New Regional Field Representatives

By Jenny Jones

Tom Copas and John Tidwell, our very capable and much respected field representatives for Regions 2 and 3 respectively, have decided to retire from TTAP. Tom has been with TTAP for the last 10 years. He says he’s still keeping himself busy with the Blacksmith Organization, and he is president for the American Paulownia Association. John has also been with TTAP for 10 years. John will be doing more leisure traveling after his retirement. We know we are going to miss them both terribly. We want to thank them both for the great job they have done in their regions.

“On the Road” started with Tom Copas interviewing the superintendents in the counties. This tradition will continue with our two new field representatives. We want to welcome aboard Harold Ralston for Region 2 and Darnell Hester for Region 3.

Harold Ralston graduated with a B.S. in math from Middle Tennessee State College. He joined the plans division of TDOT as an assistant road designer and held several titles from 1958 to 1970 and earned his engineering license. In 1977 he was chief designs engineer over one of the six sections of roadway design at headquarters when he transferred from plans division to rural roads division as assistant rural roads engineer over Regions 3 and 4. Harold has worked with the State Aid and Bridge Grant Program and developed plans for maintenance contracts. He retired from the Tennessee Department of Transportation on December 31, 1995.

Darnell Hester graduated from the University of Tennessee at Nashville and received a B.S. in natural sciences in 1973. He was with the Division of Materials and Tests in the Tennessee Department of Transportation as a lab technician in the asphalt design lab. Darnell retired from TDOT in 1997.

Our regional field representatives are there to assist you. Feel free to call upon them in you have any questions.

Goodbye and Welcome

By Jenny Jones

By the time this hits your desk, Jason Crouch will already be settling into his new job with Site Inc. Good luck Jason. We will miss you. In his place, we would like to welcome two new research assistants, Lawrence Perry and Solomon Caviness, to work on our technical assistance.

Lawrence Perry graduated from the University of Tennessee in 1996 with a bachelor’s degree in civil and environmental engineering, after which he joined the Tennessee Department of Transportation (TDOT) in Nashville. He was in structures, helping to design bridges. He is now on a full time education leave, working on his master’s in transportation engineering. He hopes to finish his degree in a year and a half and will then rejoin TDOT.

Solomon Caviness is a second year graduate student at the University of Tennessee. In 1998, he received his bachelor’s degree in civil engineering at North Carolina Agricultural and Technical State University in Greensboro. He is currently working on his master degree’s in civil engineering with concentrations in transportation and construction engineering. He has worked with Georgia DOT and the Army Corps of Engineers. He has just completed an internship with the City of Knoxville’s Traffic Engineering office improving traffic operations throughout Knoxville.

Both Lawrence and Solomon are looking forward to providing any

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In This Issue

GIS Tools Improve Pedestrian and Bicycle Safety. p. 5
There have been some personnel changes here at TTAP since the last RoadTalk. We are sorry to have to say goodbye to Jason Crouch, our technical assistance research assistant. In his place, we have two new research assistants: Lawrence Perry and Solomon Caviness. Please read Jenny’s article on page one on the recent changes. We must also say goodbye and thank you to two of our regional field representatives, Tom Copas and John Tidwell, who have announced their retirement from TTAP. An article on page one welcomes the two new field representatives, Harold Ralston for Region 2 and Darnell Hester for Region 3.

Do you want to know if your city or county is eligible for the Governor’s Highway Safety Program’s Regulatory and Warning Sign grant which is available through TDOT? Christi’s article on page six will give you more information on how to apply.

We have had to cancel the Utility Accommodation Manual workshop because the utility rules and regulations have not been approved.

We have put our research assistants to work summarizing two articles that we think might be of interest to you. One is on the Entryway Roundabout on page three and the other is titled “Manuals of Practice: Receipts for Longer Lasting Pavement Repairs” on page five.

The “On the Road” column with our regional representative will resume next issue.

You should have received the 2001 Video Catalog in the mail. If you did not receive a copy, please call us and we will send one to you.

We are continuing our busy fall season of courses. We are also working on our 2001 workshop catalog. If there are any new courses you would like us to provide, please let us know.

