</tr>
<tr>
<td>Clark County Family and Youth Services</td>
<td>North Las Vegas Traffic Engineering</td>
</tr>
<tr>
<td>Clark County Health District</td>
<td>Pat Clark Pontiac GMC</td>
</tr>
<tr>
<td>Clark County Risk Management</td>
<td>Progressive Insurance</td>
</tr>
<tr>
<td>Clark County Safe Kids Coalition</td>
<td>Regional Transportation Commission</td>
</tr>
<tr>
<td>Clark County Traffic Management</td>
<td>Safety Consultants, Inc.</td>
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<tr>
<td>Clark County School District</td>
<td>Sierra Health Services</td>
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<tr>
<td>Department of Motor Vehicles</td>
<td>Smiths Food and Drug Centers</td>
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<tr>
<td>District Attorney's DUI Task Force</td>
<td>Sprint Telephone</td>
</tr>
<tr>
<td>Golden Nugget</td>
<td>State of Nevada Office of Juvenile Justice</td>
</tr>
<tr>
<td>Henderson Fire Department</td>
<td>Sunrise Hospital</td>
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<tr>
<td>Henderson Police Department</td>
<td>UMC Trauma Services</td>
</tr>
<tr>
<td>Henderson Public Works</td>
<td>University Medical Center</td>
</tr>
<tr>
<td>Dagerman’s Just for Kids</td>
<td>UNLV Police Department</td>
</tr>
</tbody>
</table>

**Objective Two:** To schedule Partnership meetings; to prepare and post agendas; and to provide staff support to coalition members.

Partnership meetings were held on the second Thursday of every month at Jean Hanna Clark Rehab Center or at the Clark County Government Center.
Objective Three: Conduct an annual Safe Communities event to assemble individuals interested in traffic safety in a forum that includes an awards ceremony and features at least one prominent civic leader speaking about the problems related to traffic safety

The annual awards luncheon was held at Palace Station in September and combined it with the legislative issues that Safe Community Partnership will be endorsing during the coming session. Only 13 candidates attended along with the Mayor and the Sheriff. The format included short presentations by seven prominent people in areas supported by the partnership. The first speaker was Mayor Oscar Goodman who spoke about the importance of passing a Primary Seat Belt law in the coming session and pledged his support to our efforts at “whatever level it takes to make it happen.” Further the Mayor promised that “we will have a primary seat belt law during the next session.” Sheriff Jerry Keller was presented with a plaque to thank him for his support of the Safe Community Partnership, our programs and the personnel he has encouraged to participate during his tenure. Sheriff Keller retired December 31. Everyone in attendance received booklet of “position papers” on the topics that were presented at the luncheon. The names of the nominees for awards are listed next with the award winner’s name in bold text:

Engineering:
Mike Colety, Kimley Horn & Associates
Srinivas Pulugurtha, Transportation Research Center
O.C. White, City of Las Vegas

Enforcement:
Alan Davidson, NV Highway Patrol
Scott Leonard, Boulder City Police Department
Greg Rundell, LVMPD Traffic

Education:
Cindi Gorham, UMC Trauma Outreach
Bernadette Knuckle, Smith Middle School
Bruce Mackey, NV Office of Traffic Safety
Stacie Paul, Stand Tall, Don’t Fall Youth Leadership Camp

Emergency Medicine:
Dale Carrison, University Medical Center
Greg Fusto, UMC Trauma
Mercy Air Ambulance Service

Safe Community Partner:
Sandy Heverly, Stop DUI
“Joining Forces” Police Department Coalition
Niel Rohleder, Las Vegas Area Computerized Traffic System
Safe Community Humanitarian:
Jeff Payne, Drivers Edge Program
Nate Peachek, Las Vegas Fire Department
Julie Rabeau, UMC Trauma

Safe Community Angel:
Dale Matteson, Matteson Media Group
Michael Squires, Las Vegas Review Journal
Sunset Station Hotel & Casino

Objective Four: Participate in a minimum of three community events using OTS mascot SALLY, develop and distribute at least one piece of printed material, garner a minimum of four airings of earned media, and two public service announcements.

During the year the SCP developed the pedestrian campaign “Pedestrians Are Not Target Practice.” There were three public service announcements (PSA) spots featuring different perspectives on safety: A fatal investigator, a trauma nurse, a parent who lost his daughter crossing the street, and Bruce Mackey from OTS talking about slowing down and “giving the pedestrian a break.” In addition, Co-sponsor Channel 8 also filmed a PSA on the campaign where they have their morning news anchor talking about pedestrian safety. The video was recorded during an enforcement wave. Also part of the campaign was a 20 minute interview with Infinity Broadcasting that has and will run on their stations’s public service shows (there are three of them.)

SCP participated in two Back-to-School Fairs at local malls in August. Approximately 10,000 people attended each event. This year SALLY was used to promote “walk-pooling” at the Back-to-School fairs and other events. SALLY also accompanied SCP staff on visits to elementary schools to promote safety. SCP also participated in the National Night Out with the police department, the Stand Tall, Don’t Fall Youth Leadership Cam, and the PAYBAC program in the school district.

