MDT rail rehabilitation needs assessed

In March 2000, Miami-Dade Transit (MDT) contracted with CUTR to assist MDT in documenting its rail rehabilitation needs and developing plans to address them. The study, completed in two phases ending in January 2001 and January 2002, reviewed the current condition of the Metrorail and Metromover systems, compared the systems with other heavy rail and people mover systems, and recommended a plan of action to carry MDT forward into the next five years. The assessment included estimated funding needs, a review of outsourcing practices, recruitment issues, and manpower needs.

System Overview

Metrorail is a 21-mile heavy-rail system with 21 stations stretching from Dadeland South Station north to the current terminus at Okeechobee in Miami. With 136 rail cars, the system serves over 45,000 passengers daily. Metrorail was completed in its current configuration in 1984 at an original cost of $1.03 billion. Operating expenses of just over $50 million were reported in 1999, and more than 104 million passenger miles of service were provided in 2000 with an operating staff of 422.

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Findings

Miami’s Metrorail compared most closely to Baltimore but had fewer personnel and 36 more vehicles than Baltimore. It received slightly less of a percentage of Agency funding than its percentage of passenger miles. Its maintenance cost per vehicle was lower than D.C.’s but higher than Atlanta and Baltimore on a total fleet basis, and the Atlanta and D.C. rail systems were generally more reliable.

After reviewing other people mover systems, the project team concluded that a system comparable to the Metromover system did not exist within the U.S. Airport people mover systems lacked the complex switching and loop configurations employed at Metromover, and the two automated guideway systems in operation in Detroit and Jacksonville lacked the

Manpower needs were affected by the interrelationship of the selection/recruitment processes and the contract-
Rail maintenance workforce proficiency was eroding, and while contracting-out was necessary, it did not build the “knowledge, skills & abilities” of the workforce. Frequent changes in service demands and responses to budget constraints made the planning process difficult for staff. Two methods of calculating additional manpower needs based on rail car availability and revenue mileage were developed for Metrorail. With a revenue vehicle requirement of 68 to 90 vehicles, additional manpower needs were estimated to range from 8 to 29 additional personnel. Two methodologies for calculating Metromover manpower needs were also developed. Primary factors included in the Service Plan Analysis included system characteristics and labor hours by function, while the Scenario Analysis focused on specific factors such as the number of loops, one-way miles, headways, peak vehicle requirements, and vehicle hours per year. Based on the current configuration of vehicles and headways, additional Metromover manpower needs ranged from 25 to 28 people.

Subsystem level conditions of both systems were rated on a scale of 1 (bad) to 5 (excellent) using modified 1987 UMTA Rail Modernization criteria. Metrorail system condition averages ranged from poor to fair with obsolescence and car body ratings lowering the scores. Metromover vehicles received an overall condition rating of fair. Phase 1 wayside and structures rated fair overall, while Phase 2 structures and wayside rated good.

MDT’s agency-wide expenditures grew at a rate of 3.8% from FY 1994 to FY 2000. On a constant dollar basis, the level of MDT total FY 2000 expenditures was lower than the FY 1994 level. The growth rate for Metrorail operating expenditures averaged 1.1% while salary increases averaged 3.4%. Metrorail capital averaged $15 million annually from FY 1994 to FY 2000. Vehicle operations spending was decreasing in absolute terms, and vehicle maintenance spending essentially was flat. Metrorail capital investment in facilities was rising, while no significant capital investment was made in rail vehicles. Based on historic growth rates for operating and capital projections, in the 6-year program, the constant dollar level of investment was expected to decline until the programmed start of the rail vehicle overhaul in FY 2006. Additional capital needs for Metrorail were estimated at $200 million, and approximately $60 million of the $200 million capital needs fell within the program period. Rail vehicle overhaul was recommended for a FY 2003 construction start (as opposed to 2006). In addition to the midlife overhaul of the rail vehicles, significant investment in the Train Control and Traction Power systems was recommended. Since FY 1994, Metromover operating expenditures have more than kept pace with inflation and averaged 6.3% of the agency’s total. With a capital program of nearly $40 million, including $15 million for the Phase 1 vehicle midlife rehabilitation, MDT has made a significant commitment to ensuring the long-term viability of Metromover. If this program comes to fruition, the system will be positioned well.

