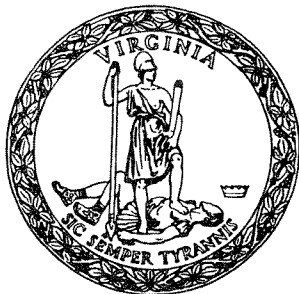


**REPORT OF THE
JOINT LEGISLATIVE
AUDIT AND REVIEW COMMISSION ON**

**Follow-up Review
of the Virginia
Department of Transportation**

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



Senate Document No. 23

**COMMONWEALTH OF VIRGINIA
RICHMOND
1988**

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Director

Philip A. Leone



COMMONWEALTH of VIRGINIA

Joint Legislative Audit and Review Commission
Suite 1100, General Assembly Building, Capitol Square
Richmond, Virginia 23219

Philip A. Leone
Director

(804) 786-1258

January 15, 1988

Senator Hunter B. Andrews
Chairman
Joint Legislative Audit and Review Commission
General Assembly Building
Richmond, Virginia 23219

Dear Senator Andrews:

Attached is a copy of the JLARC staff follow-up of the Virginia Department of Transportation. This review is in response to Senate Joint Resolution 7 of the 1986 Special Session, which directs JLARC to assess the department's responses to previous JLARC study recommendations. An appendix to this report contains the department's own status report.

We wish to acknowledge the cooperation and assistance extended to our staff by the Virginia Department of Transportation.

Sincerely,

A handwritten signature in cursive script that reads "Philip A. Leone".

Philip A. Leone
Director



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FOLLOW-UP REVIEW OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION

Senate Joint Resolution 7 of the 1986 Special Session (Appendix A) directed the Virginia Department of Transportation (VDOT) to report to the General Assembly a plan for increasing the efficiency of VDOT's administration and maintenance programs. Specifically, VDOT was mandated to reduce expenditures by at least five percent. This reduction was intended to make more funding available for highway construction projects. VDOT was also directed to undertake several studies to accelerate the highway construction process.

In response to SJR 7, the department submitted to the 1987 General Assembly a plan for improving efficiency in administrative and maintenance programs. The plan contains 123 recommendations, 77 of which the department reports it has implemented (Appendix B).

Also in SJR 7, the General Assembly directed the JLARC staff to review recommendations regarding the department made by JLARC to the 1982 General Assembly session. This review was to assess how the recommendations have been implemented by VDOT.

JLARC staff reviewed all 58 recommendations made in JLARC's report entitled Organization and Administration of the Department of Highways and Transportation (November 1981). With regard to the five percent reduction in expenditures, JLARC staff reviewed more extensively the recommendations for which cost savings were expected.

VDOT reports that the vast majority of recommendations have been implemented, or will be implemented fully in the near future. Many of the recommendations, however, will understandably not be completed for several years. Three areas were selected to illustrate this point:

- pavement management,
- bridge replacement and maintenance, and
- the location and organization of area headquarters.

Pavement Management System

A pavement management system provides necessary data on the number of miles of pavement that can be expected to require resurfacing or other related corrective action on an annual and long-term basis. JLARC staff recommended that VDOT place a high priority on full implementation of such a system for Virginia.

Currently VDOT is developing a database and forecasting technique to aid the department in more accurately forecasting which pavements are likely to be in the greatest need of repair. The system is already being used to

estimate and direct funds for maintenance replacement on the interstate and primary systems, and will be available for use on the secondary highway system in the near future.

Though the implementation of a pavement management system has been initiated by VDOT, the project still appears to be in the development stages. According to the VDOT 1987 status report, a substantial amount of work remains to be done. The following areas are still being developed by VDOT staff:

- (1) The current process for interstate and primary systems must still be refined to ensure that the proper locations for work are selected, and that the correct methods of repair are chosen.
- (2) A pavement management system for addressing the different forms of distress on rigid pavements is still in the developmental stages.
- (3) Data on the secondary pavement management system still needs to be analyzed in order to prioritize maintenance needs.
- (4) The rate of performance deterioration relating to axle loading and tire pressure is under development.
- (5) A study focusing on exploring ways to reduce pavement damage is to be completed, and is estimated to reduce pavement damage by up to \$6,000,000 annually.

Greater efforts are needed to fully implement a pavement management system, especially for the secondary system, where such a system was to be operational by March of 1984.

Bridge Rating System

A bridge rating system provides data as to the number of bridges requiring attention, the action required, and the estimated funding needed. In the 1981 report, JLARC staff recommended that the Bridge Division at VDOT develop a training program to ensure consistent ratings by maintenance staff when determining the need for bridge maintenance.

VDOT reports that it began such a system in 1986 by providing a two-week training course for bridge engineers. The training course provided the engineers with the proper condition rating techniques to ensure that the ratings were consistent among districts. The training was based on the Bridge Inspector's Manual and was taught by a consultant engineer.