SCP coordinated the Boost America! Event for National Child Passenger Safety Week, giving away more than 2,500 booster seats. This involved planning and coordinating child passenger safety seat checkpoints with local law enforcement and volunteer seat checkers. SCP also organized a “Picket Campaign” in April focusing on Red Light Running. Law enforcement and volunteers picketed the intersection of Maryland Parkway and Flamingo Road to call attention to Red Light Running and especially the dangers to pedestrians in this busy intersection. As part of the National Alcohol Awareness Month held in April SCP served on the planning committee. The Awareness month activities started with an event on the UNLV campus. SCP was awarded a grant to provide alcohol awareness materials and support to the 2002 Greek Week Events at UNLV.

SCP was part of the steering committee for the You Drink, You Drive, You Lose annual campaign that is held in December at the Trauma Center. This campaign calls attention to the drinking and driving problem over the holidays. This year every high level official for the state and governing body for Clark County and Las Vegas was at the event with Mayor Goodman leading the way. SCP
participated as speakers for the “Risk-Watch” program in the CCSD focusing on bike and pedestrian safety. SCP worked on programs and events on many topics that affect the quality of life in Clark County. These topics are discussed in the following sections.

**Pedestrian Safety**
The Partnership works with all of the engineering departments of the incorporated cities of Clark County and the Clark County Department of Public Works trying to get improvements made or pilot programs developed. SCP is an active member of an RTC of Southern Nevada committee for developing an “Alternative Modes of Transportation’ plan for Clark County. The RTC is currently working on an implementation plan for the committee’s recommendations.

SCP also worked on the FHWA Pedestrian Safety Project and conducted neighborhood focus groups to get neighborhood support for recommended changes.

**Teen Drivers**
SCP continued efforts to get a Graduated Licensing Bill passed. The foundation has been established during the off year for this law as well as many others for the coming session. The committee made presentations whenever possible to educate the public and legislators about the proposed legislation. SCP has and will continue to coordinate speakers for the coming session on this topic. A teen driving program was started called “Paren-Teen” which is an education program that features stickers for vehicles where the public can call and report bad driving behavior. This information is then passed on to the registered participant.

**Alcohol Issues**
The most visible event during the year for alcohol awareness was in December. SCP partnered with UMC Trauma Center and Stop DUI to bring together “You Drink, You Drive, You Lose” which was a day long media event held on December 6. There were comments made by victims, surgeons and police officers about drinking and driving, there was an alcohol demonstration to show how much alcohol is needed to be .05, .08 and .10. Field sobriety tests were given to show the correlation of alcohol to coordination. Relay races were held with teams of doctors, firefighters, police and media all wearing glasses that simulate being drunk. There were also informational booths. Every media outlet in Las Vegas covered the event. Also featured at this news conference was the Santa is Coming to Town, Please don’t hit him DUI awareness promotion which included buttons and tables tents for area bars, tee shirts donated by AAA and an appearance by Santa himself to pass out the buttons.

**Occupant Protection**
The main focus of the occupant protection committee in 2002 was infant and toddler passengers in motor vehicles. The partnership continued to team with Las Vegas Metro and the Clark County Safe Kids Coalition to run child safety seat checkpoints throughout the year. In addition this year SCP coordinated the Boost America! Event where SCP partners and United Way agencies distributed 2,500 booster seats. This included training day-care providers how to screen clients and educating them about the importance of child safety seats. All these events were covered by the local television news programs including live reports.
SCP also worked on a mandatory booster seat law in the 2003 legislative session. State-wide video conference meetings were held to hammer out the bill and gain support for its passage in the coming session.

The coordinating of the Clark County efforts for a Primary Seat Belt law was handled by the SCP. A bill draft was completed which will make the Nevada seat belt requirement law a “Primary Offense” and not the current “secondary.”

SCP is also part of the efforts to make DUI offenders treated as felons once they have reached their third conviction for ev every subsequent conviction. Currently, the third conviction is a felony, but numbers four and five are misdemeanors, with six being the next felony. The 0.08 BAC law efforts are also supported by the partnership.

A bill to make it illegal to leave children unattended in a vehicle is currently being worked on by the SCP. SCP is also coordinating efforts to repeal the ban on “Photo Enforcement” in the state of Nevada. Partnership personnel will be testifying on this bill and coordinating letter writing efforts. Furthermore, SCP will be organizing other speakers to testify to try to get the ban on intersection cameras lifted.

SCP has received constant, year-round media coverage both in print and on local news stations promoting traffic safety issues. Each time the University is acknowledged.

**Pedestrian and Bicycle Safety Program**

The Pedestrian and Bicycle Safety Program was established in March of 2001 using funding provided by the Nevada Office of Traffic Safety. This program was instituted in order to reduce the number of pedestrian and bicycle crashes in Clark County. The objectives of this program are discussed below.

**Objectives**

1. **Work with local public works departments and the Regional Transportation Commission of Southern Nevada (RTC) to develop a plan for implementing innovative pedestrian facility improvement.** Efforts include identification of problems and concerns, development of remedial measures and strategies, and the implementation of appropriate countermeasures.

2. **Work with local public works departments and the RTC to establish unified plan for non-motorized transportation in Clark County with an ultimate goal of developing a “multi-modal” system.**
3. Research latest trends in facility designs being tested and pursue including Clark County in test group(s).

The first three objectives are met within the framework of the following projects:
  Alternative Transportation Mode Master Plan.
  FHWA Pedestrian Safety Plan.