**Recommendations**

In the final report, the project team indicated that a successful plan for the rehabilitation of MDT’s heavy rail system seemed contingent upon several organizational and management issues. Although additional financial resources would be required, in the project team’s opinion, additional resources would not be maximized without some systemic changes. What follows are selected recommendations from the 22-month effort and the positive actions that the MDT has taken to address them since completion of each of the two phases of the study.

The current process of contracting maintenance work to outside vendors needs to be revisited. MDT established dialogue with the Transit Workers Union concerning procurement of work through contracts. Component and equipment contracts were awarded to facilitate timely repairs, and MDT established a new Metromover Component Shop based on a cost-benefit analysis of contracted-out versus in-house repair.

MDT should re-examine the present method of establishing that a candidate is “qualifiable” and should take an active role in providing an environment that rewards the professional development of the workforce. MDT estab-
lished a 13(c) Strategic Task Force and developed a plan to improve recruitment and training processes that included the participation of TWU.

Mechanisms that encourage innovation and investment in the workplace should be established. MDT brought together cross-functional groups to assist in program planning and evaluation.

Structure within the organization that provides consistency and continuity should be developed. MDT is taking advantage of the large amounts of data and information collected and has reformulated data analysis to identify trends. Action plans were developed to target goals and track performance.

MDT should ensure that sufficient funding continues for the enhanced vehicle maintenance activities and attempt to provide Metrorail with a capital infusion required to perform the identified rehabilitation activities. The County Manager recommended in a resolution presented to Miami-Dade County Board of County Commissioners in June 2002 that the Board authorize the County Manager to commit Local Option Gas Tax funds, or other appropriate sources of funding, to finance up to $205 million for the purpose of funding the mid-life rehabilitation of MDT Metrorail and Metromover vehicles. The FY 2002 to FY 2007 current capital program includes $119 million for the Metrorail vehicle mid-life modernization beginning with planning and engineering funds in the current fiscal year. The former capital program called for $30.6 million for the project beginning in FY 2006.

Additional recommendations include providing the additional staff within Metromover, Track & Guideway, and Rail Maintenance Control identified in the report as well as the operating funds necessary to fund the positions.

The efforts of CUTR and MDT management and staff represent a true partnership. . . . The result of this collaboration is a good example of the real world results that can be achieved through a strong relationship between an operating agency and a university research center.

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For further information, contact CUTR Senior Research Associate Jan Davis, davis@cutr.usf.edu, (813) 974-6920.
In search of excellence at transit agencies

Common traits among creative agencies studied

CUTR recently completed a study that explored why some transit agencies in the U.S. seem to be more innovative than others. The intent of “Conditions That Promote Creativity at Public Transit Agencies” was to find if there were common traits among creative agencies that could be replicated in other transit agencies in the United States. Four transit agencies were selected as being particularly creative based on responses to questionnaires associated with a CUTR study completed in 1998 entitled “Lessons Learned in Transit Efficiencies, Revenue Generation, and Cost Reductions”:

- Centro (Central New York Regional Transportation Authority in Syracuse, New York),
- Citifare (Washoe County Regional Transportation Commission, Reno, Nevada),
- SunLine (Thousand Palms, California)
- Lynx (Central Florida Regional Transportation Authority in Orlando, Florida)

By means of case studies and site visits, the current study identified the environment, conditions, and practices at these four agencies. Results determined that, while special personalities usually influence the level of creativity at each agency, there are also management philosophies, approaches, and techniques that are clearly transferable and can promote increased creativity at other agencies as well.

Each of these agencies developed innovative ways to generate new revenues or reduce costs, and each of them demonstrated a certain style or “attitude” in how they did it. For instance, SunLine Transit established a “SunLine Services Group” that provided public services that no other public agency in the region was offering to the citizenry, such as street sweeping, graffiti removal, changing street lights, and watering plants at intersections. They provided these services with part-time bus operators who were happy to have the extra work, which also helps SunLine retain them as employees as they wait to become full-time bus operators. Lynx was a leader in the area of illustrated buses, developing a program that generates almost $3 million annually in revenue and multiple opportunities for exposure in major venues. Centro became an authorized Ford warranty center and profited from performing the warranty repairs on its own vans as well as other public agency Ford vans. Citifare developed a “cafeteria plan” approach for runcutting in which drivers construct their own work weeks from a list of available pieces of work and from a list of any days off, saving approximately $300,000 through the elimination of premiums and break time in a manner that was well-accepted by bus operators.