In a 1983 follow-up study, VDOT staff reported on the status of the bridge rating system:

As soon as time has transpired to allow sufficient data to be collected, utilizing this more uniform rating system, the resulting reports will be used to prioritize the Department's maintenance and reconstruction programs.

Presently, VDOT has two active programs in the Bridge Division. The first program is a Deficiency Rating Program, which prioritizes structures that qualify for Federal Bridge Replacement and Rehabilitation funding. The second program was developed using established levels of service based on the numerical condition ratings for prioritizing structures for maintenance and maintenance replacement needs. VDOT has appointed a statewide verification team to determine the consistency of the condition ratings, but no conclusions from this team have yet been made.

In addition, VDOT has reported that the system is not well suited to forecasting which bridges are likely to deteriorate most rapidly, or how fast the deterioration might occur as a result of increases in traffic volume or changes in environmental conditions. As a result, VDOT is developing a mathematical technique for forecasting the deterioration rates of various bridge components. In addition, the consistency of the inspection program is being assessed. This assessment is scheduled for completion in the spring of 1988.

Area Headquarters

Area headquarters are located in counties and have facilities for housing maintenance crews and equipment, and for storing materials and other supplies. The JLARC report noted that VDOT could achieve savings through the consolidation and elimination of some area headquarters.

Since the release of the JLARC report, VDOT has done a study of maintenance areas, and as a result six areas have been designated to be combined with others. These reductions are to be made through the attrition of personnel.

VDOT also has completed its development of a method and process to establish area headquarters across the State. A study entitled "Refinement of the Methodology for Siting Maintenance Area Headquarters" was completed in the fall of 1986. The study addresses the influence of travel time on production.

To further eliminate or consolidate area headquarters, VDOT is presently considering a number of other factors. These include the socio-economic impact upon the community and established levels of service, as well as the average inventory being held, population, traffic, density and growth, and changes in the system.



APPENDIX A

SENATE JOINT RESOLUTION NO. 7

Requesting the Department of Transportation and the Joint Legislative Audit and Review Commission to conduct certain studies, obtain certain information, and make recommendations based thereon.

Agreed to by the Senate, September 26, 1986

Agreed to by the House of Delegates, September 25, 1986

WHEREAS, the Governor's Commission on Transportation in the Twenty-First Century has determined that the Commonwealth has certain critical highway needs; and

WHEREAS, the Commission has predicted that, unless taxes are raised, no funds for highway construction in Virginia will be available beyond 1991; and

WHEREAS, the General Assembly and all other citizens of the Commonwealth are concerned that our taxes be used in the most efficient manner; and

WHEREAS, if the state highway program's administrative and maintenance costs were contained or reduced, more money would be available to fund highway construction projects; now, therefore, be it

RESOLVED by the Senate of Virginia, the House of Delegates concurring, That the Commonwealth Transportation Commissioner is requested to report to the members of the General Assembly, prior to February 1, 1987, a plan by which expenditures for administration of the Department of Transportation and maintenance of the transportation system of the Commonwealth, shall be reduced by at least five percent as compared to appropriations for such expenditures for fiscal year 1987-88. Such plan shall provide for the achievement of such reductions through increased efficiencies in Departmental operations. The Commissioner shall include his plan to continue these savings into the future; and, be it

RESOLVED FURTHER, That the Department of Transportation is requested: (i) to determine the per-mile cost, during recent years, of maintaining the Commonwealth's interstate, primary, secondary, and urban highways; (ii) to seek comparable data on highway maintenance costs in other states; (iii) to obtain data necessary to compare the other major nonconstruction costs of Virginia's highway program with those in other states; (iv) to examine the Commonwealth's bidding procedures, procurement policies, and the process of obtaining right-of-way; (v) to examine ways to accelerate the road building process; (vi) to consider the most appropriate cost ceiling on projects to be built or maintained by state employees; and (vii) to make recommendations to the 1987 Regular Session of the General Assembly concerning these costs; and, be it

RESOLVED FINALLY, That the Joint Legislative Audit and Review Commission shall also report to the 1988 Regular Session of the General Assembly concerning a review of the recommendations issued by them to the 1982 Regular Session, regarding the Department of Highways and Transportation. The review shall examine the recommendations made by the Joint Legislative Audit and Review Commission and how those recommendations have been implemented by the Department of Transportation.





COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, 23219

RAY D. PETHEL
COMMISSIONER

January 14, 1988

Mr. Philip A. Leone, Director
Joint Legislative Audit and Review Commission
General Assembly Building, Suite 1100
Richmond, Virginia 23219

Dear Mr. Leone,

I appreciate the opportunity to respond to the Exposure Draft on the Follow-Up Report of the Department of Transportation. I fully endorse and support the spirit and intent of the recommendations presented. VDOT is committed to work toward their full implementation.

As a part of my efforts to keep you informed of VDOT's progress to improve efficiency and effectiveness, I am attaching for your review a summary and itemized status reports on the 123 initiatives reported in Senate Document 18 (87). This information also contains the status of the 58 recommendations transmitted to VDOT from the Governor's Commission on Efficiency in Government.

