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# REPORT TO THE CONGRESS

## Potential Savings By Replacing Government-Owned Sedans Each Year B-158712

General Services Administration

BY THE COMPTROLLER GENERAL  
OF THE UNITED STATES

JUNE 9, 1971

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COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON D C 20548

B-158712

To the President of the Senate and the  
Speaker of the House of Representatives

This is our report on potential savings by replacing  
Government-owned sedans each year.

Our review was made pursuant to the Budget and Ac-  
counting Act, 1921 (31 U.S.C. 53), and the Accounting and  
Auditing Act of 1950 (31 U.S.C. 67).

Copies of this report are being sent to the Director,  
Office of Management and Budget, the Administrator of Gen-  
eral Services, and the Secretary of Defense.

A handwritten signature in cursive script that reads "James B. Stacks".

Comptroller General  
of the United States

D I G E S T

WHY THE REVIEW WAS MADE

The Federal civil agencies had a domestic fleet of 37,000 sedans at the end of fiscal year 1969. The cost of operating them during that year was \$27.7 million, of which \$17.8 million was related to the 22,500 sedans in the General Services Administration's (GSA) interagency motor pools.

The General Accounting Office (GAO) reviewed GSA's vehicle replacement standards to find out whether the Government could save money by replacing sedans more often than was permitted.

FINDINGS AND CONCLUSIONS

GAO estimates that replacing GSA's sedans each year would save the Government \$5.1 million annually because (1) maintenance, repair, and tire costs are lowest during the first year of ownership and (2) the discount obtained by the Government when it purchases sedans substantially offsets the depreciation factor during the first year of ownership.

Five Government studies during the past 16 years have shown that substantial reductions in operating costs could be achieved by replacing passenger cars before they meet GSA's current replacement standard of 6 years or 60,000 miles. (See p. 5.)

Since station wagons and light trucks in the civil fleet are purchased and operated under conditions similar to sedans, GAO believes that replacing them each year may also produce substantial savings. (See p. 22.)

Department of Defense vehicles are not subject to GSA replacement standards and were excluded from this review. However, GAO's findings may have application to these vehicles as well. (See p. 21.)

RECOMMENDATIONS OR SUGGESTIONS

The Administrator of General Services should, with the concurrence and cooperation of the Office of Management and Budget

--adopt a 1-year replacement standard for sedans in its interagency motor pools,

- revise the Federal Property Management Regulations to require other Federal civil agencies to adopt a 1-year replacement standard for sedans, and
- examine into the feasibility of adopting a 1-year replacement standard for station wagons and light trucks in the civil fleet. (See p. 21.)

In addition, the Director, Office of Management and Budget, should examine into the feasibility of adopting a 1-year standard for Department of Defense sedans, station wagons, and light trucks. (See p. 22.)

#### AGENCY ACTIONS AND UNRESOLVED ISSUES

GSA agrees that a 1-year replacement cycle would be optimal for sedans in the civil fleet. GSA has initiated a study to determine the impact of replacing station wagons and pickup trucks each year. (See p. 17.)

The Office of Management and Budget

- agreed that a 1-year replacement cycle for GSA sedans was optimal in the long run but recommended that GSA continue the current 6-year replacement standard for the present time;
- expressed reservations concerning some of GAO's assumptions, implications, and conclusions--GAO considered these reservations in finalizing this report; and
- suggested that GAO consider the impact of the additional capital outlay on the overall Federal budget and the relative priority of other Federal projects. (See p. 18.)

GAO believes that the potential savings through replacing GSA's sedans each year makes the payoff on the additional capital outlay significant. GAO estimates that the additional cash investment plus imputed interest would be recovered through annual savings in about 2 years. GAO believes also that, if the funds needed to convert the GSA fleet of sedans to a 1-year cycle cannot be provided in 1 year, savings could be achieved by converting as large a portion of the GSA fleet of sedans as possible each year until complete conversion has been attained.

#### MATTERS FOR CONSIDERATION BY THE CONGRESS

GAO is reporting this matter to advise the Congress of the opportunity to achieve substantial savings by adopting a 1-year replacement cycle for Government sedans.