The Program Coordinator has been a working member of the Alternative Transportation Mode Master Plan for Clark County. The project which is headed by the RTC has identified the need to provide a non-motorized network of facilities within the Las Vegas Valley to promote alternative modes of travel.

The Alternative Mode Study is in the final stage of developing the Conceptual Master Plan. The Plan is entering the prioritizing, ranking and funding stage of development.

The Federal Highway Administration Pedestrian Safety Program is discussed in detail in the next section.

4. Work with the land development community to develop “pedestrian and bicycle friendly” communities. Efforts in this regard include developing working relationships with the local municipal jurisdictions and with the RTC.

5. Develop and submit grant applications to obtain additional support (financial and “in-kind”) for pedestrian and bicycle research programs through the Transportation Research Center at UNLV to focus on Clark County. This includes efforts to establish financial support from other sources such as federal, state, and local agencies and private sector organizations to help continue the program after the initial three years of funding. Examples of such sources include the RTC, County, City, North Las Vegas, Boulder City, and Henderson.

The Federal Highway Administration Pedestrian Safety Program is discussed in detail in the next section.

6. Establish a calendar to help facilitate conducting and coordinating relevant events and courses focusing on pedestrian and bicycle safety issues on a monthly basis; Provide support to recruit participants for such events. Examples of such community-wide activities include education campaigns through events, schools and civic groups, “Walk Our Children to School Day,” and the OTS bike and pedestrian courses etc. Such efforts include working with federal, state, local, private, and not-for-profit organizations.

October held the third annual “Walk Our Children to School Day”. This year school locations were chosen due to their proximity to High Pedestrian Crash Sites found in the TRC’s Federal Highway Administration Pedestrian Safety Program. Fourteen elementary schools participated.
“Walk Our Children to School Day” is a day where parents leave their vehicles at home and walk their children to school. Teaching them good pedestrian skills by example, getting exercise, keeping the air clean, eliminating traffic congestion around schools, and demonstrating that walking is an alternative form of transportation. Walkability Checklists were sent home with each of the students containing information on what to look for in facilities and who to contact in the event that an area is unsafe, has no sidewalk, or is an area of concern for parents.

The TRC’s Federal Highway Administration Pedestrian Safety Program has a number of partners. A number of the partners are stakeholders and a number are non-traditional partners that will donate in-kind services. Smith’s Food and Drug is one such non-traditional partner. When contacted about the “Walk Our Children to School Day”, Smith’s donated 6,000 red delicious apples, for those students who participated in the event.

There was a live news report in the morning from the focus school, Lewis Rowe Elementary School. Assemblymen David Parks, Ebony Folk (City of Las Vegas, Department of Public Works, Traffic Division) and personnel from the Las Vegas Metropolitan Police Department Problem Solving Unit, the Nevada Office of Traffic Safety, the University Medical Center were at the event to pass out incentive items to the students that walked to school that day. Sally (Office of Traffic Safety mascot) and Buckle-up Bear (University Medical Center Trauma Center mascot) were also at the event to interact with the students.

7. Act as “clearing house” for pedestrian and bicycle safety education issues in Clark County. Efforts include developing appropriate brochures and literature, and maintaining a collection of relevant materials.

The Program Coordinator developed a Back to School safety message for the side panel of Anderson Dairy milk carton. Due to time restraints the message also encompassed the safety message for “Walk Our Children to School Day”. This message was displayed for a week on the side of all of Anderson Dairy cartons. The message reaches all of Clark County and Pahrump.

8. Work with local law enforcement entities on pedestrian education training and pedestrian safety enforcement, to include motorist education.

In February 2002, the Program Coordinator participated in a Nevada OTSponsored law enforcement training on pedestrian safety. John Moffet, Director of the Washington Governor’s Highway Safety Representative and Dan Burden, Walkable Communities, held a two day class and field training for police officers. Sixteen law enforcement officers from Las Vegas Metropolitan Police Traffic Problem Solving Unit, Henderson Police, Boulder City Police, and the University of Nevada, Las Vegas Campus Police Department attended.

The Pedestrian Safety Enforcement Training increases motorist compliance of pedestrian right-of-way in a marked or unmarked crosswalk. The method relies on existing laws that state a motorist will yield to a pedestrian in a marked or unmarked crosswalk when on their portion of the roadway.
Motorists who fail to yield to the pedestrian will be ticketed. The goal of this program is not to cite as many motorist as possible, it is the media attention that this program garners. This program educates the community as to the important role motorists play in pedestrian safety.

9. Work with local media outlets to garner recognition of pedestrian and bicycle safety concerns and improvements in Clark County.

The day of “Walk Our Children to School” the Program had coverage from a Las Vegas Review Journal Newspaper, Las Vegas Sun Newspaper, Channel 8 KLAS-CBS, Channel 5, KVVU, and Channel 39, TeleMundo.

During the Pedestrian Safety Enforcement Operation there was a high saturation of media coverage of the enforcement which provided an opportunity to use the media to educate the public to their role in safety issues. Channel 8 KLAS-CBS produced their own PSA on pedestrian safety during one of the Pedestrian Safety Enforcement Operations that they air at their own discretion.

10. Attend monthly SCP meeting and establish subcommittee to support bicycle and pedestrian program.

The Program Coordinator has and is attending SCP meetings.

