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# First set of ITS planning guidelines developed for Florida

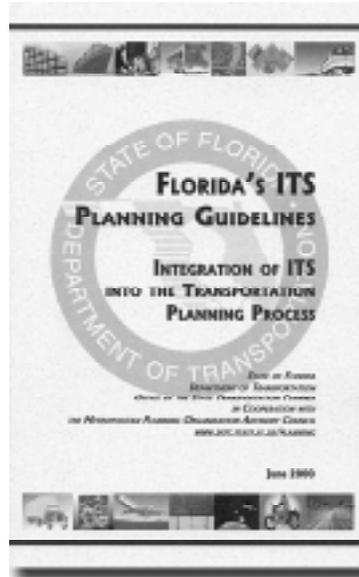
## *Follow-up training seminar to be offered*

In June 2000, under contract with the FDOT Office of the State Transportation Planner and in cooperation with the Florida

Metropolitan Planning Organization Advisory Council (MPOAC), CUTR completed the state's first set of guidelines for ITS (Intelligent Transportation Systems) planning. A one-day training seminar for application of the guidelines also has been developed by CUTR and will be offered at three convenient venues throughout the state in early 2001.

Very simply, ITS is about real-time information gathering, analysis, and dissemination and represents the integrated application of advanced information, electronic, communications, and other technologies to address surface transportation problems. The integration of ITS into the transportation planning process is mandated by TEA-21, and each MPO area in the state is now required to develop an ITS element into its Long Range Plan to be consistent with the National ITS Architecture. As a result, transportation planners are beginning to view ITS

as a new set of tools for addressing transportation management and operational needs.



### Need for guidelines

While much has been written about the potential for ITS to improve overall efficiency of the transportation system, comparatively little has been written on the impacts of ITS in terms of the sustainability of the transportation system. Additionally, much of the early interest in and deployment of ITS has been stimulated by Federal funding, rather than through a systematic planning process at the local or state level. Development of ITS has not always

been clearly connected to a transportation problem or need, or well integrated with the range of other existing transportation strate-

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*Inside...*

## NCTR First Annual Report

gies and programs. As a result, there has been a general lack of understanding regarding the benefits of “connecting” ITS to the transportation planning process. Furthermore, due to changes in FDOT policy and the national movement toward the “mainstreaming” of ITS, it has become necessary to develop guidelines for ITS planning and integration into the MPO transportation planning process. The purpose of the “ITS Planning Guidelines” is to provide direction to local and state planners for why, when, and how to consider ITS, and even what ITS applications to consider.

The guidelines treat ITS as an integral element in all aspects of the transportation planning process. Specifically, the manual reviews the following planning issues:

- consistency with the National ITS Architecture
- incorporation of ITS User Services
- relationship of ITS with mobility management plans
- ITS planning impacts on concurrency management
- implications of ITS for sustainable transportation and economic growth

## Correlation between TEA-21 Planning Factors and ITS User Services

TEA-21 Planning Factor	ITS User Services
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency	Commercial Fleet Management Commercial Vehicle Administrative Processes Commercial Vehicle Electronic Clearance Electronic Payment Services
Increase the safety and security of the transportation system for motorized and non-motorized users	Public Travel Security Emergency Notification and Personal Security Safety Readiness
Increase the accessibility and mobility options available to people and freight	Ride Matching and Reservation Personalized Public Transit Route Guidance Traffic Control Pre-Trip Travel Information
Protect and enhance the environment, promote energy conservation, and improve the quality of life	Emissions Testing and Mitigation Hazardous Material Incident Response
Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	Demand Management and Operation Traveler Services Information
Promote efficient system management and operation	Incident Management Public Transportation Management Emergency Vehicle Management
Emphasize the preservation of the existing transportation system	Automated Highway Systems En-Route Driver Information En-Route Transit Information

- ITS considerations for corridor studies
- comparison of ITS with non-ITS improvements

### ITS Applications in Planning

Several ITS technologies specifically promote economic vitality by

*continued on page 9*

## CUTRlines

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### CUTR'S MISSION:

*“To serve as a resource for policymakers, transportation professionals, the education system, and the public by providing high quality, objective transportation research.”*



CUTR was created by the Florida Legislature, the Florida Board of Regents, and the University of South Florida to find cost-effective, state-of-the-art solutions to transportation problems. CUTR's expertise in policy analysis, planning, engineering, economics, geography, safety, and communications offers innovative solutions to public and private sector organizations nationwide.