Zach Zacharia
Clearwater’s Beach Entryway Roundabout: A Bold Solution and Invitation

By Gib Peaslee, Florida T2/LTAP Center

Recently while traveling an eastern interstate highway at 2 a.m., I was confounded by the amount of traffic zipping along at that hour. I had always planned long automobile trips around the relative driving ease late night travel provided. A year ago, traveling this same route, I sensed an increase in traffic. This volume increase in only one year was unnerving. Have you noticed? Whether commuting to work or just weekend grocery shopping, congestion is becoming the norm. Vehicles inching along, now even on interstate highways, have created a new threat to the traveling public—the aggressive driver. Imagine the frustration of already harried business travelers and vacationers attempting to get to resorts, customer appointments, airports, and theme parks. Wow!

As urban congestion moves steadily toward complete gridlock, transportation planners, designers, engineers, and public officials—who often bear the brunt of the motoring public’s frustration—are burdened by community pressure to find solutions. It is obvious that congestion factors can only be mitigated if public officials and transportation professionals are willing to move beyond outdated solutions. This very often can be a slow process. Planners, designers, engineers, and public officials expose professional reputations whenever they seek solution beyond tried and true professional norms.

What can be done? Much can be learned from the strong leadership and new thinking incorporated by the City of Clearwater, Florida, to mitigate a major congestion situation. The Entryway Roundabout Project is the first and most visible phase of the city’s energetic “One City. One Future” economic redevelopment plan, with other major aspects yet to come.

Clearwater Beach is a north-south oriented island separated from downtown Clearwater by the intracoastal waterway. The east-west oriented Memorial Causeway carries traffic from the mainland to a “T” connection with the north-south street network of the island.

This original configuration consisted of nine intersections (three signalized) handling a traffic volume that fluctuated seasonally between 30,000 to 42,000 vehicles per day—well beyond efficient capacity. With Clearwater’s annual influx of tourist and recreational visitors now exceeding 1.4 million, officials realized that if they expected to maintain their position as a first class vacation destination, changes must be made.

While much of America has used a less complex means of addressing residential traffic calming issues, Clearwater raised the bar by using the roundabout to solve a major urban congestion situation and they brought it all together in one year!

Florida’s T2/LTAP Center recently invited professionals to take part in the Clearwater Roundabout Case Study at the Hilton Clearwater Beach Resort. The case study covered

- how planners, designers, engineers, and public officials teamed to make the roundabout possible.
- the decision matrix used to determine Clearwater’s best congestion mitigation option.
- each factor considered in creating a balancing design for pedestrians and vehicle capacity and level of service (LOS).
- how to incorporate safety elements for each user category (children, elderly, impaired, etc.).
- how the roundabout reduced vehicle/vehicle conflict points by about 75 percent.
- traffic calming measures employed to slow motorized traffic and create a pedestrian-friendly environment in support of the surrounding business environment.
- why the central island fountain is considered a traffic calming measure.
- why a circulating lane slope to the outside was employed to control vehicle speed. (One month after opening, vehicle speeds were running 9-16 mph)
- how slow speeds, benches, water fountains, a 15-foot landscaped buffer between sidewalk and roadway, and textural crosswalks combine to deliver a desirable and safe pedestrian environment.
- how pedestrian/vehicle conflicts and crash severity have been reduced.
- the emission reductions of almost 50 percent in the peak period and almost 67 per cent in off peak periods.

These and other planning, design, and engineering considerations will be presented in detail by Clearwater’s planning and design engineers and the consultants and contractors involved.

Originally published in Florida Technology Transfer Quarterly, Volume 15, Number 3, August 2000.
FHWA’s Pavement Preservation Program:
State of the Practice

By Solomon Caviness

Highway agencies across the nation are looking towards preservation strategies designed to protect the highway infrastructure investment. Pavement preservation strategies have helped states meet the challenge of growing traffic demands, good ride quality, and unimpeded traffic flow. These strategies are the most cost-effective and efficient means to maintain serviceable roadways; however, the greatest benefit these strategies offer is improved overall performance. This is measured by such attributes as ride quality, safety, and extended service life. These preservation strategies improve mobility, reduce traffic disruptions, and provide safer, smoother, long lasting pavements.

The Federal Highway Administration has sponsored a pavement preservation program with strategies designed to promote future maintenance of the highway system. In cooperation with the U.S. Department of Transportation and the Foundation for Pavement Preservation, the FHWA has published a CD-ROM entitled “Pavement Preservation: State of the Practice, July 2000.” The CD contains information necessary to successfully initiate a pavement program. Implementation requires an agency to tailor a program that addresses their specific needs. The best approach to implementation is by review and adoption of successful practices of other highway agencies. The CD presents program guidelines and technical information for pavement preservation programs from transportation agencies in California, Michigan, Minnesota, and Ohio. It includes decision-making criteria and technical specifications for using the full range of preventive maintenance techniques, as well as information on the costs, benefits, and effectiveness of a variety of innovative preservation strategies.