I am very pleased with the results to date which include the following accomplishments:

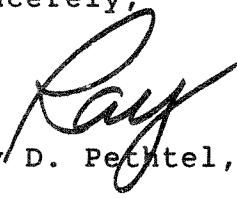
- o Sixty-three percent (77 of 123) of the Senate Document 18 initiatives have been implemented and the remaining 46 are in the process of being implemented.
- o Almost five million dollars, or approximately 19 percent, of the proposed savings have been achieved.
- o Thirty-four of the 58 suggestions from the Governor's Commission have been implemented and the remaining 24 suggestions are under development.

Your staff has provided valuable assistance in reviewing our

Mr. Philip A. Leone
Page 2
January 14, 1988

progress and I look forward to continuing our joint efforts in seeing these initiatives to their full implementation. You are welcome, at any time, to examine the documentation we are keeping regarding the status of these initiatives and the recorded saving.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ray", written over the printed name.

Ray D. Pethtel, Commissioner

cc: The Honorable Vivian E. Watts

Attachments

SENATE DOCUMENT 18 INITIATIVES STATUS REPORT

December 18, 1987

INTRODUCTION

The 1986 Special Session of the General Assembly enacted Senate Joint Resolution 7, directing VDOT to develop a plan for improving efficiency in administrative and maintenance programs equal to five percent of the budget. Additionally, VDOT was directed to examine: (1) the process for acquiring right-of-way, (2) use of State forces for construction, and (3) the process for improving and accelerating construction. The plan, submitted to the 1987 General Assembly, is Senate Document 18 (SD 18) and contains 123 actions for improving efficiency.

During the same period, the Governor's Commission on Efficiency in Government received 119 suggestions relating to transportation. Of these, 58 were determined to have potential for improving productivity. Most of these suggestions were included in the actions cited in SD 18 (see Table 1, below), and have been implemented concurrently.

TABLE 1

COMPARISON OF COE SUGGESTIONS AND SD 18

<u>Type of Suggestion</u>	<u>COE</u>	<u>SD 18</u>	<u>No. of COE Items in SD 18</u>
Administration	13	32	12
Maintenance	30	35	25
Right-of-way	1	28	1
Construction	<u>14</u>	<u>28</u>	<u>12</u>
Totals	<u>58</u>	<u>123</u>	<u>50</u>

Table 2 shows the status of all suggestions. Those items listed as complete either (1) have been studied and appropriate action has been taken to implement the suggestion, (2) are ongoing, or (3) need no further action. The suggestions shown as under way are currently under study or are scheduled for examination.

TABLE 2

CURRENT STATUS OF COE AND SD 18 SUGGESTIONS

<u>Type of Suggestion</u>	<u>COE</u>			<u>SD 18</u>		
	<u>Comp.</u>	<u>Under Way</u>	<u>Total</u>	<u>Comp.</u>	<u>Under Way</u>	<u>Total</u>
Administration	7	6	13	23	9	32
Maintenance	19	11	30	19	16	35
Right-of-way	-	1	1	24	4	28
Construction	<u>8</u>	<u>6</u>	<u>14</u>	<u>11</u>	<u>17</u>	<u>28</u>
Totals	<u>34</u>	<u>24</u>	<u>58</u>	<u>77</u>	<u>46</u>	<u>123</u>

ADMINISTRATION INITIATIVES

VDOT has taken several steps in the area of Administration to improve the effectiveness and efficiency of the Department. A new organizational unit has been established to coordinate policy analysis and intergovernmental relations. The Productivity Improvement Center was established within the Management Services Division, and through its programs of analysis and value engineering has identified potential savings of over \$10,000,000 spread over five years.

In the area of personnel procedures, a study by a consultant resulted in a major reorganization of the Human Resources Division. The new organization, which separates the overall functions from the daily routine activities, will provide better service to all areas of the state. The management development program was implemented with sessions for middle and first-line managers held during the fall of 1987. The cooperative education program was re-established, and included 45 students in 1987.

Several actions have resulted in monetary savings to the Department. Simplifying stationary letterhead has shown a savings of \$5,200 to date, revision to the policy regarding traffic data collection on the secondary system has shown a savings of \$309,505, and placing small copiers in 13 area headquarters has saved \$54,331. In addition, the installation of 92 telecopiers has shown significant time savings.

MAINTENANCE INITIATIVES

VDOT budgeted \$392 million for maintenance in FY 1987-88. This includes ordinary maintenance (intended to maintain each roadway item as closely as possible to its original design), maintenance replacement (which is larger in scope and includes resurfacing, restoring and replacing items that have failed or exceeded their expected life), and operations (activities directed to snow removal, tunnels, rest areas, signs, ferries, etc.).