For more information, contact:

Gary L. Brosch, Director, CUTR  
College of Engineering, University of South Florida  
4202 E. Fowler Ave., CUT 100, Tampa, FL 33620-5375  
(813) 974-3120, fax 974-5168  
E-mail: pball@cutr.eng.usf.edu  
<http://www.cutr.eng.usf.edu>

# Roadway conditions as contributing factors in 1998 Florida traffic crashes

One of the primary goals of the Florida Department of Transportation (FDOT) in its *Florida Transportation Plan* is to reduce the number and severity of crashes that occur on the State Highway System (SHS), or that portion of Florida's roads under FDOT control. One of the goals stated in the plan is to provide "safe transportation for residents, visitors, and commerce." FDOT indicates that one of its main objectives in its *1999 Annual Report* is to keep the percentage of crashes on the SHS where roadway conditions are contributing factors below 1 percent through the year 2006. To assess its performance related to these goals, FDOT requested the assistance of CUTR in determining whether the percent of 1998 Florida traffic crashes noting a roadway contributing condition could serve as a reliable, viable, and appropriate measure for gauging its performance with regard to motorist safety on the SHS.

## Methodology

The basic research approach was to review a sample of pertinent long-form traffic crash reports completed in 1998 to determine the contributory effect that roadway conditions may have played in crashes. The traffic crash reports examined for the study were those that had at least one of the eight possible contributory roadway conditions listed on the traffic crash report recorded by law enforcement officers that responded to the crashes. As defined by the Department of Highway Safety and Motor Vehicles (DHSMV), roadway conditions include such factors as standing water; loose surface materials; holes, ruts, and unsafe paved edges; and worn or polished roadway surfaces, for example. (It should be noted that the investigation of conditions or defects caused by the design of roadways that are part of the SHS was not included as part of this research.)

The gathering of traffic crash data involved several simple steps. First, Florida traffic crash data for calendar year 1998 were obtained from the DHSMV. Second, a sample of applicable traffic crashes (those with a noted contributory roadway condition other than Code-01—no defects—that also occurred on the SHS) was developed.

Finally, hard copies of crash reports in the sample of crashes were obtained from the State Safety Office (SSO). This procedure resulted in a database that included a total of 3,077 crashes.

Next, a sample was developed from the 3,077 crashes, resulting in an initial study sample of 900 crashes, which was further reduced based on a host of factors such as incorrectly transcribed information and missing crash narratives and/or diagrams or other incomplete information that prohibited an accurate review of some crash reports. The final sample size was 728.

Since the most critical information was contained in the narrative and diagram portion of the crash reports, a series of detailed codes was used to categorize roadway conditions. Developed in conjunction with FDOT staff, these detailed codes were created to show more specific information about the contribution that roadway conditions may have played in crashes beyond those listed on traffic crash reports to help identify those crashes that contained a potentially correctable roadway condition that FDOT could possibly devise strategies to eliminate or reduce. After the code was applied to each crash report, it was entered into the crash database for analysis to identify any possible trends and correlations that may exist within the crashes.



## Findings

As mentioned, one of the primary goals of this research project was to determine whether the percent of crashes noting a roadway condition could serve as a reliable agency performance indicator for highway safety. The ultimate decision was to be based on whether one or more cause-and-effect relationships could be established within the 1998 traffic crash data.

In short, the analysis of 1998 Florida traffic crash data shows that no one such relationship could be established. Thus, there is no strategic issue present with regard to roadway conditions as contributing factors in Florida traffic crashes. In addition, for numerous reasons such as the low quality of the crash data mainly due to inaccurate application of the actual roadway condition, the use of this data element in its current form appears to be unsuitable as a measure for FDOT to use when gauging its safety performance with regard to the SHS. Therefore, it was concluded that the use of roadway conditions data element as a performance indicator is not warranted.

