



South Carolina Department of Transportation

# Annual Accountability Report

*Fiscal Year 1999-2000*



South Carolina Department of Transportation

October 1, 2000

Office of the State Budget  
South Carolina Budget and Control Board  
Attention: Karen Amos  
1122 Lady Street, 12th floor  
Columbia, South Carolina 29201

Dear Ms. Amos:

I am pleased to present the 1999-2000 Annual Accountability Report for the South Carolina Department of Transportation (SCDOT). This report will help you understand what our agency does and how we work to create and maintain one of the best transportation systems in the country. This report reflects the accomplishments of the dedicated men and women of SCDOT.

You will find that the goals and objectives of SCDOT are consistent with the priorities set by Governor Jim Hodges in the *EnVision South Carolina* Business Plan published in August 2000.

We are continually rated by the University of North Carolina at Charlotte, Center for Interdisciplinary Studies, as one of the best Departments of Transportation in the nation. For the fourth year consecutively, SCDOT has been rated as one of the most efficient operations using the least resources.

However, we must focus our efforts on reducing the toll of fatalities on our highways and on acquiring monetary resources to maintain our roads.

Please let me know if my staff or I can be of assistance to you in clarifying any information noted in this report. You may call on Mr. Robert J. Probst, Deputy Director for Strategic Planning, Finance and Administration at 737-1583.

Sincerely,

Elizabeth S. Mabry  
Executive Director

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# South Carolina Department of Transportation Annual Accountability Report Fiscal year 1999-2000

## EXECUTIVE SUMMARY

### Description of the Department of Transportation:

The South Carolina Department of Transportation (SCDOT) is charged with the responsibility of systematic planning, construction, maintenance, and operation of the state highway system and providing mass transit services. SCDOT is responsible for managing the fourth largest highway system in the nation.

### Mission

“The mission of the SCDOT is to provide a safe and efficient transportation system for the state of South Carolina. We build and maintain roads and bridges as well as provide mass transit services to the citizens of the state.”

### Who We Are

The South Carolina Department of Transportation (SCDOT) is staffed by 5,383 men and women who are deployed throughout the state of South Carolina. Whether they are assigned to the Headquarters in Columbia or one of the seven Engineering Districts they are all members of a dynamic organization committed to serving the citizens of South Carolina. The employees of the SCDOT are members of the RIGHT Team. RIGHT Team is an acronym for a value system that encompasses being “Respectful and supportive of others; having Integrity at all times; being Good at what I do because I am competent and knowledgeable; being Honest and fair in all my actions; and Teamwork through communication.”

The members of the RIGHT Team are full partners in achieving the goals in the SCDOT Strategic Plan and are full partners in the Vision set forth by the Executive and Senior Leadership of the Department with buy-in by the other employees.

The Vision states that by the end of 2002, SCDOT will be recognized by the public as:

- Meeting the state’s transportation needs at the lowest cost possible and as quickly as possible.
- Responsive to customers’ needs.
- Caring about safety, the environment, and the appearance of our highways.
- Having a highly-trained, motivated staff working together as a unit and having fun.
- Using innovative approaches, up-to-date technology and an integrated, effective information system.
- Having adequate resources to meet these needs.

The activities of the Department are represented in the following four Program areas and are described in detail in the Program Section of this report.

- Maintenance
- Construction
- Mass Transit
- Administration

### **Special Emphasis Concerns.**

Two areas of special concern to the Department are highway safety and the maintenance of our roads. Our death rate because of highway crashes is intolerable and we can no longer defer maintenance on our roads. Two areas we are targeting and in which we need assistance are obtaining funding for guardrails to prevent cross median crashes and funding for maintenance.

### **Guardrail Program Needs Funding**

SCDOT has developed a priority list of 284 miles of Interstate, one-third of the South Carolina Interstate System, where installation of median barriers will begin this fall. Executive Director Elizabeth S. Mabry led a news conference on Aug. 15, 2000 to announce the plan.

SCDOT has chosen cable barriers as the most cost-effective method of providing the most expedient approach to the crossover crash concern. SCDOT engineers have been looking at median width and various types of median barriers since January in order to develop the priority list.

The Department's goal is to install the median barriers included on the priority list within five years, provided that sufficient funds are available. Counties with top priority Interstates include Anderson, Greenville, Richland, Charleston, Laurens, Spartanburg, Oconee, Cherokee, Lexington, Kershaw, Calhoun and Newberry.

SCDOT has set aside from current funds \$1 million for the 10-mile stretch of I-77 and plans to earmark \$2 million from upcoming federal funds. Two guardrail projects along I-85 in Anderson County and I-385 in Greenville County will be let in 2001.

It would take an additional \$38 million to complete the program.

### **Shortfall Hits Maintenance Projects**

Due to funding shortfalls in fiscal year 2000-2001, SCDOT has been forced to reduce the maintenance budget by approximately \$37 million from fiscal year 1999-2000. The primary program that will suffer from this reduced funding is the state resurfacing program, which must be cut back.

The maintenance of our roads is a top concern within SCDOT because more and more pressure will be put on this area due to lack of funding.

Funding for South Carolina's transportation needs has not kept pace with inflation or the state's booming growth, yet SCDOT has the fourth-largest state maintained highway system in the country. There are approximately 42,000 miles of roads in the state system. Of these miles, 820 miles are Interstate, 9,400 are primary roads and 31,000 miles are secondary roads.

Sixty-five percent of South Carolina road miles are maintained by SCDOT. The national average for other state DOTs is 21 percent of total miles. SCDOT has the least amount of money per mile available for addressing transportation needs.

## Budget

The budget for Fiscal Year 1999-2000 depicted in Figures 1a and b reflects \$414 million in state funds, which compares to \$374.3 million in state funds budgeted for Fiscal Year 1998-1999. More than half of available state funds were used to maintain the existing highway system. Motor fuel tax revenue has grown at a relatively flat rate, as compared to other taxes. More fuel efficient vehicles have caused the motor vehicle fuel tax revenue to grow at only a rate of 2 percent per year. The cost of highway construction increases at the rate of approximately 5 percent per year. Figure 1 reflects state funds for FY 1999-2000 and Table 1 depicts state funds for FY 1996-1999.

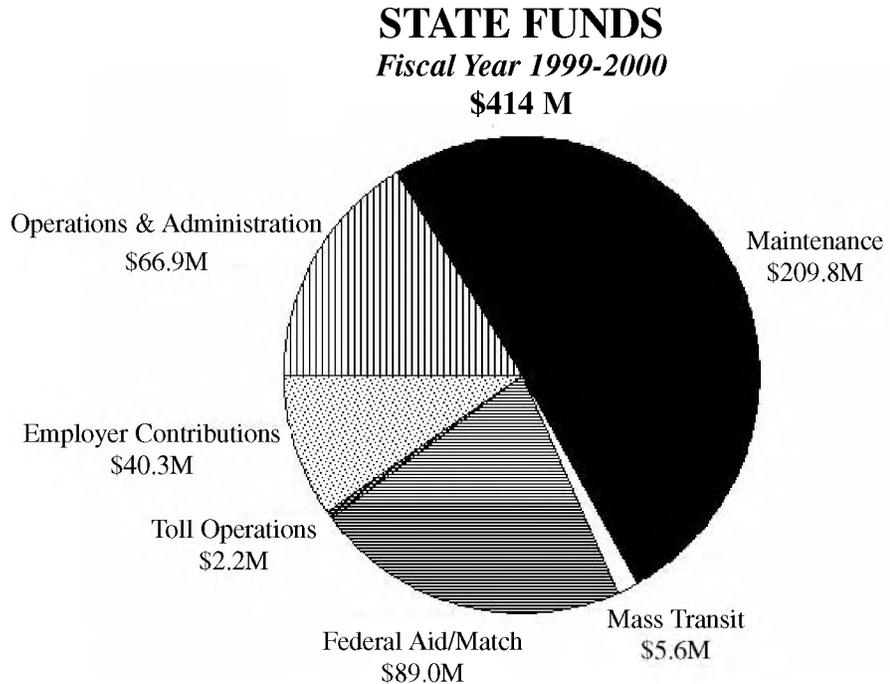


Figure 1

	FY 1996-97	FY 1997-98	FY 1998-99
Operations & Administration	\$ 55,286,217	\$ 60,838,366	\$ 57,600,000
Maintenance	183,364,963	198,429,342	196,400,000
Toll Operations	-	-	2,400,000
Federal Aid/Match	70,773,461	62,051,897	72,100,000
Mass Transit	5,652,061	5,697,430	5,800,000
Employer Contributions	38,332,034	39,450,919	40,000,000
<b>TOTAL</b>	<b>\$ 353,408,736</b>	<b>\$ 366,467,954</b>	<b>\$ 374,300,000</b>

Table 1

## Benchmarking

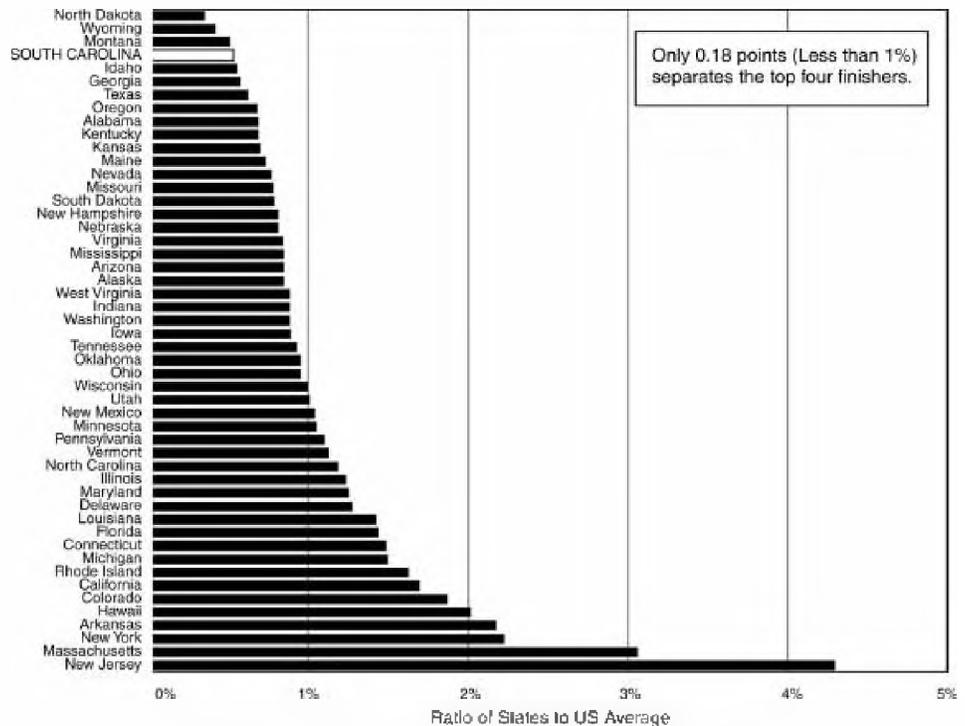
The challenges facing DOTs across the country are great and require creative and innovative ideas to continue having the best transportation system in the world. During the past 20 years, the US population has increased 30 percent, the number of drivers licenses has increased 64 percent and the number of miles driven has increased 130 percent. During this same time funds for highway capacity increases have gone up only 5 percent. SCDOT has traditionally been one of the leanest operations in the country. That still holds true.

Annually, a comparative study of state highway systems is published by The Center for Interdisciplinary Studies at the University of North Carolina at Charlotte (UNCC). This report is a reliable benchmark comparing state departments of transportation.

UNCC analyzes 12 performance measures in their study. The measures are divided into two areas; Resources and Results. South Carolina continues to be one of the top ranked states nationally and tops in its state peer group.