Several of the maintenance initiatives are long-term, and will show savings in time and money over a period of years. A major study of maintenance techniques by the Maintenance Division and the Productivity Improvement Center will begin in the spring of 1988. The Maintenance Division's Quality Assurance Program is staffed and developing procedures for improving the quality of highway maintenance.

Several innovations relating to improved utilization and management of equipment, and to the types of equipment used, have shown combined savings of nearly \$1.1 million. These innovations include using larger pavement marking trucks (\$27,493), holding and using older equipment longer (\$274,575), using versatile Unimog tractors (\$123,000), using tandem axle dump trucks (\$368,870), replacing underground kerosene tanks (\$192,500), and installing radios in vehicles (\$111,550).

Other maintenance activities have also shown savings. Increased contracting of maintenance for rest areas has shown an estimated savings of \$171,820 for 1987. Also, the elimination of the squaring-up requirement in asphalt paving contracts has saved \$740,000 to date.

The pavement management system is yielding improved results and is being used in preparing interstate and primary maintenance budgets. The Department has also installed weigh-in-motion equipment in several locations, to identify overweight vehicles, the major cause of pavement damage. These items are long-term in nature, and will show monetary savings only after a long time period.

RIGHT-OF-WAY INITIATIVES

A number of actions in the right-of-way area have been taken to reduce paperwork, save man-hours and enhance VDOT's public image. The results of some of these actions include: a standardized appraisal form, decentralized approval of appraisal reviews, a single individual to appraise and negotiate parcels valued at \$2,500 or less, a reduction in the time required to negotiate settlement, and a master agreement with utility companies to speed their relocation. VDOT holds plan coordination meetings with the Right of Way Division, the Location and Design Division and the utility companies prior to plans being sent to the Right of Way Division for action. This reduces plan alteration and duplication of effort. To accelerate the appraisal, relocation, and negotiation process, action has been taken to join the multiple listing services throughout the State.

The Right-of-Way Management System has been implemented. This automated information system provides more current data to all right-of-way staff, and allows the Department to more efficiently manage its land acquisition and disposition activities.

CONSTRUCTION INITIATIVES

The use of Computer Aided Design and Drafting (CADD) equipment has greatly reduced development time on construction projects. All new project areas are being designed on CADD, doubling the number of CADD projects. Increased use of standard bridge plans has also expedited construction and shown savings of \$2.4 million in the past year.

Further improvements in the construction area are under way, including: revision of EEO/AA requirements, improved inspector training and reduced clerical workload for inspectors, streamlined contract preparation, and the development of strategies to increase the willingness of the industry to bid on VDOT projects.

CONCLUSION

As of December 10, 1987, VDOT has completed 63% of the initiatives included in SD 18, and has the remainder in varying stages of implementation. Savings to date total \$2,373,844 in the maintenance and administration areas, and an additional \$2.4 million in construction. Further savings will accrue as more actions are implemented and the Department continues to identify and pursue other areas for improvement.

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 1

Action No.: 001
Action/Study: Decentralize operations to foster creativity (pg. 7)

Status: Phase I completed; Phase II ongoing

Action No.: 002
Action/Study: Consolidate policy analysis and coordination with federal agencies into single group (pg. 7)

Status: Completed

Action No.: 003
Action/Study: Create Productivity Improvement Center within Mgt. Services Division (pg. 7)

Status: Completed

Action No.: 004
Action/Study: Encourage use of help available to DOT personnel from the Research Council (pg. 7)

Status: Ongoing

Action No.: 005
Action/Study: Initiate management development program to build skills for supervisors and managers grade 8 and above (pg. 7)

Status: Complete; first training held fall, 87; career development specialist position being defined and recruited

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 2

Action No.: 006
Action/Study: Reinstate cooperative education program with state colleges of engineering and initiate internship program in nonengineering DOT related fields (pp. 7-8)

Status: Programs established 12/86; have had 45 students working

Action No.: 007
Action/Study: Organize DOT Leadership Forum to meet regularly and discuss issues important to the Department (pg. 8)

Status: Forum created; meets six times each year

Action No.: 008
Action/Study: Convert Spring Engineer's Conference to Spring Management Conference for facilitating communication among agency managers. (pg. 8)

Status: Completed

Action No.: 009
Action/Study: Encourage independent meetings of district engineers, resident engineers, and division administrators to enhance problem solving and communications skills (pg. 8)

Status: Completed

Action No.: 010
Action/Study: Develop clearly expressed goals to provide direction for the Department (pg. 8)

Status: Goals statement complete; first round of division objectives completed; second round underway

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 3

Action No.: 011
Action/Study: Initiate examination of employee recognition activities
(pg. 8)

Status: Final report completed, Employee Program Manager hired 11/87

Action No.: 012
Action/Study: Establish a task force of employees to evaluate and
recommend improvements concerning employee relations and
communications (pg. 8)

Status: Report completed, recommendations being implemented

Action No.: 013
Action/Study: Implement recommendations of Communications Task Force
(pg. 8)