The estimate of the number of 1998 traffic crashes on the SHS where a roadway condition was shown to be a contributory factor was very low. Within the final sample crashes (n=728), a total of only 204 crashes indicated a roadway condition that could be potentially correctable by an action on the part of FDOT.

Projecting the sample to all of the 1998 traffic crashes that occurred on the SHS in Florida, only 0.7 percent could have potentially been influenced by FDOT corrective actions. This finding meets FDOT's goal of less than one percent of the crashes on the SHS in which a roadway condition was a contributing factor.

It was also determined during the course of the research that many law enforcement officers are simply entering one of the possible roadway conditions only when one

of the conditions or factors is *present* instead of when it was *observed* (determined) to have directly contributed to the occurrence of the crash. Based on the review of the crash reports in the final sample, in many of these instances the reporting law enforcement officers should have indicated Code-01 or no roadway conditions/defects. It also appears that many officers did not attempt to determine what, if any, roadway condition(s) might have lead to the occurrence of the crashes contained in the final sample. The guidelines contained in the *Instructions for Completing the Florida Uniform Traffic Crash Report Forms* do not instruct law enforcement officers to explain the codes they select in the narrative or diagram portion of crash reports other than Code-77 (all other, explain). Officers are simply required to describe what happened in the crash and to make the narrative and diagram as consistent as possible. As a result, this

inconsistency in reporting produces an overstatement of the number of crashes that involve a roadway condition.

## Recommendations

Based on the findings from this research, it is recommended that FDOT consider discontinuance of the use of the roadway conditions data element as a performance measure to improve motorist safety on the SHS. Instead, FDOT should attempt to find other method(s) as a performance indicator for measuring its safety performance regarding the SHS. However, if use of this data

element is continued, improvements should be made in the training of law enforcement officers statewide on the correct application and use of this particular data element. If accurately applied, this data element could be an excellent measure for gauging FDOT's performance with respect to motorist safety on the SHS.

For further information on this study, contact CUTR Senior Research Associate Michael Baltes, (813) 974-9843, [baltes@cutr.eng.usf.edu](mailto:baltes@cutr.eng.usf.edu).

Potentially Correctable Crashes (1998)			
Roadway Condition Factor	Correctable Crashes		Total
	Yes	No	
Miscoded reports	2	23	25
Obstruction with or without warning	2	58	60
Road under repair/construction	60	227	287
Loose surface materials	0	26	26
Shoulder soft/low/high	10	6	16
Holes/ruts/unsafe paved edges	14	7	21
Standing water	96	53	149
Worn/polished road surface	5	59	64
All other	15	65	80
<b>Total</b>	<b>204</b>	<b>524</b>	<b>728</b>

# “3-E” approach to improve pedestrian safety at crosswalks evaluated

The proliferation of motor vehicles has made walking quite dangerous for pedestrians. According to the National Highway Traffic Safety Administration (NHTSA) statistics, a pedestrian is killed every 101 minutes and another is injured every 8 minutes in the United States. Per mile traveled, pedestrians are 36 times more likely to die in a collision than drivers of motor vehicles (NHTSA, 1998).

In Florida, almost one out of every five fatalities involves a pedestrian. A recent Surface Transportation Policy Project report (2000) ranked the Tampa-St. Petersburg-Clearwater metropolitan area as the most dangerous place for people to walk.

## Improving pedestrian safety

Two of the largest cities in the Tampa-St. Petersburg-Clearwater metropolitan area are located in Pinellas County, Florida. Since 1995, the pedestrian fatality rate for Pinellas County has outpaced both the national and state averages. Because of these alarming statistics, the Florida Department of Transportation (FDOT) funded a research project aimed at improving pedestrian safety in St. Petersburg.

CUTR researchers implemented a multidisciplinary program that combined engineering, enforcement, and education components to increase motorists' willingness to yield to pe-

destrians at crosswalks. The research team included Dr. Louis Malenfant and Dr. Ron Van Houten from the Centre for Education and Research in Safety (CERS) in Canada, whose similar *Courtesy Promotes Safety* program achieved promising results in Canadian cities.