In overall performance, as measured by the UNCC study, SCDOT ranked fourth in the nation. The ranking mechanism depicts a ratio of states to the US Average from 0.37 to 4.303. A chart depicting the overall performance for 1998 from the UNCC study is shown in Figure 2

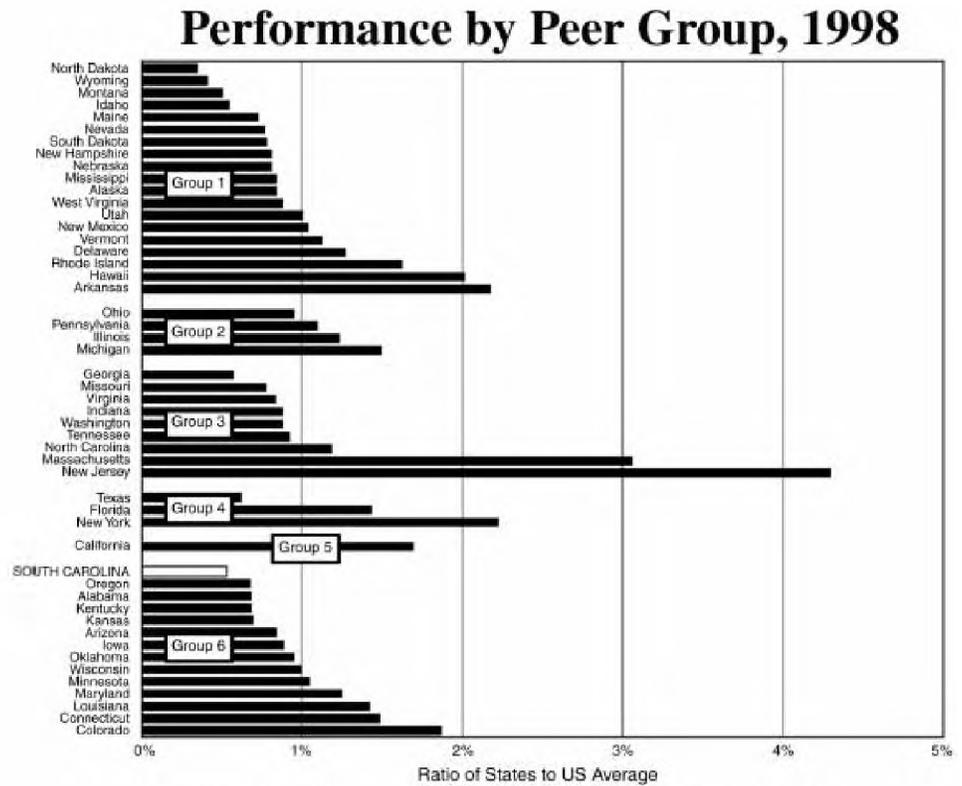
### Overall Performance, 1998



Source: TEA-21's Promise: Comparative Performance of State Highway Systems, UNC-C Study, 3/31/00

Figure 2

The UNCC Study also ranks states by peer groups. Peer group rankings include states that have similar circumstances. South Carolina ranked first among a peer group consisting of Oregon, Kentucky, Alabama, Kansas, Arizona, Iowa, Oklahoma, Wisconsin, Minnesota, Maryland, Louisiana, Connecticut, and Colorado. The overall performance by the state peer group is shown in Figure 3.



Source: TEA-21's Promise: Comparative Performance of State Highway Systems, UNC-C Study, 3/31/00

Figure 3

## Leadership

The South Carolina Department of Transportation is led by a Commission of seven members. One member is appointed at large by the Governor, with the advice and consent of the State Senate. This member serves as the Commission Chairman. The Honorable L. Morgan Martin of Conway serves as the Chairman. The other members are elected by the Legislative Delegation of each Congressional District. The current members are Bob Harrell, John N. Hardee, Eugene Stoddard, Hugh Atkins, Bayles Mack, and John M. “Moot” Truluck. The Commission sets policy for the Department and appoints the Executive Director. The Executive Director is responsible for the execution of Commission policy and the management of the staff and operations of the Department.

The Executive Director is assisted by four Deputy Directors who include the State Highway Engineer; Deputy Director for Strategic Planning, Finance and Administration; Deputy Director for Executive Support, and the Deputy Director for Mass Transit. In a recent reorganization the Executive Leadership Team was enhanced by the addition of a Deputy Director who could focus on Strategic Planning, Finance and Administration.

The Department’s Senior Staff and mid-level managers are empowered to make decisions necessary to accomplish their duties. They are given the necessary support system to enable them to carry out the SCDOT mission.

The Senior Staff includes the District Engineering Administrators who are responsible for SCDOT functions in seven geographical areas of South Carolina. They exercise the most influence on the largest numbers of Department employees.

The SCDOT leadership promotes an environment that encourages creativity and innovative thinking. “Outside the box” solutions to managing the Department are encouraged. SCDOT is focused on the future by developing tomorrow’s leaders today.

In 1997 the Department initiated a leadership program entitled, “Strategic Training for Transportation Agency Representatives” (STTAR). The third iteration of the STTAR program was recently completed. The Department’s Executive Director was recognized by the Engineering News Record for being a top newsmaker in 1999. She was cited for her work in developing the STTAR Leadership Program.

This year a new leadership development program entitled “Strategic Training and Education for the 21st Century” (STEP21) began. The purpose of STEP 21 is to develop employees who have a potential for promotion to mid-level management positions. Participants enter an intensive six-month training program embracing all the key functional areas of the Department.

Maintenance employees comprise the largest number of people in the Department. We continue to present Maintenance Foreman Training to develop the supervisory skills of these important first line supervisors.

In addition to the STTAR and STEP 21 programs one executive completed the National Highway Management Institute sponsored by the American Association of State Highway and Transportation Officials conducted at Indiana University. Another manager completed the Governor's EXCEL Course and one manager attained the Certified Public Manager credential while several others completed the Associate Public Manager Program.

A second iteration of the Duke University "Strategic Leadership for State Executives" will be presented later this year.

Another series of the highly successful SCDOT Women's Forum was conducted in eight locations around South Carolina for the third year. Part of the forum was dedicated to leader development and training.

The Department's leadership realizes that it is important to focus on the good of the community it serves and takes this responsibility seriously. There are several areas where representatives of SCDOT relate directly with the diverse public of South Carolina. Some examples are in the sponsoring of programs involving the youth of our state. Three such programs are SCDOT Cares, The Summer Transportation Institute, and the Urban Youth Corps.

- SCDOT Cares is an acronym for SCDOT Cares About Roads, Environment, and Safety. The program involves SCDOT employees teaching public school students about the importance of highways, safety, and protecting the environment. We have trained approximately 180 employees, giving them detailed lesson plans for the age selected and instructions on giving classroom presentations. This program gives SCDOT the opportunity to stress to young people the importance of road safety and the environment. The lesson plans cover a variety of issues such as work zone safety, litter abatement, safety at rail crossings, and the hazards of discarding cigarettes out of automobiles. We have had excellent feedback from the students and faculty as well as the volunteer employees from the Department.
- The Summer Transportation Institute (STI) was established in 1993 as a cooperative effort between the Federal Highway Administration (FHWA), SCDOT, South Carolina Department of Public Safety, South Carolina State University and Benedict College. The purpose of STI is to create awareness and stimulate interest in secondary school students to take advantage of career opportunities in the transportation industry. STI is a four-week program which includes room and board on college campuses for 9th and 10th grade students. The national curriculum includes academics, engineering, speakers from transportation career fields and SAT preparation. The total number of participants in the program since 1993 has been 172. In 1999, 56 students participated in STI.
- SCDOT, along with FHWA, participates in the Urban Youth Corps Program. This is a youth employment and training program established in partnership with local municipalities, Native American Tribes, or nonprofit organizations that offers meaningful full-time summer employment in urban public works or transportation settings. This opportunity is for individuals between the

ages of 16 and 25. SCDOT and FHWA funded nine (9) partnerships with local municipalities, providing employment for approximately 104 high school and college students during 1999.

Wherever SCDOT employees carry out their tasks in the state they are fully engaged in enhancing the quality of life in the community it serves.

## Customer Focus and Satisfaction

*“Improve the Department’s service to the public.”* is a major goal found in our Strategic Plan. We continue to improve the anticipation of the needs of our many customers who are users and stakeholders in the state’s inter-modal network.

As we strive to continually improve service to the public we have accomplished the following in FY 1999-2000.

- In a contract with Midlands Technical College we trained approximately 1,000 employees in customer relations. We will train approximately 2,000 employees in FY 2000-2001.
- Enhanced customer input in project and program activities and business plans.
  - We interacted with thousands of customers at the 1999 State Fair. Our booth was equipped with a computer allowing fair goers to communicate directly with the SCDOT staff regarding their concerns with transportation issues. The booth won an award for being the most outstanding exhibit at the State Fair.
  - Program Managers and staff participated in 126 presentations to community groups such as MPO Policy Committees, City/County Councils, Chambers of Commerce, and civic clubs.
  - We held 27 Public Hearings and conducted 37 informational meetings.
- The Department entered into a contract with the Darla Moore School of Business at the University of South Carolina to perform a Customer Satisfaction Survey. We expect the results of that survey to be completed in early 2001.
- We printed 3,250 archived plan sheets for the general public.
- We made significant strides in improving public satisfaction in the rights of way acquisition process. The condemnation rate is an indication of customer satisfaction with the right of way appraisal and acquisition process. The Department acquired 2,545 parcels of rights of way during FY 99-00, successfully negotiating 86% of these transactions without resorting to condemnation procedures. We recognize that a high degree of sensitivity is required by our staff in acquiring land. We administer a “Landowner Opinion Survey” after each rights of way transaction in an effort to refine our acquisition process. We have formed a committee to study different ways to reduce the condemnation rate and the results of the study will be forwarded to the Executive Director in late October 2000.

- A new Internet web site was launched after a year in development. The new customer friendly site is divided into five general categories that encompass all SCDOT operations:
  - Inside SCDOT
  - Getting Around In South Carolina
  - Public Forum
  - Doing Business With SCDOT
  - Community Service

Our goal was to design a site where the user is never more than 3-4 mouse clicks from the information they need. The SCDOT Internet site was awarded the “Golden Web Award” by “the International Association of Web Masters” for excellence achieved in web design, content, and creativity.

- In an effort to provide a safer trip for South Carolina motorists, four Traffic Management Centers (TMC) were established by the SCDOT. Traffic Safety Engineering professionals and the Information Technology Systems Network Services staff designed and installed a control center in the SCDOT Headquarters building and three other locations in the Spartanburg/Greenville area, Charleston, and Rock Hill. As part of this effort the agency has installed 104 cameras along the interstates and 1,544 Mbps (T1) digital circuits from the TMC’s in Spartanburg/Greenville, Charleston, and Rock Hill to the center in Columbia. These links enable the agency to send video to 18 monitors in the Columbia TMC and to the State’s Emergency Preparedness Division. TMC personnel are able to view live pictures from critical locations on the interstate and dispatch State Highway Emergency Patrols (SHEP) to assist stranded motorists or notify the Highway Patrol of accidents. Additionally we are able to activate message signs that give current traffic condition warnings.
- The State Highway Emergency Program (SHEP) continues to enhance our traffic safety effort. SHEP teams assist the motoring public by monitoring traffic conditions and assisting emergency response agencies. SHEP assists motorists with disabled vehicles by offering free basic auto repair and, if necessary, fuel, water, and oil for the vehicle. SHEP units patrol urban segments of the Interstate and assist motorists daily along Interstates in Columbia, Charleston, Spartanburg, Greenville, and the Rock Hill area. Table 2 depicts SHEP activities for the past three fiscal years.

Fiscal Year	Columbia	Charleston	Greenville	I-85 Constr.	Rock Hill	Spartanburg	Total Responses
1997-1998	5,993	1,634				5,361	12,988
1998-1999	6,835	2,198	3,823			4,205	17,061
1999-2000	6,703	10,246	4,102	3,904	5,193	3,300	33,448

Table 2

- During the winter storm of January 2000 about 3,000 Department employees were involved in winter storm operations, clearing major roads of ice and snow, monitoring road conditions and removing debris. Many maintenance employees worked 12-hour shifts for nine consecutive days without a day off. A 24-hour Call Center in the SCDOT Headquarters received more than 11,000 calls from the public and provided up-to-date road conditions. Phones were staffed by SCDOT employees assisted by employees of the several engineering firms, Federal Highway Administration, and South Carolina Information Network (the telecommunications arm of state government.) This Call Center was similar to the operation we established during the aftermath of Hurricane Floyd. Figure 4 depicts the activity in the Winter Storm Call Center.

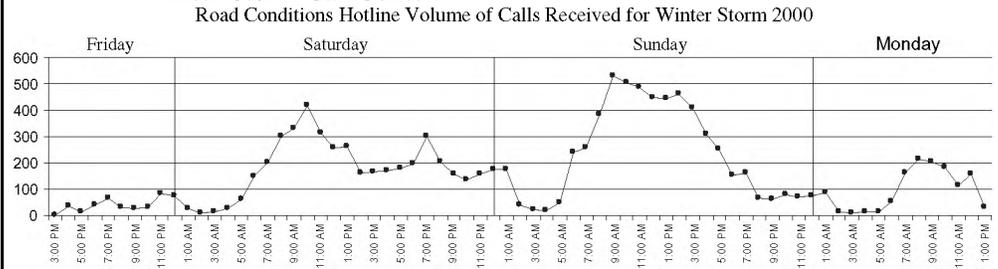


Figure 4

## Strategic Planning

Through our strategic planning process, we focus on the transportation needs of South Carolinians and the public which use our inter-modal transportation system now, and will use it in the future. We work with our partners in government, industry, and other transportation organizations to develop the goals, objectives, and strategies that will produce the intended results.

We place such a high importance on strategic planning that a recent departmental reorganization created a new position of Deputy Director for Strategic Planning, Finance and Administration. This Deputy Director will be responsible for developing performance measures for each of the business processes of the Department.

Our original Strategic Plan was developed and deployed in 1998. The process allowed us to identify our mission, vision, goals, and values. A core group of Department employees representative of the workforce was involved in the development process. The plan was then deployed throughout the organization, ensuring that all employees became part of the RIGHT Team!

In early 2000 we reviewed the Strategic Plan to ensure that our goals were reflective of what the agency wants to accomplish. We reviewed the goals established in 1998, and made revisions to reflect the changes in market forces.