Status: Recommendations adopted by Executive Committee

Action No.: 014
Action/Study: Consolidate or eliminate unnecessary forms (pg. 9)

Status: Phase I complete July 1; Phase II due in FY 88; currently
under study

Action No.: 015
Action/Study: Alter stationery letterhead (pg. 10)

Status: Completed, savings \$5,200 to date

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 4

Action No.: 016
Action/Study: Review documentation procedures of the career enrichment program (pg. 10)

Status: Task force named to study procedures, work plan being developed; report due 4/1/88

Action No.: 017
Action/Study: Review procedures for filling vacancies in field positions (pg. 11)

Status: Interim report completed; final report expected Feb. 1988

Action No.: 018
Action/Study: Explore use of job-sharing techniques and part-time hourly personnel (pg. 12)

Status: Study to be coordinated by Human Resources Division

Action No.: 019
Action/Study: Alter policy regarding traffic data collection on the secondary system (pg. 12)

Status: Completed-estimated savings for 1987 \$309,505

Action No.: 020
Action/Study: Strengthen procurement function in the districts through training (pg. 12)

Status: New procedures implemented 7/1/87; Procurement Management position not authorized by DPT-no identified savings

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 5

Action No.: 021
Action/Study: Place small copiers in area headquarters (pg. 13)

Status: To date, 13 copiers installed, net savings \$54,331.12 per yr

Action No.: 022
Action/Study: Utilize improved personal computer program to perform transit evaluations (pg. 13)

Status: Completed; program in use; cost reduction of \$11,000 per yr repaying development cost, will show real savings in 1989

Action No.: 023
Action/Study: Broaden use of teleconferences (pg. 13)

Status: Ongoing, marketing effort underway, expect savings in 1988
No savings to date

Action No.: 024
Action/Study: Expand use of video technology (pp. 13 & 52)

Status: Equipment on order, expected December 1987; no savings to date

Action No.: 025
Action/Study: Make telecopiers widely available throughout VDOT (pg. 14)

Status: Completed-92 telecopiers in place, significant time savings

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 6

Action No.: 026
Action/Study: Expand CADD applications to areas other than design and decentralize utilization (p. 14)

Status: Report approved 7/87, equipment being evaluated for dist. offices and some divisions in central office

Action No.: 027
Action/Study: Implement recommendations outlined in the 1983 MIS plan (pg. 14)

Status: Ongoing; PPMS, RWMS on line, FMS (phase I) 3/88; PIMS (phase I) 6/88; EMS 12/88; HTRIS being devel. by consultant

Action No.: 028
Action/Study: Evaluate the function and structure of the residency in the context of a changing environment (pg. 15)

Status: MSD/Research Council work plan complete, Study to be complete 6/88

Action No.: 029
Action/Study: Examine ways to manage use of sick leave time to improve efficiency of field maintenance personnel (pg. 16)

Status: Absenteeism study planned for near term review; no action to date

Action No.: 030
Action/Study: Investigate current procedures of making payments to vendors and contractors (pg. 14)

Status: Study of payments completed 6/18/87

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 7

Action No.: 031
Action/Study: Evaluate and make recommendations on ways to promote professionalism in the Department (pg. 16)

Status: Underway; includes specific review of VSPE proposal re: PE certification for VDOT engineers

Action No.: 032
Action/Study: Examine possibility of coordinating and consolidating data collection efforts performed throughout the Department, with emphasis on HRTIS (pg. 16)

Status: Proposed staffing and implementation plan for coordinating unit prepared

Action No.: 033
Action/Study: Improve consistency of productivity among the state's area headquarters in maintenance (pg. 21)

Status: Prod. Center, Maint. Div. doing long-range study of maint. activities at area headquarters level, beginning spring 88

Action No.: 034
Action/Study: Improve planning, scheduling, supervision, and work methods (pg. 18)

Status: Maintenance conference on work planning conducted July 16-17
Productivity Ctr. studying Maint. work methods-ongoing

Action No.: 035
Action/Study: Institute training program to assist in determining when to use contract labor (pg. 18)

Status: Program in place and training is complete

SD-18 ACTION SUMMARY

Dec. 21. 1987

Page 8

Action No.: 036
Action/Study: Institute maintenance quality assurance program (pg. 18)

Status: Positions filled; studying QA programs from other states

Action No.: 037
Action/Study: Improve maint. budgeting & forecasting processes (p. 18)

Status: Ongoing; new processes developed; will be used for FY 88-90
Budget Proposal

Action No.: 038
Action/Study: Improve Bridge Management System via application of
mathematical techniques (pg. 19)

Status: Final report anticipated in July 1988

Action No.: 039
Action/Study: Expand use of Pavement Management System for use in
determining maintenance needs on secondary roads
(pg. 19)

Status: Ongoing; development for use on Secondary System under
way

Action No.: 040
Action/Study: Increase emphasis on implementing Transportation Systems
Management Program (pg. 19)