Since 1995, the pedestrian fatality rate for Pinellas County (Florida) has outpaced both the national and state averages.

The program consisted of three phases: community assessment, program implementation, and program evaluation. The program aimed to increase motorists yielding to pedestrians in crosswalks from single digits to 70 percent and reduce pedestrian-motor vehicle conflicts in crosswalks by 50 percent. Another program goal was to increase pedestrians' feelings of comfort and safety while crossing the street.

Researchers identified pedestrian safety issues, analyzed pedestrian crash records, assessed crosswalk conditions, and collected baseline

data. Baseline observations showed that, as expected, motorists yielding to pedestrians was much lower at unsignalized intersections than at signalized crosswalks, 3 percent versus 60 percent. The percentage of pedestrian-motor vehicle conflicts observed was 3 percent for both signalized and unsignalized crosswalks.

Engineering interventions included relocating advance stop lines, installing devices to give pedestrians a head start in crossing the street, and completely redesigning crosswalks at 9 signalized and 6 unsignalized intersections. Signs alerting drivers to yield to or stop for pedestrians and scanning eyes to prompt pedestrians to look both ways before crossing the street were located at certain crosswalks. Cross-

walks considered high risk for pedestrians received special improvements such as overhead signals to warn drivers of the presence of pedestrians, yellow flashing beacons, and special crosswalk markings.

## Awareness campaigns

Message boards displayed public safety messages and information on the percentage of motorists yielding to pedestrians at crosswalks to the community. Materials including a full color brochure, school lesson plan, bumper stickers, and posters were distributed to schools and senior centers throughout the county.

Radio and television spots and movie theater previews containing messages about pedestrian crossing safety aired locally.

Law enforcement agencies participated in two major campaigns to educate motorists about their obligation to yield to pedestrians. They handed out brochures, informational flyers, and bumper stickers and issued citations and warnings to motorists not yielding to pedestrians and to pedestrians not properly crossing the street.

### Study results

The results showed that, at crosswalks located at signalized intersections, yielding by motorists improved slightly, from 60 percent during the baseline period to 62 percent during the post-intervention period. Despite reaching yielding levels over 70 percent, most sites at signalized intersections did not experience

a sustained increase in motorists yielding behavior.



*Signs with scanning eyes prompt pedestrians to look both ways before crossing the street.*

As for unsignalized intersections, motorists yielding increased from 3 percent during the baseline period to 24 percent during the post-inter-

vention period, while the overall percentage of pedestrian-motor vehicle conflicts declined from 4 percent to 0.3 percent. Six out of the 9 signalized intersections and all of the unsignalized intersections reduced their percent conflicts by at least 50 percent or maintained a rate of 0 conflicts throughout the post-intervention period.

“The results, while not increasing the rate of motorists yielding as much as hoped for, are interesting,” said Theo Petritsch, the FDOT Project Manager. “They provide insight into the challenges of implementing a multidisciplinary program over a large urbanized city and give some recommendations on how the challenges can be overcome.”

For further information on this project, contact CUTR Safety Program Manager Patricia Turner at [turner@cutr.eng.usf.edu](mailto:turner@cutr.eng.usf.edu), (813) 974-3276.

## Spring transportation courses offered

Seven classes in transportation are being offered by the USF Department of Civil & Environmental Engineering in the Spring 2001 semester:

- “Transportation Engineering II,” TTE 4005, Tuesdays 6-9pm (Burriss)
- “Capstone Geotech/Transportation Design,” CEG 4850, Wednesdays 6-9pm (CE staff)
- “Transportation Project Evaluation,” CGN 6933, Mondays 6-9pm (Mierzejewski)
- “Traffic Flow Theory,” CGN 6933, Tuesdays, 6-9pm (Lu)
- “Transportation Safety,” TTE 6315, Wednesdays 6-9pm (Dissanayake)
- “Transportation Seminar,” TTE 6930, Fridays 3:30-5pm (Lu)
- “Computer Applications in Transportation,” CGN 6933, times TBA (Lu)

For further information, contact the USF Civil & Environmental Engineering office at (813) 974-2275.