Our goals include:

- Decrease the number of highway crashes/occupational accidents, and fatalities on South Carolina's Transportation Systems.
- Improve the condition and efficiency of the State Highway System.
- Improve and expand the multi-modal Transportation System in South Carolina.
- Develop a cash flow planning and management system
- Develop an integrated program, task, and project planning system.
- Improve employee skills, their work environment and develop opportunities.
- Improve management of our property, equipment, and technology.
- Improve the Department's service to the public.

## Information and Analysis

All Business enterprises develop their programs based on relevant market information. SCDOT has developed several major systems that aid us in building and maintaining highways and providing mass transit services.

We leverage information technology and use several major systems to accomplish the Mission. A short description of some of the key systems and their uses are as follows:

- **State Transportation Accounting and Reporting System (STARS).**  
This is an accounting system developed for government organizations involved in transportation service delivery. It is designed to interface with existing management systems and those under development. The systems include the Maintenance Management System (MMS), the Construction Management System also known as Site Manager™ Shops Work in Progress, Equipment Control System, accounting, contracting and purchasing. Phase 1 of the system has been completed.
- **Maintenance Management System (MMS).**  
This system allows the SCDOT Maintenance forces to plan, schedule, record, and develop a systematic program to maintain the state's road network.
- **Bridge Maintenance System (BMS).**  
This system captures data used to provide a detailed analysis of bridge needs. It helps set priorities for maintenance and repair of over 8,000 bridges in the state's system. The development, implementation, and data collection of the BMS began in the early 1990's with implementation in 1998.

- **Construction Management System (Site Manager™).**  
This is a comprehensive information system designed to collect and manage detailed information regarding highway construction contracts. Daily information is collected on each active contract to include weather conditions, labor and equipment used in the project, and items of work performed. Another feature of Site Manager™ is that all subcontracting, DBE program tracking, and contract modifications are performed within the system. This information is used to manage construction and to accurately compensate contractors for the work completed.
- **Geographic Information Systems (GIS).**  
The Department will be awarding a contract in the near future to digitize all city and county maps. These digital maps will be the base layer where attribute data will be attached. We are currently initiating efforts to select a firm for the development of an on-line road inventory system.
- **Pavement Management System (PMS).**  
This system helps the Department assess pavement conditions as well as smooth driving on the pavement surface.

## Process Management

SCDOT is a multi-billion dollar enterprise with an abundance of activities that support the mission of the agency. Based on the results of the 1997 State Performance Audit we have been examining our processes. As part of our Strategic Plan and the accompanying business plans we are examining the way we do business and execute the processes that it takes to accomplish the business of building and maintaining roads and bridges and providing mass transit services. During FY 99-00 we have improved the following processes and have modified some practices.

- **Construction and Resource Managers (CRMs):** On July 1, 1999, the Department employed two firms to help manage the accelerated highway and bridge construction program. These CRMs are involved in all phases of the construction program and act as an extension to the SCDOT. By employing these two firms the Department doesn't need to hire the approximately 500 employees it would take to execute the accelerated project schedule. There is more information about this process improvement in the construction program portion of this report.
- **Program Management System:** Because of the volume of major highway construction and bridges projects we developed a team approach to project development. We have appointed program managers who coordinate multi-discipline teams that include representatives from the Federal Highway Administration, accounting, environmental, communications, information technology, construction and rights of way offices. The teams provide support and coordination to ensure that projects are completed on schedule and within budget. The program managers lead the teams and are

ultimately responsible for the project.

- **Fielding of vehicles and equipment:** The 1997 Performance Audit recommended the Department develop a process to track the fielding of new vehicles and equipment. The audit results indicated that we could shorten the delivery time of new vehicles to the field offices. We identified two areas for improvement; the licensing of new vehicles and obtaining fuel purchase cards. On May 1, 2000, in a cooperative venture with the Department of Public Safety (DPS), we began licensing our own vehicles. This reduces the workload for the DPS and expedites the delivery process. When we order new vehicles we are able to identify the SG License tag number for the vehicle being ordered and this allows us to order the fuel procurement cards. When the vehicle is delivered the tags and fuel cards are available. This reduces delivery time up to 180 days.
- **Customer Service at the Oversize/Overweight Permit Office:** In an effort to reduce wait time for businesses who need oversize and overweight permits to transport equipment over the states highways and bridges, we have made numerous improvements. The improvements include customer service and employee training, conversion to a new monthly billing system, the purchase of an Automated Routing and Permitting System, and updated telephone service. We have added a toll-free line and have reduced the wait time for a Superload permit from an industry average of 10 days to 1.5 days. We were able to make these improvements in a partnership with the South Carolina Trucking Association and several internal offices of the SCDOT who are involved in the permit process.
- **Consolidation of Utility Bills:** SCDOT manages and operates approximately 400 traffic light systems across South Carolina. We were receiving a bill for each traffic light system, which required our accounting department to individually process payment for each individual bill. In a partnership with the utility companies across the state we were able to arrange for one bill for each company providing power for our traffic lights. This is a savings in man-hours and allows for quicker payment to the vendors.
- **Consolidation of cell phone minutes:** The Department has increased the use of cell phones over the past few years. As a result of two process improvements made by our Information Technology Services Office we were able to reduce the number of separate bills and the amount of payment processing time. We were receiving 175 bills per month from the various cell phone companies providing service to the Department. We were able to reduce the number of bills to 14 a month . We also arranged to have minutes pooled, bringing the price down from 39 cents a minute to 25 cents for an overall reduction in costs by 36%.
- **Transition from Quality Control to Quality Assurance.** Consistent with the recommendations in the 1997 State Performance Audit the SCDOT Research and Materials Laboratory has developed a plan for transitioning from a Department Quality Control operation to one of Quality Assurance. In a partnership with Clemson University and the construction industry, the

Department has successfully implemented a contractor audit control program. The Research and Materials Laboratory has played a significant role in the development of training doctrine and materials as well as certification of contractors.

Program Name

## HIGHWAY MAINTENANCE

Cost

\$209.8 Million

Goals

Improve the condition and efficiency of the State Highway System.

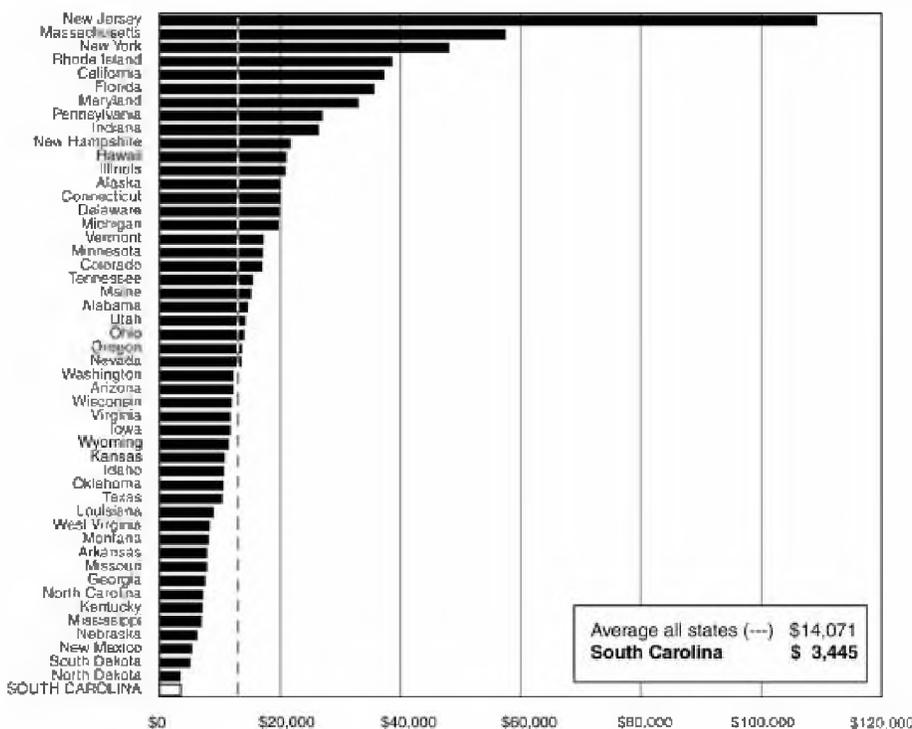
Objective

Maintain the State Highway System

South Carolina maintains the fourth largest state-maintained highway system in the nation. While the national average is 21 percent, in South Carolina 65 percent of road miles are state maintained. Among the states, we spend the least on maintenance per state controlled mile. Yet, we continue to maintain one of the most efficient highway systems in the country. Figure 5, from the UNCC study, reflects Maintenance Disbursements per State Controlled Mile.

Figure 5

### Maintenance Disbursements/State Controlled Mile, 1998



Source: TEA-21's Promise: Comparative Performance of State Highway Systems, UNC-C Study, 9/31/00

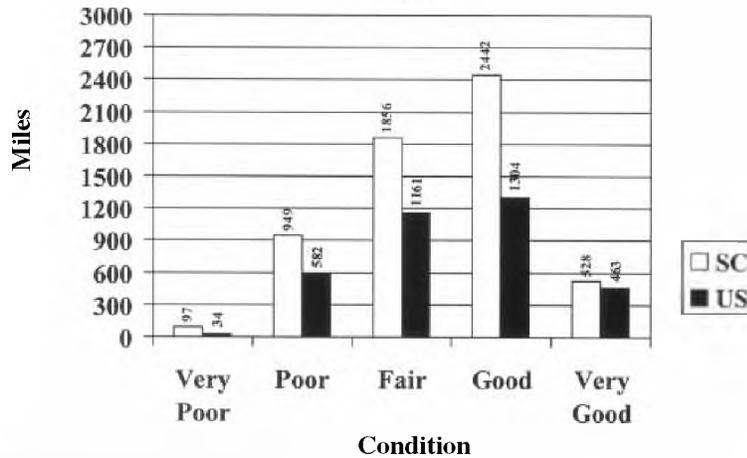
### Pavement Condition

The condition of the US and SC Route system is assessed by our Pavement Management Office. one third of the state system is assessed annually to determine the surface condition of our driving lanes. The condition of the pavement is expressed in terms of the Pavement Quality Index (PQI) and is based on pavement surface distress and roughness. The condition categories range from Very Good



to Very Poor. The PQI scale ranges from 0.0 to 5.0, with Very Poor ranging from 0.0 to 1.7 and Very Good ranging from 3.9 to 5.0. Figure 6 depicts the Condition of US and SC Routes.

### Condition of US and SC Routes Year 2000

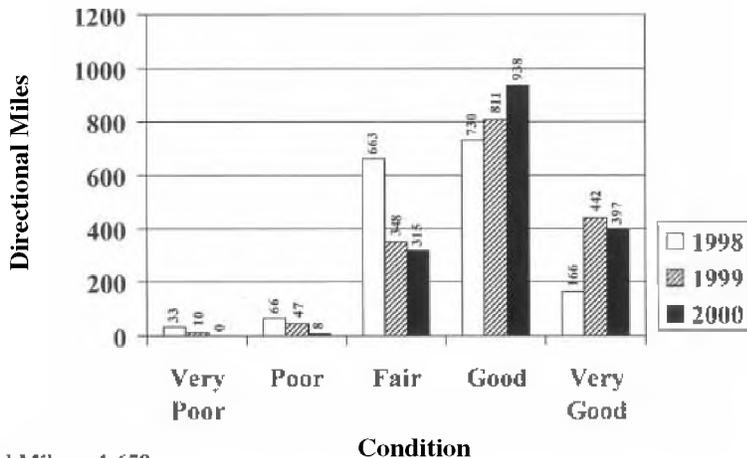


Total US and SC miles = 9,416

Figure 6

The condition of the Interstate System is also assessed by the Pavement Management Office and is determined based on the surface condition of the travel lanes only. Condition is expressed using the Pavement Quality Index (PQI). With a higher standard of performance measurement used for the Interstate Highway System, the scale ranges from 0.0 to 5.0. Very poor to is from 0.0 to 1.9 and Very Good ranges from 4.1 to 5.0. The number of Very Good directional miles has decreased in FY 00 while the number of directional miles rated as good has increased. The graph depicted as Figure 7 indicates the Condition of the 1,658 directional miles of the Interstate Highway System.

### Condition of Interstate System



Total Miles = 1,658

Figure 7

## Road and Highway Maintenance:

Resurfacing with hot mix asphalt continues to be our largest contract maintenance activity. During FY 99-00 we resurfaced more than 688 miles of primary and secondary roads. Privatization of rest area and welcome center maintenance has proven beneficial. We contracted 10 Welcome Centers and 24 Rest Areas at a cost of \$2,708,197.18. During the past three years we have privatized approximately 23,000 shoulder miles of mowing operations.

Pavement marking this fiscal year has expanded. An estimated \$5 million has been expended for centerline painting and thermoplastic markings on secondary roads. Contracts for raised pavement markers are also in place statewide and are being concentrated on secondary roads.

The SCDOT continues to review activities to determine the most effective use of in-house maintenance forces as well as services from the private sector, to accomplish maintenance programs. These expenditures include services performed by in-house Maintenance Crews and contractors. This table reflects the significant shortage of funds available over the past three years. With decreased available funds, most maintenance functions have decreased significantly. Table 3 depicts expenditures for three fiscal years based on data available at this time.

