

**RSPA**  
**SEMI-ANNUAL REPORT**  
January 1 – June 30, 2002  
(TEA – 21)

For the  
**UNIVERSITY TRANSPORTATION CENTER FOR ALABAMA**

A University Transportation Center  
Reporting to

The Research and Special Programs Administration  
US Department of Transportation

July 31, 2002

Daniel S. Turner, Executive Director  
Jay U. Sterling, Associate Executive Director, UA  
Fouad Fouad, Associate Executive Director, UAB  
V.J. Gopu, Associate Director, UAH

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2002 RSPA Semi-Annual Report  
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**A. SUCCESS STORIES**

**INTRODUCTION BY EXECUTIVE DIRECTOR**

The University Transportation Center for Alabama (UTCA) is now three years old.

UTCA is a joint effort of the three campuses of The University of Alabama System: The University of Alabama (UA) located in Tuscaloosa, The University of Alabama at Birmingham (UAB), and The University of Alabama in Huntsville (UAH). It is the only research center that operates interactively between the three campuses, and its success is retold countless times on each campus. In only three years it has become the ROLE MODEL for future centers.

It was easy to pick success stories for this report. There are many of them, because many individuals are receiving help in the form of career development, research funding, scholarships and assistantships, and personal attention.

We (the Executive Committee) continues to expresses its deep appreciation to the faculty members, staff members, and students who work to conduct the education, research, and technology transfer programs of UTCA. At the same time, we optimistically welcome others to join in the effort to make next year our best yet!

## 1. HUMAN DEVELOPMENT SUCCESS STORY

An undergraduate student majoring in transportation blossomed into a role model and leader during the first half of 2002. Walter T. Anderson, a minority student, had been accepted into graduate school to study towards an MS specializing in transportation. During his last undergraduate semester, he was taking both undergraduate and graduate courses.

UTCA project 02113 had begun, a summer institute for minority high school students, co-hosted by the Alabama Department of Transportation (ALDOT) at its headquarters complex in Montgomery, Alabama. Unfortunately, the principal investigator for this project accepted employment outside the University, leaving no leader for the project. Walter was asked to step forward and temporarily lead the project.

He was the lead person in planning the institute, coordinating with the co-host and co-sponsors, and establishing contact with students who were identified to participate in the program. This was a huge jump, from being an undergraduate to becoming the primary contact point for a new summer institute being conducted 100 miles away.

Walter took control of the project. The curriculum that he planned and coordinated with ALDOT worked wonderfully. Guest speakers, ALDOT employees, minority and women role models who interacted with students, co-sponsors like the Alabama Road Builders Association, and others were extremely satisfied with the week.

Once an individual was identified to attend the institute, Walter telephoned the student and the parents (in the late afternoon or evening) to discuss the institute and to determine the student's goals and needs. Next, he mailed instructional letters and maps to the students, and gathered feedback about food preferences, T-shirt sizes and other key information. Walter continued this level of personal interaction during the institute, investing large amounts of time each student in the classroom, on field trips, during labs, and at the institute hotel.



Walter in the classroom

The resounding success of the initial institute is clearly because of the extraordinary leadership that one young man assumed and fully discharged. Welcome to the transportation profession Walter, you are going to enjoy your career as a transportation leader.

Contact: Ms. Joy Curry  
University Transportation Center for Alabama  
(205) 348-9925  
(205) 348-6862 fax  
utca@coe.eng.ua.edu

## 2. HUMAN RESOURCE DEVELOPMENT SUCCESS STORY

During its initial three years, UTCA attempted to recruit undergraduate students primarily through scholarships. This was not as successful as desired, because of intense competition to attract minority and women students into all professions in the University's environment. In the fall of 2001, the UTCA Executive Committee decided to shift recruiting strategy and to feature summer programs for high school students. The idea was to offer them a glimpse of a rewarding career in transportation. During 2002, three special programs were conducted – one during the academic year and two in the summer.

UTCA Project 02290 Dr. Steven Jones of UAB is conducting the “High School Transportation Education Program” project. Students are assisting him in developing a web page to use in recruiting, to lay out the exciting career options in transportation, and as a text book for teaching high school students.

The UTCA project is a companion of an ALDOT-funded project that sends Dr. Jones into minority-based Birmingham high schools to conduct weekly transportation engineering lab sessions. These two projects are offering career choices to the students at the same time that they are building a future advocacy group that believes in and supports good transportation programs.