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# Study shows school bus stopping violations still a serious problem in Florida

Since the original stop-arm violation study completed in February 1996 by CUTR, the Florida Department of Education (DOE) and its 67 school districts have been involved in various efforts to educate the motoring public about Florida's school bus stop law (*F.S. 316.172*) and the tragic consequences of committing stop-arm violations. Some of the methods used for education and awareness included the use of public service announcements (PSAs), brochures and pamphlets, and targeted law enforcement.

In addition, with assistance from the National Highway Traffic Safety Administration (NHTSA), the DOE initiated a toll free WATS line (1-888-STOP-4-Kids) for citizens to report motorists who pass school buses that are stopped to pick up or discharge students.

## "Typical school day" survey

The importance of continuing to reduce and ultimately eliminate the fatal and non-fatal injuries that needlessly occur to students at school bus stops during the load-

ing and unloading process is of paramount importance in Florida and elsewhere. At the request of the DOE, CUTR conducted a follow-up (to the 1996 study) "typical school day" survey, asking all 67 school districts to participate.



*In spite of increased awareness and enforcement activities, illegal passing of stopped school buses continues to occur.*

School bus drivers were asked to collect information about each stop-arm violation, including time of occurrence, number of students at the school bus stop, the violator's travel direction and location in relation to the bus, type of vehicle, type of roadway, whether the violation occurred in an urban or rural area, and whether the violation occurred on a paved or unpaved roadway surface.

As a result of this effort, stop-arm violations were recorded by all 55

of the participating school districts, representing 11,973 school buses.

## Findings

Analysis of the data recorded during the May 2000 field study indicates that, in spite of education

and awareness efforts, a serious problem still exists in Florida. The stop-arm violations that were noted indicate that the problem is potentially getting worse since more stop-arm violations were recorded during May 2000 than in May 1995.

During the latest study, 10,719 vehicles statewide were recorded committing stop-arm violations during a typical school day, compared to a total of 10,590 vehicles in May 1995, or 129 more during May 2000.

As in the 1995 study, one of the most disturbing findings was the number of motorists that committed stop-arm violations on the loading/unloading side—nearly 4 percent (385) of the violations occurred on the door side of the stopped school buses. Other sur-

vey analysis results from the May 2000 field study include:

- The majority of stop-arm violations occurred when the vehicle in violation was traveling in the opposite direction of the stopped school buses.
- The majority of stop-arm violations occurred on two-lane roadways.
- The majority of vehicles that committed stop-arm violations were passenger cars.
- The majority of passes occurred at school bus stops where one to five students were boarding or exiting.

The table shows a comparison of the school districts with the greatest change in the number of recorded stop-arm violations between the May 2000 and May 1995 field studies. As shown, Lee District Schools experienced the largest decrease in stop-arm violations (670 fewer), and Broward District Schools experienced the largest increase (289 more).

Also of interest from the findings is the change in the number of stop-arm violations per school bus operated in daily service. Based on the rankings derived from the May 2000 data, Monroe District Schools had the highest number of violations per school bus operated in service (2.28). By comparison, Lee District Schools, which achieved the top ranking in May 1995 with 2.26 violations per school bus, currently are ex-

**Comparison of Stop-Arm Violations between May 1995 and May 2000 for Selected School Districts**

School districts with a decrease in stop-arm violations	Change from May 1995	School districts with an increase in stop-arm violations	Change from May 1995
Lee	-670	Broward	+289
Palm Beach	-638	Orange	+249
Marion	-263	Pinellas	+210
Pasco	-80	Bay	+164
St. Johns	-38	Osceola	+136

periencing only about 0.70 stop-arm violations per school bus in daily service.