**Expenditures as Reported by Districts for Maintenance Areas**

<b>Description</b>	<b>1998-99</b>	<b>1997-98</b>	<b>1996-97</b>
Surface Maintenance	36,040,205.19	27,763,822.81	26,748,503.09
Shoulders and Slopes	430,909.53	6,060.88	-
Drainage	699,138.07	500,274.04	195,446.50
Right of Way Maintenance	3,192,061.79	1,798,471.91	1,490,370.98
Roadside Appurtenances	3,286,820.17	355,125.64	123,766.26
Rest Areas	2,568,545.90	4,233,535.35	3,477,665.97
Emergency Maintenance	5,395.54	-	-
Traffic Controls and Safety	6,299,576.06	3,805,612.17	925,494.86
Bridges	1,288,203.23	486,012.13	59,626.83
Overhead Operations	3,160,682.89	771,346.11	454,296.72
<b>Total Contracted</b>	<b>56,971,537.37</b>	<b>39,720,261.04</b>	<b>33,475,171.21</b>

\* 99-00 figures are not available at this time.

*Table 3*

**Objective:**

**Implement a coordinated program for statewide bridge maintenance, repair, replacement and painting.**

**Bridge Maintenance**

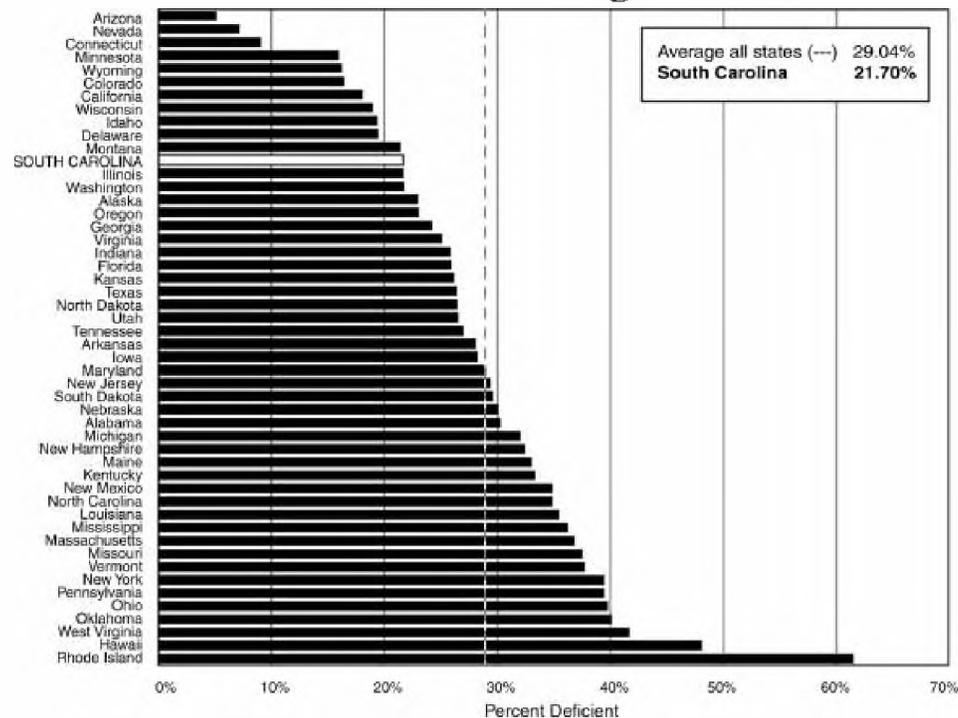
The SCDOT Bridge Maintenance Office has implemented a statewide comprehensive bridge program to help manage infrastructure assets.

The office uses a Bridge Management System (BMS) that provides a detailed analysis of bridge conditions and needs. BMS allows SCDOT to make an informed decision on setting bridge maintenance and replacement priorities. BMS will be linked with the Maintenance Management System and the Pavement Management System.

The SCDOT inspects approximately 6,500 bridges per year. Approximately 60 underwater bridge inspections are conducted annually. Data collected during these inspections is part of BMS.

Of the 8,211 state owned bridges, 878 are considered structurally deficient as compared to 775 last year. Another 823 are considered functionally obsolete. This is a decrease of 36 bridges compared to FY 98-99. A total of 1,701 bridges are considered substandard as compared to 1,634 last year. South Carolina's bridge conditions reflect a lower level of maintenance funds available. From 1999 to 2000 we saw an increase of 67 bridges, or 4%, which moved into the sub standard category. Figure 8 from the UNCC Study depicts the Bridge Conditions nationally and where South Carolina ranks. Figure 9 depicts State Owned Substandard Bridges.

**Deficient Bridges, 1998**



Source: TEA-21's Promise: Comparative Performance of State Highway Systems. UWC-C Study, 3/31/00



Figure 8

## Substandard Bridges

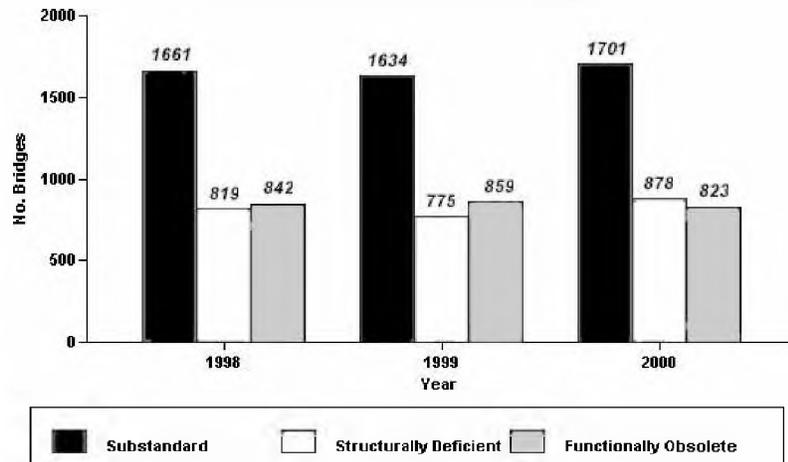


Figure 9

### Objective

#### Implement the Maintenance Management System statewide.

We are leveraging technology to enhance the maintenance of roads. We continue to develop the Maintenance Management System (MMS), a Software Package that provides a systematic approach to managing road and bridge maintenance. It is designed to help plan, budget and schedule maintenance work. The first module, the Daily Work Reporting System (DWRS), has been deployed and is now in operation. Other modules that interface with the SCDOT Financial Management System, The Accounting, Payroll, Procurement, and Bridge Maintenance operations modules, are in the developmental stage. We rely on data developed by the Pavement Management System (PMS) and the Bridge Management System (BMS) to assist the agency in integrating its maintenance priorities and actions.

### Objective

#### Implement enhancement projects to improve the appearance of SC Highways and other transportation facilities.

SCDOT has developed a comprehensive program to beautify the state's highways and transportation facilities. These programs are designed to make the state's slogan "Smiling Faces, Beautiful Places" a reality. The Office of Beautification Programs has aggressively implemented several components of a statewide plan that enhance driving safety and efficiency. The components include:

- Colorful spaces
- Adopt-a-Highway
- Vegetation Management Program
- Transportation Enhancement
- The Wildflower Program
- Joint Ventures
- Adopt an Interchange
- Contracted landscaping

More than 500 SCDOT employees, representing 41 counties, planted landscaped plots along highway rights of way. Employees were encouraged to develop partnerships with local government and community organizations to expand on the landscaped sites. Outstanding sites and the employees who planted the plots were recognized during a special awards ceremony.

The Adopt-a-Highway Program continues to enjoy success with volunteer participation. Public support of this program has been overwhelming with over 34,000 volunteers involved. These volunteers donated 56,075 hours of their time, saving the SCDOT approximately \$600,000. Table 4 depicts the success of the Adopt-a-Highway Program.

SCDOT Adopt-A-Highway Statistics				
	<b>Pounds Of Litter</b>	<b>Miles</b>	<b>Groups</b>	<b>Volunteers</b>
<b>1997</b>	2,324,559	6,249	1,968	31,591
<b>1998</b>	1,378,688	6,150	1,990	31,224
<b>1999</b>	2,480,128	6,742	2,052	34,318
<b>Totals</b>	<b>8,471,536</b>	<b>25,167</b>	<b>8,013</b>	<b>127,789</b>

Table 4

Another successful component of the overall enhancement program is the Transportation Enhancement Program. Transportation Enhancement funds are awarded by the Metropolitan Planning Organizations (MPO) in their metropolitan areas. For the non-urban areas the SCDOT Commission awards funds for approved projects. Some of these projects include streetscaping, scenic and landscaping programs, and historic preservation.

As part of the Vegetation Management Program, the SCDOT Maintenance Office in a cooperative effort with Clemson University Extension Services administers the Wildflower Program. To transform roadsides into wildflower gardens, SCDOT Maintenance employees select and order seeds, develop planting schedules, prepare the plots, plant the seeds, and monitor the plots. Some of the wildflowers brightening the state highways have been Cosmos, Oxeyed Daisy, Cornflower, Plains Coreopsis, Purple Cornflower, and Bidens. In 1999, maintenance crews planted 158 acres of flowers in 119 sites in 29 counties.

The Department has entered into a number of joint ventures with communities and businesses, such as a partnership with the Town of Irmo that resulted in a pleasant gateway to the town at the I-26/SC 60 Interchange. The Town of Irmo will maintain the landscaping after the contractor's guarantee expires. Another is a partnership with the South Carolina Department of Forestry to enhance the appearance and safety along highway rights-of-way through vegetation, tree, fire prevention, and environmental enhancements.

SCDOT provides enhancement funds for the Adopt-An-Interchange Program. The Department partners with local governments to provide a higher level of beautification at key interchanges along interstates and controlled access highways. A unique feature of the Adopt-An-Interchange program is that applications for

funding are accepted throughout the year until financial resources are expended.

Contract landscaping plays an important part in beautifying South Carolina's highways. The Department is in its second year of overseeing \$5.2 million in contracted landscaping projects at 26 locations across the state. The projects include the planting of summer and winter annuals and perennials at high volume intersections and entrances to cities. Efforts have been directed towards beautifying Interstate gateways such as the I-26 entrance in Spartanburg County.

All of these efforts by South Carolinians with the help of local community leaders will make South Carolina remembered for "Smiling Faces, Beautiful Places."

Program Name

## CONSTRUCTION

Cost

\$89 Million

Goal

Improve the condition and efficiency of the State Highway System.

Fiscal Year 1999-2000 saw the beginning of the “27 in 7 Peak Performance” program that allows South Carolina to build 27 years of road and bridge projects in just 7 years. There are several components to the program including innovative financing, Construction and Resource Managers, public-private partnerships, State Infrastructure Bank, and tolling.

The National Quality Institute presented SCDOT its Gold Award for the 2000 *Making a Difference in Breaking the Mold* competition for the “27 in 7 Program.”

The chart in Table 5 reflects the entire construction budget (federal and state matching funds) in the State Transportation Improvement Plan for FY 98, FY 99, and FY 00.

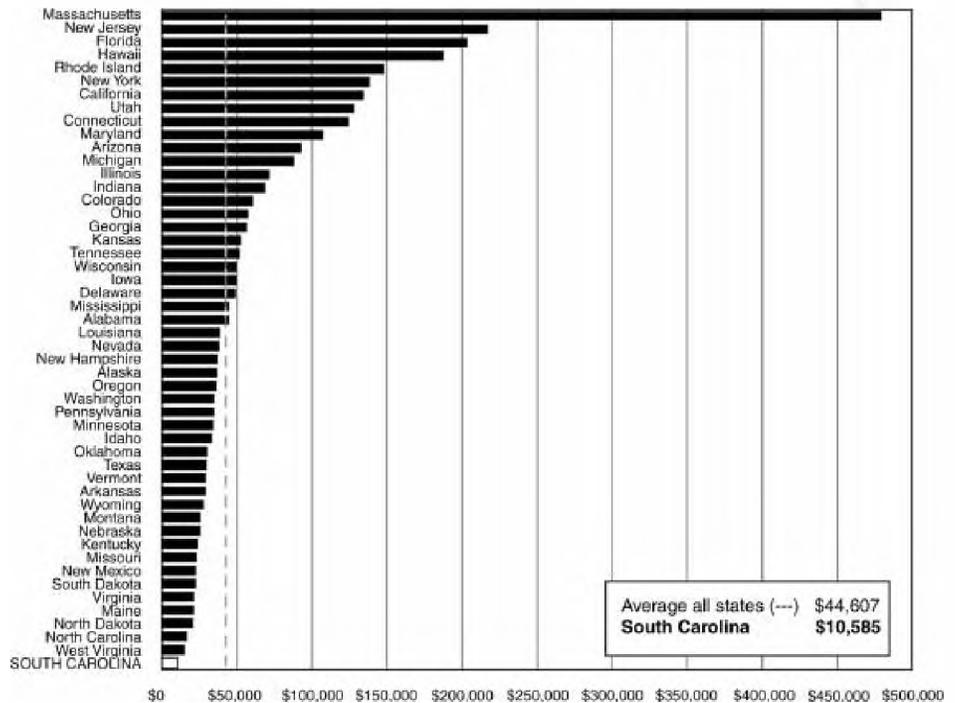
### CONSTRUCTION BUDGET

Obligation Funds from the STIP	FY 97-98	FY 98-99	FY 99-00
Rural System Upgrade	\$ 54	\$ 54	\$ 54
Urban System upgrade	60	60	60
COG Transition	4	4	4
Bridge	41	50	59
Innovation Projects-SIB	26	28	40
Enhancement	7.5	12	15
Safety	7.5	15	15
Interstate Maintenance	50	50	52
Interstate upgrade	35	50	50
Adv. Construction payments	25	25	47
Planning	15	8	11
Pavement & Reconstruction	42	42	45
High priority/Demo/Federal Lands1	5	15	26
System & Intermodal Connectivity	-	25	25
Contingency	15	-	-
High priority	13	-	-
Intersection improvement	-	-	12
	\$ 410.0	\$ 438.0	\$ 515.0

Table 5

How does SCDOT construction compare with the other State Departments of Transportation? Figure 10 illustrates expenditures for Capital and Bridge Disbursements per State Controlled Mile — one of the five measures of fiscal performance used in the UNCC Study. The study shows that South Carolina spends the least amount of money on capital programs. The programs include bridges, new construction, widening, right of way, preliminary engineering, safety, reconstruction and restoration.

