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A Proposal for Establishing a Senior Transportation Mobility Initiative at the University of South Florida

Rosemary G. Mathias
Xuehao Chu
Jennifer A. Hardin
Laura C. Lachance
J. John Lu

See next page for additional authors

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Authors
Rosemary G. Mathias, Xuehao Chu, Jennifer A. Hardin, Laura C. Lachance, J. John Lu, Steven E. Maas, Patricia A. Turner, Beverly G. Ward, Joel M. Volinski, Michael C. Pietrzyk, Francis A. Cleland, and Steven E. Polzin

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A Proposal for Establishing a Senior Transportation Mobility Initiative at the University of South Florida

Center for Urban Transportation Research
College of Engineering, University of South Florida
4202 E. Fowler Avenue, ENB 118
Tampa, Florida 33620-5350
(813) 974-3120
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Demographic Trends
Supporting the Establishment of the Senior Transportation Mobility Initiative
Demographic Trends and Senior Mobility

Over the next 25 years, an unprecedented number of older Americans (more than 50 million) will be using all modes of transportation in the United States. Demographic changes in the traveling public will require adjustments in transportation systems, vehicles, community-based services, and public policies. Experts rarely see eye to eye when it comes to predicting how changes in population size and composition will influence our nation's policies and programs. However, most agree that as baby-boomers age, our country must prepare for the tremendous strain on the myriad specialized services and programs required to maintain the safe mobility of an older population.

A “window of opportunity” to plan for the future aging of the Baby-Boom generation is here. For the next nine years, the U.S. will experience a modest growth rate of the population aged 65, a direct reflection of the low fertility of the 1930s Depression era. This brief period of modest growth affords an excellent opportunity for policy makers and planners to prepare for the expected high growth rate in the year that Baby Boom cohorts first enter the 65 and older age category.

The Center for Urban Transportation Research (CUTR) at the University of South Florida proposes to establish a research center to examine methods of accommodating the future mobility needs of older Americans on all modes of travel. The Senior Transportation Mobility Initiative (STMI) will research issues that affect older persons' ability to travel by automobile, public transit, and other modes, and will identify the best practices and alternatives to preserve safe and efficient mobility for aging Americans. Future demographic and transportation trends, both nationally and in Florida, support the need for establishing the STMI at CUTR.
Changing Demographics

The "graying of America"
Declining birthrates and longer life expectancies have aged our population and it is no secret that people of the United States are rapidly graying. As of July 1994, there were 33.2 million people aged 65 or older, one-eighth of the total population. The elderly population will more than double between now and the year 2050, to 80 million, according to Census Bureau projections. By that year, as many as 1 in 5 Americans could be elderly. Most of the growth will occur between 2010 and 2030, when baby-boomers (persons born between 1946 and 1964) reach age 65. For the first time in history, persons 65 and older will outnumber the young in the U.S. (see Figure 1).

![Graph showing percentage of total population by age group from 1900 to 2030.](image)

Source: U.S. Bureau of Census. As reported in *The Tampa Tribune*, January 15, 1992, p. 3A.

Figure 1. Old to Outnumber Young By 2030

**Florida: Laboratory for graying population**
According to demographers, Florida is a precursor of the population changes that await the nation and provides a wealth of information about political and social issues facing an aging society. When baby boomers start turning 65 in the year 2011, the rest of the country will closely resemble present-day Florida. Consequently, Florida offers other states a laboratory for examining and addressing the needs of a graying population. The state currently leads the nation in median age (37.6) and has by far the largest proportion of people over 65 (18.3 percent) (see Figure 2). By 2020, it is estimated that 27 percent of Florida's population will be 65 and older.
The most rapidly growing age group in the nation are those 85 years and older. In 1994, an estimated 3.5 million persons were 85 and older. State population estimates show that, since 1990, the number of people over age 85 in Florida grew by 31.8 percent, to more than 270,000.²

![Graph showing percentage of population 65 and older for U.S. and Florida from 1980 to 2020.](image)


Figure 2. Percent Population 65 and Older: US v. Florida, 1980-2020

**Geographic distribution of “graying” nation**

During the 1980s, age concentrations across the nation changed significantly. The number of senior residents increased in every state, primarily because of the general aging trend of the nation. By 1993, nine states had more than 1 million seniors: California, Florida, New York, Pennsylvania, Texas, Illinois, Ohio, Michigan, and New Jersey. Florida's proportion of older residents, at 18.3 percent, far outranks the proportion of other states (see Figure 3). However, by 2020, 32 states are projected to have at least 16 percent of their population aged 65 and older.

Another important geographic trend is the growing number of older persons who choose to live in low density, suburban, auto-dependent environments. By 1990, more than three-fourths of older persons lived in suburban or non-metropolitan places, where the use of an automobile is almost essential. As a result, many older rural residents face increasing isolation with few or no transportation options.
Percent of Total State Population 65 Years and Over: 1993 and 2020

Growing Diversity of the Older Population

In the coming decades, older persons will become much more racially and ethnically diverse. In 1990, only 8 percent of Blacks and 5 percent of Hispanics were seniors compared to over 13 percent of Whites (see Figure 4). Significant changes are anticipated by 2050, when the number of older Black Americans is expected to triple; persons of Hispanic origin will represent 14 percent of those 65 or older; and a large proportion of the White population (23 percent) will be seniors.

Although interest in the travel patterns among older cohorts of different racial and ethnic backgrounds has grown, very little is known about the impact of such differences on the travel patterns of senior citizens.

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>1990</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>All races</td>
<td>13%</td>
<td>20%</td>
</tr>
<tr>
<td>White</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>Black</td>
<td>8%</td>
<td>14%</td>
</tr>
<tr>
<td>American Indian, Eskimo, and Aleut</td>
<td>6%</td>
<td>13%</td>
</tr>
<tr>
<td>Asian and Pacific Islander</td>
<td>6%</td>
<td>15%</td>
</tr>
<tr>
<td>Hispanic origin</td>
<td>5%</td>
<td>14%</td>
</tr>
</tbody>
</table>

1Hispanic origin may be of any race.

Figure 4. Percent Population 65 and Older By Race and Hispanic Origin: US, 1990 and 2050

Mobility Limitations for Older Persons

More than ever before, seniors are a mobile, independent, and active group determined to maintain their quality of life and mobility. However, because the population is aging, an increasing number of persons have some type of disability or functional limitation that potentially impacts their use of various transportation modes.

According to the Census, about 49 million Americans have a disability that interferes with important daily activities. Disability rates vary by age, sex, race, and ethnicity. The overall disability rate
for persons 65 years and older was 54 percent compared to 14 percent for persons 18 to 44 years old. Women constitute an even larger share of older persons with a severe disability (64 percent) because of their overall longer life expectancy.

Many older Americans are subject to age-related declines in the abilities needed to live independently. Specifically, sensory and cognitive functions may deteriorate in later life. For example, 32 percent of persons 65 or older have a mobility limitation compared to 8 percent of those persons 16 to 64. Given the inevitability that older driving skills will decline, it is important to consider how well transportation modes adapt to serve the travel needs of those persons when they can no longer drive.

Number of Licensed Older Drivers Rising
Directly attributed to the overall aging of the American population is the continuing increase in the number of licensed older drivers. Over the past 20 years, the number of drivers age 65 and older grew 148 percent (see Figure 5).