**Recommendations**

The study recommends that, once again, the existing law pertaining to the illegal passing of stopped school buses be reviewed and possibly amended to better reflect the current driving environment in Florida. Possible revisions could include:

- increased points assessed on driver licenses,
- increased monetary fines,
- a minimum period of license suspension,
- greatly enhanced penalties for repeat violations or those accidents involving serious injury or death to students,
- empowerment of school bus drivers or certain other witnesses (crossing guards, school bus attendants, or private motorists) to provide evidence sufficient for issuance of a citation or warning to registered vehicle owners,

- formation of and participation in existing Community Traffic Safety Team (CTST) committees,
- increased local law enforcement "enforcement blitzes,"
- the use of unmarked cars, motorcycles, unmarked decoy vehicles, non-traditional vehicles, and automated enforcement,
- expanded programs to promote awareness and education, and
- the implementation of public information and driver education programs on the school bus stop law during pre-license driver education classes, license reinstatement, driver license renewals, and initial driver training programs.

Finally, the study strongly recommends cooperative efforts among the Florida Commissioner of Education, the Legislature, and other relevant groups representing law

*continued on p. 12*

improving commercial vehicle operations. Many of them address safety and security issues, personal and freight mobility, environmental and energy issues, and system preservation. They are also fully multi-modal, addressing highways, public transportation, and freight issues. In many cases, there are direct correlations among the seven planning factors identified under TEA-21 and some of the ITS User Services .

An important use of ITS technologies is in the actual planning process itself, especially in the area of data collection activities. There have been recent demonstrations of the use of GPS technology to measure vehicle-operating speeds. Video-based technologies also have been employed to determine average vehicle speed, as well as to determine vehicle occupancies. Vehicle detection technologies are improving all the time. FDOT and local governments are making greater use of automated traffic data collection methods, including advanced inductive loop detectors, laser or infrared-based devices, and microwave sensor detection of vehicles. In Florida, the potential use of ITS technologies to facilitate hurricane evacuations is

very real. FDOT is also creating and enhancing its centralized data gathering capabilities to include both permanent count telemetry stations and video cameras throughout the state that can be accessed from key points of emergency management activities.

Mass Transit Account, even when the ITS component is part of a larger project. All ITS demonstration projects and earmarks are also applicable to the Interim Guidance.

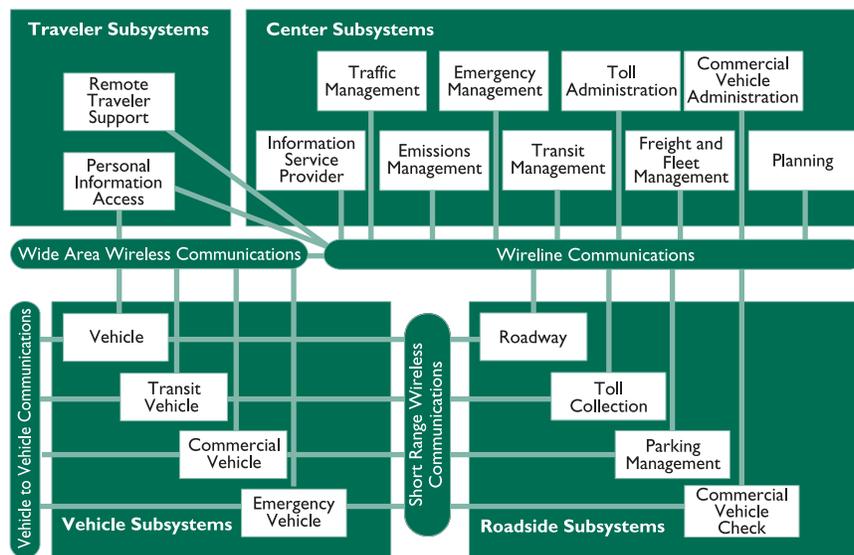
The Interim Guidance reflects input received from a broad array of Federal, State, local,

and private sector transportation stakeholders through a series of national forums. The simplest way to apply this guidance is through a series of questions that serve as a basic checklist for conformity. These questions serve as reminders of the key issues that must be addressed during ITS planning and project development. For example, when a regional ITS archi-

itecture has not yet been developed, as is the case for many metropolitan areas in Florida, the following questions as a minimum are to be addressed.

