TECHNICAL ASSISTANCE REPORT

THE DIVISION OF FLEET MANAGEMENT: 1997 BENCHMARK REPORT

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### Abstract

The Division of Fleet Management is the administrative unit in the Virginia Department of Transportation (VDOT) that manages the centralized fleet in accordance with Section 33.1-402 of the Code of Virginia. As of June 30, 1996, the centralized fleet consisted of 2,799 vehicles, of which 168 were assigned to the trip pool. Trip pool vehicles are used primarily by state employees in the greater Richmond area for short-term trips and travel, on average, between 65 and 70 miles per day.

The main goal of this benchmark study was to replicate the 1994 Minnesota benchmark study to determine how the practices of the Division of Fleet Management compared with more recent marketplace practices. The survey participants consisted of the Division of Fleet Management, the centralized fleets administered by five states (Connecticut, Michigan, Minnesota, Oregon, and Wisconsin), the U.S. General Services Administration, and the 3M and Xerox corporations.

The results of this study indicated that the Division of Fleet Management has continued to meet or exceed the five marketplace practices from the Minnesota study that were relevant to Virginia. Further, VDOT is continually looking at the best practices in the fleet industry to improve the efficiency and effectiveness of the Division of Fleet Management.
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(The opinions, findings, and conclusions expressed in this report are those of the authors and not necessarily those of the sponsoring agencies)

Virginia Transportation Research Council
(A Cooperative Organization Sponsored by the Virginia Department of Transportation and The University of Virginia)

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EXECUTIVE SUMMARY

The Division of Fleet Management (the Division) is the administrative unit in VDOT that manages the centralized fleet in accordance with Section 33.1-402 of the Code of Virginia. As of June 30, 1996, the centralized fleet consisted of 2,799 vehicles, of which 168 were assigned to the trip pool. Trip pool vehicles are used primarily by state employees in the greater Richmond area for short-term trips and travel, on average, between 65 and 70 miles per day.

The purpose of this benchmark study was to replicate the 1994 Minnesota benchmark study to determine how the practices of the Division compared with more recent marketplace practices. We surveyed representatives of several agencies: the Division, the centralized fleets administered by five states (Connecticut, Michigan, Minnesota, Oregon, and Wisconsin), the U.S. General Services Administration, and the 3M and Xerox corporations. Survey results indicated that the Division meets or exceeds the five marketplace practices from the Minnesota study that were relevant to Virginia:

1. Vehicles in Virginia’s centralized fleet on average traveled 14,455 miles per year, more than reported by three survey participants, but less than reported by five survey participants.

2. Virginia’s rental rates were between $0.60 and $22.65 per day less than that of the other participants, based on the average daily mileage for a Division trip pool rental.

3. Virginia’s sedan purchase prices were between $781 and $1,636 per sedan less than the average sedan purchase prices reported by the other participants, and Virginia’s van purchase prices were between $12 less and $669 more per van than the average van purchase prices reported by the other participants.

4. Virginia’s personal reimbursement rate of $0.24 per mile was between $0.02 and $0.07 per mile less than that reported by the other participants.

5. Virginia’s guidelines specify that its sedans be replaced at 95,000 miles, which is between 10,000 and 65,000 miles per vehicle more (unless a specific vehicle has excessive maintenance and repair costs) than the mileage reported by the other participants.

Over the past 4 years, the Division has continued to be studied by internal and external groups. The results of this latest study indicate that the Division has continued to meet or exceed the five marketplace practices from the Minnesota benchmark study that were applicable to Virginia. Further, VDOT is continually looking at the best practices in the fleet industry to improve the efficiency and effectiveness of the Division of Fleet Management.
INTRODUCTION

The Division of Fleet Management (the Division) is the administrative unit in VDOT that manages the centralized fleet in accordance with Section 33.1-402 of the Code of Virginia:

The Commissioner shall establish an appropriate administrative unit within the Department to manage the centralized fleet. The Commissioner’s responsibilities for the centralized fleet shall include, but not be limited to, the following:

1. Administering the assignment of vehicles to officers and employees of the Commonwealth;
2. Managing a pool of vehicles for short-term use;
3. Purchasing vehicles necessary to the operation of the centralized fleet;
4. Repairing and maintaining vehicles;
5. Monitoring the use of vehicles and enforcing regulations regarding their proper use; and
6. Maintaining records related to the operation and maintenance of vehicles, and the administration of the centralized fleet.