Status: Ongoing; work progressing on TMS in Tidewater area,
automated toll facilities on Dulles Toll Road

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 9

Action No.: 041
Action/Study: Evaluate and utilize analysis of location and usage of
area headquarters (pg. 19)

Status: Ongoing

Action No.: 042
Action/Study: Assess limitations to use of inmate labor, along with an
examination of training for future employees and
rehabilitation issues (pg. 20)

Status: Meetings held with Corrections, results being assessed

Action No.: 043
Action/Study: Develop strategy to solve maintenance personnel turnover
problems, including use of promotions (pg. 20)

Status: Human Resources Division will coordinate study with Main-
tenance Division; study to begin shortly

Action No.: 044
Action/Study: Examine progress on introducing automatic toll collection
systems (pg. 20)

Status: Ongoing; system to be operational Oct 1, 1989

Action No.: 045
Action/Study: Alter sign size, spacing, and fabrication procedures
(pg. 25)

Status: Completed 5/1/87; anticipated savings \$76,500, no documented
savings

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 10

Action No.: 046
Action/Study: Replace single axle pavement marking trucks with tandem rear axle trucks (pg. 22)

Status: Six in service, 3 in budget; savings to date \$27,493

Action No.: 047
Action/Study: Retain replaced equipment through peak work cycles before disposal (pg. 22)

Status: Expanded to include 8 additional classes; savings through 10/31/87 \$274,575

Action No.: 048
Action/Study: Use self loading trucks for ditching on 1500 miles of secondary roads (pgs. 22 and 23)

Status: Two additional trucks requested in FY88 Budget

Action No.: 049
Action/Study: Replace snowblowers with new, multi use Unimog tractors (pg 23)

Status: Three units in service last year, one in current budget; savings to date \$123,000

Action No.: 050
Action/Study: Assign two tandem dump trucks to each residency (pg. 23)

Status: Thirty-three trucks assigned to residencies; savings through 10/31/87 \$368,870

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 11

Action No.: 051
Action/Study: Replace underground kerosene tanks with aboveground units
(pg 24)

Status: As of 12/1/87, 9 tanks replaced, 7 locations discontinued,
one-time savings \$187,500; annual savings \$5,152

Action No.: 052
Action/Study: Install 2-way radios in 460 additional mobile units (pg. 24)

Status: Ongoing; 108 installed to date; others under consideration
Savings as of 11/30/87 \$111,550.

Action No.: 053
Action/Study: Changing fees for private sector logos (p. 26)

Status: Under study with detailed cost data being accumulated;
analysis during spring, 1988

Action No.: 054
Action/Study: Modify the number and placement of route markers (p. 26)

Status: Evaluation of impact underway

Action No.: 055
Action/Study: Expand durable pavement markings (p. 26)

Status: Ongoing; 2 trucks now in service

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 12

Action No.: 056
Action/Study: Implement preventive maintenance program for traffic signals
(pp. 26-27)

Status: Initiated 7/1/87, no documentation of savings to date

Action No.: 057
Action/Study: Use reflectorized panels in lieu of steady-burn lights for
concrete barrier delineation (pg. 27)

Status: Anticipated completion date is May 31, 1988; Research
Council study of alternatives underway

Action No.: 058
Action/Study: Replace aluminum signs with mesh signs (work zone signs)
(pg. 27)

Status: Ongoing; phase-in continuing

Action No.: 059
Action/Study: Contract custodial services at rest areas (p. 27)

Status: Ongoing; estimated savings 1987 \$171,820 based on 20%
savings

Action No.: 000
Action/Study: Automate the following activities: managing equipment and
dispensing fuel (pp. 28-29)

Status: Programs under development by Information Systems; EMS Phase
I to be completed by December, 1988

SD-18 ACTION SUMMARY

Dec. 21, 1987

Page 13

Action No.: 061
Action/Study: Improve maintenance replacement by using more durable
surface treatments (pp. 29-30)

Status: 5-year phase-in

Action No.: 062
Action/Study: Eliminate squaring-up requirement for asphalt paving
(pg. 29)

Status: Completed Spring, 1987; not all contracts complete as of
12/7/87; estimated savings for 1987 \$740,000

Action No.: 063
Action/Study: Study ways to reduce pavement damage (p. 30)

Status: Evaluation complete; some weigh-in-motion equipment in place
other equip. on order; other actions pending

Action No.: 064
Action/Study: Eliminate route markers on named secondaries (state-wide
effort to name secondaries) (pp. 30-31)

Status: To be studied, no action to date

Action No.: 065
Action/Study: Encourage use of steel U-posts in lieu of wood posts (p. 31)

Status: Left to the prerogative of maintenance crews; no savings
anticipated

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Action No.: 066
Action/Study: Use new bridge inspection equipment (p. 31)

Status: Ongoing; 2 vehicles purchased for regional use; no savings identified, but inspection quality greatly increased

Action No.: 067
Action/Study: Revise shoulder maintenance standards (pp. 31-32)