Equally interesting is the percentage of Florida's total population in each older cohort group who continue to hold a driver's license. Among those 75-79 years old, 85 percent are licensed to drive; 75 percent aged 80-84 years are licensed to drive; and almost 50 percent of those persons 85 years and over hold a valid drivers' license! (see Figure 6).
**Figure 6. Percent of 65 and Older Population Licensed to Drive, Florida, 1994**

**Automobile Preferred Mode of Travel Among Seniors**

The continuing ability to drive provides the mobility that many older adults rely upon to maintain their independence. According to 1990 NPTS data, older persons increasingly rely on private automobiles for travel in both urban and rural areas. Since 1983, the percentage of older cohorts using private vehicles, as a passenger or a driver, versus public transit, taxis, walking, or other modes has steadily climbed (see Table 3). Auto dependence among older persons is even more pronounced in rural areas where at least 85 percent of all trips are made by car.

**Table 3. Urban Travel Modes for All Trips by Cohort over 60, 1983 and 1990**

<table>
<thead>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Vehicle</td>
<td>87.1%</td>
<td>92.9%</td>
<td>82.2%</td>
<td>89.4%</td>
<td>83.3%</td>
<td>89.7%</td>
<td>81.8%</td>
<td>87.0%</td>
<td>75.7%</td>
<td>82.6%</td>
</tr>
<tr>
<td>Public Transit</td>
<td>2.5</td>
<td>1.7</td>
<td>3.4</td>
<td>2.2</td>
<td>5.4</td>
<td>2.2</td>
<td>1.5</td>
<td>4.5</td>
<td>1.0</td>
<td>7.8</td>
</tr>
<tr>
<td>Taxi</td>
<td>0.1</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>1.3</td>
<td>0.5</td>
<td>1.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Walking</td>
<td>8.0</td>
<td>4.6</td>
<td>12.6</td>
<td>7.3</td>
<td>10.1</td>
<td>7.3</td>
<td>12.7</td>
<td>7.8</td>
<td>22.2</td>
<td>13.6</td>
</tr>
<tr>
<td>All Others</td>
<td>2.3</td>
<td>0.7</td>
<td>1.6</td>
<td>0.9</td>
<td>1.0</td>
<td>0.5</td>
<td>3.4</td>
<td>0.2</td>
<td>0.7</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**Rural Travel Modes for All Trips by Cohort over 60, 1983 and 1990**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Vehicle</td>
<td>91.6%</td>
<td>95.2%</td>
<td>89.7%</td>
<td>94.7%</td>
<td>87.5%</td>
<td>95.2%</td>
<td>88.7%</td>
<td>93.2%</td>
<td>82.2%</td>
<td>90.5%</td>
</tr>
<tr>
<td>Public Transit</td>
<td>- 0.2</td>
<td>- 0.3</td>
<td>- 0.5</td>
<td>- 0.4</td>
<td>- 0.4</td>
<td>- 0.6</td>
<td>- 0.6</td>
<td>- 3.4</td>
<td>- 3.4</td>
<td>- 3.4</td>
</tr>
<tr>
<td>Taxi</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Walking</td>
<td>5.0</td>
<td>4.1</td>
<td>4.9</td>
<td>3.8</td>
<td>11.9</td>
<td>3.5</td>
<td>7.8</td>
<td>4.6</td>
<td>14.9</td>
<td>6.6</td>
</tr>
<tr>
<td>All Others</td>
<td>3.4</td>
<td>0.5</td>
<td>3.4</td>
<td>0.5</td>
<td>3.4</td>
<td>0.5</td>
<td>4.5</td>
<td>1.5</td>
<td>2.9</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Source: Rosenbloom, Sandra. "Travel By the Elderly," 1990 NPTS Demographic Special Reports.
In contrast, overall transit use among the majority of older cohort groups in urban areas continues to decline. The biggest drop is among the oldest old - 85 and over - whose use of transit for trips decreased from 8 percent in 1983 to 3 percent in 1990. Although walking as a travel mode also declined among older urban and rural residents, older travelers are more likely to walk than to use transit for trips not made by car. Among older age cohorts, the oldest old, are more likely to walk than younger cohorts.

**Driving can be hazardous for the aging**

In 1994, 13 percent of all motor vehicle traffic fatalities and 18 percent of all pedestrian fatalities were older people. Fortunately, most older persons are capable and safe drivers; however, as people age, diminished sensory and cognitive abilities can have an impact on driving skills and knowledge.

Older drivers are more likely to be injured or killed in crashes than younger drivers. Recent NHTSA statistics show that those 70 years and older were the only age group to show an increase in traffic fatality rate per 100,000 population. When driver fatality rates are calculated on the basis of estimated annual travel, the highest rates are found among the youngest and oldest drivers (see Figure 7).

The risk of fatal crash involvement varies according to the age of the driver (see Figure 8). Although, both young and old drivers experience elevated crash risks, the risk of fatal crash involvement increases significantly for drivers over aged 75.

\[ \text{\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure8.png}
\caption{Fatal Involvements per 100 Million Miles Driven By Age Group, 1990}
\end{figure}} \]

\textit{Note:} Includes driver involvements in collisions in which at least one person died.


\section*{Summary}

With such demographic trends facing us, public and private sector policy makers are becoming more attentive to the implications of an aging society. Many issues expected to shape future public policy include the fiscal burdens of caring for an aging population, the need to adapt housing, transportation, and services to an older population, and the challenge of keeping older people mobile and productive.

Florida offers a unique environment to identify, implement, and evaluate transportation alternatives for senior citizens. By researching the mobility needs of Florida’s aging citizens, the STMI will help develop transportation solutions that will prepare the nation for the predicted changes in demographics.

\begin{itemize}
\item \textsuperscript{2}Cutter, John. "As Florida goes, so ages the Nation." St. Pete Times, 1996, p.1B.
\end{itemize}
8 Stamatiadis, Nikiforos. “IVHS and the Older Driver.” *Transportation Quarterly*

9 Rosenbloom, Sandra. “Travel By The Elderly.” 1990 NPTS Demographic Special
Reports, February 1995, p 3-17.

4 Data for rural transit ridership was first recorded in 1990 so there is no comparable
data.

7 Rosenbloom, Sandra. “Travel By The Elderly.” 1990 NPTS Demographic Special
Reports, February 1995.

8 Massie, et al. “Traffic Accident Involvement Rates By Driver Age and Gender.”
*Accident Analysis and Prevention* Vol. 27, No. 1, pp. 73-87, 1995.
Potential Research Topics for the Senior Transportation Mobility Initiative
The Center for Urban Transportation Research (CUTR) at the University of South Florida in Tampa, proposes to create a Senior Transportation Mobility Initiative (STMI). The initiative would contribute to the body of applied transportation research by synthesizing existing research and conducting new research aimed at improving mobility for senior citizens in Florida and throughout the country.

CUTR offers a multi-disciplinary approach to transportation evaluation and research. STMI would build on these existing resources by drawing together a group of professional researchers and practitioners with expertise in topics relating to mobility issues for seniors. National concern about senior mobility issues would benefit from using Florida as a living laboratory.

Background

Mobility is the ability to move easily from place to place. Many of us take our mobility for granted: getting into our cars and driving where we want to go, when we want to go, and with little regard to our mode of travel. For others, however, mobility is elusive, complicated by factors related to age, mental or physical ability, or income level.

