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## Improving the new equipment process for the South Carolina Department of Transportation

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**CERTIFIED PUBLIC MANAGER PROJECT**

**IMPROVING THE NEW EQUIPMENT DELIVERY PROCESS FOR  
THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION**

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**CERTIFIED PUBLIC MANAGER PROJECT**  
**January 14, 2000**

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South Carolina  
Department of Transportation

December 9, 1999

Mr. Carl Chase Jr. currently engaged in the Certified Public Manager Program has discussed his project with me. The project involves developing a tracking system for the delivery of new equipment acquired by the South Carolina Department of Transportation (SCDOT). The completed project will be incorporated either in whole or partially as part of the SCDOT Total Asset Management Program.

A handwritten signature in black ink, appearing to read "R. Probst", is written over a faint, larger version of the same signature.

Robert J. Probst  
Chief of Staff



## **PROJECT GOAL**

Develop a system to track and reduce the time it takes to prepare new equipment for deployment to South Carolina Department of Transportation users in the field. This system will be developed and implemented in Fiscal Year 2000.

## PROBLEM STATEMENT

The South Carolina Department of Transportation (SCDOT) maintains and operates the largest fleet of vehicles in South Carolina State Government.

SCDOT acquires its vehicles using state contracts administered by the Materials Management Office an arm of the South Carolina Budget and Control Board.

The SCDOT fleet is composed of approximately 3400 vehicles of varying types from pickup trucks and sedans to backhoes and road graders. Between 280-300 pieces of equipment are acquired annually and it may take 6-9 months to deploy the item to the user. Most of them new equipment replaces obsolete or unsafe vehicles in field units. The SCDOT Supply and Equipment Office is involved in the entire life cycle of equipment from acquisition through disposal.

The genesis of new equipment is when delivery takes place to the Equipment Depot Shops and Storage Yard located on Shop Road in Columbia. Here new equipment is upfitted and prepared for delivery to users located in field offices throughout the state.

In 1997 a Performance Audit was conducted of SCDOT operations by KPMG Peat Marwick. A major finding in the audit was **“SCDOT did not have process to adequately track and review the amount of time it takes to prepare new equipment for deployment to the field.”**

A recent example that amplified this finding was a recent item acquired by the Department was a 1999 Chevrolet Suburban. It took approximately 45 days to deliver this vehicle to the user. This occurred according to the Director of Supply and Equipment because there is insufficient manpower available to equip new vehicles for timely delivery. Additionally, delivery of new vehicles by the manufacturer is unpredictable, and there is a delay in obtaining the necessary license tags and fuel credit cards adding delay to the delivery process.

In late 1998 SCDOT adopted a formal 5-year Strategic Plan. A major goal of the plan was that the Department improves management of our property, equipment, and technology. One of the objectives of this goal was to adopt a Total Asset Management Program that would address improving the management of equipment.

The proposed tracking system, the topic of this project, would allow the Equipment Depot to set performance goals and measure actual performance against goals to determine that new equipment is deployed in a timely manner. This tracking system would help find inefficiencies in the process.

This Tracking System will allow the SCDOT to document the problem areas and use "best practices" to deliver the item to the user in an expeditious manner. Faster deployment of equipment to field units translates into the field doing their jobs better.



## CAUSE AND EFFECT DATA

**INTRODUCTION:** The South Carolina Department of Transportation operates the largest fleet of vehicles in South Carolina State Government. In a typical year between 280-300 vehicles are acquired by the Department. The Department Equipment Depot processes all new equipment acquired for the 47 Maintenance Shops and the Seven District Offices and the Headquarters.

The Departments key customers for products delivered by the SCDOT Equipment Depot are the 7 District Engineering Administrators, 47 Resident Maintenance Engineers, 47 Maintenance Shop Foreman, and 2300 maintenance people deployed throughout the state. There is a general impression among SCDOT Customers that the time required to receive new equipment is slow and delays their efficient accomplishment of work.

**OBSERVATION OF THE PROCESS:** I have observed the Equipment Deployability Process for two calendar years and reviewed data for approximately 600 vehicles and off road equipment. The data collected was for calendar years 1998 and 1999.

I selected four types of vehicles to study. I developed three flow charts. Attached are three flow charts depicting the process of preparation for four vehicles. The four vehicles depict the process for a Chevrolet Suburban Van and Pickup Truck, Dump Truck, and Backhoe. I have depicted the process for the Suburban and Pickup Truck on one flow chart because the same steps are required for those vehicles. The Dump Truck has equipment attached by a commercial vendor and the backhoe doesn't receive license plates. They depict the following:

They depict the process used to process four types of equipment.

The flow charts indicate that some steps used to process are redundant and time consuming.

The flow charts also indicate that the Equipment Depot is providing services that are part of the vendor's contract. The Depot uses one man-hour per vehicle to check fluids (oil, transmission fluid, and coolants).

The Equipment Depot developed a form enclosed as Table A. It is used to track new equipment as it processed through the Depot. This form has been in use for approximately two years and was developed as a result of recommendations in the State Performance Audit conducted by KPMG Peat Marwick.