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ABBREVIATIONS

BOB	Bureau of the Budget (now Office of Management and Budget)
GAO	General Accounting Office
GSA	General Services Administration
OMB	Office of Management and Budget

D I G E S T

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## CHAPTER 1

### VEHICLE REPLACEMENT STANDARDS

As of June 30, 1969, the Federal civil agencies owned and operated a large domestic fleet of motor vehicles which included about 37,000 sedans. The total cost of operating the sedans in the civilian fleet during fiscal year 1969 was about \$27.7 million. Of these costs, about \$17.8 million related to the approximately 22,500 sedans in the General Services Administration (GSA) interagency motor pools.

Subchapters E 101-25.4 and G 101-38.9 of the Federal Property Management Regulations, issued by GSA, prescribe replacement standards for the various classes of motor vehicles. The regulations are mandatory and are applicable to all executive agencies except the Department of Defense.

#### DEVELOPMENT OF GOVERNMENT-WIDE REPLACEMENT STANDARD

The first Government-wide replacement standard for motor vehicles was developed by the Bureau of the Budget (BOB). The functions of the Bureau of the Budget were assumed by the Office of Management and Budget on July 1, 1970. In the late 1940's, BOB, in cooperation with an interdepartmental motor equipment committee which was concerned with the improvement of motor equipment management in the Federal Government, conducted a study to determine a uniform, economical motor vehicle replacement standard that would be applicable to all Government agencies. During the study, BOB obtained information from a number of industries and businesses which operated automotive fleets and examined into motor vehicle experiences of the Federal Government.

In December 1947, BOB reported its conclusions to the Committee on Appropriations, House of Representatives, and recommended that a 6-year or 60,000-mile replacement standard be adopted. The 60,000-mile standard was developed by averaging the mileage practices reported by seven private firms which operated more than 7,000 automobiles. BOB recommended also that the replacement standard be included as an instruction in the annual requests for budget estimates sent to all

Government agencies and not be incorporated into legislation. This replacement standard was subsequently adopted by GSA and included in the Federal Property Management Regulations.

#### CURRENT REPLACEMENT STANDARD

The regulations provide that passenger cars and station wagons may be replaced when they have been operated for 6 years or 60,000 miles, whichever occurs first. The regulations provide also that executive agencies must continue operating motor vehicles which are in usable condition and which can be operated an additional period without excessive maintenance cost or substantial reduction in trade-in value even though the standard permits replacement.

The regulations provide further that an agency owning eight or more vehicles in any one of the following classes (automobiles, all other passenger-carrying vehicles, and all trucks and truck tractors) may replace not more than 25 percent of its vehicles in each class during a fiscal year. If the total number of vehicles in any class is less than eight, not more than two of such vehicles may be replaced during a fiscal year.

The only exception to these standards is that a motor vehicle may be replaced regardless of its age or mileage if the head of the agency or his delegate certifies that the vehicle has been wrecked or damaged, including wear caused by abnormal operating conditions, and is beyond economical repair.

## CHAPTER 2

### SAVINGS BY ADOPTING A MORE ECONOMICAL

#### REPLACEMENT STANDARD FOR SEDANS

We estimate that the adoption of a 1-year replacement cycle for the sedans in GSA's interagency motor pools would result in annual savings to the Government of about \$5.1 million because (1) maintenance, repair, and tire costs are lowest during the first year of ownership and (2) the discount obtained by the Government when it purchases sedans substantially offsets the depreciation factor during the first year of ownership.

During the past 16 years, several Government studies have been made which indicate that substantial reductions in maintenance, repair, tire, and depreciation costs could be achieved by replacing passenger cars before they meet the Government's replacement standard of 6 years or 60,000 miles. Also, it has been recognized for some time by commercial fleet operators that a shorter replacement cycle for certain motor vehicles is more economical than the Government's replacement cycle.

#### PRIOR REPLACEMENT STUDIES BY GSA AND OTHERS

##### Study report--March 1954

In March 1954, GSA published a report entitled "A Proposal for Improving Federal Motor Vehicle Management." In the report, GSA concluded that the Government could substantially reduce its cost of owning and operating motor vehicles by replacing them before the vehicles either were 6 years old or had been operated for 60,000 miles.