Increasingly, state transportation agencies are finding it cost-effective to preserve roadways and delay the need for costly, time-consuming rehabilitation and reconstruction projects through preventive maintenance technology. Preservation helps states meet the challenge of growing traffic demands, good ride quality, and unimpeded traffic flow. It gives agencies an opportunity to improve on customer satisfaction by focussing on the customer while improving network’s surface conditions and maintaining the overall integrity of the system.

The CD-ROM entitled “Pavement Preservation: State of the Practice, July 2000” is available to the public. For more information regarding this program please feel free to contact TTAP at 1-800-252-ROAD.

Welcome, continued from page 1

assistance you may require on your projects.

We also want to welcome Christi Duncan and Linda Capps to TTAP. Christi is a native of Knoxville. She has two wonderful boys, Zip and Ouzo, whom she loves dearly. She graduated with a bachelor’s degree in Liberal Arts from the University of Tennessee. She was previously employed with the City of Knoxville. She is a certified signs and marking technician and is continuing her training with TTAP, which enables her to share more knowledge with our clients. Christi performs the inventories for the Governor’s Highway Safety Sign Grant Program, and assists in coordinating technical assistance for TTAP, and handles video orders from the TTAP video library. We love her almost as much as she loves her “boys” and look forward to her contribution to our program. (See Christi’s article on how you can take advantage of the Governor’s Highway Safety Program grant on page 6.)

Linda Capps has been with the University of Tennessee for about 10 years but is new to TTAP. She is originally from Atlanta, Georgia, but considers herself a native of East Tennessee. In her spare time she enjoys hiking and camping. She is also a true volunteer, sharing her time with the Great Smokey Mountains National Park Service Adopt a Trail Program. Every other Saturday she cleans and clears the trail at Laurel Falls. At TTAP she assists Frank Brewer, the training coordinator, with course materials, maintains a current database of workshop participants, and processes their course evaluations.

We hope that you will call on any of our staff members if you have any questions regarding our program.
GIS Tools Improve Pedestrian and Bicycle Safety

The Federal Highway Administration has funded a program for improving pedestrian and bicycle safety using GIS tools. Developed by the North Carolina Center for Geographic Information and Analysis (CGIA) in cooperation with the North Carolina DOT and Wake County Public School System, this GIS software turns statistical and geographic data into meaningful information for analysis and mapping. The project has been applied to pedestrian and bicycle safety issues including safe routes for walking to school, selection of streets for bicycle routes, and high pedestrian crash zones. These issues were addressed in developing tools for analysis of problem areas for pedestrians and bicycles.

Three tools were developed for use by planners and engineers in looking for ways to reduce the number of crashes involving pedestrians and bicycles. These safety analysis tools address safe routes to school, bicycle-compatible routes, and high pedestrian crash zones.

The Safe Routes to School tool generates a walking route and associated directions for:
- the shortest route to school.
- the safest route based on hazards associated with various road and traffic elements.
- the user preferred route.

The Bicycle-Compatibility Routes tool provides two output options:
- a Bicycle Compatibility Index (BCI) based on ratings by more than 200 bicyclist.

- a color coded map of BCI of streets in a study area which can assist bicycle coordinators, planners, traffic engineers, and others in identifying facilities that may need improvements.

The High Pedestrian Crash Zones tool uses grid and map algebra to generate a contour map identifying areas of high crash occurrences.

Many of the data items needed for analysis (sidewalks, curb-lane widths, crosswalk locations, etc.) must be collected by the user because they may not be found in most state and local transportation agencies' inventory files.

A CD-ROM will be available in late 2000 to demonstrate the three safety analysis tools for pedestrian and bicycle applications. The CD-ROM will explain how GIS can be used to improve pedestrian and bicycle safety, demonstrate the safety analysis tools using real-world data, and give software code that users can apply to fit their particular needs.

For more information about this effort or to obtain a copy of the demonstration CD-ROM, contact:

Davey Warren, FHWA
(202) 493-3318
davey.warren@fhwa.dot.gov
or
Tim Johnson, Center for Geographic Information and Analysis
(919) 733-2090
tim@cgia.state.nc.us

An excerpt from...