The Division employs 11 people to administer the fleet; in addition, one person in each state agency serves as a liaison between the agency and the Division. The mission of the Division is to provide safe, efficient, and reliable passenger-type transportation for state employees.¹

As of June 30, 1996, the centralized fleet consisted of 2,799 vehicles, of which 168 were assigned to the trip pool. The centralized fleet is composed of compact sedans (approximately 75%), intermediate sedans (approximately 5%), full-size sedans (approximately 10%), minivans (approximately 8%), and full-size vans (approximately 2%). Fleet vehicle maintenance is provided through a central garage, various VDOT equipment-repair shops throughout the state, and commercial vendors.
Trip pool vehicles are used primarily by state employees in the greater Richmond area for short-term trips (no more than 3 weeks in duration) and travel, on average, between 65 and 70 miles per day. The remaining vehicles (approximately 2,800) are assigned directly to 142 state agencies and institutions.

Since the 1988 JLARC study\(^2\) of the Division, various branches of state government have expressed continued interest in the Division’s operations. For example, in January 1994, Governor Allen established the Governor’s Commission on Government Reform, which investigated and recommended further study of fleet operations. In June 1994, Governor Allen ordered a 1-year moratorium on the purchase or lease of passenger-type vehicles.

One of VDOT Commissioner Gehr’s strategic initiatives requested that each VDOT district and division review internal processes and develop a strategic plan to determine how to improve processes and develop action plans for improvement. In conjunction with this review, Virginia’s Commonwealth Competition Council in 1996 requested that VDOT’s Management Services Division conduct a benchmarking study comparing the Division of Fleet Management with other state and private-sector fleets.

**PURPOSE AND SCOPE**

The purpose of this study was to replicate the 1994 Minnesota benchmark study\(^3\) to determine how the Division compared with more recent marketplace practices. To accomplish this goal, the costs of services provided by the Division were benchmarked against the costs incurred to perform comparable services by private-sector companies, other states’ fleet operations, and fleet leasing companies.

This study concentrated on the costs of services currently provided by the Division. The costs of services provided were reviewed and compared to those of the services provided by other participants in the Minnesota study.

**METHODOLOGY**

The study team completed three tasks to complete this study:

1. Review the literature to understand basic fleet operations and compare the costs of these operations to industry values.

2. Gather FY 95 Division data, and survey other states and private-sector organizations that participated in the 1994 Minnesota study to benchmark the Division (the survey instrument is presented in Appendix A).
3. Benchmark the Division with participants from the 1994 Minnesota study using the following measures:

- **Annual Vehicle Utilization**: the number of miles on average a vehicle travels each year
- **Replacement Guidelines**: the criteria (such as miles traveled, age, and total maintenance and repair cost) used to determine when a vehicle should be replaced
- **Purchase Prices**: the cost to purchase a new vehicle
- **Rental Rates**: the rates charged to rent a vehicle per day or per week
- **Personal Reimbursement Rates**: the rates individuals are reimbursed for using a personal vehicle when a fleet vehicle is, or is not, available for use.

The following organizations from the Minnesota study\(^3\) participated in this study:

- U.S. General Services Administration (GSA)
- Connecticut’s Department of Administration
- Michigan’s Department of Management
- Minnesota’s Department of Administration
- Oregon’s Department of General Services
- Wisconsin’s Department of General Services
- 3M
- Xerox.

**RESULTS**

Figure 1 presents the average miles per year a vehicle traveled in each fleet surveyed in FY 92 and FY 95. The average annual mileage of a Division vehicle was 14,455 for FY 95, which was slightly below the overall average mileage of the survey participants. The average miles traveled per vehicle per year decreased for three (including the Division) of the four states that provided annual vehicle utilization in the 1994 benchmark study.

Increasing the average annual state vehicle mileage will not necessarily decrease the total cost of state employee travel. For example, if the number of vehicles in the Division’s centralized fleet were reduced while the amount of annual state employee travel remained constant, the average annual mileage per vehicle would probably increase. However, it is also reasonable to assume that the amount of personal reimbursement for mileage traveled would also increase because of a lesser availability of state vehicles. It is not possible to determine if reducing the number of vehicles in the centralized fleet would reduce the cost of state employee travel without knowing the details about daily vehicle availability and each trip.
Figure 1. Annual Average Vehicle Mileage

Figure 2 presents the reimbursement rates per mile for travel in personal vehicles that were in effect in FY 92 and FY 95. Virginia’s rates were the lowest in both years.