The final report of the study shows that there were distinct practices that were virtually always in place at each of the agencies that provide evidence that similar practices could result in creative results in other transit agencies as well, even in agencies where managers do not consider themselves particularly creative.

The four agencies in this study demonstrated a propensity for the following 10 principles:

They operate with business principles and an entrepreneurial spirit

Employees are results oriented, not process oriented. They operate in “retail” terms and recognize the opportunities transit systems have to sell their services, knowledge, programs, or access to facilities, equipment, or passengers. Employees are challenged, empowered, and supported to take rea-
reasonable risks. They direct their energies to their passengers and community, and avoid becoming self-centered, internally-oriented bureaucracies. The external focus on customers, markets, and opportunities requires thinking outside of the organizational “box.” According to former Assistant Marketing Manager Ernie Kelly of Lynx, “Being customer focused means you have a retail mindset. You are competing for customers and absolutely thrilled to have them!”

They enjoy experimenting
Leaders at each agency believe in the inherent value of experimentation. While nothing is off limits, they hold high standards, but believe in having fun. They worry more about missing opportunities than failing in a reasonable risk. Employees find themselves in a learning environment that makes it fun to come to work.

They have a broad self-image
Staff members regard themselves as mobility managers, not “employees of the bus company.” They believe their self-image and their ability to gain partners could suffer if they are regarded as only a social service agency for the disenfranchised. People are continually excited about what they could be. They want to change communities and change peoples’ lives. As stated by Craig Williams of Centro, “We are in the ‘transformation’ business, not just the transportation business. We are trying to transform lives and communities.”

They have a passion for adding value to their communities
Agency managers realize only a small percentage of people in their communities use their basic service, so they need to find ways to make their agency more relevant to the majority of people who do not. SunLine’s General Manager Dick Cromwell said, “I’ve done the math: less than 10 percent of our residents use our bus service. How can I make our agency relevant to the other 90 percent?” The agency managers push their staff to find things that their agency has, does, or could do that might somehow help the broader community. They have a burning desire to be considered a regional asset, and not a tax burden.

They believe in bringing in “new blood”
Managers at these creative transit agencies tend to come from diverse backgrounds, and there is an unwritten policy that having such diversity is healthy for the organization to foster new perspectives. Thomas Taelour, Chief Financial Officer of Citifare, summed it up saying, “I already know how we do things. I want to know how other people from other backgrounds approach issues.” There is a particular interest in bringing in people with private sector experience with a different approach to problems and opportunities. They want to hire people with good people skills (interpersonal and communication skills) to facilitate greater exchange of ideas among staff. They look for people they think will be fun to work with who also have leadership aptitude and an ability to exercise independent thought.

They believe in, and support, training and professional development
The agencies truly believe their employees are their greatest asset and support training, visits to other properties, and networking with counterparts throughout the country. They realize that more interaction with other professionals around the country will expose their employees to more ideas and cause them to think in broader terms.

They believe in, and practice, teamwork
The agencies participate in retreats and brainstorming sessions and use cross-functional teams frequently to address a variety of agency issues, where ideas can be cross-fertilized to create new approaches to problems. They use group assessments of new candidates for key positions, with representatives from all key functional areas helping to select new employees. Everyone is accountable for thinking in terms broader than his or her specific func-
tion. They also understand that organized labor is part of the necessary teamwork.

They have very positive, can-do attitudes

Employees at these agencies have a strong sense of mission that is bolstered by meaningful organizational vision statements that includes references to creativity, partnering, etc. Everyone has a sense of ownership and responsibility for the entire agency and its image, and, once someone becomes aware of a problem, they own it until it is solved.

They have a firm belief in the importance of communication

These agencies realize that is impossible to motivate if you don’t communicate, and they take every opportunity to share information on agency status with all employees through newsletters, formal and informal meetings, and “management by walking around.” They bombard their Boards with information with the understanding that communication helps build trust. When trust is established, you can experiment and try new things.

They realize the value of relationships

Managers do not want their staff to be a bureaucratic group of strangers to other elements of the community and insist that their staff be members of community organizations. This keeps them plugged into the community and gives them opportunities to establish new partnerships and programs.