UTCA Project 02301 Dr. Kate Leonard of UAH is conducting her “Gearing up for Transportation Engineering Institute” for the third consecutively year. Her program solicits female and minority middle school students from north Alabama. She uses university students as mentors, and concentrates on interesting, hands-on activities for the students. This encourages them to learn “how to find out” answers to transportation challenges, which will carry over as a decision tool to guide them through life's experiences. She has had excellent results from her first two institutes and the 2002 version should receive similar acceptance by the students.

UTCA Project 22113 The University of Alabama jointly hosted a summer institute with the Alabama Department of Transportation and two industrial co-sponsors (the Alabama Road Builders Association and the Alabama Asphalt Pavers Association). Minority and women students from Central Alabama were brought together at the ALDOT headquarters complex. Students visited ALDOT laboratories and offices, heard ALDOT employees explain why they enjoyed their jobs and how they were helping Alabama, and learned about transportation careers.

As a result of these three programs, *over 100 middle school and high school students in Alabama received intensive introductions* to transportation careers, including individual attention and hands on-experience. Evaluations held at the end of these programs indicated that large percentages of the attendees are considering transportation as a desirable career field.

Contact: Ms. Joy Curry  
University Transportation Center for Alabama  
(205) 348-9925  
(205) 348-6862 fax  
[utca@coe.eng.ua.edu](mailto:utca@coe.eng.ua.edu)

### 3. RESEARCH SUCCESS STORY – BRIDGE EXPERTISE

UTCA is slowly assembling a network of interested faculty members, and is developing a minor emphasis area dealing with bridges. There are over 5,500 bridge structures in Alabama; many of them are aged and need replacement or major rehabilitation. The largest proportion of these structures belongs to county governments, which do not have sufficient resources to surmount this problem. UTCA is helping to address this challenge by developing enhanced management tools, identifying better materials, preparing training materials, and other methods. The table shown below summarizes the types of activities undertaken so far, as faculty members have conducted three to four bridge projects per year using both UTCA and external funding.

**UTCA Bridge Project Summary**

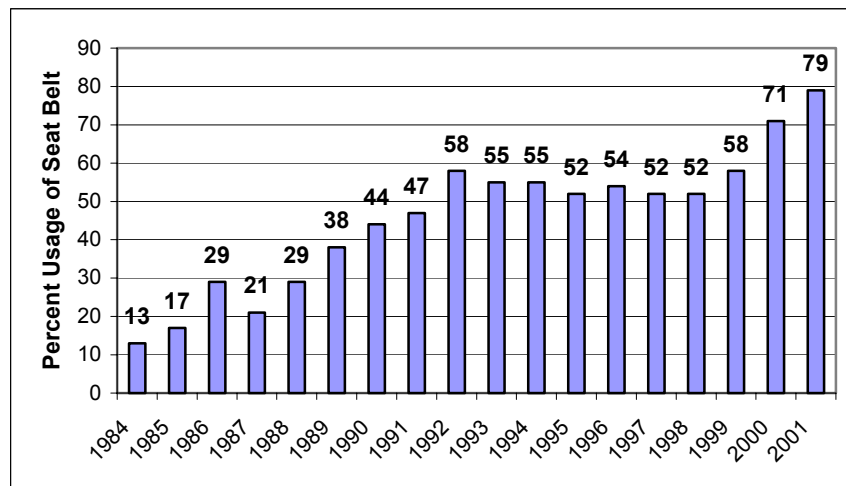
<i>Project</i>	<i>Faculty, Campus</i>	<i>Project Title and Short Description</i>
<b>Projects Involving County Bridges</b>		
99101	Mike Triche, UA	<i>County Bridge Replacement Guide, Phase 1</i> – Developing procedures for evaluating and prioritizing existing bridges for treatment.
00117	Mike Triche, UA	<i>County Bridge Replacement Guide, Phase 2</i> – Continuation of Phase 1.
00219	Jim Davidson, UAB	<i>Local Bridge Replacement Prioritization</i> – For structures less than 20' long, developing procedures for collecting, storing and using data for bridge management decisions.
02306	VJ Gopu, UAH	<i>Standardized Bridge Systems</i> – Developing standardized bridge plans to improve efficiency and decrease costs of construction.
<b>Bridge Inspection, Monitoring, and Rating</b>		
01114	Andy Graettinger, UA	<i>Foundation Evaluation with Micro Intrusive Testing</i> – Evaluating micro drilling tools (oil field type) as a way to gather data about unknown footing conditions (i.e., old bridges)
02403	Andy Graettinger, UA	<i>Bridge Database and Data Retrieval</i> – Investigating ways to gather and convert paper records for old, old bridges to an electronic database, at minimum cost.
01327	Houssam Toutanji, UAH	<i>New Procedure for Bridge Deck Evaluation</i> – Investigation of ways to test decks of existing bridges for voids and defects, using NDT devices.
02304	Mike Lin, UAH	<i>ETDR for Bridge Strain Monitoring</i> – Examining methods to gather crucial bridge data on a continuous basis, and to transmit it wirelessly to a central facility for analysis.
01221	Shen-En Chen, UAB	<i>Procedure for Dynamic Bridge Rating</i> – Utilizing incited vibrations to establish wave patterns that can be interpreted to predict bridge capacity during the load rating process.
<b>Bridge Design, Repair, and Materials</b>		
00305	Houssam Toutanji, UAH	<i>Cementitious Materials for Bridge Decks</i> – Investigating materials to resist deck cracking, improve resistance to freeze-thaw effects, and last longer .
01223	Jim Davidson, UAB	<i>Design of Modern Curved Bridges</i> – Summarizing traditional design techniques and extending them to embrace modern analytical tools, design forms, and construction techniques.
01332	VJ Gopu, UAH	<i>Multimedia Resource for Bridge Design Engineers</i> – Producing a web-based tool to introduce new designers to design philosophies, techniques, tools and documents.
00231	Shen-En Chen, UAB	<i>Structural Reliability Short Course</i> – Introducing reliability-based concepts in a hands-on setting that serves both students and practitioners.
00203	Houssam Toutanji, UAH	<i>Structural Damage Resource Materials</i> – Developing concise reference materials (web based) that maintenance and design personnel can use to handle difficult concrete structural repairs.