Figure 2. Personal Reimbursement Rates

Figure 3 presents the cost incurred by each participant in the survey to purchase a 1996 model year compact sedan. These vehicles constitute approximately 75% of the Division’s centralized fleet. Virginia’s purchase prices were approximately 1.5% more than the lowest price paid by any survey participant in FY 95.
The survey also indicated that because of the Division's vehicle replacement guidelines, established by the 1988 JLARC study,² vehicles in the Division's centralized fleet are kept longer and driven further than vehicles in the fleets of the other survey participants. Further, the Division is not replacing vehicles in accordance with the established replacement guideline of 95,000 miles. The average mileage of vehicles replaced in FY 97 was approximately 105,000 miles. One reason the Division did not meet the replacement criterion was that its funds were transferred to the General Fund. From FY 82 to FY 96, approximately $16.7 million was transferred. Approximately $4.1 million was transferred between the 1994 Minnesota study and this study. Had they not been transferred, these funds would have enabled the Division to meet (or come closer to meeting) the JLARC-established replacement guidelines for vehicles in the centralized fleet.

One of the Division's goals is, and has been, to replace the centralized fleet vehicles at the optimal replacement points. This is a significant goal because the average cost per mile to operate vehicles in the centralized fleet is the lowest at these optimal replacement points. Replacing vehicles at these points would enable the Division to improve its cost-effectiveness further.

Appendix C summarizes the information received from the participants in the survey.

CONCLUSIONS

The Division continues to meet or exceed all five marketplace practices from the Minnesota benchmark study³ that were applicable to Virginia:

1. Vehicles in Virginia's centralized fleet on average traveled 14,455 miles per year, more than reported by three survey participants, but less than reported by five survey participants.
2. Virginia’s rental rates were between $0.60 and $22.65 per day less than that of the other participants, based on the average daily mileage for a Division trip pool rental.

3. Virginia’s sedan purchase prices were between $781 and $1,636 per sedan less than the average sedan purchase prices reported by the other participants, and Virginia’s van purchase prices were between $12 less and $669 more per van than the average van purchase prices reported by the other participants.

4. Virginia’s personal reimbursement rate of $0.24 per mile was between $0.02 and $0.07 per mile less than that reported by the other participants.

5. Virginia’s guidelines specify that its sedans be replaced at 95,000 miles, which is between 10,000 and 65,000 miles per vehicle more (unless a specific vehicle has excessive maintenance and repair costs) than the mileage reported by the other participants.

Further, VDOT is continually looking at the best practices in the fleet industry to improve the efficiency and effectiveness of the Division.

REFERENCES


APPENDIX A
BENCHMARK SURVEY FORM

The Virginia Department of Transportation is performing a benchmark study of VDOT's fleet of passenger vehicles. Our benchmark study will focus on quantifiable measures of effectiveness and efficiency.

We would like to include the participants from the February 1994 "Minnesota Travel Management: Central Motor Pool Benchmark Report" in our study. We will provide a copy of our benchmark report to any participant who wishes to receive a copy.

Because VDOT's FY 96-97 data will not be available until early to mid August 1997, we are going to use FY 95-96 data for our benchmark study. In particular, we are interested in obtaining the following FY 95-96 information from you.

Please fill out the following information and return it to me by FAX at (804) 371-0074 or by mail to:

Mark Covington
Virginia Department of Transportation
1401 East Broad Street
7th floor
Richmond, VA 23219
Phone (804) 786-1554

Organization Name______________________________________________________

1. Average vehicle utilization (average miles/year/vehicle):____________________

2. A. Rental rates ($/day or $/month and or $/mile):__________________________

   B. What is included in the rental rate? (fuel, insurance, maintenance, repair, etc):

   ______________________________________________________________________

3. Vehicle disposal guidelines (maximum age or mileage or maintenance/repair costs or a combination:___________________________________________________________________________

4. Personal reimbursement rate(s):___________________________________________

5. Purchase prices for 1996 model year vehicles

   subcompact________________

   compact __________________

   intermediate ______________

   full-size _________________

   minivan _________________

   15-passenger van:___________________________

Thank you for your assistance. Please let me know if you would like a copy of the benchmark results.
APPENDIX B
RENTAL RATE ANALYSES

To perform an unbiased analysis, the rates should be presented in a comparable format (such as $ per mile or $ per day) and should include the same services (such as fuel, insurance, maintenance, and repair). Because some rates were monthly and others were daily, the analyses assumed 21 rental days per month. Regarding services included in the rental rates, all participants in the survey who provided rental rate information indicated that the same services were included in their rental rates: fuel, insurance, maintenance and repair, and depreciation (capital recovery).