In summary, these agencies tend to think more externally and avoid the trap of routine internal orientation. The techniques that have been described, above all, require working with others and working on non-traditional matters. While it is very helpful to have “naturally” creative people, creativity can be cultivated by being entrepreneurial, interdependent, customer and community-oriented, communicative, experimental, and personalized. While the specific experiences of these four agencies might not be able to be duplicated elsewhere, the techniques they employ to foster creativity can help other agencies find their own special experiences.

For further information, contact NCTR Director Joel Volinski, volinski@cutr.usf.edu, (813) 974-9847.

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Fall transportation classes scheduled

The USF College of Engineering will be offering the following transportation courses in Fall 2002 semester:

- **EGX 84508** Transportation Engineering I (Pendyala), Monday 3:00-5:50pm
- **EGX 84510** Transportation Planning & Economics (Chu), Monday 5:00-7:50pm
- **EGX 84509** Traffic Systems Engineering (Lu), Tuesday 5:00-7:50pm
- **EGX 85747** Intelligent Transportation Systems (Lu), Wednesday 5:00-7:50pm
- **EGX 84489** Transportation Project Evaluation Methods (Mierzejewski), Thursday 5:00-7:50pm
- **EGX 84492** Transportation Data Collection & Analysis (Pendyala), Friday 2:00-4:50pm
- **EGX 85748** Graduate Transportation Seminar (Pendyala), Monday 11:00-11:50am

For further information, contact the USF Department of Civil and Environmental Engineering, (813) 974-2275.
It is increasingly clear that security concerns will significantly influence how transportation facilities and services are planned, designed, implemented and operated. Transportation goals, planning processes, databases, analytical tools, and organizational structures are likely to change due to security concerns. Just as the transportation planning professional and the planning process have evolved to accommodate issues such as enhanced environmental concern, social equity, evolving technologies and multimodal considerations, so too, adaptations will be required to address security considerations in the planning of transportation infrastructure and services.

A secure transportation system is critical to overall national security. Groups or individuals motivated to terrorize or injure people or the economy may well have transportation facilities as a target or a tool. Most assuredly, they would have a transportation element in an overall plan of terrorism. Thus, securing the transportation system is a critical consideration in overall security planning. The transportation sector is intimately involved in the security of our society and will be a front-line area of focus in enhancing security. The future of transportation will be very much influenced by security considerations.

In simple terms, security risk might be expressed as a mathematical function. The security risk is a product of the probability of an incident attempt times the vulnerability of the target times the damage costs of a successful breach of security:

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\text{Security Risk} = \text{Probability of Incident Attempt} \times \text{Vulnerability} \times \text{Damage}
\]

In the post-September 11th era, the probability of an incident attempt is believed to be far greater than previously appreciated by the vast majority of the public. Additionally, the extraordinary human and monetary consequence of the September 11th incident increased by orders of magnitude the perceived size of the possible damages from an incident of terrorism. Subsequent expert and media scenarios of increasingly sophisticated and dangerous tools of terrorism have resulted in the perception of far higher security risks.

Within days of the tragedy of the September 11th terrorist incidents, speculation began in the media among security and transportation experts and among the general public regarding the consequences of these incidents on America’s mobility. The speculation has run the gamut, from predicting the end of skyscraper construction and the subsequent decline in urban densities, to anticipating or advocating new infrastructure investments such as high-speed rail as alternatives to air travel. In the months since the incident, there has been a flurry of responses and a multitude of other activities are in

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**Transportation Resource Pressures Resulting from Security Concerns**

- Diversion of resources to security needs outside of transportation programs
- Diversion of funds to operating security enforcement/policing/planning/training
- Diversion of funds to capital investments in security (barriers, fencing, inspection, etc.)
- Use of funds to support network redundancy/connectivity
- Use of funds to support modal choice/redundancy
- Diversion of funds to design changes/enhancements to increase security
Transportation Planning

Various phases of planning and implementation. Old reports are being dusted off, new reports are being written, task forces are being formed, and training initiatives are being provided. Early action steps are already being identified and implemented while other actions will require considerable more evaluation before prudent actions can be determined.