Contact: Ms. Joy Curry  
 University Transportation Center for Alabama  
 (205) 348-9925  
 (205) 348-6862 fax  
 utca@coe.eng.ua.edu

#### 4. SUCCESS – SAVING LIVES

The UTCA theme emphasizes safety. During the first 3.5 years of operation of the Center, about 40 projects have been completed or are now underway in the safety area. This includes projects funded by with both UTCA monies and external monies.

Over the last two years, UTCA has become a leader in promoting seatbelt use to enhance roadway safety by serving as Executive Secretary of a volunteer task force, and by conducting two large public awareness campaigns. A very pleasant result was a sharp increase in belt use (as reflected in the following figure) following adoption of a “primary” offense seat belt law. The combination of the new law and the intensive public awareness campaigns led to a 13 percentage point jump in belt use rate in 2000. The trend continued in 2001, as public awareness programs pushed belt use to 79%, an all time high.



Historical seat belt use in Alabama.

The news gets even better. In 1999 UTCA researchers predicted that seven Alabama lives would be saved for every one percent increase in seat belt use. The gain of 13% between 1999 and 2000 should have resulted in a reduction of 91 fatalities for the state. The actual record was even better than predicted – seat belt programs were the primary reason that total crash fatalities dropped by 162 in 2000! In other words, *increased seatbelt use immediately saved 162 lives.*

While UTCA is certainly not the only organization to contribute to this spectacular achievement, it has been a primary player in the effort, and we are proud of our role.

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## 5. TECHNOLOGY TRANSFER SUCCESS STORY

UTCA has conducted the largest technology transfer program in its brief history during the first half of 2002. Two projects were acquired by Dr. John McFadden of UA to teach traffic engineering and traffic operations principles to the employees of the Alabama Department of Transportation. These involved the *2000 Highway Capacity Manual* and the *Millennium Edition of the Manual on Uniform Traffic Control Devices (MUTCD)*. Dr. McFadden and graduate research assistants at the UA campus prepared comprehensive training materials for the courses.

The courses were taught in four locations across the state, at ALDOT regional offices in Mobile, Montgomery, Birmingham, and Guntersville. Each course was offered six times for a total of 12 sessions, with a total attendance of 455 employees.