The rental rate analyses were grouped by vehicle type. Each analysis determined the breakeven mileage between the two rates—at this breakeven mileage, the two rates were equal. If fewer miles per day were traveled than the breakeven mileage, Virginia’s rate was lower. Conversely, if more miles per day were traveled than the breakeven mileage, Virginia’s rate was higher. For example, in the compact sedan analysis between Virginia and Connecticut, the Virginia rental would have cost less if the compact sedan traveled fewer than 83.12 miles per day. If more than 83.12 miles were traveled per day, the Connecticut rental would have been less expensive. (In the breakeven analyses, x represents the number of miles traveled per day.)

Compact Sedan

**Virginia compared to Connecticut:**

\[
0.19 x = 12.80 + 0.036 x \\
x = 12.80 \div (0.19 - 0.036) \\
x = 83.12
\]

**Virginia compared to Minnesota:**

\[
0.19 x = 10.75 + 0.06 x \\
x = 10.75 \div (0.19 - 0.06) \\
x = 82.69
\]

**Virginia compared to Wisconsin:**

\[
0.19 x = 0.208 x \\
\text{Virginia’s rate is always less expensive}
\]

**Virginia compared to U.S. G.S.A.:**

\[
0.19 x = 140 \div 21 + 0.10 x \\
x = 6.67 + (0.19 - 0.10) \\
x = 74.07
\]
Intermediate Sedan

Virginia compared to Connecticut:

\[ 0.19 \times = 13.15 + 0.047 \times \]
\[ x = 13.15 \div (0.19 - 0.047) \]
\[ x = 91.96 \]

Virginia compared to Minnesota:

\[ 0.19 \times = 11.65 + 0.065 \times \]
\[ x = 11.65 \div (0.19 - 0.065) \]
\[ x = 93.20 \]

Virginia compared to Oregon:

\[ 0.19 \times = 15.00 + 0.11 \times \]
\[ x = 15.00 \div (0.19 - 0.11) \]
\[ x = 187.50 \]

Virginia compared to Wisconsin:

\[ 0.19 \times = 0.339 \times \]
Virginia’s rate is always less expensive

Virginia compared to U.S. G.S.A.:

\[ 0.19 \times = \frac{180}{21} + 0.14 \times \]
\[ x = 8.57 + (0.19 - 0.14) \]
\[ x = 171.43 \]

Virginia compared to 3M:

\[ 0.19 \times = 0.3079 \times \]
Virginia’s rate is always less expensive

Virginia compared to Xerox:

\[ 0.19 \times = \frac{405}{21} \]
\[ x = 19.28 \div (0.19 - 0) \]
\[ x = 101.50 \]
**Full-size Sedan**

*Virginia compared to Connecticut:*

\[
0.19 x = 14.50 + 0.062 x \\
x = 14.50 \div (0.19 - 0.062) \\
x = 113.28
\]

*Virginia compared to Minnesota:*

\[
0.19 x = 15.50 + 0.10 x \\
x = 15.50 \div (0.19 - 0.10) \\
x = 172.22
\]

*Virginia compared to Oregon:*

\[
0.19 x = 17.50 + 0.12 x \\
x = 17.50 \div (0.19 - 0.12) \\
x = 250.00
\]

**Minivan**

*Virginia compared to Connecticut:*

\[
0.19 x = 14.50 + 0.062 x \\
x = 14.50 \div (0.19 - 0.062) \\
x = 113.28
\]

*Virginia compared to Minnesota:*

\[
0.19 x = 16.50 + 0.06 x \\
x = 16.50 \div (0.19 - 0.06) \\
x = 126.92
\]

*Virginia compared to Oregon:*

\[
0.19 x = 15.31 + 0.14 x \\
x = 15.31 \div (0.19 - 0.14) \\
x = 306.20
\]

*Virginia compared to Wisconsin:*

\[
0.19 x = 0.358 x \\
\text{Virginia's rate is always less expensive}
\]

*Virginia compared to Xerox:*

\[
0.19 x = 360 \div 21 \\
x = 17.14 \div (0.19 - 0) \\
x = 90.23
\]
Large Van

*Virginia compared to Connecticut:*

\[ 0.2705 \times x = 18.30 + 0.08 \times x \]
\[ x = 18.30 + (0.2705 - 0.08) \times x \]
\[ x = 96.06 \]