GSA recommended that the Government adopt a maximum 3-year or 50,000-mile replacement standard, whichever occurred

first, for about 195,000,<sup>1</sup> or 75 percent, of the Government's 260,000 vehicles. It was considered impractical to adopt this replacement standard for the remaining 25 percent of the vehicles because of either their size or the special equipment installed on them. GSA estimated that implementation of the recommendation would reduce the Government's costs by \$19.4 million annually during a 6-year transition period and by \$39.9 million annually thereafter. The latter amount consisted of reductions of \$23.4 million in maintenance cost, \$14.6 million in depreciation cost, and \$1.9 million in operating cost.

In 1956, BOB rejected this proposal because (1) the cost figures used by GSA were outdated and (2) the latest Annual Motor Vehicle Report showed that about one third of all passenger-carrying vehicles were eligible for replacement under existing standards but were not being replaced on schedule. BOB expressed the belief that there was no point in adopting new standards until existing standards had been met.

#### Study report--May 1963

At the request of GSA, the Steering Committee, Joint Financial Management Improvement Program, organized a group in October 1961 to conduct a broad study of the Government's motor vehicle management. The study group was composed of representatives of GSA, BOB, the Treasury Department, and the General Accounting Office. In its report to the Steering Committee in May 1963, the group suggested that GSA give consideration to the need for changes in the motor vehicle replacement policy and stated, in part, that:

"The Government gets a discount of approximately \$500 per automobile under the commercial fleet price which virtually eliminates the depreciation factor the first year. Considering the large

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<sup>1</sup>The GSA report covered the following vehicles which were reported as owned by Federal agencies, including Department of Defense, at June 30, 1953: 42,000 cars, 4,000 station wagons, and 149,000 trucks and utility vehicles.

annual cost of \$61.3 million for depreciation reported in the AMVR [Annual Motor Vehicle Report] on the Federal fleet and the controllable factors which affect depreciation, it is apparent the Government could effect significant savings if full advantage could be taken of these factors in the buying and selling of motor vehicles."

The study group noted that an economic replacement cycle was the most significant single factor in motor vehicle fleet management and stated that discussions with commercial fleet specialists indicated:

- "1. Maintenance costs increased steadily but were partially compensated for by a decline in depreciation.
- "2. Total costs per mile moved steadily upward throughout the period covered by the study due to increased maintenance costs and decreased mileage.
- "3. Gasoline consumption per mile remained virtually the same for two operating years but increased in the third."

This study showed that (1) the cumulative cost a mile for vehicles sold after 3 years of operation was three fourths of a cent higher than the cumulative cost a mile for vehicles sold after 2 years of operation and (2) the cumulative cost a mile for vehicles sold after 2 years of operation was about 1.25 cents higher than the cumulative cost a mile for vehicles sold after 1 year of operation.

In a report on the Joint Financial Management Improvement Program's progress during fiscal year 1964, a reference was made to the work done by the study group. It was noted in the report that the residual value of vehicles is an important factor to be considered in deciding when to dispose of vehicles to reduce the loss in value to an optimal point.

#### Study report--July 1965

In a report to the Administrator of General Services in July 1965, the GSA Audit Division compared the cost of GSA

interagency motor pool operations with the costs reported by other organizations conducting similar operations. The cost comparison showed that GSA spent about 6.25 cents a mile to operate its sedans for fiscal year 1964 whereas the Iowa State Highway Commission, the State of Minnesota, and the University of California operated their sedans at an average cost of about 4 cents a mile. The Audit Division attributed these lower unit costs to, among other factors, the replacement of sedans every 2 years and high utilization of the sedans. Therefore it recommended immediate action to change the replacement policy of 6 years or 60,000 miles for sedan vehicles to a replacement policy of every 2 years.

#### Study report--April 1967

In March 1967, the Director, BOB, requested GSA to make a study on replacement standards for Federal motor vehicles. In April 1967, the Administrator of General Services replied that GSA had recently completed a study of the GSA fleet of passenger cars which showed the proper replacement standard for passenger cars to be 4 years or 50,000 miles, whichever occurred first. These conclusions were consistent with those of prior studies in that they indicated that substantial economies could be obtained by shortening the replacement cycle.

The Administrator stated that, from an economic standpoint, the optimal time to replace GSA cars was at the end of the first year of use because the Government would realize a profit from the sale of 1-year-old cars. He added, however, that it would not be practical to make replacements at the end of the first year of use because of the resultant severe and unfavorable reaction in connection with the used car market. (For a discussion of this factor see p. 14.)