In June 1986, the Transportation Research Board (TRB) appointed a special multi-disciplinary Committee for the Study on Improving Mobility and Safety for Older Persons to research the needs and problems of older persons with regard to the system of roadway transportation. Public transport issues were only a small part of the committee's focus.

In 1987, the TRB Committee convened an international colloquium on Improving the Mobility and Safety of Older Persons. Based on the results of the 12 technical research papers and the colloquium, the committee recommended strategies for improving the mobility and
safety of older persons, including drivers, passengers, and pedestrians. The following were included among the committee's major findings:

- Mobility is essential to the quality of life for older persons, and automobiles continue to be the primary means of meeting mobility needs.
- Most older drivers have good driving records; however, after age 75, drivers are twice as likely to be involved in a crash per mile driven.
- Older persons are more vulnerable to injury in a crash and they are far more likely than a younger person to die as a result of their injuries.
- Age alone is a poor predictor of performance and should not be the basis for restricting or withholding a driver's license.
- Design and maintenance of signage, assumptions used in intersection design and traffic operations, and vehicle crash worthiness standards fail to account for the needs and capabilities of older persons using the roadway system.
- The population of older persons living on their own and unable to drive is increasing. Better and more efficient transportation alternatives will be needed to maintain mobility and independence for these persons.
- Too little research has been done to improve the mobility and safety of older persons and research responsibilities are scattered among different federal agencies.

**Current Research**

Many forums and research efforts focusing on mobility issues for senior citizens have continued since the 1980s. For example, the 1990 Nationwide Personal Transportation Study (NPTS) indicated that seniors are becoming more—not less—dependent on the private automobile. The study found that in rural areas, persons aged 65 and

---

older rely on personal automobiles for 94 percent of their trips; for urban areas that figure is 88 percent. In another report Sandra Rosenbloom looked at the potential impact of the Americans with Disabilities Act of 1990 (ADA) on seniors, a study funded by the American Association of Retired Persons.

Ongoing research continues under the auspices of the U.S. Department of Transportation, U.S. Department of Health and Human Services, National Highway Traffic Safety Administration, National Science Foundation, Administration on Aging, and others. However, often these research efforts are fragmented and possibly duplicative.

In 1995, Secretary of Transportation Federico Peña initiated a study on “Improving Transportation in a Maturing Society.” The goal of the study was to develop a blueprint on how transportation systems should deal with the impact of the growing segment of older drivers in all modes of commercial, recreational, and personal transportation. This directive cuts across modes and disciplines, and represents a commendable attempt at a holistic approach to solving mobility issues for older persons.

Potential Research Topics
Despite significant advances made during the past decade, transportation research efforts continue to be scattered. The need for synthesis studies as well as new applied research relating to senior mobility initiatives has never been greater. Among potential research topics for STMI are the following:

- Demographic and Market Segmentation
- Social Equity Policy Studies
- Safety and Health Related Research
- Technological Innovation
- Decision-making and Public Involvement

Each topic is described in detail below.

---

Demographic and Market Segmentation

Now that Baby Boomers have begun to turn 50, there is a new sense of urgency concerning issues related to aging. The increasing numbers and proportions of older drivers will have a profound impact on our roadways and public transportation systems. Unlike past generations, many Baby Boomers have grown up with full access to automobiles and have little or no experience with public transportation.

Not only is the population aging, but household demographics and housing patterns are changing as well. Gone are many of the rural farms with extended family structures in place to assist with transportation and other support functions. Now, rural residents may be retirees, seasonal residents, long-distance commuters, tourist industry workers or "country people" (those who do not fit readily into any statistical definition).

Clearly, given these demographic shifts, there is a need for additional understanding about the mobility needs of seniors. Of particular interest are the mobility needs of those aged 85 and older, who represent the most rapidly expanding age group in the country. And, in Florida, less than half of persons in that age group are licensed to drive.

CUTR has demonstrated research expertise in demographic analysis, market research, and geographic information systems (GIS) applications. Some possible topics to explore include:

- Using Florida as a living laboratory, to conduct a longitudinal study of seniors to ascertain how travel patterns change as persons age.

- Investigating new ways to segment the senior market—beyond just analyzing according to ethnicity, gender and income—to determine whether there is a more effective mix of transportation services to meet future mobility needs.

- Evaluating the mobility needs of persons living in isolated rural areas.

- Identifying factors that influence the perception and use of public transportation by seniors.

- Social Equity Policy Studies
Often living on fixed incomes, senior citizens and persons with disabilities are over-represented in the population with respect to the need for support services. Access to much needed social services often is restricted in rural areas and some urban areas, resulting in isolation and a diminished quality of life.

Transportation and mobility are closely linked with policy issues relating to social equity and environmental justice. Social equity is concerned with a holistic approach to ensuring equal access. Environmental justice is one example of a policy effort aimed at measuring and ensuring social equity. Growth management is another.

CUTR brings a wealth of experience to these areas of research including expertise in land use, community development, and planning. Examples of needed research relating to mobility and social equity policy include:

- Analyzing urban form and land use practices that impact (positively or negatively) the use by older persons of public transportation, bicycles, small electric vehicles (e.g., golf carts), and sidewalks.

- Identifying and eliminating rules and regulations that inhibit mobility and access to transportation resources (e.g., jurisdictional boundaries and funding agency limitations).

- Researching how planned communities and mixed-use developments may be designed to enhance mobility of their older residents.

Health Care Access and Safety Related Concerns
Many programs established to benefit particular segments of the population consistently fail to address the issue of mobility and how program participants will access needed goods and services. For example, little attention is given to siting health care facilities and social services in locations that are accessible by public transportation. Likewise, policy-makers and researchers often sidestep the issue of whether it is more effective to bring people to services or bring services to people.

Safety is another factor affecting seniors. Health and safety issues are interrelated and transcend issues relating to access, whether traveling...
by public or personal transportation. With respect to personal safety, seniors are concerned about crime and vulnerability associated with using public transportation. With respect to driving, safety issues include: (1) risk factors and crashes, (2) performance-based driving and evaluation, (3) licensing (testing and cessation of driving), and (4) roadway design features.

CUTR has several faculty researchers with expertise in health and safety-related policy issues relating to seniors. Among the topics yet to be fully explored are the following:

- Coordinating mobility and health care initiatives to determine how best to deliver various services.

- Reviewing state and local disaster plans to identify issues of concern related to the evacuation of senior citizens and others with mobility limitations during hurricanes and other natural disasters.

- Developing ways to allow seniors to drive safely for as long as possible.

- Determining whether higher speed limits have resulted in increased crashes and resultant injuries for seniors.

- After driving cessation, identifying strategies for seniors to maintain their mobility and independence.

**Technological Innovations**

An ongoing area of research relates to technological innovations, particularly in the areas of advanced public transportation systems (APTS) and intelligent transportation systems (ITS). Technological developments incorporating human factors associated with aging with APTS and ITS strategies are important research considerations that are not always included in current research efforts.

CUTR has research faculty involved in technological research and human factors. Potential research issues specifically relating to senior mobility include:

- Designing ITS applications to assist older drivers in vehicle operation, crash avoidance, location, fee/toll payment, and other communications strategies.
- Assessing the level of comfort and utility offered to older persons attempting to employ advanced technologies and communications devices.