UTCA was fortunate to engage two highly qualified instructors. The MUTCD course was taught by Mr. Robert Canfield, a traffic engineer from Baton Rouge, Louisiana. In addition to many years of practice in the field of traffic control devices, Mr. Canfield was a member of the committee responsible for preparation of the *Millennium Edition of the MUTCD*. The second course was taught by Dr. Steven Jones of UAB, who has intensive consulting experience in traffic operations, utilization of capacity techniques, and traffic signalization. Both courses were received extremely well by the course participants and preparation of additional training courses is anticipated in the near future.

As a result of the high attendance of the two courses and the comments of participants, UTCA anticipates conducting additional training for ALDOT on these two topics. The new training will be at advanced-level for both of these topics, offered in late 2002 or early 2003.

Contact: Ms. Joy Curry  
University Transportation Center for Alabama  
(205) 348-9925  
(205) 348-6862 fax  
utca@coe.eng.ua.edu



## 6. SUCCESS – SUPPORT OF METROPOLITAN PLANNING ORGANIZATIONS

UTCA has developed a cooperative relationship with metropolitan planning organizations in this state. In addition to teaching new courses in transportation planning, several faculty members have been directly engaged in research and technology transfer in support of MPOs.

Transportation Modeling Dr. Michael Anderson of UAH has been an early “star” in developing products for MPOs. Three of his efforts have addressed the transportation modeling process, data used for the process, and interpretation of the results. These are:

- Project 99328 - Transplan and GIS Support
- Project 01328 – Trip Generation and Travel Rate Indices
- Project 01330 - Modeling Support and the TELUS Database

In addition to conducting these projects, Dr. Anderson has conducted many training seminars and short courses for transportation planners across the state. He is in demand, and is scheduled as a speaker at virtually every meeting of the Alabama Transportation Planners Association.

Regional Planning and CMAQ Issues Dr. Derek Williamson of UA has become a major player in congestion mitigation and air quality issues in the state. His initial work was UTCA project 00108, “Air Quality Aspects of Traffic Management,” conducted for the Regional Planning Commission of Greater Birmingham (RPCGB). This basic project identified key issues and developed public relations tools to address these issues. One of the products of this project was a website that could be used by the press and the general public to obtain quick facts and background information about transportation impacts on air quality.

As a result of his initial work, the Alabama DOT engaged him to conduct UTCA project 00466, “Data for MOBILE6 Air Quality Conformity,” and UTCA funded project 2109, “Monitoring Ozone Migration in Alabama.” Both projects address the same issue, growing air quality concerns in the Birmingham regional planning area and several other MPOs in the state.

Long Term Support Drs. Steven Jones of UAB and Mike Anderson of UAH are currently negotiating a project with the RPCGB. The project will involve purchasing advanced simulation software, and training graduate students in its use. The project will compare three current models and select the one most appropriate for Alabama, then demonstrate its use by modeling corridor growth. In the short term, RPCGB will obtain three useful studies and UTCA will retain the software. In the long term, UTCA to train a continuous stream of graduate students who can fill tomorrow’s demand for transportation planners, while at the same time the RPCGB (and other MPOs) will acquire a continuing string of directed studies performed by the students. *This is a win-win partnership, with both sides benefiting.*

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University Transportation Center for Alabama  
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utca@coe.eng.ua.edu

## 7. SUCCESS STORY – “OVERMATCH” OF U.T.C. FUNDING

The University Transportation Center for Alabama has worked hard to utilize its basic federal UTC funding productively. At the same time the Center has worked to identify stakeholders that desire UTCA’s work products, and that will provide matching funding.

The first table shown below provides a good assessment of UTCA’s funding success. It indicates an “overmatch” of committed-UTC funds in all four of our first years, with a cumulative total of \$1,427,905. In other words, matching requirements have been exceeded by \$1.4 million, or 57% better than required.