11. Work with public broadcasters to develop and distribute at least two pedestrian safety messages in the form of Public Service Announcements (PSAs) and one bicycle safety message (as a PSA). Work with the OTS public relations firm to support their ongoing safety messages as they pertain to this program.

*Pedestrians are Not Target Practice* is the pedestrian safety campaign. This campaign has a series of testimonials that appeal to the emotional side of pedestrian fatalities. Reminding motorists not to look at pedestrians as if they were targets. Posters and brochures were developed for the campaign featuring Las Vegas Mayor Oscar Goodman crossing a street with cross-hairs centered on the picture. There were 10,000 posters and 25,000 brochures printed with the same message.

KLAS Channel 8, the local CBS affiliate, Mainar & Harris, and Infinity Broadcasting partnered with SCP to purchase the optimal amount of air time. The campaign ran for three months with 250 plus, television spots and 850 plus radio spots.

12. Submit quarterly reports describing the progress on each objective, activity and evaluation criteria on January 15, April 15, July 15, October 15 of each project year to the Office of Traffic Safety. These reports will also include the dollar value of in-kind contributions to the project.

The reports have been submitted.
Federal Highway Administration Pedestrian Safety Program

The goal of the program is to improve pedestrian safety and walkability within the urban boundaries of the Las Vegas Metropolitan area. This is to be based on identifying high risk pedestrian incident target areas and populations, selecting and implementing safety engineering and Intelligent Transportation System based countermeasures, and analyzing the effectiveness of treatments for various target groups and causal factors.

In May 2001, the TRC responded to a Request for Applications from the United States Department of Transportation - Federal Highway Administration for the Pedestrian Safety Engineering and Intelligent Transportation System-Based Countermeasures Program For Reducing Pedestrian Fatalities, Injuries Conflicts and other Surrogate Measures. In October 2001, the TRC was one of two recipients to be awarded the grant. A third team, the City of San Francisco, has been chosen after the October 2001 award to participate in the FHWA program.

The FHWA Pedestrian Safety Program, as it is now referred to, is a two-phase program. Phase One consisted of:
1. Assemble a team consisting of traditional and non-traditional partners.
2. Problem identification, countermeasure selection, and outreach and an awareness campaign.
3. Participate in meetings, other presentations and briefings.
4. Prepare professional journal paper(s).

Task 1: Assemble a team consisting of traditional and non-traditional partners
This task consists of formalizing the commitments previously obtained from various traditional and non-traditional partners. Partners include those providing financial support (matching funds) and those providing “in-kind” support. Some partners provide both financial and “in-kind support.

Stakeholders:
Regional Transportation Commission of Southern Nevada (RTC)
Clark County Department of Public Works (CCDPW)
City of Las Vegas Department of Public Works (CLVDPW)
Nevada Department of Transportation (NDOT)
Nevada Office of Traffic Safety (OTS)

Non-traditional partners:
Safe Community Partnership
Las Vegas Metropolitan Police Department
University Medical Center Trauma Center
Clark County Health District
Clark County School District Partnership Office
Smith’s Food and Drug Store
Task 2: Problem identification, countermeasure selection, and outreach and awareness campaign.

Crash Data were obtained from NDOT, and LVMPD. Injury data were received from UMC Trauma Center.

Two tools provided by the FHWA were required to be used in the program. Zonal analyses were performed using the “Zone Guide for Pedestrian Safety”. Arc/Info, a Geographic Information System (GIS) program, was used to facilitate such analysis. Pedestrian and Bicycle Crash Analyses Tool (PBCAT) was utilized in the analyses and to develop countermeasures. Input was also sought from members of the Executive Advisory Committee (EAC) and “neighborhood groups” to identify problems. This process served as the basis to select zones for further analysis and to identify potential countermeasures.

High crash sites were selected and brought to the EAC for input. Sites were then placed into zones, ranked and prioritized. Countermeasure selections were made and then given to the EAC for comment and approval.

Once the sites were agreed upon and the countermeasures selection process was initiated. Sue Newberry, from Community Partners, LLP., organized the community involvement with neighborhood associations. The team needed to know if the Intelligent Transportation Systems countermeasure would be appropriately understood by the public who would be using it. Three such meetings were held.

Task 3: Participate in meetings, other presentations and briefings.

Nambisan and Romer attended a project meeting in Washington, D.C. on November 19, 2001. The Program’s project team and proposed approach was presented. In attendance at the meeting in addition to FHWA staff were representatives from the University of Florida team, the second awardee for this grant. The University of Florida team asked for and received an extension for their Phase One schedule. Since the FHWA asked the TRC team to extend their Phase One schedule to match the Florida schedule, Phase One ended in June, 2002.

In addition to the initial press conference in November of 2001, the Program has received significant coverage in the print, radio and television media. Team members have also spoken to various groups in the community on the program. In May 2002, Rich Romer presented a paper on the project to the Institute of Transportation Engineers, Inter-Mountain Section in Jackson Hole, Wyoming. In July 2002, Mr. Romer presented a paper on the project to the Institute of Transportation Engineers, District 6 Annual Business Meeting in Palm Desert, California. In September 2002, Dr. Nambisan, presented a paper at ProBike/ProWalk Conference in St. Paul, Minnesota.