- Designing transit and paratransit vehicles and facilities that are safe and appropriate for use by seniors and others with mobility limitations.

**Decision-making and Public Involvement**

Despite requirements for ongoing public involvement, few strategies are used that truly include minority populations, including seniors and persons with disabilities. Developing and disseminating public information in a format that is easily used and understood by senior citizens and others with mobility limitations is of great concern.

Regardless of the topic, meaningful public input has a valuable place in policy-making, planning, and strategy development. Several CUTR faculty members have extensive experience working with public involvement and community outreach strategies. Potential areas of continuing research include:

- Implementing more effective public involvement strategies to elicit input from seniors.

- Developing marketing and public information strategies that communicate information on transit use and benefits to passengers who are older or have mobility limitations.

- Devising training programs for transit personnel that convey innovative strategies for working with passengers with mobility limitations.

- Assessing the ADA's impact on mobility and access to transportation resources for older persons, and recommending actions to ensure adequate mobility both for seniors and persons with disabilities.
Summary

Clearly, the need for additional, applied research into mobility issues for older persons is needed. The results of research in these areas will not only benefit seniors, but will also provide public transit agencies, transportation departments, and private entities with valuable information that will increase their effectiveness as service providers. CUTR possesses the interdisciplinary faculty, expertise in issues relating to mobility in all modes of transportation. CUTR already enjoys a national and international reputation for excellence in research and is well-positioned in Florida to emerge as a leader in the field of mobility research for older persons.
CUTR Qualifications Statement
CUTR Qualifications Statement

The Center for Urban Transportation Research (CUTR) at the University of South Florida was created in 1988 by the Florida Legislature and the Florida Board of Regents. Since then CUTR has become recognized nationally as an important resource for policy-makers, transportation professionals, and the public. With an emphasis on developing innovative, practical solutions to transportation problems, CUTR provides high quality, objective transportation expertise that translates directly into benefits for its project sponsors.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 established a National Urban Transit Institute (NUTI) at CUTR and authorizes funding of $1 million annually from 1992 to 1997 for CUTR and a consortium of three other Florida universities.

One of CUTR’s specialty areas is providing research and technical assistance relating to public transportation services for senior citizens, persons with disabilities, at-risk children, and for those who cannot purchase transportation services. Other focus areas include public transportation planning, operations, evaluation, financing, and economics; intelligent transportation systems (ITS); advance public transportation systems (APTS); transportation demand management (TDM) strategies; land use planning; and the use of geographic information systems (GIS).

Additionally, the Institute on Aging, also located on the University of South Florida campus, provides an important link among aging-related programs. Founded in 1994, the Institute’s mission is to catalyze the ability of the university community to serve the needs of a rapidly aging population in Florida, and the nation, through an active program of interdisciplinary research, education, clinical care, and community service. Rosemary Mathias and Xuehao Chu are members of the Institute. Ms. Mathias serves on the IOA Research Committee.
Current Research Highlights

Following are highlights of CUTR's capabilities in the area of specialized transportation, including services provided in compliance with the Americans with Disabilities Act (ADA). CUTR has been involved in a broad array of research and technical assistance projects for specialized transportation, including door-to-door paratransit services and fixed route services for seniors and persons with disabilities.

National Level Projects

CUTR has conducted research on several topics of national interest including:

Assistance Techniques for Passengers with Service Animals

CUTR was awarded a grant by Project ACTION to develop a training manual for drivers on how to assist passengers who use service animals. CUTR is working with transit and paratransit professionals, service animal users, and service animal training schools to develop and test the techniques. The report will be completed in 1996 and will be distributed to a national audience.

Sponsoring Agency: Project ACTION/National Easter Seal Society

Automatic Vehicle Location and Paratransit Productivity

CUTR served as the evaluator of a pilot project to determine how Automatic Vehicle Location (AVL) technology and Geographic Information Systems (GIS) applications may be used to improve the productivity of paratransit services. CUTR worked with a private carrier in Dade County, which provides service as part of Metro-Dade Transit Agency's paratransit program. The study was completed in September 1996.

Productivity was measured in terms of on-time service, vehicle dwell times, and travel time. Also, the AVL project considered real-time applications for AVL including: monitoring drivers, estimating vehicle arrival times, locating addresses and vehicles, and documenting passenger no-shows.

Sponsoring Agency: USDOT Research & Special Programs Administration
USF Institute on Aging

One of CUTR's primary concerns is the mobility of senior citizens. Currently, CUTR is working with the Institute on Aging on a number of projects directly related to this concern.

Safety and Driving Behavior of Older Drivers at Roadway Intersections

This study will evaluate and analyze the safety and driving behavior of older drivers at signalized and stop-controlled intersections. The purpose of the study is to evaluate traffic accident rates, to conduct field tests analyzing start-up lost time and saturation headways, and to monitor and evaluate gap acceptance behavior of older drivers at stop-controlled intersections. The findings will be used to suggest changes in intersection design to improve safety and level of service for older drivers.

Sponsoring Agency: USF Institute on Aging

Transportation Options for Seniors Who Are Unable to Drive: Use of Golf Carts and Scooters

The purpose of this proposed research project is to identify options available for senior citizens who do not or cannot drive. The focus will be on the use of golf carts and three- or four-wheeled scooters, which may be operated along certain roadways or sidewalks in designated areas. The goal is to gain an understanding of the conditions under which these types of vehicles are operated; relevant laws, ordinances, and/or rules governing their use; and why each of these modes is chosen.

Sponsoring Agency: USF Institute on Aging
State Level Projects

For the past six years, CUTR has provided technical assistance to the Florida Commission for the Transportation Disadvantaged and Florida Department of Transportation on a variety of projects relating to the provision of transportation services for persons who are transportation disadvantaged.

ADA Technical Services

This year the Florida Commission for the Transportation Disadvantaged (FCTD) selected a consultant team to provide technical assistance relating to implementation of the Americans with Disabilities Act of 1990 (ADA). CUTR is an integral part of that team, providing technical assistance to Community Transportation Coordinators located in central Florida, as well as providing assistance relating to public involvement and grievance procedures. Multisystems is the team leader.

Sponsoring Agency: Multisystems, Inc. /FCTD

Florida Statewide Transportation Disadvantaged Plan

The Commission selected CUTR to prepare its statewide strategic plan. For the first time this plan will include a long-range planning component. The long-range plan will reflect the Commission’s strategic vision for the provision of transportation disadvantaged (TD) service well into the 21st century. This plan also will update the previous five-year plan, adopted in 1992, which CUTR also prepared. The new strategic plan will be completed during FY 1997.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

Management Information Systems

For this project, CUTR is setting up E-mail accounts for all of the Community Transportation Coordinators (CTCs), designated official planning agencies, and FCTD staff and Commissioners to facilitate communications on a statewide basis. CUTR also created a “home page” for the Commission, with Internet access.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged
School Bus Usage
For this project, CUTR assessed the current usage of school buses for the provision of TD transportation services. As part of the study, CUTR identified both barriers and incentives for using school buses, and developed recommendations for the FCTD and Department of Education to implement.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

Volunteer Usage
Recently, CUTR reviewed the use of volunteers by CTCs and planning agencies to identify “best practice” case studies to enhance the use of volunteers in the TD program. The report includes keys for successful recruitment, selection and retention of volunteers. Legal issues are explored, and benefits of using volunteers are described.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

Transportation Disadvantaged Forecasts
In FY 1993, CUTR developed a methodology for use by local areas to forecast TD population and transportation demand. The methodology, described in Methodology Guidelines for Forecasting TD Transportation Demand at the County Level, is recommended to local areas by the Commission.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

CTC Evaluation Workbook
CUTR developed a process for evaluating the community transportation coordinators and operators who provide specialized transportation services in Florida. The project included a 150-page workbook, which contains worksheets and text designed to assist in the decision-making process for determining the optimal organizational structure, as well as a mechanism for measuring a variety of coordination, competition, cost, quality, and availability of service factors. The model serves as an evaluation tool for both the CTCs and their operators (if the system is a partial or full brokerage).