### Capital Road and Bridge Disbursements, 1998



Source: TEA-21's Promise Comparative Performance of State Highway Systems, UNCC Study, 3/31/00

Figure 10

We have had an ambitious highway construction program for the past three years as reflected in the following narrative.

#### 1997-1998

During FY 97-98, 207 road and bridge projects totaling \$318.95 million were accepted for state maintenance. This included 27 state bonded bridge projects for 5.84 miles totaling \$19.66 million; 12 federal/state bridge projects for 2.71 miles totaling \$33.92 million; 52 state secondary projects for 135.78 miles totaling \$20.15 million; 35 special resurfacing projects for 424.62 miles totaling \$20.45 million; 11 Interstate projects for 120.17 miles totaling 37.50 million; 51 primary/urban projects for 379.67 miles totaling \$170.17 million and 19 other projects (pavement marking, landscaping, resigning, etc) for 1512.73 miles totaling \$17.09 million.



## 1998-1999

During FY 98-99, 136 road and bridge projects totaling \$179.74 million were accepted for state maintenance. This included 11 state-bonded bridge projects for 1.98 miles totaling \$5.69 million; 18 federal/state bridge projects for 5.77 miles totaling \$44.81 million; 34 state secondary projects for 127 miles totaling \$14.87 million; 24 special resurfacing projects for 471.06 miles totaling \$19.90 million; 14 interstate projects for 83.86 miles totaling \$34.28 million; 21 primary/urban projects for 74.82 miles totaling \$53.71 million and 14 other projects (pavement marking, landscaping, resigning, etc.) for 4,597.02 miles totaling \$6.49 million.

## 1999-2000

During FY 99-00, 180 road and bridge projects totaling \$294.08 million were accepted for state maintenance. This included eight state-bonded bridge projects for 1.83 miles totaling \$6.02 million; 27 federal/state bridge projects for 9.15 miles totaling \$39.8 million and 45 secondary state projects for 160.2 miles totaling \$17.01 million. There were 16 interstate projects for 138.49 miles totaling \$113.19 million; 50 primary/urban projects for 527.82 miles totaling \$107.86 million and 34 other projects (pavement marking, landscaping, resigning, etc.) for 4106.59 miles totaling \$10.2 million.

Projects Accepted for State Maintenance									
TYPE PROJECT	97-98			98-99			99-2000		
	MONEY (M)	LENGTH	NUMBER OF PROJS	MONEY (M)	LENGTH	NUMBER OF PROJS	MONEY (M)	LENGTH	NUMBER OF PROJS
BRIDGE BOND	\$ 10.66	5.84	27	\$ 5.69	1.98	11	\$6.02	1.83	8
FEDERAL BRIDGE	\$ 33.92	2.71	12	\$ 44.81	5.77	16	\$39.80	9.15	27
SECONDARY	\$ 20.15	135.78	52	\$ 14.87	127	24	\$17.01	160.2	45
SPECIAL RESURFACING	\$ 20.45	424.67	35	\$ 19.90	471.06	24	\$0.00	0	0
INTERSTATE	\$ 37.50	120.17	11	\$ 34.28	83.86	14	\$113.19	138.49	16
PRIMARY	\$ 170.17	379.67	51	\$ 53.71	74.82	21	\$107.86	527.82	50
OTHER	\$ 17.09	1512.73	19	\$ 6.40	4597.02	14	\$10.20	4106.59	34
YEARS TOTALS	\$ 318.95	2581.52	207	\$ 179.74	5361.33	136	\$294.08	4944.08	180

The data in Table 6 reflects projects completed in FY 98,99, and 00.

Table 6

### Objective:

**Complete the construction of all bonded Interstate projects.**

### Program Results

Work has begun on several priority Interstate interchanges in the state with the goal of enhancing traffic flow and safety. The projects and their status are as follows:

- I-85/SC 14, Exit 56, Greenville County, \$14 million. A contract has been awarded and the expected completion date is November 2001.
- I-385/S-55 (Fairview Road), The contract has been awarded for an approximate cost of \$20 million and will be completed by November 2002.
- I-26/US 176(Broad River Road) has been awarded for an approximate cost of \$13 million with an expected completion date of December 2001.

- I-85/SC11 (Floyd Baker Blvd), Exit 92, Cherokee County, has been awarded for an approximate cost of \$12 million with an expected completion date of October 2002.
- I-26/US 378 (Sunset Blvd.) Exit 110, Lexington County, approximately \$8-13 million. The right of way for the project has been acquired. The bridge portion of the project should be completed in late 2001.
- I-26/US 78 (University Avenue, Exit 205 Charleston County has been awarded, approximate cost of \$13 million, with a completion date of September 2002.
- I-20/SC 6 (S. Lake Drive) Exit 55, Lexington County, \$5-10 million. (Rights of way acquisition only).

**Objective**

**Use partnerships to accelerate projects in urban and rural areas of South Carolina.**

**Program Results**

SCDOT continues to forge partnerships with local governments by executing agreements with eight of the 10 state Metropolitan Planning Organizations (MPOs) and eight of the 10 state Councils of Governments (COGs). Work is progressing in a timely fashion. Obligations during the Federal Fiscal Year 1999/2000 were successful, achieving an approximate 90 percent to 95 percent success rate relative to timeliness and budget. Table 7 depicts the MPO Acceleration Program while Table 8 depicts the COG Acceleration program. Both figures contain the number of years it takes to complete a project using the standard approach and the program construction period under the accelerated program.

<i>MPO Project Acceleration Program</i>					
Metropolitan Planning Organization	Annual Guidelines (\$Millions)	Estimated Total Project Costs (\$Millions)	Estimated Highway Bonds To Be Issued (\$Millions)	Program Construct Complete Period (Years)	Time req. using std. approach & funding with 6% inflation (Years)
Anderson	2.2	28	11	9	24
Charleston	14.3	188	70	9	27
Columbia	13.9	153	64	8	18
Greenville	9.7	100	46	7	16
Rock Hill	2.8	20	13	5	10
Spartanburg	5.2	60	28	7	20
Florence	2.3	30	11	7	24
Sumter	2.7	36	14	7	25
<b>Total MPO Program</b>		<b>561.5</b>	<b>\$259</b>		<b>To \$295</b>

Table 7

<i>COG Project Acceleration Program</i>				
Council of Governments	Total Project Costs (\$Millions)	Estimated Highway Bonds To Be Issued (\$Millions)	Program Construct Completion Period (Years)	Time req. using std. approach & funding with 6% inflation (Years)
Appalachian	1155	567	9	25
Catawba	71	30	11	27
Low Country	56	26	7	18
Lower Savannah	66	31	7	21
Pee Dee	116	42	9	24
Santee Lowches	45	20	8	22
Upper Savannah	74	32	8	23
Waccamaw	39	15	8	22
<b>Total COG Program</b>	<b>\$622</b>	<b>\$263</b>		<b>To \$295</b>

Table 8



## Objective

## Program Results

### **Fully implement the Construction and Resource Manager Program.**

Because of our accelerated project program, SCDOT had to be innovative to complete increased construction demands. FY 99-00 saw the addition of an essential part of the “27 in 7 Peak Performance” construction program with the addition of the Construction and Resource Managers (CRM). Two CRM firms are under contract to SCDOT to manage a good portion of the 200 construction projects that will be built in seven years. The SCDOT accelerated bonded construction program increased the agency’s workload by a factor of 2.5 for several years. Without the assistance of the CRMs, SCDOT would have to employ approximately 500 additional employees to meet the demand of the accelerated construction program. The two CRMs act as an extension of SCDOT and report to Department Program Managers. Some of the accomplishments during the past year include:

- Mobilization of over 200 employees working in the areas of project management, engineering, design, construction, inspection, and testing.
- As of July 2000, over 110 lane miles of construction, managed by the CRMs was underway throughout the state.
- A user-friendly Project Status link has been activated on the SCDOT Internet web site allowing the public to view the current status of projects.

There are currently 93 projects in progress including 28 in preliminary design, 32 in rights of way plans, 23 in final plans, and 10 under construction.

## Objective

## Program Results

### **Conway Bypass to be completed by December 2001.**

The Conway Bypass is a 28.5-mile controlled access highway connecting US 17 in Myrtle Beach near Colonial Mall with US 501 east of Aynor. The work is being constructed as part of a design-build contract with Fluor Daniel, Inc. The first phase of the project from US 17 to SC 9, a four-mile segment, was completed ahead of schedule and opened in July 2000. The remainder of the project will be completed by December 2001.

## Objective

## Program Results

### **Complete the Southern Connector by November 2001.**

The Southern Connector is a 16-mile, four-lane toll road that will link Interstates 85 and 385 as a southern loop around Greenville County. The Southern Connector was financed by the Connector 2000 Association, a local not-for-profit corporation set up to finance and operate the facility. About \$200 million in toll revenue bonds were issued by the Connector 2000 Association in early 1998 to construct the highway. These bonds are non-recourse to the state. Once the bonds are retired, the operation and ownership of the road will be transferred to the SCDOT. The SCDOT has granted the Association a franchise to operate and collect tolls on the highway until the toll revenue bonds are satisfied. In conjunction with the project, SCDOT is financing a 1.5 mile connector to the highway. The work completed thus far is as follows:

- Roadway construction is approximately 86 percent complete.
- Bituminous paving is about 97 percent complete.
- Bridge construction is about 93 percent complete.
- Construction of the east and west mainline toll facilities is 59% complete.
- Utility relocation is complete.

The project is on time and is scheduled to be completed by November 2001.

## Objective

### **Issue an RFP and evaluate proposals for a design-build project on the Cooper River Bridges in Charleston.**

## Program Results

The Request for Proposal was issued in June 2000 seeking proposals from private firms for a design-build project. The proposals should include an eight-lane bridge with pedestrian and bicycle use and be able to accommodate mass transit. The bridge is to be 1,546 feet long. The design-build process is being used to save money. Community input is vital to the construction of the bridge. Phase I Proposals were received on September 15, 2000.

### **Research and Materials**

An essential part of any road and bridge construction project is the materials that are used in building the project. SCDOT has a vibrant Research and Materials Laboratory with a central laboratory being in Columbia and three regional laboratories located in Florence, Charleston, and Greenville. The laboratory is responsible for project materials testing, Federal Project Quality Assurance, Technician Certification for both SCDOT and CRM employees, development and maintenance of 48 approved product listings, administration of research projects and inspection of structural steel and concrete beams and pipes during their manufacture. The SCDOT Research and Materials Laboratory is accredited by the American Association of State Highway and Transportation Officials (AASHTO).

In response to the 1997 KPMG Peat Marwick Performance Audit, the Research and Materials Laboratory has been active in transitioning the SCDOT asphalt inspection program to 100% contractor quality control. The Coarse Aggregate Supplier Quality Control Program will be fully implemented by January 2001, and the Portland Cement Concrete Supplier Quality Control Research Project, completed later this year. The role of the Laboratory in this area has transitioned from performing inspections to preparing and teaching classes for all supplier technicians. During 2000, SCDOT completely phased out its in-house asphalt technician certification programs. The first courses for the Coarse Aggregate Supplier Certification Suppliers were taught by the University of South Carolina in FY 99-00. These classes are required for aggregate suppliers to meet the requirements of the new Aggregate Supplier Quality Control Policy.

The Research and Materials Laboratory has conducted additional inspection certification courses to accommodate the CRM personnel and has worked closely with CRM Project Managers to resolve issues related to materials.

The Department's Research Program is funded through the State Planning and Research program. These are Federal funds requiring 20% state matching funds. There are some exceptions on particular projects or activities covered under the program that do not require a state match. Both the Intermodal Surface Transportation Efficiency Act (ISTEA) and the Transportation Equity Act 21 increased research funding. In FY 98 the Department's research budget was \$990,000. In FY 99 the budget increased to \$2.5 million and in FY 00 the budget was \$2,826,000. These amounts include federal and state matching funds. The additional funding has enabled the Department to broaden the scope of its research program to include areas in addition to pavements and materials. Figure 11 depicts the number of research projects for the past three fiscal years.