Status: QA section will aid in review of standards, beginning spring 1988

Action No.: 068
Action/Study: Develop standard appraisal form for right of way (pg. 48)

Status: Completed

Action No.: 069
Action/Study: Authorize district offices to approve prenegotiation appraisals and some types of consultant fee appraisal contracts and residue parcel appraisals (p. 48)

Status: Completed

Action No.: 070
Action/Study: Authorize district offices to issue voluntary conveyances, and to approve administrative settlements up to \$10,000 (p. 48)

Status: Completed

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Action No.: 071
Action/Study: Reduction in negotiation time by using the two-contact
concept (p. 48)

Status: Completed

Action No.: 072
Action/Study: Decentralization of the relocation process to the districts
(p. 49)

Status: Completed

Action No.: 073
Action/Study: Development of a master agreement to allow districts to deal
with utilities at the local level, and to execute agreements
for utility relocation (p. 49)

Status: Completed

Action No.: 074
Action/Study: Procurement of consultant services to locate underground
utilities in connection with plan development (p. 49)

Status: Completed

Action No.: 075
Action/Study: Acquisition of utility easements by DOT staff to allow for
early utility relocation (p. 49)

Status: Completed

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Action No.: 076
Action/Study: Maintenance of continued contact between DOT and utility employees to enhance communication and problem-solving abilities (p. 49)

Status: Completed

Action No.: 077
Action/Study: Computerization of right of way operations via development of the Right of Way Management System (p. 49)

Status: System on line, currently being enhanced to provide better records, data

Action No.: 078
Action/Study: Identification and investigation of other activities and tasks (such as master agreements for utilities) for possible decentralization (p. 49)

Status: Ongoing

Action No.: 079
Action/Study: Improved coordination between between district L & D and district Right of Way units (includes consideration of providing additional training for survey parties) (pg. 50)

Status: Ongoing; recommendations expected by 4/1/88

Action No.: 080
Action/Study: Improved communication between the Central Office and district Right of Way units through the use of open forums (pg. 50)

Status: Ongoing

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Action No.: 081
Action/Study: Establishment of efficiency plan to allow duties like routine paperwork and court searches to be performed by technicians and clerical staff (pg. 50)

Status: Ongoing; memo written to put plan into operation as soon as feasible

Action No.: 082
Action/Study: Investigation into feasibility of each district subscribing to the multiple listing service for its respective locality (p. 51)

Status: Ongoing; memo written allowing districts to join if listing service is available; one district currently belongs

Action No.: 083
Action/Study: Authorization of resident engineers to approve utility estimates and approve adjustments on all "no-plan" projects in the secondary system (pg. 51)

Status: Completed; sent to District Engineers week of July 13

Action No.: 084
Action/Study: Authorization of resident engineer to execute utility agreements (p. 51)

Status: Complete; authority given to resident engineers; some dist. have chosen to keep current system

Action No.: 085
Action/Study: Consolidation of appraisal and negotiation functions (pg. 51)

Status: New procedures adopted 11/87

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Action No.: 086
Action/Study: Addition of paralegals to assist in title searches and closings (may involve individual hiring or the use of independent firms) (pg. 51)

Status: Ongoing

Action No.: 087
Action/Study: Establishment of a public information campaign emphasizing right of way issues (pg. 52)

Status: Ongoing

Action No.: 088
Action/Study: Review of raising limit for the taking of incidental items on donated RoW to \$2,500, along with recommendation that residencies pay for fences before construction (pg. 52)

Status: Ongoing; \$2,500 limit now in effect; residencies now have fencing option without further study

Action No.: 089
Action/Study: Assessment of condemnation procedures (pg. 53)

Status: Ongoing; the final report is currently in draft form, to be reviewed by Commissioner

Action No.: 090
Action/Study: Review of acquisition of r/w through donation policy (pg. 53)

Status: Planned for 1988

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Action No.: 091
Action/Study: Consideration of incentives to persuade utilities to
relocate facilities as early as possible (pp. 53-54)

Status: Completed

Action No.: 092
Action/Study: Review of advantages and disadvantages of advanced purchase
of right of way (pg. 54)

Status: Ongoing

Action No.: 093
Action/Study: Study ways to dispose of large or valuable parcels more
efficiently (in accordance with prior JLARC recommendation)
(pg. 54)

Status: RWMS monitors parcels; new procedures, decentralization of
Row responsibilities provides for closer monitoring

Action No.: 094
Action/Study: Investigate the regionalization of the Right of Way Division
(originally recommended in the Hansen Report of 1980)
(pp. 54-55)

Status: Planned for 1988 completion

Action No.: 095
Action/Study: Evaluate DOT policy regarding the size of drainage
easements (pg. 55)

Status: Planned for 1988

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Action No.: 096
Action/Study: Establish clear, consistent understanding of state-force construction function; also, develop data base to assist in decision-making for use of this resource (p. 58)

Status: Draft of policy statement to Director of Operations 11/87;