Evaluation criteria for project programming are likely to change and costs for various transportation investments may change as a result of different design standards that enable enhanced security. Intelligent Transportation System (ITS) investments may have security roles and incident response roles that may change how we design and specify these systems. Mode choice behaviors may change, influencing the overall demand for various travel options. The era of placing parking lots under elevated freeway sections may end, and the processes of issuing driver licenses and vehicle titles may change as security considerations influence the data collection and screening steps.

It is useful to explore the implications of security threats on transportation planning by reflecting on a simplistic model. The figure above outlines such a model, where security concerns influence land use, travel behavior, public investment priorities, and transportation system performance. In each category, impacts can be long or short range. These changes may create a need to change transportation planning activities. Changes in our planning subsequently feed back to influence these four factors and thus, the level of security risk may be impacted as changes influence the probability of an incident attempt, the vulnerability, or the damage.

Land Use

Individuals have speculated on a variety of land use implications, ranging from an increase in employment dispersion and sprawl to a renewed focus on the importance of the city. While signature high rises may not be a growth market, there is little reason to anticipate meaningful land use changes in the short term. The fixed nature of land use and capital-intensive supporting infrastructure dampens any rapid land use changes even if there were strong pressures to make changes. The complex set of factors that govern location choice will make it difficult to determine the significance of security risks in location decisions and subsequent land use patterns. Discerning security considerations from factors such as the ongoing shift to service and information industries and the influence of improved communications on location choice may favor dispersion of activities regardless of security concerns. One would not currently anticipate security concerns inducing changes in land use patterns that would influence transportation planning initiatives.
Travel Behavior

One can speculate on how security risks may impact each of the traditional four elements of travel behavior that transportation planners typically consider: trip generation, trip distribution, mode choice, and trip assignment. Travel behavior is complex behavior influenced by a host of factors. The cumulative experiences and perceptions of travelers will influence travel behavior; thus, the perception of security risk as influenced by security incidents and perceptions of security levels for various travel options will influence individuals’ travel decisions.

Trip Generation—After September 11th, trip making declined as people chose to forgo certain trips. This behavior was particularly apparent for long distance business and personal trips. There is speculation that a proportion of the general public will remain unwilling to fly. On the business side, there is likely to be some mode shift but also some occasion for other forms of communication to substitute for travel. Certain travel demand may be postponed in time while other travel may be a net loss. It is premature to predict how security risks will impact trip generation in the long-term. Indirectly, changes in travel costs and other factors as a result of security considerations could also impact trip generation levels.

Trip Distribution—Another possible significant change resulting from September 11th may be altered trip destinations. As people refocus their priorities, some may value time with family more highly and choose to minimize lengthy commutes to distant job sites. Conversely, others have argued that the push toward decentralized urban areas may result in greater sprawl, meaning longer commute trips for many. There may be situations where a high profile location and presumed attractive terrorist target may be avoided by some travelers. This type of attention may result in altered trip destinations with people substituting alternative destinations to avoid certain routes, or trip paths. Other travelers may be more reluctant to use various facilities that are perceived to be at risk or susceptible to significant damage if attacked such as tunnels and bridges. Travelers may seek to avoid crowded or high profile locations or events in fear that these could be targets for terrorists. Only with a sustained significantly higher frequency of incidents are travelers likely to meaningfully alter trip destinations as a result of the fear of terrorist incidents.

Mode Choice—Mode choice changes as a result of security concerns are possible due to fears that arise from terrorist incidents or the prospects of them and as an indirect result of changes in the performance of modes due to security-induced changes. To the extent that mass mode vehicles or station locations are perceived as attractive targets with crowds of people, these modes may be avoided by some travelers. It would appear that public modes offer the opportunity for terrorists to both remain anonymous and to impact groups of people; thus, one might expect individual vehicles are less likely to be targets of terrorism. Currently, there is no empirical or anecdotal evidence to indicate the extent to which mode choice behavior will be altered.

Trip Assignment—Trip assignment refers to the actual decisions on the trip route once the location and mode have been determined. Security concerns may result in some changes in trip assignment behavior. Individuals may choose to avoid routes/facilities that they feel are higher security risks. Certain stations may be perceived as less secure due to crowds or other factors. Until the threat of specific transportation system security incidents becomes more prevalent, it is unlikely that there will be a noticeable shift in trip assignment.

Transportation System Performance—Perhaps the most obvious area of impact to transportation emanating from security concerns is the prospect that the performance of the transportation system will be altered as a result of the responses to security risks. These changes in transportation system performance will then impact travel behavior. The nature of the changes in performance covers the range of performance attributes.