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged
ADA Impacts Study
In 1994, the Commission asked CUTR to examine the initial impact of the Americans with Disabilities Act (ADA) Complementary Paratransit Service on the Florida Coordinated Transportation System. Program eligibility, certification, sponsorship, ridership, demand, and funding impacts were examined, and the state’s 18 fixed-route systems were profiled in the report.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

Annual Statewide Data Collection and Analysis
CUTR verified the data contained in FY 1990, FY 1991, FY 1992, and FY 1993 annual operating reports prepared by Community Transportation Coordinators and compiled them into statewide operations reports for each year. These reports contain an analysis of each CTC’s operations and present trend and peer group analyses using performance measures recommended in the state five-year TD plan.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

CTC Cost Comparison Study
In FY 1993, CUTR conducted a comprehensive analysis of various CTC structures (sole source providers, partial brokerages, and full brokerages) to identify whether any CTC structure was more cost-effective. The results indicated that local characteristics related to cost, availability of providers, demographics, and the political and physical environments play active roles in the ultimate cost of service, making it virtually impossible to determine an optimal structure that will work in every location.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged
Training Workshops
CUTR has developed, organized, and conducted workshops for TD program participants. A workshop on planning and local coordinating board training was conducted in December 1991. A workshop on cost allocation and fare structure development was conducted in December 1992.

Workshops on completing CTC service evaluations were conducted in February and March 1994.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

Trip Priorities and Eligibility Procedures
In FY 1993 CUTR surveyed CTCs in Florida regarding the use of trip priorities and eligibility procedures. The results were used to develop a decision-making procedure for local coordinators to use when developing and implementing trip priority procedures.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

Wheels of Independence Video
During the summer of 1994, CUTR produced an 11-minute video for the Commission—Wheels of Independence—which provides an overview of the TD program in Florida. The video which was made by Hendrick Creative of Tampa, has been showcased at various state and national events.

Sponsoring Agency: Florida Commission for the Transportation Disadvantaged

Rural Transit Assistance Program (RTAP) Training
For two years, FDOT contracted with CUTR to provide assistance in the area of passenger assistance techniques and sensitivity training. CUTR established a statewide trainers’ network to ensure that qualified individuals have been properly certified to teach rider sensitivity and assistance methods to drivers and other transit/paratransit personnel.

Sponsoring Agency: Florida Department of Transportation
Local Level Projects

In addition to the large and numerous projects conducted for agencies such as the Institute on Aging, the U.S. and Florida Departments of Transportation, and the Florida Commission for the Transportation Disadvantaged, CUTR conducts a multitude of research projects for many other agencies which greatly contribute to the cause of senior mobility. Some of these include:

Transportation Disadvantaged Service Plan
CUTR is providing technical assistance in the development of the Hillsborough County Transportation Disadvantaged Service Plan (TDSP). Specifically, CUTR is responsible for (1) preparing a profile of the service area, including a description of the service area and a demographic profile; (2) developing a service analysis, including a forecast of TD populations and a needs assessment for demand-responsive service; (3) preparing an implementation plan, including the TD Transportation Improvement Program and schedule; and (4) conducting a series of public workshops.

Sponsoring Agency: Dames & Moore

Hillsborough County Five-Year TD Plan Update
CUTR prepared a special evaluation of the Hillsborough County CTC to determine how well the TD system had implemented several recommended changes in response to service delivery problems and financial issues. The report, published in November 1995, included recommendations for future service improvements. At the same time, the Metropolitan Planning Organization (MPO) asked CUTR to review several issues relating to the county's five-year TD Plan Update: (1) an assessment of the applicability of the consumer choice option for Medicaid trips, (2) an analysis of options for providing back-up transportation services for the community transportation coordinator, and (3) a review of the fare and pricing structure for TD transportation services. The final report was adopted by the MPO in July 1995.

Sponsoring Agency: Hillsborough County Metropolitan Planning Organization
**Trip Priorities and Eligibility Workshop**

In April 1995, CUTR conducted a Trip Priorities and Eligibility Workshop, regarding seniors, for the Brevard County Local Coordinating Board. The purpose of the six-hour workshop was to assist the board with its decision regarding whether, and how, to implement new trip priorities and eligibility requirements for the TD program. The nominal group process was used, and both the board and the audience were able to participate fully in the workshop.

Sponsoring Agency: Brevard County/Space Coast Area Transit (SCAT)

**Space Coast Area Transit/Brevard County Transit Development Plan**

CUTR was asked to prepare Brevard County's Transit Development Plan (TDP), which is a prerequisite for receiving section 9 funding for public transit. An interdisciplinary team participated in the project, which included an analysis of demographics, development of goals and objectives, a performance evaluation of current service, projections for current and future demand, and development of the five-year plan recommendations. The TDP was published in August 1994, and also serves as the Coordinated Transportation Development Plan required by the Commission for the Transportation Disadvantaged.

Sponsoring Agency: Brevard County/Space Coast Area Transit (SCAT)

**Charlotte County Transit Development Plan**

CUTR prepared the Charlotte County Transit Development Plan (TDP) and Coordinated Transportation Disadvantaged Plan (CTDP). The project included an analysis of demographics, development of goals and objectives, a telephone survey, projections for current and future demand, and development of the five-year plan recommendations. The TDP was adopted in May 1996. TDPs help to focus the public transportation needs locally and the active involvement of seniors and persons with disabilities helps to ensure services will be developed to meet their needs. (CUTR staff also are involved with several other TDPs in Ft. Walton Beach, Spring Hill, Winter Haven, and Volusia County.)

Sponsoring Agency: Charlotte County-Punta Gorda MPO
**Paratransit Video Training Library**

CUTR has provided the Metro Dade Transit Agency (MDTA) with assistance in a number of areas relating to paratransit operations, training, contract management, and the Americans with Disabilities Act (ADA). Among the projects was development of a paratransit video training library. For this project CUTR developed a video training library designed to provide individual instruction for managers and service representatives who staff MDTA’s paratransit customer service and trip reservations department. The library includes videos on such topics as blood borne pathogens, stress management, telephone skills, and managing difficult customers.

Sponsoring Agency: Metro-Dade Transit Agency

**Transportation Disadvantaged System Evaluation and Enhancement Study**

The Naples (Collier County) MPO asked CUTR to conduct a study to determine how well the community transportation coordinator (CTC) was meeting the needs of the TD population in Collier County, and to develop alternatives to improve and enhance the system. The project included an evaluation of the system using the Evaluation Workbook for Community Transportation Coordinators and Providers in Florida; written by CUTR; a public involvement process that included interviews with key officials, a public workshop, and a passenger survey; and an operations analysis of the current system. The final report was published in April 1995.