Action No.: 097
Action/Study: Analyze bid-estimating techniques of VDOT, other states and industry to determine state-of-the-art (pg. 62)

Status: Ongoing; completion of operational MIS June 1989

Action No.: 098
Action/Study: Automate MIS system to allow other divisions to work from common data base for contract document preparation (pg. 62)

Status: Underway; work plan completed June, 1987

Action No.: 099
Action/Study: Streamline paperwork associated with EEO, MBE, and DBE programs (p. 12)

Status: New federal guidelines being reviewed to determine impact

Action No.: 100
Action/Study: Alter EEO/AA procedures to allow annual statement filing with prequalification (p. 62)

Status: New federal guidelines being reviewed

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Action No.: 101
Action/Study: Re-examine DBE prequalification; improve quality of projects
and number completed per year (pg. 59)

Status: Reviewing new federal guidelines; strong opposition to recon
from minority contractors and DMBE

Action No.: 102
Action/Study: Evaluate alternatives to the standard 30-day time frame for
advertisement; vary based on complexity and scope of project
(pg. 62)

Status: Complete; time frames being varied based on complexity and
scope of project

Action No.: 103
Action/Study: Develop strategies to increase industry willingness to bid
(attract new contractors, increase list of prequalified
contractors, survey industry, etc.) (pg. 63)

Status: Work plan completed; Phase I to be completed 2/1/88

Action No.: 104
Action/Study: Establish mobile offices for inspectors (pg. 63)

Status: Two per district delivered this year; evaluation planned

Action No.: 105
Action/Study: Reduce inspector clerical responsibilities
(pg. 63)

Status: Study planned for spring, 1988 by Productivity Improvement
Center

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Action No.: 106
Action/Study: Assess inspector recruitment and training (pg. 63)

Status: Training Program to be developed by Fall 88

Action No.: 107
Action/Study: Establish process to monitor and manage claims (pg. 63)

Status: Study complete, report due 12/87

Action No.: 108
Action/Study: Produce 20% more project designs per year (pg. 59)

Status: Ongoing; 17% achieved 1st year; anticipate 114% over 2-year period

Action No.: 109
Action/Study: Increase use of CADD on projects completed during the year (pp. 14, 59)

Status: Ongoing; all new projects on CADD; number of projects on CADD doubled, percentage about 15% of total

Action No.: 110
Action/Study: Alter authority for work order approval to individual responsible for budget of item address in work order (pg. 60)

Status: Completed 8/31/87

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Action No.: 111
Action/Study: Develop more effective method for meeting labor needs
(inspector labor planning system) (pg. 60)

Status: CMMS to be completed 6/88

Action No.: 112
Action/Study: Issue guidelines for phase inspections based on quantitative
rather than qualitative assessments (pg. 60)

Status: Review of guidelines part of CMMS study

Action No.: 113
Action/Study: Improve quality and reduce cost of construction and
maintenance through the use of enhanced IID program (pg.
60)

Status: Contract QA program implemented summer 87; regional staff
hired & functioning; standard checklist being finalized

Action No.: 114
Action/Study: Evaluate the number of signatures needed on plans (pg. 60)

Status: Planned for Spring, 1988 study by Productivity Improvement
Center, MSD

Action No.: 115
Action/Study: Increase use of standard bridge plans to reduce cost and
design time (pg. 60)

Status: Ongoing; revising plans and standards for better application
Savings approximately \$2.4 million in last 12 months

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Action No.: 116
Action/Study: Consider environmental impacts as design criteria (pg. 61)

Status: Ongoing training program, 1 for central office, 3 regional programs

Action No.: 117
Action/Study: Expedite environmental permits by increasing the duration and frequency of meetings for securing permits (pg. 61)

Status: Ongoing; monthly meeting of review agencies held; no identified need to increase frequency

Action No.: 118
Action/Study: Streamline process by which CTB approves or rejects bids (pg. 61)

Status: Study complete; could not identify areas to be streamlined under current statutes

Action No.: 119
Action/Study: Examine procedures for accelerating contractor payments (pg. 61)

Status: Complete; study of 1987 payments show most payments within 25 days; study indicated no need for further changes

Action No.: 120
Action/Study: Evaluate use of VDOT staff vs. consultant (not limited to engineering) (pg. 61)

Status: Study currently underway

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Action No.: 121
Action/Study: Evaluate using incentive and penalty clauses to expedite construction (pg. 62)

Status: Preliminary data collection to be completed 12/87

Action No.: 122
Action/Study: Evaluate and improve field inspections process to include maintenance considerations, traffic detours, 24 hour work or night work only; and revise field inspection form (pg. 62)

Status: Ongoing; draft manual by December 1988; final manual 7/89; agreement with State Police regarding patrols

Action No.: 123
Action/Study: Develop a computerized Local Ordinance Data Base to identify restrictions on project work (pg. 62)

Status: Preliminary assessment complete; complete data base impractical, will build base of known data

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