For example, near-term impacts of September 11th include the suspension of many airline services, long delays for airport security, security enhancements for rail travel, and
minor changes in auto parking. Other changes, all intended to enhance security, may impact the transportation of various products.

**Investment Priorities**—Speculation has centered on whether security risks will have an influence on public attitudes toward transportation investments. Some have suggested that the economic value of transportation is being recognized, and this will aid efforts to increase investment in transportation. Others anticipate a renewed interest in having transportation choices; specifically enhanced funding for rail modes. Still others worry that diversions of dollars to enhance security will detract from capacity improvements. The Bush administration’s proposal for the 2003 budget suggests at the aggregate level, overall national priorities for enhanced security may put pressure on available transportation resources in the short term. Transportation investment priority changes could result from a number of considerations.

Post September 11th, actions suggest a variety of possible investment needs as a result of increased sensitivity to security risks. These needs range from near-term initiatives to conduct strategic planning and assessments to supporting enhanced enforcement levels such as those found at airports, to longer-term needs to alter the physical characteristics of individual transportation investments and the system or network of investments.

**Security’s Impact on Transportation Planning**

As immediate and near-term efforts focus on operational spending to reduce vulnerability, the most immediate planning challenge will be determining how various investments contribute to security such that their contribution can be evaluated and tradeoff decisions made. Expert judgment and multiagency collaboration will be required as agencies throughout the country work to develop experience in security investment evaluation. Over the next several years, security considerations will result in changes in how transportation is planned, designed, implemented and operated. Transportation goals, planning processes, databases, analytical tools, decision-making considerations, and organizational structures will change due to security concerns. Transportation will be on the front line in responding to security risks. The response to security concerns will cross jurisdictional and functional lines and be among the most complex and important challenges to transportation professionals. It will be important for transportation planners to monitor closely changes in travel behavior and try to fully understand their underlying causes. Similarly, planners should closely monitor the performance of our transportation systems with regard to time and cost factors as well as security, so as to be able to make informed extrapolations of how these system and services might be impacted by security considerations.

It will be important to take steps to ensure that the September 11th tragedy does not slow our progress toward a true multimodal transportation system. Nor should these events serve to further polarize modal prejudices or be used as an emotional springboard to advocate investments whose merits should be scrutinized with clear thinking. As transportation planners have struggled to find adequate resources to fully fund capacity and safety goals, a major challenge of security concerns will be ensuring that the immediate emergency diversion of time and resources does not hinder the long-term capabilities of transportation planners to respond to transportation needs. Public recognition of the cost of providing enhanced security and public support for additional funding if transportation resources are diverted to security investments may be required to ensure that the price of security is not a rapid decline in the condition and performance of our existing transportation system.

In the meantime, transportation operating agencies will be busy providing near-term responses to security concerns. The transportation planning profession has a significant knowledge base and capability in various areas such as incident response, hazardous materials transportation, and disaster response and recovery that provide a strong springboard for providing enhanced security and
CUTR welcomes new research faculty

Holly Carapella joins CUTR as a Research Associate with the Transit Program, specializing in transportation and land use planning and policy analysis. She previously worked as a Senior Transportation Planner for the North Jersey Transportation Planning Authority in Newark. Carapella holds a bachelor’s degree in Political Science from Bradley University and a master’s degree in Public Administration and Policy from New York University.

Nilgun Kamp joins CUTR as a Research Associate with the Transit Program, specializing in economic and financial analysis, long-range strategic plans, and transportation planning. She previously worked as a manager for PricewaterhouseCoopers in Tampa. Kamp holds a bachelor’s degree in Economics, a master’s degree in Pacific International Affairs from the University of California, San Diego, and a master’s degree in Economics from USF.

incident response. Transportation planning has grown over the past several decades to encompass far more than providing cost-effective, safe transportation capacity. Transportation has embraced a broader goal set including social and environmental factors. Thus, transportation planners are knowledgeable in integrating additional considerations into the goal set for planning transportation facilities and services. As experts in dealing with travel safety concerns, transportation professionals have an understanding of how complex tradeoffs between short- and long-term and capital and operating/enforcement decisions can be made. The new challenge will be applying the lessons learned in developing these capabilities to incorporating security considerations into the transportation planning process.