The study showed that a replacement cycle of 1, 2, 3, or 4 years was more economical than a 6-year cycle but that a 6-year cycle was more economical than a 5-year cycle. Although the shorter cycles were more economical than a 4-year cycle, the 4-year cycle was recommended because it required the least amount of additional cash outlay for the purchase of new cars.

In July 1967, the Director, BOB, advised the Administrator of General Services that, because of the cost of the Vietnam war and of strong pressures to minimize other expenditures wherever possible, it was not desirable to adopt lower replacement standards. He stated, however, that a good deal of evidence had been produced to support lower replacement standards and that it might be feasible to provide for revision of the replacement standard in the 1970 budget.

Study report--January 1970

GSA, in a study report dated January 30, 1970, again concluded that a 1-year replacement cycle for sedans was optimal on the basis of the cost of new sedans under either the then-current statutory limitation or the proposed increased limitation (which since has become law) on the price that may be paid for sedans and on the average resale values of 1-year-old sedans as obtained from a sample sale held in the spring of 1969. GSA stated that application of a 1-year replacement cycle to the sedans in its motor pools could be accomplished in 1972 within the existing capital structure of the General Supply Fund.

In November 1970, the Deputy Director, Office of Management and Budget, advised the Administrator of General Services that, in view of the budgetary situation, the present sedan replacement policy should be continued at least through fiscal year 1972. He acknowledged that the study generally supported a 1-year replacement policy for GSA sedans over the long term.

## ESTIMATED COST OF VARIOUS REPLACEMENT CYCLES

The major costs of owning and operating a car that vary under different replacement cycles are depreciation costs; maintenance, repair, and tire costs; and interest on investment. Depreciation, as used in this report, is the difference between the cost to the Government of a new car and its resale value. Some operating costs, such as gas and oil, do not vary significantly with the age of a car.

On the basis of data contained in GSA's 1970 study report, we compared the costs of owning one sedan in GSA's interagency motor pools under replacement cycles of from 1 to 6 years. The GSA study showed that the average cost of new sedans was \$1,543 under the then-current statutory limitation and that this cost would be \$1,683 under the proposed increased limitation (which since has become law). The average selling price of 1-year-old used sedans was \$1,443 and this price was progressively lower for older sedans.

Our comparison was based on (1) the assumption that GSA's motor pools would continue in perpetuity, (2) the present value of the cost of owning a sedan in perpetuity under replacement cycles of from 1 to 6 years computed at an interest rate of 8 percent--the rate that executive agencies often have used in their economic analyses, and (3) the average cost of \$1,683 for new sedans based on the current statutory limitation on the price that GSA may pay for new sedans.

Because the statutory limitation on the price that may be paid for new sedans is generally raised only at intervals of several years and used car prices rise more gradually, we computed the cost of owning sedans under the various replacement cycles on two bases: one, using the GSA-developed resale values for used sedans; the other, assuming that an increase would follow in those resale values in proportion to the increase in the average cost of new sedans from \$1,543 to \$1,683. We believe that it is reasonable to assume that the resale values of used sedans would increase in proportion to an increase in the average cost of new cars.



Our comparisons, on both bases, of the present value of the cost of owning a sedan in perpetuity under replacement cycles of from 1 to 6 years are shown below.<sup>1</sup>

GSA-Developed Resale Values for Used Sedans

Replacement cycle (year)	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Present value of the cost of owning one se- dan in perpe- tuity	\$5,263	\$6,508	\$6,642	\$6,994	\$6,694	\$6,502

GSA-Developed Resale Values for Used Sedans  
Increased in Proportion to  
the Increase in the Average  
Cost of New Sedans from \$1,543 to \$1,683

Replacement cycle (year)	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Present value of the cost of owning one se- dan in perpe- tuity	\$3,626	\$5,890	\$6,329	\$6,850	\$6,602	\$6,441

Both comparisons show that a 1-year replacement cycle is the most economical.

The extent of the benefits that would result from adopting a 1-year replacement cycle for the 22,500 sedans in GSA's motor pools is indicated by the estimated annual savings of about \$5.1 million that would be realized, as shown below.

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<sup>1</sup>Details of our calculations are shown in appendix III.