**Tabulation of “Overmatch” of UTC Funding**

	<b>1999 Grant Yr 1</b>	<b>2000 Grant Yr 2</b>	<b>2001 Grant Yr 3</b>	<b>2002 Grant Yr 4</b>	<b>99-02 Cumulative</b>
UTC Funds Provided	\$686,000	\$656,500	\$646,000	\$652,700	\$2,641,200
UTC Funds Committed*	\$620,189	\$591,348	\$643,909	\$651,122	\$2,518,568
Match Funds Committed*	\$622,586	\$1,113,767	\$1,250,100	\$960,020	\$3,946,473
<b>OVERMATCH</b>	<b>\$2,397</b>	<b>\$522,419</b>	<b>\$606,191</b>	<b>\$296,898</b>	<b>\$1,427,905</b>
*Committed = funded expended or encumbered as of June 30, 2002					

The second table indicates the sources of the matching funds for the current grant year. The primary source is the Alabama Department of Transportation (55%) in the form of projects utilizing “State Planning & Research” funds, followed closely by the involved universities (43%). When taken on its own, the funding provided by ALDOT meets 80% of the required match to UTC monies.

**2002 (Grant Year 4) Sources of UTCA Matching Funding**

UTC Funds Provided	Match Funds Committed	Source: Universities	Source: Alabama DOT	Source: Industry	Source: Other
\$652,700	\$960,020	\$411,047	\$527,072	\$21,901	\$0
	( 100%)	(43%)	(55%)	(2%)	(0%)

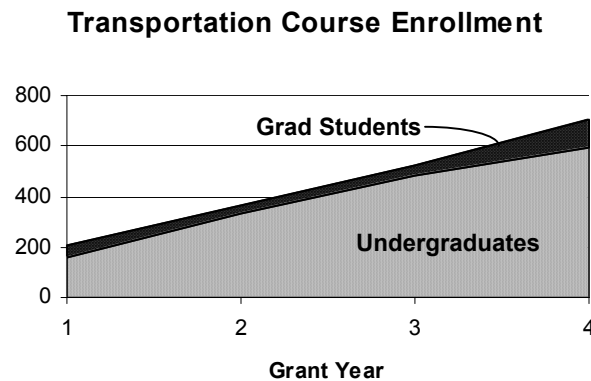
Overall, UTCA interprets matching funding as a healthy endorsement by ALDOT that its managers appreciate our projects and that they desire more of them in the future.

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 University Transportation Center for Alabama  
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 utca@coe.eng.ua.edu

## 8. SUCCESS STORY – EDUCATION PROGRAM GROWTH

UTCA’s early efforts were spent on creating administrative and fiscal processes, building a network of faculty members, reaching out to stakeholders, developing curricula, and recruiting students. This was a hectic time, as a foundation was being laid for growth and future success. Some of these activities had immediate impacts, while others took time to nurture.

One goal that took more time than anticipated was the development and adoption of new curricula for transportation students. However, each of the three universities adopted new programs (one new Ph.D., one new M.S., and two new transportation “options” within existing degrees). Those new programs are now paying off, as shown by the following figure:



The strong and steady growth depicted by the figure is *exactly the desired effect*, additional people are being brought into transportation courses. Once in the courses, many will be influenced to make transportation their career field, and others will come to understand the factors that influence America’s transportation system. Either way, a body of people will be positively influenced in support of transportation issues.

The UTCA Executive Committee is proud of the growth in enrollment in transportation courses, and is encouraged that undergraduate growth is beginning to contribute to graduate enrollment. This will soon increase the number of M.S. and Ph.D degrees awarded, and will increase the number of highly trained professionals entering the transportation profession.

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University Transportation Center for Alabama  
(205) 348-9925  
(205) 348-6862 fax  
[utca@coe.eng.ua.edu](mailto:utca@coe.eng.ua.edu)

## 9. SUCCESS STORY – STRATEGIC PLAN IMPLEMENTATION

UTCA passed its third birthday during this reporting period, and the Executive Committee has been delighted at its growth and achievements. The point was driven home by an analysis of progress toward implementing UTCA’s approved strategic plan. The plan contains six goals that correspond directly to the USDOT national goals for university transportation centers, and 29 supporting objectives. Progress toward achieving the objectives is detailed in the table shown below, and is summarized as follows:

- Already met five-year objective = 16
- Will meet five-year objective = 9
- Good progress, may not reach objective = 4
- Questionable to reach objective = 0
- Will not reach objective = 0

We are quite proud that more than half of UTCA’s five-year goals were met in the first three years, and that the majority of the remainder will be met before the five-year period expires. At the same time we intend to continue the development of UTCA and the expansion of its network of researchers and students. Well done UTCA!