For further information, contact CUTR Mobility Policy Research Program Director Steve Polzin, (813) 974-9849, polzin@cutr.usf.edu.

UTC grants are matched by recipients, increasing the value of the federal investment. Past NCTR grants have been generously matched by the Florida DOT. Tom Barry, Secretary of the Florida DOT, expressed his pleasure at NCTR’s selection. “The work being done at NCTR has helped strengthen the capabilities of our many transit systems, commuter assistance programs, and transportation management associations,” he stated, noting that ridership on Florida’s transit systems has recently increased at a rate of twice that of population growth.

For further information, contact NCTR Director Joel Volinski, volinski@cutr.usf.edu, (813) 974-9847.
US Census transportation data for Florida released

Transportation planners, transit operators, the media, and others have been eagerly awaiting the arrival of new Census 2000 data. Various data items have been arriving regularly as the Census Bureau compiled and distributed information in a multi-year ritual following the data collection in April 2000.

In May 2002, the first Florida results providing information on commute behavior became available. The data, available at http://www.Census.gov/Census2000/states/fl.html, include commute time information by place of residence, a broad-based profile of Florida demographics, information on the choice of mode for commute travel, and information on household auto ownership. While many other data sources also are available for planning, the comprehensive nature of Census data, its historical availability and consistency, and the fact that it saves local data collection costs makes it popular with planners. Detailed data on commuter flows between places will not be available until early 2003, but summary and Census place level data on travel time and mode choice are available now.

The statewide data for mode choice for the commute trip suggest continuation but, perhaps, moderation in past trends. “Drove alone” remains the dominant commute mode at nearly 80 percent of the population. Across Florida counties, the “drove alone” rate was as high as 84 percent in Clay County to as low as 54 percent in Desoto County. “Carpool” was the second highest choice of work trip commute, declining from 14.28 to 12.93 percent. Public transportation use declined from 2.03 percent to 1.87 percent.

Even with declining shares, there are actually 75,200 additional carpoolers and 12,723 more transit riders as a function of Florida’s employment growth. The highest share for public transit was in Metro-Dade County with 5.2 percent transit use, ranging downwards to no transit use in some counties (transit use includes taxis). Walking showed a sharp decline; statewide, 37,000 fewer people walked to work in spite of the fact that there were more than 1.15 million additional workers added to Florida’s workforce in the decade. The work-at-home group grew significantly, with 75,000 additional work-at-home individuals added in the decade.

In general terms, the slower modes—walk, carpool and transit—continued their historic declines in the share of commuting trips, while the faster modes—drive alone and work at home—continued to increase. Given that the Census asked how someone usually commutes to work, people who telecommute one to two days per week and drive alone the other three days, for example, would probably have indicated that they usually drive alone. The Census does not reflect part-time or occasional use of modes or people who may be working a compressed-work-week schedule.

Perhaps most surprising in the Census results was the overall increase in the time spent commuting. The statewide mean commute time increased from 21.8 minutes in 1990 to 26.2 in 2000. This 4.4-minute increase surpasses historical nationwide increases on the order of one minute per decade. This suggests that this decade, and perhaps the Florida situation, is experiencing increases in travel distances or decreases in speed that are unprecedented. While additional, more detailed analysis will be required to fully understand the trend, preliminary re-
view suggests a combination of increasing long distance commutes from collar counties to urban core areas combined with slower (more congested) travel in core urban areas. As the Florida mapping of commute times indicates, the largest commute increases appear to be in collar counties where significant shares of the workforce commute to adjacent employment areas.

The Census 2000 Supplementary Survey tables, another source of commute travel information released in late 2001, shows that 65 percent of Floridians have a commute of 30 minutes or less. However, they spend only 38 percent of the total time spent commuting. In contrast, 13 percent of Floridians commute 45 minutes or more and account for nearly one-third of all the time spent by Floridians commuting to work.

A quick review of the recently-released data shows other items of potential interest to transportation planners. Vehicle availability has continued to improve, with vehicles available for nearly 92 percent of households. In 2000, there were 515,455 Florida households without vehicles available, up 41,444 since 1990 but a declining share of all households. Household size, a historic factor in understanding travel behavior changes, remained constant in the decade at 2.5 persons per household. Labor force participation, also a factor in travel, declined from 60.4 to 58.6 percent of the population. Persons stayed in the same residence a little longer, are better educated, more than two years older on average, and have higher incomes (per capita income of $21,557 versus $14,698 in 1990). Almost three percent more own their own home, and five percent more are a member of a minority group.