*Virginia compared to Minnesota:*

\[ 0.2705 \times x = 15.00 + 0.10 \times x \]
\[ x = 15.00 + (0.2705 - 0.10) \times x \]
\[ x = 87.98 \]

*Virginia compared to Wisconsin:*

\[ 0.2705 \times x = 0.606 \times x \]
Virginia’s rate is always less expensive

As stated earlier in this report, vehicles in the Virginia Department of Transportation’s Division of Fleet Management trip pool traveled between 65 and 70 miles per day, on average. Based on this average daily mileage, an average vehicle rental from the Division of Fleet Management would have cost less than a rental from any of the other participants in the benchmark study.
# APPENDIX C

## PARTICIPANT SURVEY RESPONSES

<table>
<thead>
<tr>
<th>Category</th>
<th>Virginia Department of Transportation</th>
<th>Connecticut Department of Administration</th>
<th>Michigan Department of Management</th>
<th>Minnesota Department of Administration</th>
<th>Oregon Department of Administrative Services</th>
<th>Wisconsin Department of Administration</th>
<th>U.S. General Services Administration</th>
<th>3M</th>
<th>Xerox</th>
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<tr>
<td>Average vehicle miles per year</td>
<td>14,455</td>
<td>13,000</td>
<td>21,000</td>
<td>16,561</td>
<td>11,616</td>
<td>16,000</td>
<td>10,025</td>
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<td>Rental rates:</td>
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<tr>
<td>Subcompact</td>
<td></td>
<td>$11.70 + $0.032/mile</td>
<td>$8.50 + $0.08/mile</td>
<td>$0.183/mile</td>
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<tr>
<td>Compact</td>
<td>$0.19/mile</td>
<td>$12.80 + $0.036/mile</td>
<td>$10.75 + $0.06/mile</td>
<td>$0.208/mile</td>
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<tr>
<td>Intermediate</td>
<td>$0.19/mile</td>
<td>$13.15 + $0.047/mile</td>
<td>$11.65 + $0.065/mile</td>
<td>$15.00 + $0.11/mile</td>
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<tr>
<td>Full-size</td>
<td>$0.19/mile</td>
<td>$14.50 + $0.062/mile</td>
<td>$15.50 + $0.10/mile</td>
<td>$17.50 + $0.12/mile</td>
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<tr>
<td>Minivan</td>
<td>$0.19/mile</td>
<td>$14.50 + $0.062/mile</td>
<td>$16.50 + $0.06/mile</td>
<td>$15.31 + $0.14/mile</td>
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<td>Large van</td>
<td>$0.2705/mile</td>
<td>$18.30 + $0.08/mile</td>
<td>$15.00 + $0.10/mile</td>
<td>$0.606/mile</td>
<td>$0.358/mile</td>
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<td>Personal reimbursement rates:</td>
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<td>$10,999.00</td>
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<td>$13,993.00</td>
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<td>Compact</td>
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<td>$14,905.00</td>
<td>$13,963.88</td>
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<td>$14,571.27</td>
<td>$15,600.00</td>
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<td>Intermediate</td>
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<td>$18,255.00</td>
<td>$17,985.50</td>
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<td>$18,948.61</td>
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<tr>
<td>Full-size</td>
<td>$16,797.60</td>
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<td>$16,500.00</td>
<td>$14,806.83</td>
<td></td>
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<td>$16,465.00</td>
<td>$17,400.00</td>
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<tr>
<td>Minivan</td>
<td>$20,694.00</td>
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<td>$18,440.00</td>
<td>$18,219.00</td>
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<td>$22,334.00</td>
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<td>Large van</td>
<td>$25,694.00</td>
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<tr>
<td>Sedan replacement guidelines:</td>
<td>95,000 miles or $3,200 life to date maintenance and repair</td>
<td>80,000 miles or 6 years</td>
<td>65,000 miles or 5 years</td>
<td>60,000 miles or 40 months or poor body condition</td>
<td>85,000 miles</td>
<td>75,000 miles or 10 years</td>
<td>30,000 miles or 4 years</td>
<td>65,000 miles</td>
<td>60,000 miles or 3 years</td>
</tr>
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</table>

Some participants did not fully respond to the survey, even after repeated requests for information. Additionally, some of the questions were not relevant to all of the participants—some participants purchased only two types of vehicles, such as intermediate sedans and minivans.