After the meeting with FHWA, Nambisan was asked to speak at the RTC’s Alternative Transportation Mode Master Plan Working Group held in 2002. The Cities of Henderson and North
Las Vegas both expressed interest in participating in the Program. Meetings were held with both entities to explain the Program and offer a chance to join the Stakeholders. The City of Henderson declined to become a Stakeholder, but has expressed an interest in participating in the EAC. The RTC, allotted extra funds for this Program to include the City of Henderson and the City of North Las Vegas, who both expressed interest in participating but was unable do to financial constraints.

Before final Phase One report was written all entities had to commit to the countermeasures and commit that the countermeasure would not be removed and would receive maintenance after the study period. The entities agreed and are eager for the success of this program.

At the current time efforts on Phase One of the program has been completed, and a final technical report has been submitted to the FHWA for approval along with a cost proposal and plan of work for Phase 2: Implementation. The TRC team is waiting for approval to proceed.

**SUMMARY OF OTHER ACTIVITIES AND OUTCOMES** (listed in reverse chronological order) A summary of the expenditures for these projects is shown in the Appendix.

1. Publications

**Monographs**

**Peer Reviewed Publications**


Conference Publications (based on peer reviewed abstracts or extended abstracts)


Technical Reports


In addition, a number of periodic progress reports, monthly reports, and quarterly reports were submitted for the various projects and programs undertaken by the TRC.
2. Presentations and Conference Activities

Conferences and Workshops Hosted
Pedestrian Safety Enforcement Training. Sixteen law enforcement officers from Las Vegas Metropolitan Police, Henderson Police, Boulder City Police, and University of Nevada, Las Vegas Police Departments attended this two day class and field training sponsored by the Safe Community Partnership. Las Vegas, NV, February 2002.

2002 Fall Transportation Conference. In its tenth year, this conference is jointly sponsored by TRC and the local chapters of the ASCE and ITE. Moyer Student Union, Las Vegas, NV. Over 150 individuals from Nevada and across the US participated in this conference. Moyer Student Union, UNLV Campus, Las Vegas, NV. September 2002.

Presentations, Session Moderations, and Posters (Listed in reverse chronological order; if all the authors did not make the presentation, the presenter’s name is underlined)


3. **Sponsored Research Projects and Grants Activities** (listed in reverse chronological order)


Alcohol Education for Greek Week at UNLV. Sponsored by Nevada Office of Traffic Safety, Carson City, NV, April 2002; (PI: Breen) (Contract amount $9,430)

Identification of Measures to Mitigate Crash Risks. Sponsored by White Pine County, Board of Commissioners, Ely, NV, August 2002 through December 2003; (PI: Vodrazka Sr., Co-PI: Vodrazka Jr.) (Contract amount: $10,000)

Upgrade and Maintenance of a Web Server. Sponsored by the Clark County Department of Public Works, Las Vegas, NV, March 2002 through June 2003; (PI: Nambisan, Co-PI: Pulugurtha) (Contract amount $46,026)


Identification of Concentration Patterns Based on Origin-Destination Survey for the Transit Mode Option Study Project. Sponsored by Parsons Transportation Group, Las Vegas, NV, February 2002 through April 2002; (PI: Nambisan, Co-PI: Pulugurtha) (Contract amount: 27,258)


Pedestrian Safety Engineering and Intelligent Transportation System-based Countermeasures Program for Reducing Pedestrian Fatalities, Injuries, Conflicts, and Other Surrogate Measures. Sponsored by the US Department of Transportation, Federal Highway Administration, Washington, DC, September 2001 through November 2005 (PI Nambisan) (Contract amount Phase I $ 173,139, Phase II $ 700,000).


Matching Funds for FHWA Pedestrian Safety Program. Sponsored by the Clark County Department of Public Works, Las Vegas, NV, September 2001 through September 2002 (PI Nambisan, Co-PI Breen, Co-PI Saunders) (Contract amount $5,000).

Matching Funds for FHWA Pedestrian Safety Program. Sponsored by the Nevada Department of Transportation, Carson City, NV, September 2001 through September 2002 (PI Nambisan, Co-PI Breen, Co-PI Saunders) (Contract amount $10,000).

Matching Funds for FHWA Pedestrian Safety Program. Sponsored by the City of Las Vegas Department of Public Works, Las Vegas, NV, September 2001 through September 2002 (PI Nambisan, Co-PI Breen, Co-PI Saunders) (Contract amount $10,000).


Update Internet Mapping Project Data. Sponsored by Clark County Department of Public Works, Las Vegas, NV, April 2001 through March 2002 (PI Nambisan, Co-PI Pulugurtha) (Contract amount $24,866).


4. **Proposals Submitted** - with outcomes pending or those which were declined (these are in addition to those listed in Section 3).