Later this fall, the 2001 National Household Travel Survey will be available. With these new data sources, planners will be able to more fully understand trends observed on a local level and more fully investigate other hypothesis regarding travel behavior changes. CUTR looks forward to additional opportunities to use these new databases to help address transportation issues and to provide new information to share with the next generation of transportation professionals.

For further information, contact CUTR Mobility Policy Research Program Director Steve Polzin, (813) 974-9849, polzin@cutr.usf.edu.
Access management manual available soon

In the past few decades, a substantial amount of research has been conducted on access management. These research projects have provided insights into the impacts of access management, identified best practices, and set forth recommended guidelines for access management applications. The TRB National Conferences on Access Management and sessions at other state and national conferences have further expanded the body of information on access management practices, policies, and experiences.

In cooperation with the Transportation Research Board, the Federal Highway Administration, and the TRB Committee on Access Management, CUTR is developing a manual that compiles this information into one source that summarizes the state of the art on access management. The manual also presents access management comprehensively, in a manner that integrates planning and engineering and transportation and land use considerations. It addresses technical aspects of access management as well as how access management programs can be effectively developed and administered.

State transportation agencies, local governments, metropolitan planning organizations, and consultants will find helpful information on program development, implementation, and access design. The manual also provides policy makers, developers, and other interested parties with a comprehensive reference on access management.

The manual begins with an overview of key concepts and principles of access management and reviews research findings on the effects of access management on safety, operations, the economy, land use, and the environment. Also included are discussions on how to develop an access management program at the state, local, and regional levels; the relationship between roadway classification and access; how to assign access management standards to roadways through access categories; the steps in developing a corridor access management plan; land development and access, with an emphasis on policy and regulatory issues; the latest procedures and guidelines for evaluating access location, spacing, and design; considerations in the application of medians and continuous two-way left-turn lanes; access permitting; and coordination, public involvement, and right-of-way and legal considerations.

The Access Management Manual will be available from the Transportation Research Board in late 2002. To reserve your copy of the manual, send your name and mailing address via e-mail to Kim Fisher at kfisher@nas.edu. For further information, contact Kristine Williams, Access Management Program Director, kwilliams@cutr.usf.edu, (813) 974-9807.

Voorhees visits CUTR

Alan Voorhees, a pioneer in transportation planning and engineering, visited CUTR and USF in July. Well-known for his important contributions in the prediction of traffic patterns as a function of land use, the use of attitude surveys and mathematical models, and the development of major transportation systems for some of America’s largest urban areas, Voorhees addressed USF faculty and students on transportation and urban structure.
2002 Scholarship winners selected

Kimberlee Gabourel and Srinivas Meka have been named recipients of the 2002 Georgia Brosch Memorial Transportation Scholarship. The $500 scholarships are awarded based on academic achievement, professional activities, and career goals.

Ms. Gabourel will receive a master’s degree in Environmental Science & Policy and a Graduate Interdisciplinary Transportation Program Certificate in Summer 2002. She holds a bachelor’s degree in Environmental Science and Policy from USF and has been a Graduate Research Assistant at CUTR since 1998, participating in a variety of research projects in which she analyzed data and wrote case studies comparing residents’ experiences with transportation disparities in their neighborhoods and collected and analyzed data from transit systems throughout the state. Upon graduation, she plans to earn a Ph.D. and become “instrumental in building a healthy and eco-friendly environment” in the health and transportation industries.

Mr. Meka will receive a master’s degree in Civil Engineering in Summer 2002. He holds a degree in Civil Engineering from Osmania University in Hyderabad, India, and has been a Graduate Research Assistant for Dr. Ram Pendyala since 2000, participating in the development of new travel demand model systems that incorporate activity-based modeling concepts and analysis of data from household travel surveys and traffic surveys. Upon graduation, he plans to work in the private sector and pursue a Ph.D. “to contribute [his] share to the profession in making travel safe, efficient, and comfortable.”

Scholarship winners Kimberlee Gabourel and Srinivas Meka receive their awards from former CUTR Director Gary Brosch and current CUTR Director Ed Mierzejewski.