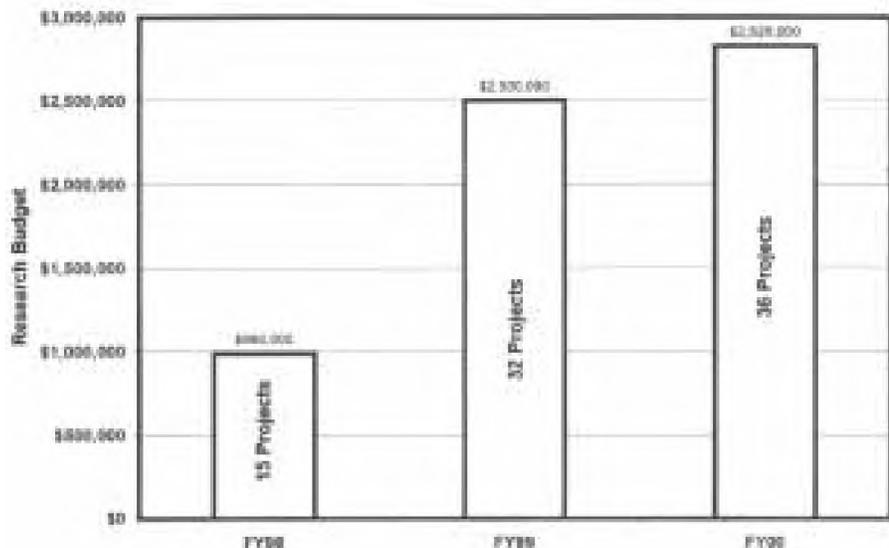


Figure 11

Program

Cost

Goal

## Mass Transit

**\$5.6 million**

**Improve and expand the multi-modal transportation system in South Carolina.**

The Division of Mass Transit assists the transportation needs of South Carolina's citizens by providing statewide transportation planning and research, administration of state and federal assistance programs, evaluation of existing and proposed programs; and coordination of Mass Transit Projects. The services provided by the SCDOT Mass Transit office support the priorities outlined in *EnVision South Carolina*, Governor Jim Hodges' Business Plan for South Carolina State Government. To that end, the Governor adopted the findings and recommendations of the Mass Transit Legislative Study Committee. The mission of the committee was to determine appropriate measures to implement practical forms of mass transportation to enhance the economic opportunities for all South Carolinians.

Mass Transit receives \$5.6 million in state funds. The majority of these funds are used to attract matching federal dollars to support public transportation. The Mass Transit Budget for the past three fiscal years is depicted in Table 9.

### MASS TRANSIT (Dollars in Millions)

Mass Transit Areas	FY 98-99	FY 99-00	FY 00-01
Large Urban Match	1.7	0.7	1.5
Small Urban	1.1	0.6	0.6
Rural	2.0	2.1	2.1
Planning	0.1	0.1	.02
Human Services	0.1	0.0	0.0
State Mass Transit Programs	0.1	2.2	1.5
Virtual Transit Enterprise	0.0	0.3	0.3
Operations & Administration	0.7	0.2	.24
<b>Total</b>	<b>5.8</b>	<b>6.2</b>	<b>6.2</b>

Note: The above fiscal year comparisons are advanced by one year due to the difference between the state and federal fiscal years and because SCDOT uses current year state dollars to match previous year federal dollars.

Table 9

**Objective**

**Develop and implement Mass Transportation Plan for allocating state and federal funds.**

**Program Results**

The Department is using a performance-based formula fund allotment program for the 14 rural transit authorities. The performance factors that will be used are ridership, vehicle revenue miles, cost per revenue mile, and local support.

**Objective**

**Implement training programs for all transit grantees.**

**Program Results**

A contract has been negotiated with the South Carolina State University Transportation Center to conduct training for all public transportation providers receiving funds from the Department. The training curriculum consists of defensive driving, procurement, preventative maintenance, safety, alcohol and drug testing and workshops for governing boards.

**Objective**

**Develop a mechanism for a bus- lease program.**

**Program Results**

SCDOT has developed a Request for Proposal seeking a creative contract encompassing the leasing of buses for the Rural Transit Authorities. The contract will include management and maintenance services of the leased fleet. The lease is expected to be negotiated in late 2000.

**Objective**

**Implement job access and reverse commute project.**

**Program Results**

The Department is in the process of executing contracts to provide transportation for needy citizens. In a partnership with the Department of Social Services and the Federal Transit Administration, nine public providers and the Columbia Housing Authority will provide transportation to job sites during shift hours when and where transportation is normally unavailable.

**Objective**

**Implement Phase I and II of the Virtual Transportation Enterprise.**

**Program Results**

The Virtual Transportation Enterprise embraces computer technology in managing bus and van transportation. This is a web-based network that when completed will be accessible through the SCDOT web site. In mid-2000 computer hardware was delivered and installed for all grantees providing public transportation services. The hardware included 70 personal computers and 32 printers.

**Key Performance Indicators**

Some of the key performance indicators are based on financial and performance data for Public Transportation Providers. Table 10 depicts Total Operating Revenue, Total Operating Expenditures, Vehicle Revenue Miles, Total Passenger Boardings, Cost per Revenue Mile and Cost Per Passenger Boarding for Mass Transit Activities.



<b>Performance Category</b>	<b>FY 1997-98</b>	<b>FY 1998-99</b>	<b>FY 1999-00</b>
Total Operating Revenue	\$14,426,977	\$18,784,407	\$20,227,827.71
Total Operating Expenditures	\$26,677,881	\$29,530,847	\$37,284,485.23
Vehicle Revenue Miles	17,888,911	16,577,137	19,173,577.2
Total Passenger Boardings	7,431,715	7,036,475	8,579,660
Cost Per Revenue Mile**	\$1.49	\$1.78	\$1.94
Cost Per Passenger Boarding***	\$3.59	\$4.20	\$4.35

Source: Information provided by public providers, including submitted 606 Forms, e-mail, telephone, and faxed sources of information. Includes data from SCE&G Columbia transit system as reported by SCDOT grantee Central Midlands Council of Governments. \*\*Cost Per Revenue Mile was calculated by dividing Total Operating Expenditures by the Vehicle Revenue Miles for each fiscal year. \*\*\*Cost Per Passenger Boarding was calculated by dividing Total Operating Expenditures by Total Passenger Boardings.

*Table 10*

Total operating revenue is the sum of revenue from all sources received by a transit agency. This chart depicts total operating revenue for the past three fiscal years.

Total operating expenditures represents all costs associated with operating mass transit systems among SCDOT grantees. Total operating expenditures for the past three years are depicted.

Vehicle revenue mile is a measure used to reflect the distance that a transit vehicle travels during period the vehicle is available to the public and is expected to have passengers. Travel by transit vehicles when unavailable for the general public or regular transit clients are not included in the vehicle revenue miles.

A goal of SCDOT is to support grantees in providing effective transit services to citizens and visitors to our state. Passenger boardings reflect the number of completed trips that transit systems provide.

Costs per revenue mile and passenger boardings represent data provided by Mass Transit grantees. The total operating expenditure amount is divided by total revenue miles and total passenger boardings to determine costs. These calculations assist in analyzing the level of efficiency in using transit funds.

Program

## ADMINISTRATION

Cost

\$66.9 million

Goal

Decrease the number of highway crashes/occupational accidents, injuries, and fatalities on South Carolina's Transportation System.

Improve employee skills, their work environment, and develop opportunities.

Improve management of our property, equipment, and technology

Develop a cash flow planning and management system.

The program area titled Administration includes Safety, Human Resources, Finance, Assets Management, Information Technology, Facilities Engineering, and Procurement.

Objective

## SAFETY

Decrease the number of highway crashes/occupational accidents, injuries, and fatalities on South Carolina's Transportation System.

The Statewide Transportation Improvement Program (STIP) designates the total funds (state and local) allocated for Safety Projects. These projects include Railroad Crossing Improvements, Hazard Elimination, Intersection Improvements, and Safety Campaigns. Because of the severity of South Carolina's traffic crash problem, and with increased funding through the Transportation Equity Act for the 21st Century, funding for safety initiatives was doubled from 1998 to 1999 and 2000. Figure 12 depicts the Federal and State Budget for Safety for the past five years.

**Statewide Transportation Improvement Program  
Federal and State Budget for Safety**

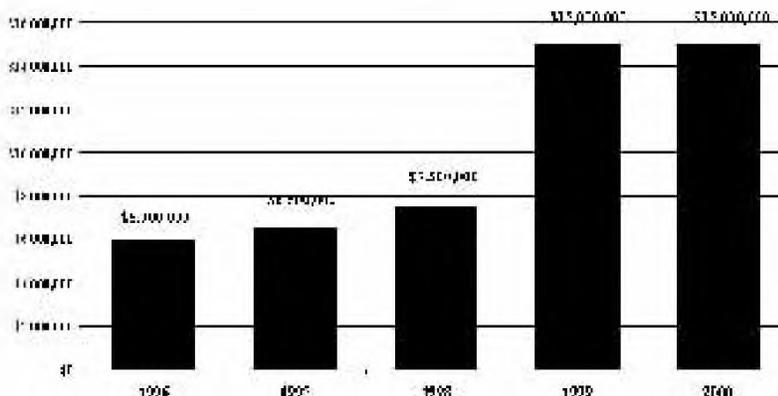


Figure 12

Traffic crashes, injuries and fatalities are a problem of epidemic proportions in South Carolina. During the past fiscal year the SCDOT Safety Office was reorganized and a comprehensive business plan was developed targeting the leading causes of crashes, injuries, and fatalities. Crash statistics for the calendar year indicated some progress. Non-fatal crashes declined by 2.6 percent dropping from 56,801 in 1998 to 55,322 in 1999. Fatalities from truck tractor crashes declined by 3.4 percent; bicycle fatalities declined by 30 percent; pedestrian fatalities by 1.8 percent and fatalities involving railway trains dropped by 40 percent. Despite these limited gains, the overall crash statistics continue to worsen.

South Carolina's mileage death rate (MDR) is 60 percent higher than the national average, making the state's highways some of the most deadly in the nation. Between 1990 and 1992 both the number of traffic deaths and the MDR declined in South Carolina reaching totals of 807 and 2.3 million vehicle miles of travel respectively. The latter figure represented an all time low in the state's MDR. Between 1993 and 1996 the number of traffic deaths increased each year and the MDR remained constant at 2.3. Both figures declined in 1997 and then increased in 1997 and 1998. The 1,064 traffic deaths reported in 1999 represent the highest total in a decade and the third highest total in state history. Nationally the MDR has been steadily decreasing and in 1999 the national rate dropped to 1.5. South Carolina Traffic Deaths and the Mileage Death Rate are depicted in Figure 13.

### South Carolina Traffic Deaths and Mileage Death Rate\*

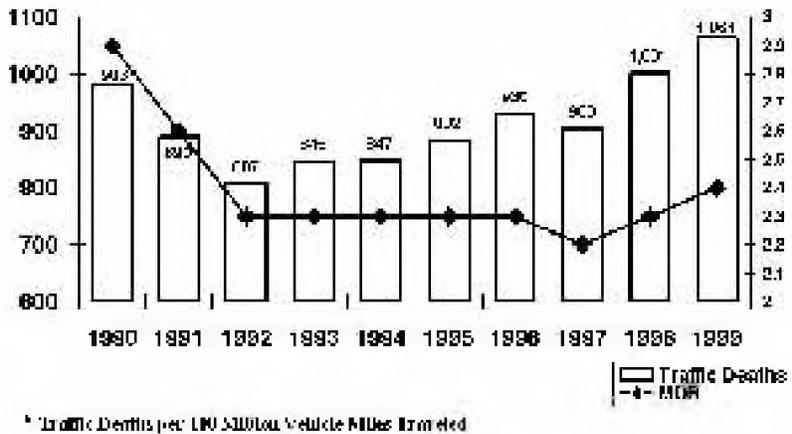
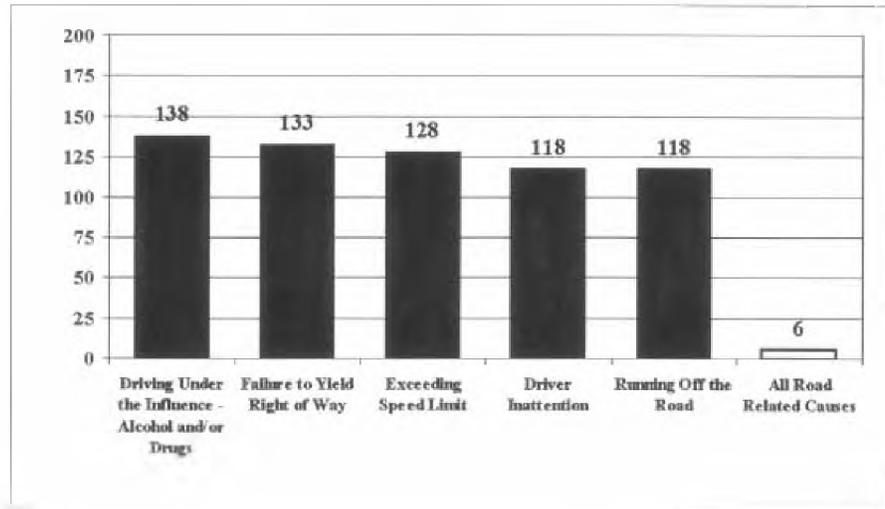


Figure 13

The leading probable cause of fatal traffic collisions in 1999 was “Driving under the Influence of Alcohol and/or Drugs.” In these collisions, 138 people were killed. This was followed closely by “Failure to yield right of way,” “Excessive speed,” “Driver inattention,” and “Running off the Road.” The top five categories accounted for nearly 60 percent of all the traffic deaths in the state for 1999. Various road-

related causes accounted for six traffic deaths during the year. It should also be noted that many crashes have a number of contributing circumstances leading to the crash causation that are not reflected in the probable cause data. The top five probable causes for traffic fatalities compared to all road related causes for 1999 is shown in Figure 14.