- Which components from the National ITS Architecture are applicable to the project?
- Does the project design indicate the extent of information exchanging between specific agencies?
- Has consideration been given to incorporating additional information flows, as appropriate to the project, in anticipation of future needs? If so, which flows?

### ITS National Architecture Subsystems



Source: *The National Architecture for ITS: A Framework for Integrated Transportation into the 21st Century*, USDOT - ITS America CD-ROM, 1998.

### Conformity to the National ITS Architecture

In October 1998, the Federal Highway Administration and Federal Transit Administration issued Interim Guidance related to conformity/consistency with the National ITS Architecture and emerging ITS standards. The intent is to foster ITS integration, encourage the incorporation of ITS into the transportation planning process, and focus on projects with the greatest potential for affecting regional integration. The Interim Guidance applies to ITS projects receiving funding from the Highway Trust Fund, including the

- What technology/operating agreements have been reached between the affected parties?
- How has the potential for future expansion/information sharing opportunities been kept flexible through the design process?
- Which existing design standards and communication procedures, as appropriate for the project, have been identified?

Additionally, under the Interim Guidance for Conformity, an overall approach for ITS consideration in transportation planning is suggested. This approach can be summarized as follows:

- Engage a broad range of stakeholders.
- Identify needs that can be addressed by ITS.
- Describe existing and planned ITS enhancements (ITS components added to conventional transportation improvements) of the physical system.
- Define a regional ITS architecture.
- Define operating requirements of the regional system.
- Coordinate ITS with all planned improvements.
- Develop a conceptual phasing schedule.
- Develop regional technology agreements and standards that assure all parts of one system work with all other systems.

- Identify ITS projects that are consistent with the regional goals and objectives adopted by the local transportation planning organizations.

### Getting Started

For the integration of ITS into the transportation planning process to be

***“The Florida ITS Planning Guidelines present a logical approach for the integration of ITS into Florida’s transportation and growth management processes.”***

Ysela Llort,  
FDOT State Transportation Planner

meaningful, beneficial, and permanent, transportation planners must be willing to fully commit to and engage in the following activities:

- Personally believe in the benefits of ITS integration and incorporate into regular job duties.
- Actively participate in meetings of the local ITS Sub-Committee of the MPO Technical Advisory Committee.
- Make ITS consensus-building presentations to other agencies, businesses, and community groups.
- Regularly communicate with elected officials and management to secure ITS commitments of cooperation, funding, and overall support.
- Work to develop partnerships with the private sector, where appropriate.

- Ensure that the project development process is consistent with the regional ITS architecture and that ITS-related projects or enhancements are assessed and compared in a consistent equitable manner.

- Promote continuing communication among participating agencies and private sector partners.

- Maintain credibility with elected officials and the public by keeping a “customer orientation” with the delivery of ITS projects.

- Keep a “problem-solution” emphasis with the application of ITS.

- Realize that ITS must work in coordination with other problem-solving approaches, not in competition with them.

“The Florida ITS Planning Guidelines present a logical approach for the integration of ITS into Florida’s transportation and growth management processes,” said Ysela Llort, FDOT State Transportation Planner. “They have been well-received at both the state and national levels and are timely in regards to the recently issued FHWA Notice of Proposed Rulemaking on Integration of ITS into the Planning Process.”

For additional information or to request a copy of *Florida’s ITS Planning Guidelines*, contact Mike Pietrzyk, ITS Program Director, at (813) 974-9815, [pietrzyk@cutr.eng.usf.edu](mailto:pietrzyk@cutr.eng.usf.edu).

# “CUTRcasts” expanding methods of web-based technology transfer

Given the advent of numerous advances in web-based delivery of training and conferences, CUTR is now expanding the scope of its information transfer and communication modes from publications, presentations, training, and seminars to state-of-the-art distance learning technologies such as web conferencing, PowerPoint broadcasting, and netcasting.