**CONTRIBUTING FACTORS:** During my observation of the process and using a fishbone diagram I identified the following contributing factors:

The Department has a fragmented tracking system.

During 1998-1999 the workload of the Equipment Depot was constant and there was no significant increase or decrease in the number of employees used to process new equipment.

I have enclosed charts that identify Contributing Factors.

Chart 1 indicates the number of vehicles returned to the dealer for adjustment.

Chart 2 reflects the number of vehicles outsourced to have accessories or additional equipment installed.

Chart 3 indicates the time it takes to obtain State Government License Plates.

Chart 4 reflects the time it takes to receive the proper credit card(s) from the vendor. Fuel Cards can only be ordered after State License Tags are issued by the Division of Motor Vehicles. Fuel Cards are ordered through the Office of State Fleet Management who in-turn orders them from a private vendor. Cards are ordered using a manual process.

The Equipment Depot does not have standard to measure its performance.

A final contributing factor involves personalities. The Director of the Supply and Equipment Division who had been in the position for approximately 20 years was not receptive to change and was unwilling to modify the process retired on December 31, 1999. For example, he was unwilling to use the State Fleet Management Information System. All information was given to State Fleet Management was manually.

#### SPECIFIC DECISIONS:

The Department is modifying the way it processes new equipment.

The Tracking Process will be refined and automated. We have several management systems that can be enhanced with a tracking system. State Fleet Management has an Information System that provides information on all vehicles owned by State Government. SCDOT has its own system called the Equipment Control System. On January 6, 2000 the Supply and Equipment Office went on-line with the State Fleet Management.

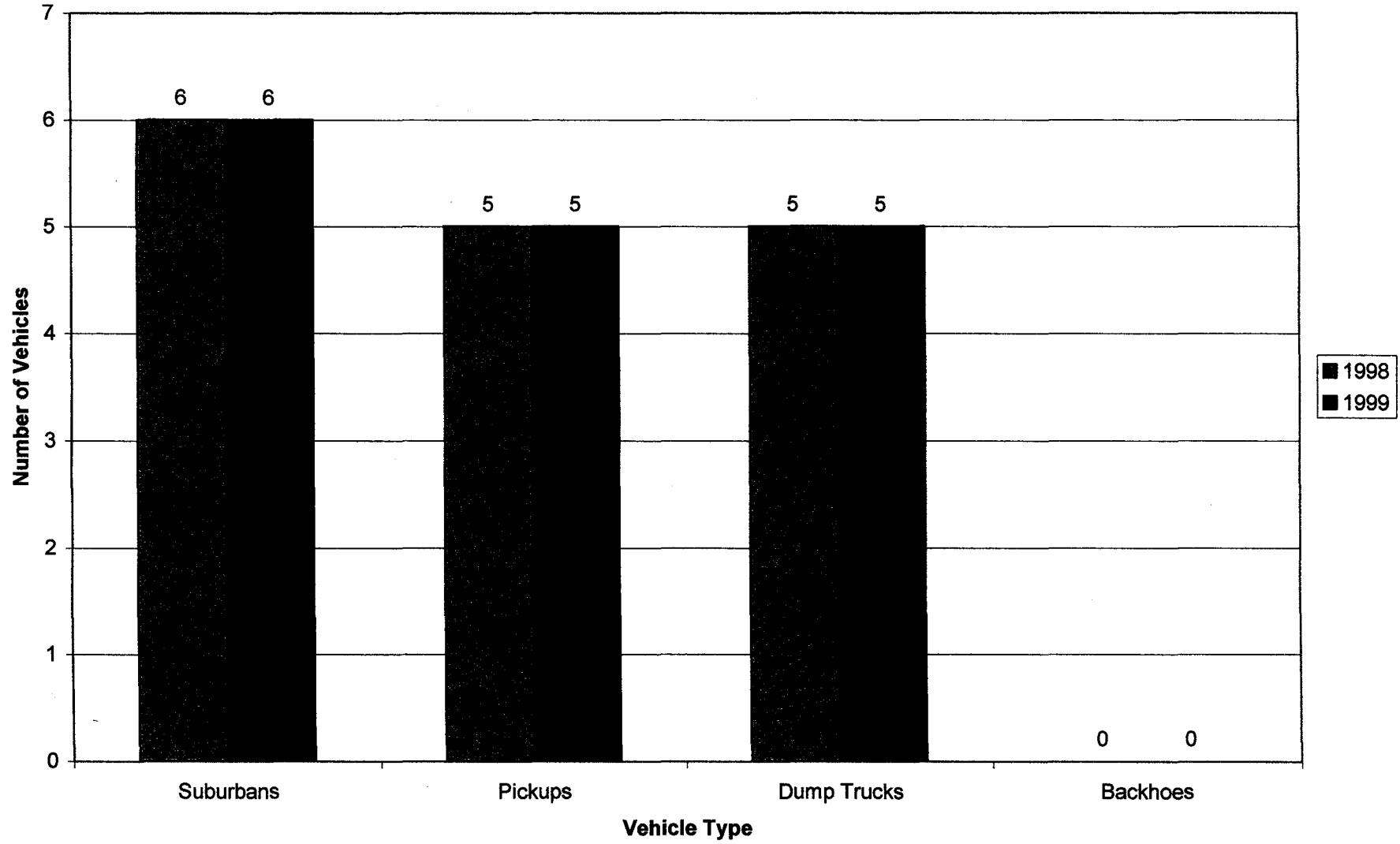
Beginning in February 2000, SCDOT in a cooperative venture with the Division of Motor Vehicles of the SC Department of Public Safety will begin issuing its own State Government License Tags, Registration Cards, and Titles.