**Top Five Probable Causes for Traffic Fatalities  
Compared to All Road Related Causes  
1999**



*Figure 14*

## Occupational Safety

We do dangerous work in SCDOT, so it is paramount that we have an aggressive Occupational Health and Safety Program for the employees of the Department. During the fiscal year, 48 safety courses were offered to employees throughout the headquarters and the field offices.

The Safety Office continued to serve as a resource for the Department to insure compliance with federal and state OSHA, DHEC, and NFPA regulations. Our Occupational Safety Unit coordinated activities and compliance with District Safety Coordinators. The programs included Industrial, Chemical, Fleet, First Aid and CPR.

The leading cause of work-related fatalities during the fiscal year was transportation related. Two employee fatalities both resulting from traffic crashes occurred during the year. During the past decade, ten of the agency's 11 work-related fatalities have occurred as a result of traffic collisions.

## Results

As a result of our ambitious employee education program there was a slight decrease in OSHA recordable injuries as depicted in Figure 15 (on the next page).

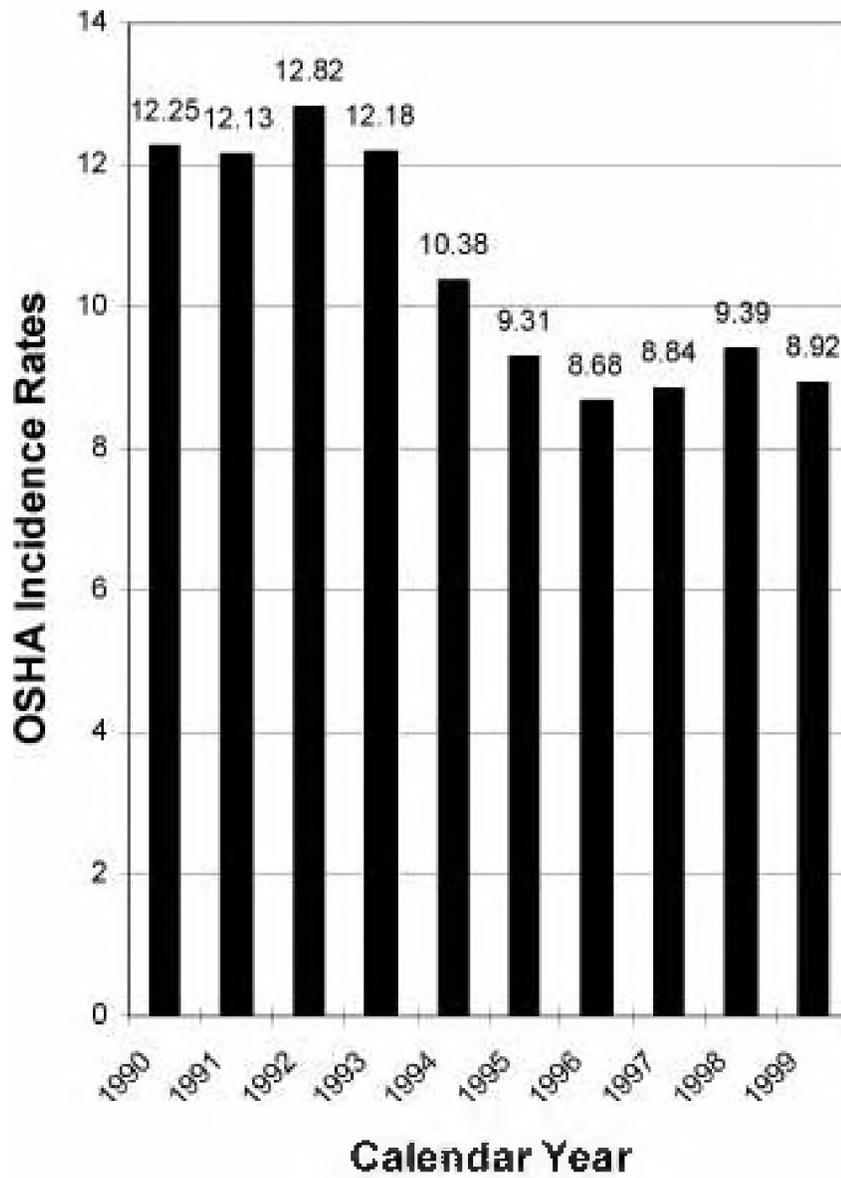


Figure 15

Two work units within the Department set new safety records during the fiscal year. The Bamberg County Maintenance Office attained 750 consecutive days without a lost time injury. Kershaw Maintenance set a new Department record of 1,000 safe days. Special safety celebrations were held at each site to recognize the accomplishments of the employees working at these facilities.

### Promotional Campaigns

*“Highways or Dieways.”* One of the objectives for the Department was to Implement and expand the “Highways or Dieways” Program. SCDOT officially launched the “Highways or Dieways” (HOD) Campaign on April 4, 2000 at a statewide briefing on traffic safety held at Seawells Cafeteria in Columbia. Speakers included Lt. Governor Bob Peeler, and other luminaries. Participants were briefed on the severity of the state’s crash problem, and the new HOD advertisements were viewed. Since the campaign was launched, the ads have appeared approximately

6,100 times on broadcast and cable stations. HOD bumper stickers have been distributed statewide and are displayed on SCDOT vehicles.

*“Take the Pledge”* SCDOT employees were invited to *“Take the Pledge,”* the hallmark of a recently instituted campaign. Recognizing that the Department’s leading cause of occupational-related death for the last decade has been related to motor vehicle crashes, SCDOT instituted the *“Take the Pledge.”* Through the program employees take a personal pledge to drive safely, courteously, and defensively. They also pledge to wear the Highways or Dieways lapel pin one or more days a week as a visible sign of their personal commitment to improving safety on South Carolina’s highways.

The SCDOT Safety Office work plan included the implementation of a statewide public information and education campaign targeting aggressive driving and work zone safety. During the fiscal year, funding was allocated for the development of the following programs that are representative of the Department’s efforts:

- Traffic Safety Summit
- Smooth Operator Campaign
- Red Light Running Awareness
- Department internal Roadside Safety Audit Program
- Corridor Safety Improvement Program

## **Risk Management**

A Risk Management Unit was created in 1998 in response to a dramatic increase in the Department’s General Liability Insurance premium. This unit has played a significant role in reducing the overall cost of insurance in the past two years. In 1999 there was a premium reduction of 25 percent and in 2000 an additional 20 percent premium reduction. While still making an effort to reduce premiums for general liability insurance, additional emphasis will be placed on reducing Workers Compensation and auto liability insurance. Premium reductions since 1998 were \$2,617,314.

## **HUMAN RESOURCES**

Goal 6 of the SCDOT Strategic Plan is to “Improve employee skills, their work environment, and develop opportunities.” We continue to recruit, adequately compensate, train, and equip our employees to successfully fulfill the mission of the Department.

SCDOT employs 5,383 men and women throughout South Carolina.

Because our employees are the Department’s greatest asset, more focus was placed on providing better services to them. In early 2000, the Office of Employee Services was created. Employee Services has the responsibility of Training and Development, the Library, Medical Services, and Employee Parking.

## Compensation

- During FY 1999-2000 a comprehensive compensation study was conducted by the SCDOT Human Resources Office, that included all job classifications in the Department. A comparison was made with the salaries paid to employees of Departments of Transportation in other Southeastern states, private industry, local and county governments. The results revealed that our employees were among the lowest paid in the Southeast. In cooperation with the Budget and Control Board, salary adjustments were approved for those employees in jobs pay bands 1 through 4 that were under-compensated compared with the Southeastern average. Approximately 2,900 employees received a salary increase as a result of this study.

## EPMS Universal Review Date

- In November 1999, the Department adopted a universal review date for the Employee Performance Management System. This change brings more

## Equal Employment Opportunity

- SCDOT is committed to Equal Employment Opportunity and attracting quality employees while ensuring a diverse workforce. The Department is concerned about minority and female utilization. Minorities and females represent 37 percent of the workforce. According to the Annual Report to the General Assembly by the South Carolina Human Affairs Commission, the Department ranked 12th out of the 28 state agencies having over 500 employees in their workforces. Figure 16 depicts a positive trend in the recruiting of minorities and females.

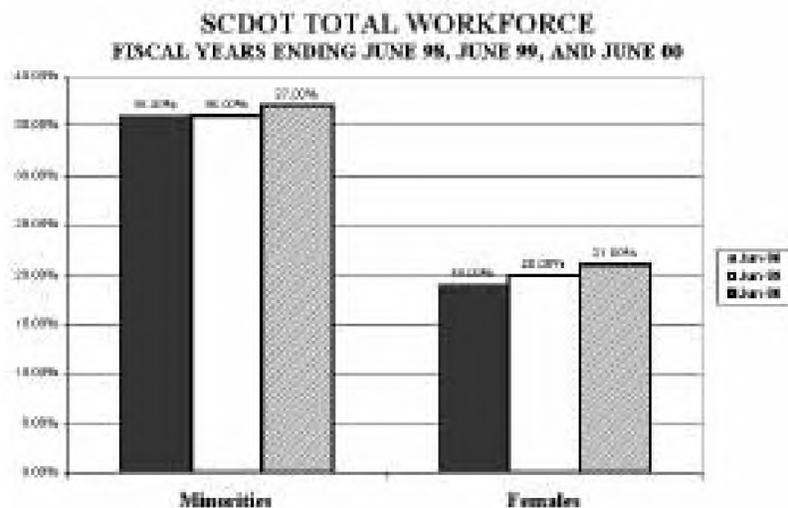


Figure 16

## Staff Training and Development

- An organization's success in delivering better results depends increasingly on the skills and motivation of its workforce. The Department is emphasizing learning and professional development by offering more opportunities for employees to learn and make greater contributions to our customers.
- Our New Employee Orientation was revised in 1999 with approximately 100 employees participating. The orientation gives the new employee an understanding of the Department's mission, vision, values, and goals. The Executive Director and Deputy Directors participate in all New Employee Orientations.
- We continue to develop a core of engineers and use the Civil Engineer Training Program (CETP) to produce highly trained and versatile transportation engineers. A total of 86 employees have completed the program since its inception in 1989. Of the 39 engineers completing the program since 1996, 36 remain employed with the Department. Five engineers participated in the program in FY 1999-2000 and ten are currently enrolled.
- 36 Employees participated in the Department sponsored High School General Equivalency Development Program.
- The Department's Tuition Assistance Program provided financial assistance for 47 employees who attended courses related to their job or for preparation for advancement.
- 4,844 Department employees attended a learning event during FY 1999-2000. Figure 26 depicts the numbers of employees trained for the past three fiscal years.

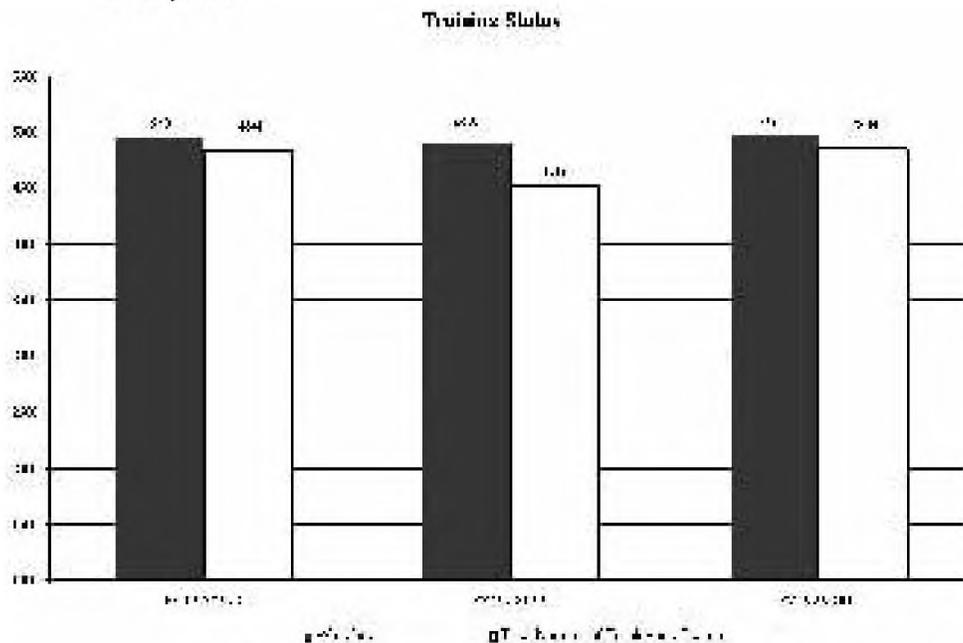


Figure 17

## SCDOT Library

- A library has been established in the Department to provide a ready source of professional publications related to transportation engineering and public transit issues. The library now contains over 1,300 items, 34 journals and magazines. A professional librarian is developing this resource to assist SCDOT in research efforts.