Manuals of Practice: Recipes for Longer Lasting Pavement Repairs

In 1993, the Strategic Highway Research Program (SHRP) published a two-volume set off manuals in order to help highway agencies and contractors repair asphalt and Portland Cement concrete pavements. To come up with the procedures for the manuals, SHRP researched all of the literature they could find on repair, conducted a nationwide survey of highway agencies, and managed an eighteen-month study of various repair types at 22 test locations in the United States and Canada.

After SHRP completed the manuals, they chose to discontinue their eighteen-month study. That is when the Federal Highway Administration (FHWA) determined that further monitoring of the 22 test sites could reveal some valuable information for their long-term pavement performance (LTPP) program. After five more years of FHWA study, it was determined that the SHRP manuals were correct. Charlie Churilla, head of the FHWA’s LTPP, said, “What we found is that the practices recommended in the original SHRP manuals of practices are good practices. The repairs at the test sites have held up well, validating the materials, equipment, and procedures specified in the manuals.” During this five-year study, ERES consultants, who also worked in SHRP’s earlier study, performed periodic field assessments. Tom Wilson, who is with ERES, said, “We learned that all of the materials and procedures recommended by SHRP worked well, which is not surprising because we recommended only those materials and procedures that had the best chance of

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Education and training opportunities are available through the University of Tennessee Center for Transportation Research (CTR), Southeast Transportation Centers (STC), and Tennessee Transportation Assistance Program (TTAP). This listing of courses currently available includes both TTAP and TATE courses that are offered in conjunction with the University of Tennessee Department of Civil and Environmental Engineering and the Tennessee Section of the Institute of Transportation Engineers. Local roadway departments can benefit from all of the workshops. Because of this, we ask that you please share this listing with others who might be interested in our workshops. The Center for Transportation Research is always eager to meet your research and training needs. If you have a special course in mind or would like a course held on site especially for your employees, please contact Jean Spangler at (800) 252-ROAD.

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<tr>
<th>Course Title</th>
<th>Date</th>
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<td>Chattanooga</td>
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<td>Work Zone</td>
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<td>Roadside Design Guide</td>
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*CEU and PDH credit hours available.

$10,000 Regulatory and Warning Sign Grant

By Christi Duncan

Many eligible Tennessee cities and counties have taken advantage of the Governor's Highway Safety Program regulatory and warning sign grant, available through the Tennessee Department of Transportation (TDOT). The sign grant program helps to improve safety by ensuring that signs meet federal standards. In the last year, the Tennessee Transportation Assistance Program (TTAP) inventoried 12 cities and five counties who all may receive up to $10,000 from TDOT.

The cities inventoried are Copperhill, Kingston Springs, Norris, Pleasant Hill, Livingston, Louisville, Monteagle, South Carthage, Trimble, Waiden, Tracy City, and Niota. The counties inventoried are Carroll, Cocke, Hickman, Johnson, and Sequatchie.

What makes a city or county eligible for a grant?
- Having a population less than 5000 (city) or 30,000 (county)
- Being in compliance with the National Bridge Inspection Standards
- Having not participated in the program since 1993

What are the steps for getting into the program?
- The city or county applies by contacting Jerry Roache at TDOT (615-253-2427)
- If eligible, the applicant's name is put on a list (in order of application)
- TTAP inventories the city's or county's regulatory and warning signs and sends the information to TDOT
- TDOT contacts the city or county to discuss application and the sign grant in detail

What does the grant cover?
The grant is for high intensity regulatory and warning signs, object markers, and school signs located on local streets. It covers the cost for signs, posts, and related hardware. The city or county is responsible for labor and equipment costs.

How much is awarded?
The grant is for no more than $10,000 and is federally funded. It is awarded on a first come first served basis. If there are more applications than available funds, the remaining applicants are funded first the following fiscal year.

Any questions about the regulatory and warning sign grant?
Contact Jerry Roache at TDOT, (615) 253-2427.
Good Housekeeping Pays

Good housekeeping is as much a part of safety as proper clothing and equipment maintenance. Good housekeeping is important not only because of OSHA regulations, but also because it is good common sense. You may know what to watch out for, where to step, where to put things down, where not to put your hands, what to move first, etc., but does the next person?