Sponsoring Agency: Naples (Collier County) Metropolitan Planning Organization

**Spring Hill/Hernando County Transit Development Plan**

Tindale-Oliver & Associates (TOA) has subcontracted with CUTR to provide assistance with development of the Spring Hill/Hernando County TDP. The TDP is being prepared by the MPO; CUTR and Tindale-Oliver are providing peer review. During July 1995, CUTR conducted three focus groups with TD passengers, registered voters aged 55 and younger, and registered voters older than 55. CUTR and Tindale-Oliver will assist in the analysis and interpretation of data, and will suggest appropriate goals and implementation strategies for transportation in the Spring Hill urbanized area.

Sponsoring Agency: Tindale-Oliver & Associates
Hernando County Community Transportation Coordinator
Review
Under subcontract to Tindale-Oliver & Associates, CUTR reviewed the CTC's operation in Hernando County. The review included an analysis of provider contracts, trip demand, service delivery, and billing procedures. Other local public transportation regulations were evaluated for potential adoption in Hernando County. The study was completed during FY 1994.

Sponsoring Agency: Tindale-Oliver & Associates
Representative Staff Resumes
ROSEMARY G. MATHIAS
Program Manager

Areas of Expertise

Americans with Disabilities Act (ADA)  Interactive Distance Learning
Operations Analysis & Evaluation  Contract Administration
Strategic Planning & Marketing  Service Coordination
Public Involvement  Health Care Policy & Management

Representative Experience

♦ Responsible for overall management of CUTR's paratransit research program.
♦ Responsible for management of ADA technical assistance program.
♦ Project manager for development of Florida 5 & 20 year transportation disadvantaged plan.
♦ Project manager for paratransit productivity study for automatic vehicle locator systems.
♦ Project manager for transit development plans and coordinated transportation studies.
♦ Managed Metro-Dade Transit Agency project to assist with implementation of new paratransit brokerage.
♦ Teach workshops for the Florida Commission for the Transportation Disadvantaged and Florida DOT.
♦ Managed development of model to evaluate Florida community transportation coordinators.
♦ Researched techniques for developing trip priority procedures for paratransit providers.
♦ Directed daily operation of a paratransit brokerage in Philadelphia with $1.5 million budget and a staff of 60 who processed trip reservations, resolved service quality issues, provided public information, and interacted with private carriers.
♦ Administered contracts for fixed-route and paratransit services in Phoenix.
♦ Wrote custom transit plan for providing comprehensive county-wide services for senior citizens and persons with disabilities in Maricopa County (Phoenix area).
♦ Developed/implemented demonstration project to provide regional paratransit services.
♦ Provided on-site planning/operations guidance for urban/rural public transit operators.
♦ Coordinated technical studies and prepared transit service evaluations.
♦ Wrote planning manual for Indiana Department of Transportation.

Previous Positions

Operations Director, Shared-Ride Program, Philadelphia
Manager of Contract Operations/Custom Transit, Regional Public Transportation Authority, Phoenix
Director of Market Research, Melrose-Wakefield Healthcare Corp., Melrose, MA
Senior Staff Researcher, Institute for Urban Transportation, Bloomington, IN

Education

Doctoral program, Applied Anthropology, University of South Florida
M.B.A., Health Care Management, Boston University
M.P.A., Public Affairs, Indiana University
B.A., Geography & Journalism, Indiana University
Certified Rider Sensitivity and Assistance Methods Instructor

Member

University of South Florida Institute on Aging
XUEHAO CHU, Ph.D.
Research Associate

Areas of Expertise

Transportation Economics
Urban & Regional Economics
Discrete Choice Analysis
Mathematical & Quantitative Methods

Representative Experience

♦ Modeled trip scheduling behavior.
♦ Conducted highway corridor simulation.
♦ Investigated congestion pricing policies.
♦ Investigated attrition and attrition bias in transportation panel studies.
♦ Conducted transit system performance using Data Envelopment Analysis.
♦ Studied cost functions of bus systems.
♦ Forecasted short-term employment for Orange County, CA.
♦ Helped initiate a PATH project on reliability of corridor service.
♦ Helped forecast California long-term transportation energy demand.
♦ Helped study polycentric pattern of employment in the Los Angeles area.
♦ Helped investigate cost-effectiveness of alternative fuels for buses.

Previous Positions

Graduate Researcher/Teaching Assistant, University of California at Irvine
Faculty, Hangzhou University, The People's Republic of China

Education

Ph.D., Economics, University of California at Irvine
M.A., Economics, University of California at Irvine
B.S., Mathematics, Hangzhou University, The People's Republic of China

Member

University of South Florida Institute on Aging
JENNIFER A. HARDIN
Research Associate

Areas of Expertise

Paratransit Planning
Strategic Planning
Public Involvement
Survey Research Methods
Focus Group Research
Automatic Vehicle Location (AVL)

Representative Experience

♦ Conducted an examination of AVL technology applications in paratransit.
♦ Examined ways to increase use of volunteers in the Florida Coordinated Transportation System.
♦ Organized, conducted, and analyzed focus groups with residents to examine perceived transportation problems and needs, as well as assess community support for public transit.
♦ Worked with local agencies to integrate transit & paratransit services.
♦ Assisted in state-level specialized transportation research projects through survey writing, literature reviews, in-depth interviewing, other qualitative and quantitative research techniques.
♦ Assisted in data collection, analysis, and development of statewide Transportation Disadvantaged Plan.
♦ Conducted and analyzed public official interviews during development of statewide TD strategic plan.
♦ Applied the use of Geographic Information Systems (GIS) to analysis of trip generators and attractors, as well as evaluation of existing public transit routes.
♦ Conducted community-based needs assessment for additional public transportation in a retirement community in Florida.
♦ Assisted in the development of specialized transportation passenger surveys.
♦ Organized, catalogued, and abstracted specialized transportation library materials in the CUTR Resource and Information Center (CRIC) Database.
♦ Assisted in data collection pertaining to coordination efforts throughout the United States.
♦ Updated and maintained Human Services Information System (HSIS) database.
♦ Assisted in a National Science Foundation (NSF) social network analysis research project.

Previous Positions

Graduate Research Assistant, USF Anthropology Department
Lab Manager, Self-Paced Interactive Curriculum Enhancement (S.P.I.C.E.), USF
Student Supervisor, College of Charleston Bookstore
Assistant to Textbook Manager, College of Charleston Bookstore

Education

M.A., Applied Urban Anthropology, University of South Florida
B.S., Cultural Anthropology, College of Charleston
LAURA C. LACHANCE
Research Associate

Areas of Expertise

Economic Impact Analysis  Needs and Funding Analysis
Fiscal Impact Analysis  Alternative Financing
Transportation Disadvantaged Planning  Paratransit Operations Analysis
Transportation Economics  Benefit-Cost Analysis
Survey Analysis

Representative Experience

♦ Assisting in the transit development plan for Charlotte County.
♦ Managed project that examined future transportation needs for Florida and funding required to meet these needs.
♦ Managed project that evaluated the factors affecting the location decision-making process of facilities serving the transportation disadvantaged.
♦ Analyzed survey transportation preference data.
♦ Assisted in the evaluation of fiscal impacts associated with possible jurisdictional transfers of roads and bridges.
♦ Developed the fee methodology for a special assessment district.
♦ Analyzed and developed a transportation utility fee for a Florida municipality.
♦ Compiled actuarial data for the examination of transportation disadvantaged insurance issues.
♦ Examined the effects of the Americans with Disabilities Act upon paratransit service.
♦ Analyzed operating data of Florida’s paratransit providers.
♦ Evaluated the relationship between demographic and parking characteristics, and transit usage.