## Employee Recognition

- 3,569 employees received On-the DOT Awards from either a supervisor or a fellow employee for a specific task performed. The person receiving the award receives a certificate of recognition and an item with an SCDOT Logo.
- 615 employees received an On-the-DOT Extra Award. This is a monetary award up to \$250 for extraordinary performance on a particular project.

## Medical Services

A variety of Medical Services is provided to SCDOT employees in an effort to promote employee wellness, reduce injuries, decrease absenteeism and promote job satisfaction and productivity. Some of the key services provided in FY 1999-2000 include:

- There is a Medical Clinic for Headquarters employees staffed by a registered nurse. Services such as providing over the counter medications, monitoring blood pressure, checking blood sugar for diabetics, changing dressings, and removing sutures. First Aid services are also available, along with basic life support, including an automated external defibrillator. There were 3,514 visits to the Medical Service Office in the past fiscal year by SCDOT and SCDPS employees in the Headquarters Building.
- 2,303 employees participated in health screenings conducted at 49 work sites across South Carolina. A contractor assisted by SCDOT volunteers administers the health screenings. A questionnaire on "Life Style" is administered to participants. This questionnaire identifies risk factors. This is followed by a complete blood work-up that helps to identify medical problems. The results of the screening are discussed with the employee and the data is provided to his physician. A health education class is given as part of the process.
- The Medical Services Office manages an immunization program through on site wellness coordinators. A team of contract nurses visits the work site and administers flu, tetanus/diphtheria, pneumonia, and hepatitis B shots. Last year there were 5,196 immunizations administered.

## FACILITIES ENGINEERING

SCDOT has made the best use of available funding to upgrade employees' work environment throughout the state. The Department has 540 facilities with an average age of 35 years. Some of the oldest facilities date back to 1920. The SCDOT Headquarters Building was constructed in 1978 and requires major repairs to building systems. We have developed a five-year Capital Improvement Plan that will be updated annually. During the past three years the office space of 732 employees has been upgraded. Most of the work was done using in-house capital improvement crews.

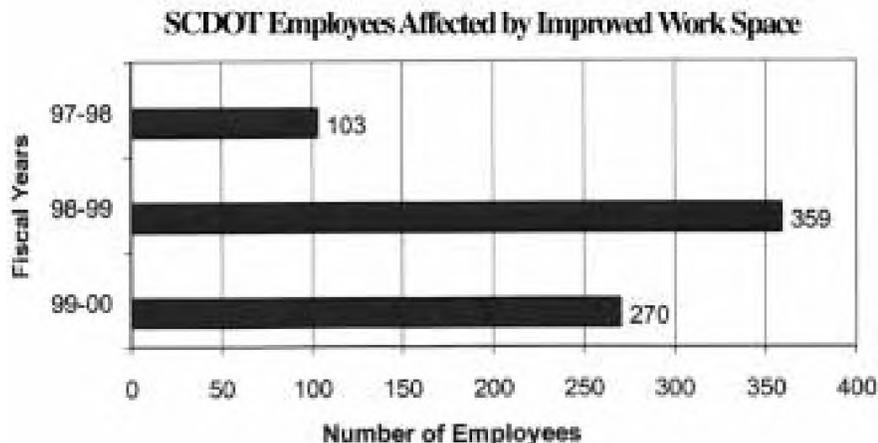


Figure 18

### Objective

### Program Results

## INFORMATION TECHNOLOGY

### Develop Internet and Intranet support for the Department

A user-friendly Internet Web Site was completed on July 1st. It allows the customers of the Department to easily find useful information. The site contains information such as the status of the agency's accelerated construction projects. The site has the same overall design and navigation for every page. It is divided into five categories.

- Inside SCDOT
- Getting around in South Carolina
- Public Forum
- Doing business with SCDOT
- Community Service

**Objective**

**Develop a plan to place a fiber optic network on the Interstate Highway System.**

**Program Results**

The SCDOT Commission approved a staff recommendation to pursue a shared resource project where we could exchange the use of Interstate highway rights of way to a fiber optics contractor who would in turn provide without cost, fiber optics technology for the needs of the Department. We have employed a consulting firm to assist us in seeking a suitable contractor. A Request for Proposal will be released in late 2000 seeking a suitable contractor. This fiber optic arrangement will allow the Department to enhance our Intelligent Transportation System now being deployed throughout South Carolina.

**Objective**

**Develop a long range plan for the Intelligent Transportation System.**

**Program Results**

The Traffic Engineering Office continues to develop a long range plan for deployment of a statewide Intelligent Transportation System (ITS). ITS is designed to enhance highway safety and works especially well in mitigating traffic congestion or alerting motorists to traffic hazards. The typical ITS includes the use of live feed video cameras, variable message board, radar detection units and highway advisory radios. Information is fed into a Traffic Management Center where staff can deploy the appropriate resource to mitigate traffic problems. The State Highway Emergency Patrols (SHEP) are an integral part of ITS. We now have in various stages of development Traffic Management Centers in the Columbia Metropolitan area, Charleston, Greenville/Spartanburg, and Rock Hill. SCDOT in a partnership with WIS-TV has an arrangement for live feed from the Columbia TMC during morning and afternoon drive time. The TMC in Columbia is able to monitor activity in other parts of the state and provides live feed to the South Carolina Emergency Preparedness Division.

**Objective**

**Ensure Year 2000 compliance**

**Program Results**

A contingency plan was developed to ensure that all Information Systems were operational on January 1st, 2000. This wasn't an insignificant feat because most of the traffic signals across the state are operated using computer software. This was a Department-wide effort with local maintenance crews ensuring there were enough traffic regulation signs available to ensure safe travel for our motorists. The Headquarters IT Staff coordinated its plans with the Office of Information Resources, of the Budget and Control Board.

**FINANCIAL MANAGEMENT**

**Objective**

**Implement Financial and Project Management System.**

A component of the Malcolm Baldrige Performance System is how an organization obtains data to enhance its business processes and provide better customer services. SCDOT continues to leverage technology and has several systems that when completed will comprise an integrated Information Management System. Some of the systems in various stages of development are as follows:



Financial and Project Management System. This is a system designed for state transportation agencies and is the keystone where all other major Department systems interface. It is commonly referred to as STARS. STARS allows the agency to analyze its financial resources and provides an array of project management software to include accounting, payroll, contractor and vendor payments. Phase 1 of the project has been completed. The other phases will interface with the Maintenance Management System (MMS) and the Construction Management System also referred to as Site Manager.

**Objective**

**Consolidate bills from major utility companies across the state.**

SCDOT operates approximately 400 traffic light systems across South Carolina. The Utility Companies providing service forwarded individual bills to the Department for payment. In a recent process improvement the major utility companies agreed to consolidate their billing and send one request for payment. This allowed for faster processing of the consolidated bill and savings in man-hours.

Our Information Technology staff in a process improvement with cellular telephone vendors reduced the number of bills from 175 to 14 a month. The agency now receives billing data on a CD-ROM enabling better management of cell phone activity. During the past year the average cost per minute has been reduced from 39 cents to 25 cents per minute. This cost savings was achieved by pooling minutes, negotiating more competitive rates, and switching to digital services.

**Objective:**

**Expand use of the procurement card to 85% of qualified purchases.**

**Program results**

The agency has successfully implemented the use of the procurement card with the issuance of 890 cards Department wide. We have increased the number of transactions from 19,203 in FY 99 to 55,206 transactions in FY 00. This has resulted in an administrative cost avoidance of approximately \$576,000 for FY 99 and approximately \$1,656,180 for FY 00.

**Objective**

**To submit an Annual Minority Business Enterprises Utilization Plan to the Governor's Office and reach a stated goal of 10% of controllable dollars expended with minority businesses.**

**Program Results**

The SCDOT Procurement Office submitted the annual report on time and exceeded the 10% goal for the past three years. Figure 19 (on the next page) depicts the agency's expenditures with minority businesses for the past three fiscal years.



## Expenditures for Purchases from Minority Vendors

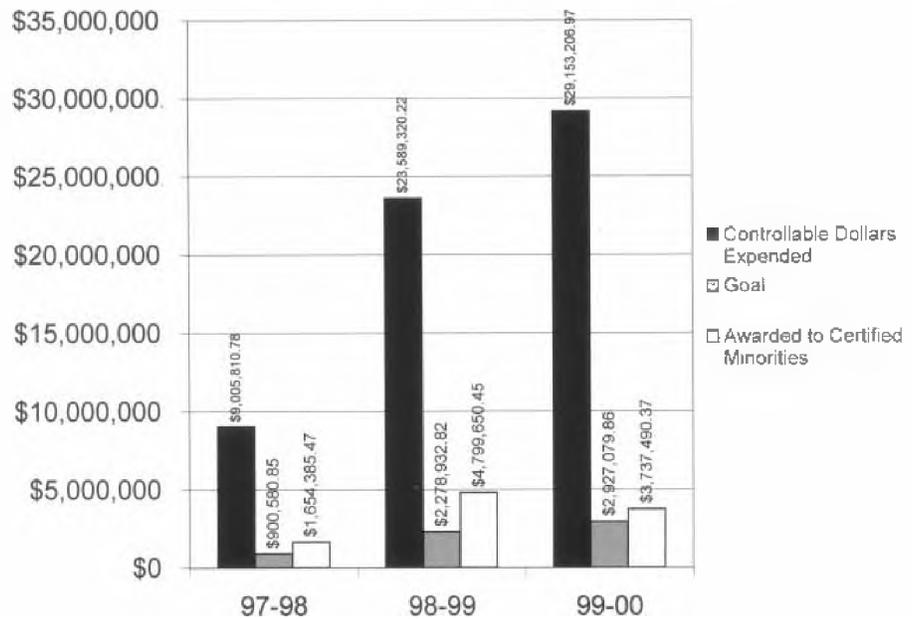


Figure 19

### ASSETS MANAGEMENT

#### Objective

#### Develop and adopt a comprehensive Total Asset Management Program.

SCDOT is one of the largest business operations in South Carolina and is responsible for a multi-billion dollar investment by the taxpayers of the state. Those assets include pavement and bridges, real estate, over 540 buildings, approximately 3,400 vehicles, and an elaborate information and telecommunications infrastructure.

The Department is in the process of developing a total Asset Management system and will be fully compliant with the General Accounting Standard Board (GASB) 34. Much of the work has been completed and it is a matter of integrating the numerous systems.

The Department will host a workshop in early 2001 regarding the requirements of the GASB 34 and its relationship to the infrastructure managed by SCDOT.

The Facilities Engineers' Office has developed a detailed Facility Assessment Process where each structure will be evaluated for renovation or replacement. The methodology will create a systematic mathematical process for building replacement. The results of these assessments will form the basis for the Department's Capital Improvement Plan.

The Office of the State Highway Engineer has implemented a program to obtain better utilization of the agency's vehicle and equipment fleet. A process has been

initiated to capture data on equipment that isn't being used to its full potential. Some of the factors for underutilization that will be evaluated include the age and mechanical condition of the item. Those vehicles reaching their maximum life will be disposed of through the State Property Disposal Office. Those vehicles whose usage is not at a desired level will become a candidate for use elsewhere in the state. The process will include an analysis to determine the right mix of vehicles and equipment to perform the Department's mission. SCDOT has the most specialty vehicles of any agency in South Carolina Government.

## SUMMARY

This report reflects the results of the collaborative efforts of 5,300 men and women of the South Carolina Department of Transportation's RIGHT Team. We have made use of limited financial resources by adopting creative solutions to highway construction, maintenance and mass transit.

Our "*27 in 7 Peak Performance*" program has allowed us to be able to perform 27 years of highway construction in 7 years. One of the most innovative components of 27 in 7 is to engage the services of two Construction Resource Managers to aid in the delivery of highway construction projects.

We have made significant strides in improving customer service by being responsive as well as involving the public in developing plans for the future. The public has access to information about projects taking place in their neighborhood by accessing our user friendly web site.

Although we are ranked as one of the most efficient Transportation Departments in the nation, our road maintenance program is being affected by a lack of funding. We will make an on-going effort to inform the legislature regarding the maintenance needs of the Department.

Unfortunately, South Carolina roads are ranked as the third most dangerous in the nation. In a partnership with the Department of Public Safety and citizens groups across the Palmetto State we must continue to focus on highway safety.

This report reflects SCDOT support of Governor Jim Hodges, EnVision, South Carolina, Business Plan and uses performance measurement tools provided by the Malcolm Baldrige Performance Management System.