**Status Toward Individual Objectives in UTCA’s Strategic Plan**

No.	Category	Status	No.	Category	Status
1a	Add 4 new trans courses in non-engineering areas	<i>Met</i>	4.3	25 different PIs on UTCA projects	<i>Met</i>
1b.1	Teach 75 trans grad courses; use distance learning	<i>Will meet</i>	5.1	75 peer-reviewed papers	<i>Ongoing</i>
1b.2	10 depts. offer trans courses	<i>Met</i>	5.2	75 presentations	<i>Will Meet</i>
1b.3	200 UGs and 50 grads in trans courses each year	<i>Met</i>	5.3	3 faculty members win awards	<i>Met</i>
1b.4	40 students in trans research	<i>Met</i>	6.1	10,000 website hits	<i>Met</i>
2a	Shared PhD degree in place	<i>Met</i>	6.2	40 pre-college outreach events	<i>Ongoing</i>
2b.1	25 MS students enrolled 10 doctoral students enrolled	<i>Will Meet</i>	6.3	5,000 students in pre-college outreach events	<i>Met</i>
2b.2	18 MSs awarded 4 PhDs awarded	<i>Will Meet</i>	6.4	50 seminars & short courses offered	<i>Ongoing</i>
3.1- 3.6	Exceed campus diversity average (%)	<i>Met</i>	6.5	1250 practicing professionals participate in seminars, etc.	<i>Will Meet</i>
3.7- 3.8	Exceed college enrollment average (%) for women	<i>Ongoing</i>	6.6	Average 2 newsletters and other periodicals per year	<i>Will Meet</i>
3.9-3.10	Exceed college enrollment ave. (%) for US citizens & permanent residents	<i>Met</i>	6.7	Publish 18 issues of newsletters and other periodicals	<i>Will Meet</i>
4.1	Project selection system in place; 100 projects awarded	<i>Will Meet</i>	6.8	7500 total circulation of newsletters, etc.	<i>Will Meet</i>
4.2	\$4 million total budget	<i>Met</i>			

Contact: Ms. Joy Curry  
 University Transportation Center for Alabama  
 (205) 348-9925  
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 utca@coe.eng.ua.edu

**Table 1: New projects (since 2001 Annual Report)**

<b>Project No.</b>	<b>Project Title</b>	<b>PI and Campus</b>	<b>Start Date</b>	<b>End Date</b>
02409	Adjustment of Pavement Life Cycle Cost Factors	Dr. Jay Lindly	Jun 30, 2002	Jun 30, 2003
02410	Revised System of Airport Licensing	Dr. Charles Hayes	Jun 4, 2002	Jun 4, 2003
02411	Phase 2: GASB-34 Compliance	Dr. David Hale	Jun 4, 2002	Jun 4, 2003

All new projects are SPR funded.