In the near future SCDOT will go on-line to order fuel cards direct from the vendor.

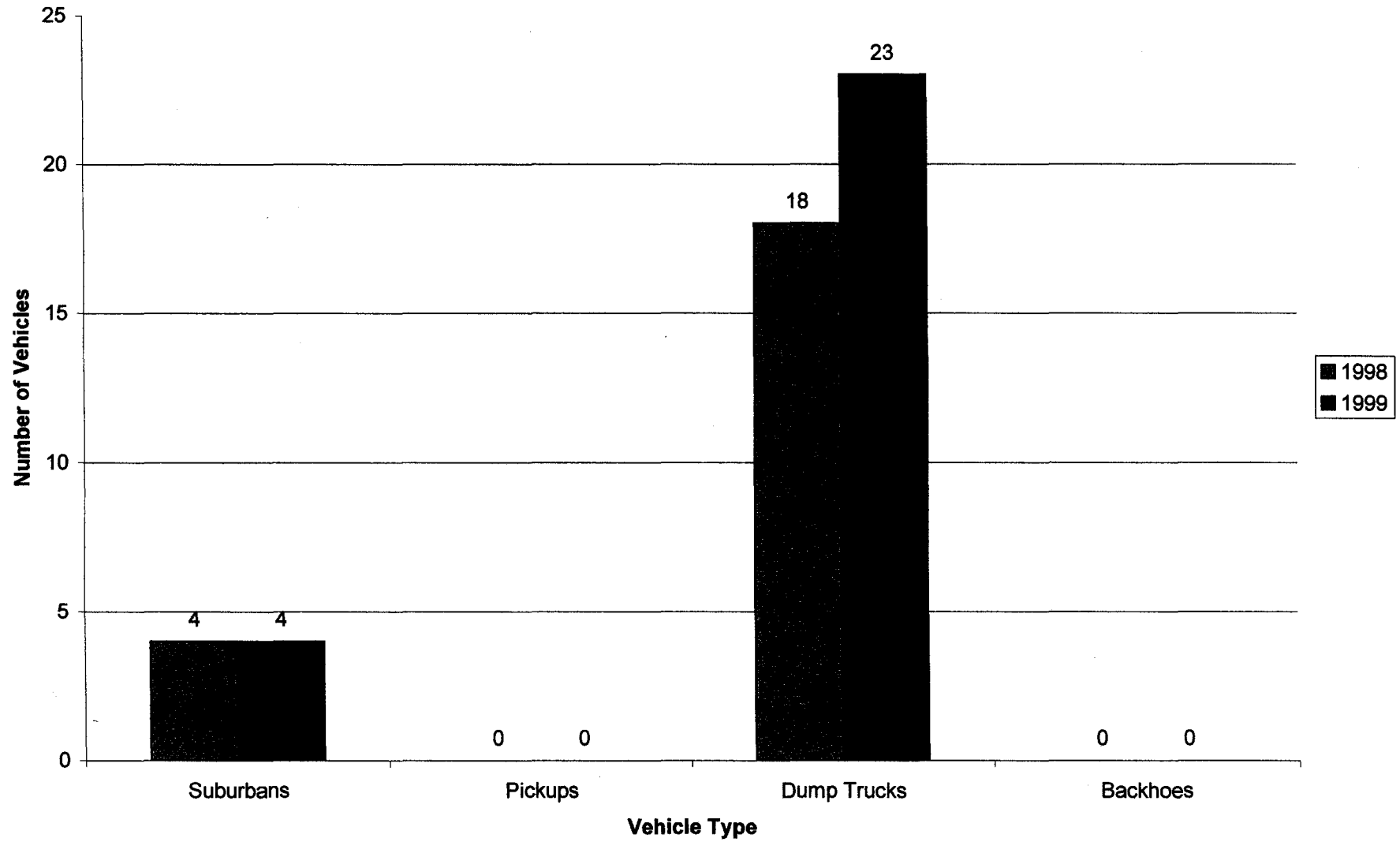
We will assess "best practices" used by major privately owned construction companies and adopt them when practical.

Finally: the Department will develop a set of standards that will be used by Supply and Equipment for all of its processes. We will build a measurement component for each of the standards.

### Vehicles Returned to Dealer For Adjustments



### Vehicles Outsourced for Equipment



# Issue of License Tags

(Wait Reflected in Days)