Previous Positions

Adjunct Professor, Florida Southern College
Graduate Research Assistant, Center for Urban Transportation Research
Graduate Research Assistant, USF Department of Economics

Education

M.A., Economics, University of South Florida
B.A., Economics and International Affairs, Florida State University
J. JOHN LU, Ph.D., P.E.
Assistant Professor, Department of Civil and Environmental Engineering

Areas of Expertise

Traffic Engineering  Traffic Operations and Safety
Pavement Surface and Vehicle Interaction  IVHS and ITS
Transportation Modeling and Simulation  Traffic Flow
Computerized Instrumentation Techniques  Electrical Engineering Applications

Representative Experience

♦ Taught transportation courses and conducted transportation research for 15+ years.
♦ Served as principal investigator for $300k externally funded research projects.
♦ Reviewed journal papers for ASCE, TRB, and NETWORKS.
♦ Reviewed many research proposals for FHWA, transportation research centers, and DOT’s.
♦ Authored more than 40 technical publications.
♦ Developed methods for prioritizing improvements of intersections for Hillsborough County.
♦ Developed the procedure for driver population factor in capacity analysis.
♦ Evaluated vehicle traction and controllability performance in cold regions.
♦ Analyzed traction performance of studded tires on snow and icy surfaces.
♦ Evaluated traffic characteristics and developed models for capacity analysis at unsignalized intersections.
♦ Developed models for transit and paratransit performance assessment.
♦ Evaluated a data acquisition system for pavement materials evaluation.
♦ Developed an infrared beam logical system for traffic data collection.
♦ Evaluated traffic control devices for work zones and other highway maintenance activities.
♦ Developed adaptive car-following model for traffic flow studies.
♦ Developed maximum entropy spectral model for traffic flow evaluation.
♦ Developed adaptive filtering model for traffic flow forecasting.
♦ Evaluated field performance of falling weight deflectometer.
♦ Evaluated and implemented Automatic Road Analyzer (ARAN).

Previous Positions

Asst. Professor, Dept. of Civil Engineering/Transportation Research Center, Univ. of Alaska, Fairbanks
Supervisor and Head of Technology Transfer Section, Transportation Research and Development Bureau, New York State Department of Transportation
Research Assistant, Center for Transportation Research, University of Texas at Austin
Lecturer and Research Fellow, Highway and Traffic Engineering Department, Tongji University, Shanghai

Education

Ph.D., Transportation/Civil Engineering, University of Texas at Austin
M.S., Transportation and Electrical Engineering, Tongji University, Shanghai, China
B.S., Electrical Automation Engineering, Beijing University of Science and Technology, Beijing, China
STEVEN E. MAAS
Research Associate

Areas of Expertise

Specialized Transportation Planning  Bicycle and Pedestrian Planning
Greenways Planning  Specialized Transportation Performance Evaluation
Population and Demand Forecasting  Needs and Funding Analysis
Website Design  Fiscal Impact Analysis

Representative Experience

♦ Implemented statewide e-mail network for transportation disadvantaged system.
♦ Developed forecasts of transportation disadvantaged population.
♦ Developed forecasts of demand for specialized transportation service.
♦ Compiled and analyzed statewide specialized transportation performance data.
♦ Assisted in preparation of statewide transportation disadvantaged plan.
♦ Developed Internet website for Florida Commission for the Transportation Disadvantaged.
♦ Managed CUTR contribution to national Rails-to-Trails conference.
♦ Assisted in preparation of bicycle/pedestrian plans.
♦ Assisted in preparation of greenways plan.
♦ Assisted in analysis of statewide transportation needs and funding availability.
♦ Assisted in fiscal impact analysis of roadway ownership changes.
♦ Researched methods of transportation demand management.
♦ Compiled data for statewide transit system cost projections.
♦ Assisted in design of transit drug-testing program.
♦ Assisted in preparation of transit maintenance-management workshops.
♦ Provide technical assistance for computer software problems.

Previous Positions

Research Technician, Center for Urban Transportation Research, Tampa
Intern, Tampa Bay Regional Planning Council
Graduate Research Assistant, University of South Florida, Dept. of Anthropology

Education

M.A., Applied Anthropology, University of South Florida
B.A., History, University of Nebraska, Lincoln
PATRICIA A. TURNER
Research Associate

Areas of Expertise

Public Policy Analysis
Transit & School Bus Coordination
Travel Behavior
Transportation Planning

Transit Development Plans
Community Traffic Safety Programs
Public Opinion & Voting Behavior Analysis
Survey Design & Statistical Analysis

Representative Experience

♦ Member of the Hillsborough County Community Traffic Safety Team and USF Traffic Safety and Education Committee.
♦ Determined extent of school bus utilization among community transportation coordinators to provide transportation for the transportation disadvantaged; identified incentives for and barriers to coordination between local coordinators and school districts.
♦ Identified potential coordination strategies for implementation by rural, urban, and intercity transportation providers.
♦ Surveyed solo commuters, carpoolers, and transit users to examine travel behavior and public attitudes toward alternative commute modes; compiled, analyzed, and interpreted survey results.
♦ Conducted comprehensive literature review on national and state telecommuting projects.
♦ Compiled and analyzed tract level Census data for transportation development plans.
♦ Assisted with the preparation of several transit development and statewide transportation disadvantaged plans.
♦ Researched literature for Florida transit privatization study.
♦ Provided technical support in the research, analysis, design and preparation of technical memoranda and reports for various TDM and transit planning projects.
♦ Co-authored study estimating the impact of litigation costs on municipal budgets.
♦ Assisted with survey design and analysis of study estimating the fiscal impact of state personnel-related mandates on Florida municipalities.
♦ Organized and compiled database of precinct election results for several Florida counties.
♦ Manipulated and analyzed data for 1994 Florida election exit survey.
♦ Assisted with survey design and data input and analysis of exit poll survey of Hillsborough and Pasco County (FL) voters on half-cent sales tax proposals for public schools and public safety.