**Table 2: Projects Underway**

<b>Project</b>	<b>Project Title</b>	<b>PI and Campus</b>	<b>Start</b>	<b>End</b>
00461	Short Course: Introduction to the 2000 Capacity Manual	John McFadden, UA	Aug 16, 2000	Aug 15, 2002
00463	Potential Applications of Video for Traffic Management and Safety	John McFadden, UA	Aug 16, 2000	Jun 30, 2002
00466	Improved Data Collection and Evaluation for MOBILE6-Based Conformity Analysis of Trans Projects	Derek Williamson, UA	Dec 4, 2000	Jan 31, 2002
00467	Computer-based Sign, Luminaries & Traffic Signal Support Design Tools	Jim Davidson, UAB	Oct 1, 2000	Sep 30, 2002
01101	Success Factors for Integrated Traffic and Emergency Response	Mickey Bunn and Grant Savage, UA	Jan 1, 2001	Sep 30, 2002
01105	Enhance Emergency Evacuation Procedures for Extreme Events	Mike Triche and J Richardson, UA	Jan 1, 2001	Dec 31, 2001
01112	Maintenance System for Stormwater Infrastructure	Rocky Durrans, UA	May 16, 2001	May 15, 2002
01216	Deployment of Advanced Public Transportation in the Birmingham-Jefferson County Area	Stan Jones, UAB, and Mike Anderson, UAH	Jan 1, 2001	Mar 31, 2003
01218	Innovative Use of Flowable Fill for Local Roads Bridge Replacement	Jim Davidson, UAB	Jan 1, 2001	Mar 31, 2002
01327	Development of a New Experimental Approval for Bridge Deck Evaluation	H Toutanji, UAH S Chen UAB	Jan 1, 2001	Jul 31, 2002
01453	Utility Pole Safety Program	Jay Lindly, UA	Feb 6, 2001	Mar 15, 2002
01461	Software Support – ALDOT, Phase 3	David Brown, UA	Jun 11 6, 2001	Dec 31, 2002
01465	Evaluation of Profiled Pavement Markings	Jay Lindly, UA	Jan 1, 2002	Dec 31, 2002
02101	Web-based Airport Licensing for the State of Alabama	Charles Haynes, UA	Jan 1, 2002	Dec 31, 2002
02113	Advanced Transportation Summer Institute	Dan Turner and Brandi Little, UA	Jan 1, 2002	Dec 31, 2002
02114	GIS Maintenance and Resource Allocation Visualization	David Hale and Joanne Hale, UA	Jan 1, 2002	Dec 31, 2002
02115	Traffic Safety Analyses: A Data Mining Approach	Mike Hardin and Mike Conorly, UA	Jan 1, 2002	Dec 31, 2002
02201	Diesel Exhaust Treatment Using Catalysts/Zeolites	Robert Peters, UAB	Jan 1, 2002	Dec 31, 2002
02205	Alabama Transportation Improvements Through Telework	Gary Grimes, UAB	Jan 1, 2002	Dec 31, 2002
02209	High School Transportation Education Program	Stan Jones, UAB	Jan 1, 2002	Dec 31, 2002
02215	Hazmat Accident Education: An Integrated Approach	Shirley Clark, UAB	Jan 1, 2002	Dec 31, 2002
02301	Gearing Up for Transportation Engineering: Phase 3	Kate Leonard and others, UAB-UAH	Jan 1, 2002	Dec 31, 2002
02304	Development of Distributed Strain Sensor for Bridge Health Monitoring	Mark Lin, UAB	Jan 1, 2002	Dec 31, 2002
02402	Evaluation of Retroreflectometers	Jay Lindly, UA	Nov 1, 2001	Jun 1, 2002

Table 3: Projects completed

Project No.	Project Title	PI and Campus	Start Date	End Date
99101	Development of a Bridge Replacement Guide for County Engineers	Mike Triche and J Richardson, UA	Jul 1, 1999	Aug 15, 2000
99104	Analysis of Rural Public Transportation Systems in Alabama	Jay Lindly and Dick Sanford, UA	Jul, 1999	Aug 15, 2000
99113	Data Mining and Visualization of the Alabama Accident Database	Mike Conerly, UA	Aug 15, 1999	Aug 31, 2000
99115	Improving Crash Location, Display and Analysis by Combining CARE and GPS Technologies	Andy Graettinger, UA, and Mike Anderson, UAH	Jul 1, 1999	Aug 31, 2000
99118	Development of a Multidisciplinary Transportation and Logistics Education Program,	Jay Sterling and John Mittenthal, UA	Oct 1, 1999	Sep 30, 2000
# 99211	An Exhibit at the McWane Center to Serve as a Pilot UTCA Outreach Program or K-12 Schoolchildren	Mindy Lalor, UAB, and Pauline Brown, UA	Jan 1, 2000	Cancelled By Excom
99236	Delivery of Transportation-Related Programs Through Interactive Telecommunications	M Lalor, UAB P Brown, UA K Leonard, UAH	Jul 1, 1999	Dec 31, 2000
99238	A Crash Reduction Strategy: Training Transportation Safety Professionals in Dealing with Drivers with Diminished Capabilities	C Owsley, B Staley, and J Wells, UAB	Jul 1, 1999	Feb 28, 2001
99244	Development of a GIS-Based Hazardous Materials Transportation Management System	M Vermace, UAB M Anderson, UAH	Aug 1, 1999	Dec 31, 2000
## 99247	Transfer of Transportation Materials Technologies for Concrete Pavements	N Delatte, UAB	Aug 15, 1999	Dec 30, 2000
99249	Development of a Multi-campus, Multidisciplinary Transportation Curriculum for the UTCA	N Delatte, UAB J McFadden, UA M Anderson, UAH K Leonard, UAH	Oct 1, 1999	Aug 31, 2000
99250	Predictions of Car Accidents in Minorities and High Risk Groups	Threasa Wynn, Mona Fouad, and Norb Delatte, UAB	Jul 1, 1999	Dec 31, 2000
99252	Interaction Between UTCA and Other Safety Focused Centers and Organizations	Jim Davidson, UAB	Sep 1, 1999	Nov 30, 2000
99324	Evaluation of the Safety, Utility and Reliability of Three-Dimensional Alarm Systems for Automotive Use	Jim Bliss, UAH	Jul 1, 1999	Aug 31, 2000
### 99328	TRANplan & GIS Support	M Anderson, UAH	May 18, 2000	Jun 30, 2001
00102	Potential Applications of Video Technology for Traffic Management and Safety in Alabama	J McFadden, A Graettinger, and D Sanford, UA	Jan 1, 2000	Mar 31, 2001
00103	Providing Technical and Management Expert Services in ITS Systems in Ala	John McFadden, UA	Jan 1, 2000	Mar 31, 2001
00107	Development of a Short Course to Enhance Safety of Work Zones	Jay Lindly, and J McFadden, UA	Jan 1, 2000	Mar 31, 2001