Evaluation of the Installation of Experimental Pedestrian Countdown times. Sponsored by Nevada Department of Transportation, Carson City, NV, October 2002 through March 2003; (PI: Vodrazka Jr., Co-PI: Nambisan) (Proposed amount $57,270)


Development of Criteria to Identify High Pedestrian Crash Location In Clark County, Nevada. Sponsored by the Nevada Department of Transportation, Carson City, NV, May 2002 through June 2003 (PI: Nambisan, Co-PI Pulugurtha) (proposed amount $93,525)
5. Professional Society Activities and Public Service (listed by individual)

**Erin Breen**
Nevada Representative to national Association of Women Highway Safety Leaders. Appointed by Governor Guinn, December 15, 2002
Co-founder of Nevadans Against Legalizing Marijuana
Member, Alternative Transportation Modes, Regional Transportation Commission
Member, American Public Works Association
Member, National Association of Female Executives
Member, Las Vegas Chamber of Commerce
Member, Safe Kids Coalition
Board President, Las Vegas Little Theatre
Board Member, Clark County Safe Kids
Participant, PAYBAC Program for Clark County School District

**Mohamed S. Kaseko**
American Society of Civil Engineers (ASCE).
Boy Scout Engineering Merit Badge/Girl Scout Engineering Activity Badge Workshop Session Leader and Planning Committee

Institute of Transportation Engineers (ITE)
Member, Scholarship Committee, Nevada Chapter.
Faculty Advisor, UNLV Student Chapter.

American Society of Engineering Education (ASEE)
Member

ITS – America, Nevada Chapter
Member

University of Nevada, Las Vegas
Member, University Admissions Committee.
Member, Program Review Committee

UNLV Howard R. Hughes College of Engineering
Member, Search Committee, Director of Advising Center, College of Engineering.

**Shashi Sathisan Nambisan**
Journal of Advanced Transportation
Member, Editorial and Advisory Board
American Society of Civil Engineers Air Transport Division
Member, since 1985
Past-Chair, Urban Planning Committee. Urban Transportation Division. October 2000 to present;
October 1998 to September 2000. Control Group Member, 1995 to present; Member, since
Committee on Environmental and Planning Committee. Air Transportation Division (Chair, October
1998 to September 2000); Vice-Chairman, 1996 to September 1998; Secretary, 1994 - 1996;
Member: 1990 to Sept 1998).
Education Committee, urban Planning and Development Division. (Control Group Member, 1996
to present).
Committee on Hazardous Materials Transportation, Urban Transportation Division. (Control Group
Member, 1991).
Transportation Committee. Southern Nevada Chapter. (Member- 1993 to present).

American Society of Civil Engineers Urban Planning and Development Division
Member, Education Committee.

American Society of Civil Engineers Urban Transport Division
Member, Planning Committee.
Member, Conference Technical Program Committee, 7th International Conference on the
Applications of Advanced Technologies in Transportation, Boston, MA, August 2002.
Chair, Student Paper Competition. 7th International Conference on the Applications of Advanced
Technologies in Transportation, Boston, MA August 2002.
Member, Conference Technical Program Committee, 8th International Conference on the
Applications of Advanced Technologies in Transportation, to be held in Beijing, China, May
2004.

American Society for Engineering Education (ASEE)
UNLV Campus Representative.

ITE Nevada Chapter
Member
Member, Casino Gaming Trip Generation Sub-Committee (Sept 1998 to present);

Tau Beta Pi, Nevada Beta Chapter, Engineering Honor Society
Principal Faculty Advisor. (Since August 2000)

Technical Program Committee
Member, IEEE 5th International Conference on Intelligent Transportation Systems (ITSC 2002),
Singapore. September 3-6, 2002
Transportation Research Board, National Research Council
Member, TRB Committee (A5008) on Expert Systems.
Member, TRB Committee (A5015) Committee on Spatial Data and Information Science. April 1999
to present.
Friend, TRB Committee (A3C10) on Hazardous Materials Transportation.
Reviewers, papers submitted for presentation and publication.

University of Nevada, Las Vegas
Advisor, Maitri- Indian Students’ Association.

UNLV Howard R. Hughes College of Engineering
Campus Representative, American Society for Engineering Education.
Principal Faculty Advisor, Tau Beta Pi- Nevada Beta Chapter, May 1999 to present.

UNLV Department of Civil and Environmental Engineering
Chair, Dr. Jaeho Son’s Mid-Tenure Advisory Panel. October 2001 to September 2002.
Evaluation of Graduate Student Applications- Transportation Group.
Undergraduate and Graduate Student Advisement,

Edward S. Neumann
Control Group, ASCE Committee on Automated People Movers, Urban Transportation Division.
Control Group, ASCE Committee on Automated People Mover Standards.
Chair, Transportation Research board Committee A1E14, New Transportation Systems and
Technology
Fellow, Institute of Transportation Engineers
Member, National society of Professional Engineers
Member, American Society of Engineering Educators
Member, American Academy of Orthotists and Prosthetists, member Research Committee
Member, International Society of Prosthetics and Orthotics
Chair, Advisory Board of the National Institute of Disability and Rehabilitation Research (NIDRR) -
Wheelchair Transportation Safety Rehabilitation Engineering Research Center (RERC),
University of Pittsburgh and University of Michigan, Transportation Research Institute.
Member, Advisory Board for the CODES Project, University of Nevada, Reno and the University
Medical Center Trauma Center
Professional Member, Amputee Coalition of America
Member Gait Society of North America
Member, Rehabilitation Engineering and Assistive Technology Society of North America
Associate Editor, Journal of Advanced Transportation
Srinivas Pulugurtha  
Individual Affiliate Member, Transportation Research Board (TRB)  
Associate Member, American Society of Civil Engineers (ASCE)  
Member, ASCE Urban Transportation Division, Planning Committee  
Associate Member, Institute of Transportation Engineers (ITE)  
Member, ITS America and Nevada Chapter  
Member, Transportation Demand Forecasting and Modeling Subcommittee, Regional Transportation Commission of Southern Nevada, Las Vegas