Distance learning is a broad term used to categorize many different modes of on-line communication, including teaching, conferencing, meeting, and collaboration. Distance learning technologies can be used for presentations or simple meetings, allowing live presentation and collaboration during meetings; participants can share information, brainstorm and problem solve real-time and on-line, all from their own office or home PC. Web conferencing, an advanced form of distance learning, can be utilized for real-time, on-line and just-in-time training and meetings, as well as delivery of pre-recorded sessions, eliminating the need for travel to a designated site to participate.

Typically, web-conferencing software does not have to be installed on a personal computer or network, so users don't have to worry about timely installations or hard drive space. Additionally, web conferencing technology allows for the recording of a session, allowing for viewing anytime, anywhere.

Most of the web-conferencing application technologies that CUTR is investigating operate on a Windows platform and are browser based, al-



*CUTR produced its first “CUTRcast” in September, featuring a panel of experts discussing the topic of alternative fuels.*

lowing for on-line, live web-conferences, scalable for up to several thousand simultaneous users. The software enables attendees to share and collaborate on documents, surveys, tests, evaluations, and demonstrations of other proprietary software applications. Reports can be generated that show who attended, when they logged in, and when they logged out. Additionally, web-conference sessions can be recorded and posted to the Internet for playback at any time.

Another medium that CUTR has researched is Microsoft PowerPoint Presentation Broadcast. This browser-based software, part of the MS Of-

fice 2000 suite, is a technology that allows for live or pre-recorded PowerPoint presentations integrated with video and easily combines slide presentation with the power of streaming media.

The most recent technology that CUTR has adopted is netcasting, which allows for on-demand audio and video. This mode uses Windows Media Player, which must be installed on a PC before viewing. The self-extracting, streaming, digital file automatically plays once the user clicks the link, allowing users to view a live or pre-recorded broadcast.

Recently, CUTR hosted its first netcast (dubbed “CUTRcast”) on the subject of alternative fuels. Experts from around the county were invited to come to CUTR to

give a presentation, to be recorded and broadcast on demand over the Internet. Participants included Evelyn Stirling of Cummins Engine Company; Dana Lowell of the New York City Department of Buses; and John Powell of the Electric Transit Vehicle Institute. The session is available on CUTR's website at [www.nctr.usf.edu/netcast/altfuels.htm](http://www.nctr.usf.edu/netcast/altfuels.htm). Future CUTRcasts are planned.

For further information on CUTR's distance learning and web-conferencing applications, contact Research Associate Amber Reep at (813) 974-9823, [reep@cutr.eng.usf.edu](mailto:reep@cutr.eng.usf.edu).

enforcement, planning, and school districts to develop and implement practical and effective countermeasures to reduce this serious problem.

“Parents should remain confident that putting their children on school buses continues to be the safest mode of transportation for school children,” said Tom Gallagher, Florida Commissioner of Education. “One issue we must all focus on is eliminating a growing hazard: motorists who pass school buses picking up or dropping off school children. This study by CUTR provides the proof that, every school day in Florida, more than 10,000 motorists pass stopped school buses. All drivers, including high school students who drive their own cars, must follow the law and help to eliminate this hazard. We should all exercise extra caution around school buses and the children who ride in them. A few extra seconds saved are not worth a child’s life.”

For further information on this study, contact CUTR Senior Research Associate Michael Baltes, (813) 974-9843, [baltes@cutr.eng.usf.edu](mailto:baltes@cutr.eng.usf.edu).

## CUTR welcomes new team members



**Robert Gregg** has joined CUTR as Director of Transit Management. Gregg previously worked at LYNX, the Central Florida Regional Transportation Authority, as Assistant Executive Director and has more than 23 years of experience in all aspects of public transportation. Gregg is a graduate of the University of Florida and of the Leadership Program of the American Public Transportation Association. He is active in the Florida Transit Association and local government associations.



**Ken Short** has joined CUTR as our Network Engineer. Ken holds MCSE and CNE certifications and previously worked as IT Manager at Tampa Armature Works. He holds a degree in Business Administration from the University of Connecticut.



Center for Urban Transportation Research  
College of Engineering, University of South Florida  
4202 E. Fowler Avenue, CUT 100  
Tampa, FL 33620-5375

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