Previous Positions

Assistant Research Scientist, Texas Transportation Institute, Texas A&M University, College Station
Project Assistant, Center for Urban Transportation Research, University of South Florida
Graduate Research Assistant to Dr. Susan MacManus, Department of Government and International Affairs, University of South Florida

Education

M.P.A., Public Budgeting and Finance, University of South Florida
B.A., Business Administration, University of Maryland
BEVERLY G. WARD
Deputy Director

Areas of Expertise

Geographic Information Systems
Mass Transit Insurance
Specialized Transportation Services

Transportation Demand Forecasting
Transportation Demand Management
Transportation Planning and Policy Analysis

Representative Experience

♦ Organized over 50 transportation training conferences
♦ Managed a coordinated, accessible transportation system
♦ Developed transportation group insurance program
♦ Coordinated a state rail passenger test market project
♦ Served as grants coordinator for various state agencies' projects
♦ Conducted transportation demand management seminars
♦ Served as guest lecturer and speaker at various conferences and seminars
♦ Served as Developer Demonstrator/Expert with Public Private Transportation Network (PPTN)
♦ Co-author of the Commute Alternatives Systems Handbook and Commuter Assistance Program Director's Manual
♦ Instructor, statewide Commute Alternatives Workshop Series
♦ Managed numerous transportation demand management implementation and training projects
♦ Co-principal investigator of the African American Mobility Issues Symposia

Previous Positions

Staff Assistant, Alabama Transit Association
Grant Coordinator, Alabama Department of Economic and Community Affairs/Alabama Transit Association Group Insurance Program
Transportation Director, Jefferson County Office of Senior Citizen Activities
State Board Member, Alabama Department of Human Resources
Director of Special Projects, Office of Family and Child Services
Production Assistant, Poughkeepsie Cablevision

Education

Pursuing Ph. D., Applied Anthropology, University of South Florida
M.P.A., University of Alabama at Birmingham
B.A., Psychology and Film/Drama, Vassar College
JOEL M. VOLINSKI
Deputy Director - Transit

Areas of Expertise

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Representative Experience

♦ Transit director of a mid-sized transit system in Florida.
♦ Contract administrator of privately provided feeder bus and paratransit services.
♦ President of the Florida Transit Association, local chapters of APA and ASPA.
♦ Creator of award-winning methods of transit service in low density areas through interlocal partnerships.
♦ Author of Community Development and Housing Plans.
♦ Represented County Administrator on local advisory boards.
♦ Expert court witness on matters of land use and transit development.
♦ Creator of award-winning transit marketing and communications programs.
♦ Author of Strategic Management Plan for large transit agency.

Previous Positions

Director, Broward County (Florida) Transit
Assistant County Administrator, Broward County
Director of Comprehensive Planning, Broward County Planning Council
Chief Planner, Broward County Community Development Program

Education

Doctoral studies in Public Administration, Nova University
M.S.U.P., Columbia Graduate School of Architecture and Planning
B.A., Urban Geography, State University of New York at Albany
Areas of Expertise

Transportation Engineering/Planning/Operations
Advanced Technology Performance Evaluations
Intelligent Transportation Systems (ITS)
Alternative Fuels
Automatic Vehicle Location (AVL)

Automatic Vehicle Identification (AVI)
Electronic Toll and Traffic Management (ETTM) Systems
Pavement Management Systems

Representative Experience

♦ Prepared systemwide feasibility, capacity analysis, and cost-effectiveness report for ETTM implementation on Florida Turnpike System.
♦ Developed advanced public transportation system strategic plan and related demonstration grant application for Metro-Dade Transit Agency.
♦ Directed field performance evaluations of various electronic toll collection technologies for FDOT.
♦ Prepared synthesis report for TRB on electronic toll and traffic management systems.
♦ Prepared early deployment plan of integrated traffic management/information center for Tampa Bay.
♦ Developed ITS Comprehensive Plan for Metro-Dade MPO.
♦ Developed expected value conflict factors for Florida-based traffic accidents.
♦ Developed customized pavement management system for the city of Port Orange, Florida.
♦ Prepared informational brochure on pavement management systems for local governments.
♦ Determined benefits and costs for application of electronic credentialling at truck inspection/weigh stations along I-75 (U.S.) and Highway 401/20 (Canada).
♦ Managed 30-mile Interstate corridor upgrade and master plan project in Jacksonville.
♦ Developed access control plan for primary arterial roadway in Alabama.
♦ Directed and managed major Interstate interchange rehabilitation study in Denver.
♦ Developed and conducted operational test of land-based, automatic vehicle locating (AVL) technology applied to level-of-service measurements in the Miami Metro area.
♦ Conducted evaluation/comparison of Alternative Fuels for Pinellas Suncoast Transit Authority.
♦ Conducted field evaluation of video-based technology to collect and analyze average travel speeds, origins/destinations, and average vehicle occupancies for Hillsborough County MPO.

Previous Positions

Senior Project Manager, Greiner, Inc., Tampa
Transportation Services Manager, Meurer & Associates, Inc., Denver
Project Manager and Project Engineer, Turner Collie & Braden Inc., Houston and Denver
Urban Area Engineer, Florida Department of Transportation, Tallahassee
Graduate Research Assistant, Pennsylvania Transportation Institute, University Park

Education

Pursuing Ph.D., Civil Engineering, University of South Florida
M.S.C.E., The Pennsylvania State University
B.S.C.E., Virginia Polytechnic Institute and State University
FRANCIS A. CLELAND
Research Associate

Areas of Expertise

Market Research Survey Design and Analysis
Statistical Modeling & Numerical Analysis
Sampling Design
Survey Methodologies

Representative Experience

♦ Designed and analyzed High-Occupancy-Vehicle lane marketing & positioning study for Florida Dept. of Transportation (FDOT) and Gold Coast Commuter Services of Fort Lauderdale, FL.
♦ Designed and analyzed logit model study of commuter incentive strategies for the City of Orlando.
♦ Designed and analyzed APTA member satisfaction survey.
♦ Conducted FDOT client/partner satisfaction study for Florida Transportation Commission.
♦ Prepared and conducted advanced training seminar in research techniques for TDM Professionals.
♦ Managed commuter travel survey program for Gateway Transportation Initiative.
♦ Conducted advertising awareness study for Tampa TMOCG.
♦ Conducted commuter travel surveys for Gateway Transportation Initiative and Tampa TMOCG.
♦ Managed cable TV customer satisfaction research program.
♦ Designed, implemented, analyzed and reported results of cable television customer satisfaction studies and programming satisfaction study.
♦ Managed conjoint programming studies.
♦ Designed, implemented, analyzed, and created statistical satisfaction models for KBLCOM/Paragon Employee surveys.

Previous Positions

Market Research Manager, KBLCOM Inc., Houston
Market Research Analyst, Pennzoil Products Co., Houston

Education

M.B.A., Jesse H. Jones Graduate School of Administration, Rice University, Houston
B.A., Rice University, Houston
Areas of Expertise

- Public Transportation
- Transportation Planning
- Policy Analysis
- Systems Evaluation
- Planning Process Design
- Mobility Needs Analysis

Representative Experience

- Conducted strategic transportation planning.
- Investigated transit system performance.
- Conducted transportation policy research, managed transit research program.
- Evaluated transportation management organization and coordination.
- Developed assessment of public transit needs.
- Managed patronage forecasting model development program.
- Directed transit systems planning program.
- Managed ridership forecast production.
- Conducted economic and financial analysis studies.
- Managed interagency coordination of transportation planning.
- Conducted fare and parking policy studies.
- Helped develop and evaluate regional demographic estimates.
- Conducted operating and maintenance cost studies.
- Developed energy management programs.
- Prepared short and long range operating and capital budgets.
- Researched land use/transportation interrelationships.
- Conducted alternatives analysis studies.
- Conducted site selection and planning studies.

Previous Positions

Manager, Systems Planning/Manager, Long Range Planning/Interim Director, Service Planning/Senior Rail Planner, Dallas Area Rapid Transit
Transportation Planning Specialist/Sr. Transportation Planner, Greater Cleveland Regional Transit Authority
Instructor, Principal Investigator, Research Assistant, Northwestern University

Education

Ph.D., Civil Engineering (Transportation), Northwestern University
M.S.C.E., Urban Systems Engineering, Northwestern University
B.S.C.E., Civil and Environmental Engineering, University of Wisconsin