**Table 3. Projects completed (continued)**

00108	Air Quality Aspects of Traffic Management,	Derek Williamson, UA	Jan 1, 2000	Dec 31, 2000
00110	Feasibility of an Integrated Traffic Management and Emergency Communication System	Mickey Bunn, and Grant Savage, UA	Jan 1, 2000	Dec 31, 2000
00202	Transfer of Transportation Management and Safety Technology	N Delatte, UAB H Toutanji, UAH J McFadden, UA	Jan 1, 2000	Dec 31, 2000
00214	Environmental Health, Public Safety, and Social Impacts Associated with Transportation Accidents Involving Hazardous Substances	Steve Becker and Bob Pitt, UAB	Jan 1, 2000	Dec 31, 2000
00304	Program for Encouraging Diversity in Transportation-Related Educational Programs in Alabama: "Gearing Up for Transportation Engineering Summer Institute"	K Leonard, H Toutanji, Mike Anderson, Norb Delatte, UAB J Hodges, UA	Jan 1, 2000	Dec 31, 2000
00305	Supplementary Cementitious Materials to Enhance Bridge Deck Durability	H Toutanji, UAH N Delatte, UAB	Jan 1, 2000	Jul 31, 2001
00456	Managing the Construction Bidding Process: A Guide to Simpler Construction Plan Sets	Dan Turner, UA	Nov 1, 1999	Feb 28, 2001
00462	Short Course: MUTCD	John McFadden, UA	Aug 16, 2000	May 31, 2002
00465	Enhancements for Work Zone Safety	Jay Lindly, UA	Jan 2, 2001	Jan 2, 2002
#### 01110	Alabama Transit: Intercity Bus Service Study	Jay Lindly, UA	Jan 1, 2001	May 1, 2002
01111	Aviation Transportation Internship 2001	Charles Haynes, UA	Dec 1, 2000	Dec 31, 2001
01220	Design and Quality Control of Concrete Overlays and Repairs	Norb Delatte, Jim Davidson, and S Chen, UAB	Jan 1, 2001	Dec 31, 2001
01326	Gearing Up for Transportation Engineering Summer Institute - 2	Kate Leonard, UAH, and others	Jan 1, 2001	Dec 31, 2001
##### 01328	Evaluation of Alabama's Trip Generation Rate and Travel Indices	Mike Anderson, UAH	Jan 1, 2001	Apr 30, 2002

# Partially funded by UTC monies and partially funded by other sources. The Executive Committee cancelled this project in early 2001

## Partially funded by UTC monies; partially funded by other sources.

### Projects 99328 and 99458 were initially reported as separate projects. They have been merged and are now reported as the single project 99328.

#### Projects 01110 and 01452 were initially reported as separate projects. They have been merged and are now reported as the single project 01110.

##### Projects 01328 and 01451 were initially reported as separate projects. They have been merged and are now reported as the single project 01328.



**Table 4: Non-UTC projects**

<b>Year</b>	<b>Number of Non-UTC Projects</b>	<b>Funding</b>
1999	7	\$2.94 million
2000	12	\$3.58 million
2001	20	\$3.06 million
2002+	8	\$0.49 million
Total	47	\$10.07million

+ partial year

In addition to conducting projects with funding provided by US DOT as part of the University Transportation Centers program, UTCA actively seeks other partners for its activities. These efforts have been quite successful, as shown in Table 4.