Maggie Saunders  
Member, Association of Pedestrian and Bicycle Professionals  
Member, Las Vegas Valley Bike Club  
Member, Board of Directors, Las Vegas Little Theater  
Member, RCIA Team, Adult Religious Education  
Member, Payback Program, Clark county School district Partnership Program

Walter C. Vodrazka, Sr.  
American Society of Civil Engineers  
Fellow and Life Member  
Member, Committee on Construction and Maintenance of Highways. Highway Division  
ABET Visitor Representing ASCE  
Faculty Advisor, UNLV ASCE Student Chapter  
Boy Scout Engineering Merit Badge/Girl Scout Engineering Activity Badge Workshop Session Leader and Planning Committee  
2001 Future City Competition Essay and Presentation Judge  
Champion, ASCE 150th Celebration Committee, Southern Nevada Branch  
Member, National Society of Professional Engineers.  
Member, Nevada Society of Professional Engineers.  
Faculty Advisor, Nevada Beta Chapter of Tau Beta Pi National Engineering Honor Society.  
Member, American Society for Engineering Education  
Chair of the UNLV Faculty Senate Curriculum Committee  
ASEE, Chairman, Policy Committee, Civil Engineering Committee.

Walter C. Vodrazka, Jr.  
American Society of Civil Engineers  
Treasurer, Director I, Southern Nevada Branch  
Practitioner Advisor, UNLV ASCE Student Chapter  
Staff Advisor, UNLV ASCE Student Chapter  
Attend Monthly luncheons (second Thursday of the month).  
2002 Fall Transportation Conference Planning Committee, Sponsored by American Society of Civil Engineers (Southern Nevada Branch), Institute of Transportation Engineers (Nevada Chapter), and the Transportation Research Center, Las Vegas, September 2002.  
Local Student Model Bridge Building Competition Committee Member. Attended monthly meetings since August of 2002, in charge of tours, rooms, audio/visual equipment. Held
March, 2002 at UNLV.

2002 Future City Competition Planning Committee, Sponsored by local Engineering Societies and UNLV. Attended meetings throughout 2001 for event held in January 2002.

2002 Future City Competition Essay Judge

2002 Future City Competition Computer Model Judge

Local Student Model Bridge Building Competition Committee Member. Attended monthly meetings, in charge of tours, rooms, audio/visual equipment. To be held in March, 2003 at UNLV.

2003 Fall Transportation Conference Planning Committee, Sponsored by American Society of Civil Engineers (Southern Nevada Branch), Institute of Transportation Engineers (Nevada Chapter), and the Transportation Research Center, Las Vegas, To be held in September 2003.

2003 Future City Competition Planning Committee, Sponsored by local Engineering Societies and UNLV. Attended meetings throughout 2002 for event to be held in January 2003.

Boy Scout Engineering Merit Badge/Girl Scout Engineering Activity Badge Workshop Session Leader and Planning Committee

Institute of Transportation Engineers
Member, Scholarship Committee.
Staff Advisor, UNLV ITE Student Chapter
Attend Monthly luncheons (Third Thursday of the month)

Tau Beta Pi, Nevada Beta Chapter, Engineering Honor Society
Staff Advisor.

Other Service Activities

Science, Engineering, and Technology Day. Held at UNLV. TRC hosted two laboratory sessions, November 2002.


Back to School Fairs at Boulevard and Meadows Malls, Las Vegas, NV, August 2002. Staff and students manned a booth on pedestrian and bicycle safety.

Babe Expo, Cashman Field, University Medical Center, Trauma Center, August 2002.

Stand Tall, Don’t Fall, United Against Underage Drinking Youth Leadership Camp. Las Vegas, NV, June 2002. Staff and Students conducted workshops and served on the Camp staff.

UNLV’s Department of Physical Therapy Wellness and Disability Awareness Event, Children’s Memorial Park, April 2002

TRC and the UNLV ITE Student Chapter hosted the April 2002 ITE professional chapter luncheon.

ASCE Bridge Building Competition. Conducted a technical tour shop for participants at the competition. Several hundred students from Elementary, Junior and High Schools from Clark County participated. Presenters included Mani and Kagimoto. March 2002.

Future Cities Competition. Staff and Students work at this event as either judges or competition staff. Las Vegas, NV. January, 2002.
6. Graduate Students

Ph.D. Program
Mukund Dangeti (Kaseko, Nambisan)
John Green (Vodrazka)
Ganesh Karkee (Nambisan)

Master’s Program
Allan Fajardo (Kaseko)
Kondala Rao Mantri (Kaseko)
Tom Miller (Nambisan)
Anil Mudigonda (Nambisan)
Paul Oglebay (Nambisan)
Venu Parimi (Nambisan)
John Ridilla (Nambisan)
Dave Swallow (Kaseko)
Kristina Swallow (Neumann)
Vinod Vasudevan (Nambisan)
Natachai Wongchavalidkul (Nambisan)

7. Honors and Recognitions

Erin Breen
Plaque of Appreciation for “contributions and commitment to the Stand Tall, Don’t Fall Program”
September 2002.