Aside from the fact that good housekeeping makes for a better appearance of the work area, it makes a safer and more efficient place to work. This applies to both the shop and the field.

Tools and equipment left lying around can cause trips and falls. Grease or oil spills that aren’t properly cleaned up can cause slips and falls. Chemical spills that aren’t cleaned up or chemical leaks that are not corrected can lead to chemical exposure or chemical reactions. Wood or other scrap material left underfoot can cause trips and falls. Scrap metal or nails left lying in the walking area can cause trips or wounds. Any of these accidents can lead to pain, suffering, and lost time.

In order to avoid mishaps, pick up and put away hand tools, hoses, shovels, brooms, etc. Picking up is particularly important if you are working on a catwalk or around an excavation. Equipment knocked on the working floor or into an excavation can become a hazard just lying there or can cause injury when falling. Do you have a tool room or a special place for equipment? If so put the equipment there. Not only are tools safer there but you and everyone else will be able to find them later.

Chemicals, solvents, and other liquids need to be kept in their proper and properly labeled containers. Labels on the containers need to be kept readable. Additionally, make sure that emergency treatment procedure sheets are nearby and the treatment equipment is working properly.

Every employee is responsible for good housekeeping. Safety is a concern that affects everyone in the field and in the shop.

Originally printed in Rhode Island Links & Nodes, Summer 2000.

National LTAP Conference Offers New Ideas

The 2000 National LTAP Conference was held in Boise, Idaho, July 29 through August 2. The theme was “Bridging the Millennium with New Ideas.” Participants came from countries all over the world, including Estonia, Finland, Lithuania, South Africa, and Canada. Representatives from LTAP included Zach Zacharia, Frank Brewer, Christi Duncan, and Jenny Jones. Ralph Comer, director of the planning division, ably represented the Tennessee Department of Transportation. Christie, who was attending LTAP for the first time, had to miss the pre-conference workshop (LTAP 101) due to a flight delay.

The conference started with a warm welcome from the president of the University of Idaho, Dr. Robert Hoover. Dr. Terry Armstrong gave a plenary speech titled “Brain Power: How to have Fun Learning.” His presentation was so fascinating and interesting that the time just flew by; we can say we had fun learning from him too.

Conference participants were again tracked into managerial, administrative, or technical sessions. All the sessions were well received. Christie reported that the conference “was a learning experience for a first time attendee.” She attended the technical sessions on traffic calming and older driver highway design which she said were “very helpful.” Christie observed that an “important part of attending the conference was meeting people from other centers and sharing information about their programs.” “The conference was an excellent learning and idea sharing experience,” she said.

We would like to thank the Idaho LTAP Center for hosting such a successful conference. The 2001 National LTAP Conference will be in St. Petersburg, Florida, from July 29 to August 4. It will be held in conjunction with the International Symposium on Transportation Technology Transfer. A complete program will be released in January 2001.
succeeding." This five-year study also showed that you do not necessarily have to have the most expensive materials to do top quality repairs. For example, Pennsylvania’s DOT’s specification for pothole patching holds up well, and costs less than half of many proprietary products.

FHWA has updated the original SHRP reports with their findings, and now has a series of four manuals of practice:

- Materials and Procedures for Sealing and Filling Cracks in Asphalt-Surfaced Pavements (Publication No. PB2000103413)
- Materials and Procedures for Repair of Potholes in Asphalt-Surfaced Pavements (Publication No. PB2000103415)
- Materials and Procedures for Repair of Joint Seals in Portland Cement Concrete Pavements (Publication No. PB2000103412)
- Materials and Procedures for Rapid Repair of Partial-Depth Spalls in Concrete Pavements (Publication No. PB2000103414)

Each manual includes discussion of appropriate time to apply particular treatment, what types of materials and construction methods should be used, how to evaluate performance and cost effectiveness of repair procedures, step-by-step procedures for high-quality repair, and sources for materials and equipment. The manuals are available at www.tfhrc.gov/pavement/ltpp/reports.html. They also be bought by calling the National Technical Information Service at (703) 605-6000, toll free at (800) 553-6847, or visit them on the Web at www.ntis.gov. The original SHRP manuals are still available from the Transportation Research Board’s bookstore at (202) 334-3213 or visit them on the Web at www.nas.edu/trb/bookstore. For more information contact Bill Bellinger by calling (202) 493-3156 or e-mail him at william.bellinger@fhwa.dot.gov.

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