John G. Green
UNLV ITE Student Chapter President
ASCE Student Member
American Railway Engineering and Maintenance Way Association Committee 24 Member,
Education and Training
2002 Las Vegas Annual Fall Transportation Conference Student Paper Competition.
Passed State of Nevada P.E. exam.

Mohamed Kaseko
Tua Beta Pi, Nevada Beta Chapter, UNLV. Outstanding Teacher of the Year, 2001-2002.

Mani Mani
UNLV ITE Student Chapter Vice-President.
ITE Student Scholarship Recipient.
Venu Parimi  
ITE Student Chapter Treasurer

Srinivas S. Pulugurtha  
Nominee, Safe Communities Partnership “Engineer of the Year” Award.

Vinod Vasudevan  
2002 Las Vegas Annual Fall Transportation Conference Student Paper Competition.

Walter C. Vodrazka, Sr.  
2002 Zone IV Faculty Advisor of the Year. From the ASCE Committee on Student Activities, June 2002.  
Plaque of Appreciation for “His Countless Hours and Dedication as the 2001-2002 ASCE Student Chapter Faculty Advisor.” From ASCE Student Chapter, UNLV. May, 2002.

Walter C. Vodrazka, Jr.  
Plaque in Recognition of “Your Distinguished and Outstanding Service While Serving as Practitioner Advisor.” From ASCE Southern Nevada Branch, Las Vegas, NV. August 2002.  
Plaque in Recognition of “Your Distinguished and Outstanding Service While Serving as Director.” From ASCE Southern Nevada Branch, Las Vegas, NV. August 2002.

8. Workshops and Conferences Attended

Erin Breen  
2002 Stand Tall, Don’t Fall Youth Leadership Camp, Las Vegas, NV., June 2002.  
Rapid Response Team Training, Oxnard, CA, April 2002

Mukund Dangeti  
MOBILE6 Workshop, Hosted by FHWA, Las Vegas, NV, August, 2002.  
Planning and Functional Design of Freeways and Interchanges Workshop. Taught by Joel P. Leisch, hosted by the Fall Transportation Conference Committee, July, 2002.

John G. Green  
Planning and Functional Design of Freeways and Interchanges Workshop. Taught by Joel P. Leisch, hosted by the Fall Transportation Conference Committee, July, 2002.
Micah Kajimoto
ASCE, Pacific Southwest Regional Conference, Irvine, CA, April 2002.

Ganesh Karkee

Mohamed S. Kaseko

Mani Mani
2002 Stand Tall Don’t Fall Youth Leadership Summer Camp, Las Vegas, NV., June 2002.

David Moss

Anil Mudigonda

Shashi S. Nambisan
APWA Nevada Chapter Fall Conference, Lake Tahoe, NV, October 2002.
Nevada Traffic Control Devices Committee Meeting, Las Vegas, NV, July 2002.
American Society for Engineering Education Annual Conference, Montreal, Canada, June 2002.
ASEE Pacific Southwest Section Annual Conference, Fresno, CA, April 2002.
American Road & Transportation Builders Association, Annual Convention, Las Vegas, March 2002.
Edward S. Neumann

Overview of Gait Analysis for Prosthetists and Orthotists, Northwestern University, Chicago, IL, September, 2002.
International Conference on Advanced Prosthetics 2, Newport Beach, CA, April 2002
10th Biennial Pacific Rim Conference on Prosthetics and Orthotics, Waikoloa, HI, February, 2002

Venu Parimi

ITE Intermountain Section Annual Meeting, Jackson Hole, WY, May, 2002.
Workshop on ITS Standards Overview, April 2002.

Srinivas S. Pulugurtha

Advanced Applications in Transportation Technology, Cambridge MA, August 2002.
Workshop on RTC Travel Demand Forecast Model, April 2002.
Workshop on ITS Standards Overview, April 2002.

Margaret Saunders

2002 Stand Tall, Don’t Fall Youth Leadership Conference, Las Vegas, NV., June 2002.

Vinod Vasudevan

Walter C. Vodrazka, Sr.
American Society for Engineering Education Annual Conference, Montreal, Canada, June 2002.
ASCE, Pacific Southwest Regional Conference, Irvine, CA, April 2002.
ASCE Zone IV Leadership Conference, Reno, NV, March 2002

Walter C. Vodrazka, Jr.
2002 Stand Tall, Don’t Fall Youth Leadership Camp, Las Vegas, NV, June 2002.
ASCE, Pacific Southwest Regional Conference, Irvine, CA, April 2002.

Nick Warnke
2002 Fall Transportation Conference, Las Vegas, NV, September 2002
2002 Stand Tall, Don’t Fall Youth Leadership Camp, Las Vegas, NV, June 2002.
ASCE, Pacific Southwest Regional Conference, Irvine, CA, April 2002.

Natchai Wongchaivalidkul
Planning and Functional Design of Freeways and Interchanges Workshop. Taught by Joel P. Leisch, hosted by the Fall Transportation Conference Committee, July, 2002.
ITS Nevada Chapter, Sixth Annual Public/Private ITS Conference & Training, Castaways Hotel/Casino/Bowling Ctr., Las Vegas, NV, April 2002.
Appendix

TRC Research Expenditures
Calendar Year 2002