Annual costs, exclusive of interest, of maintaining one sedan under:

A 5-year replacement cycle (note a):

Cost of sedan	\$1,683	
Maintenance, repair, and tire costs	<u>680</u>	
Total	2,363	
Less resale value of a 5-year-old sedan	<u>445</u>	
Total	<u>\$1,918</u>	
Average annual costs ( $\$1,918 \div 5$ )		\$ 383.60

A 1-year replacement cycle:

Cost of sedan	\$1,683.00	
Maintenance, repair, and tire costs	<u>41.00</u>	
Total	1,724.00	
Less resale value of a 1-year-old sedan as established by GSA in spring 1969 adjusted for subsequent price increases (note b)	<u>1,567.50</u>	
Annual costs		<u>156.50</u>

Annual savings for one sedan by converting to a 1-year replacement cycle \$ 227.10

Annual savings for all sedans in GSA's motor pools by converting to a 1-year replacement cycle (22,500 x \$227.10) \$5,109,750

<sup>a</sup>GSA's average replacement cycle is 5 years because the GSA sedans are averaging 60,000 miles in 5 years.

<sup>b</sup>The GSA value, established on the basis of the sales that it made in the spring of 1969, is \$1,443. A \$131 increase in this amount (\$1,443 + \$131 = \$1,574) is proportional to the \$140 increase in the new car purchase price from \$1,543 to \$1,683. We have subtracted \$6.50 selling costs from the adjusted selling price of \$1,574.

The greater economy of a 1-year replacement cycle is attributable to two factors. First, maintenance, repair, and tire costs during the first year of ownership are lower than the costs during subsequent years; second, the discount obtained by the Government when it purchases sedans substantially offsets the depreciation factor during the first year of ownership.

In addition, the conversion to a 1-year replacement cycle would result in upgrading the quality of the sedan fleet. No cars would be more than 1 year old and downtime for repairs would be minimized, making possible an increase in the utilization of the sedans and a possible decrease in the number required.

## OTHER FACTORS AFFECTING CHOICE OF A REPLACEMENT STANDARD

We recognize that the establishment of a shorter replacement cycle for Government-owned motor vehicles involves consideration of other factors such as the (1) effect on the new and used car markets, (2) additional cash investment, and (3) costs involved in purchasing and selling the increased number of vehicles. These factors are discussed in the following sections.

### Effect on the new and used car markets

An automotive trade publication showed that about 8.2 million new passenger cars and about 15.3 million used cars were sold in the United States in 1969. On June 30, 1969, the civil agencies of the Government owned and operated 45,489 passenger vehicles.

In our opinion, the economic effect nationally of a 1-year replacement standard on car sales would be negligible. On the basis of the 1969 data, the number of passenger vehicles in the civil fleet was only about 0.6 percent of the number of new cars sold and about 0.3 percent of the number of used cars sold.

A GSA official has advised us that most of the sales of motor pool vehicles are conducted in large communities. Therefore we believe that the impact on used car sales would not be significant in most locations.

GSA has advised us that, on the basis of its experience since 1967, GSA no longer believes that the adoption of a 1-year replacement standard would be impractical because of an anticipated severe and unfavorable reaction in connection with the used car market.

### Additional cash investment

To convert GSA's interagency motor pool sedans from the current replacement cycle to a 1-year replacement cycle in fiscal year 1972 would require an additional cash outlay of about \$8 million (excluding Federal excise taxes

which would be recovered), assuming that the resale values of used cars increase in proportion to the increase in the average cost of new sedans. The additional cash investment with imputed interest at 8 percent, however, would be recovered through annual savings in about 2 years.

#### Costs involved in purchasing and selling increased number of vehicles

Shortening the cycle for replacing cars to 1 year would result in additional funds being expended annually to (1) prepare the new cars for service and (2) prepare the used cars for sale. Preparation costs for sedans have averaged about \$25 a car.

Although the manufacturers service and check out new cars before shipment, GSA inspects each car before placing it in service to ensure proper functioning. Also, the cars must be washed; have license plates attached; have the proper decals attached; and may, in some jurisdictions, have to be registered and inspected prior to being put into use.

When preparing used cars for sale, the interagency motor pools clean them inside and out; remove decals; and, to the extent that parts are available in their inventories, replace any parts necessary for operation of the cars. GSA's policy, however, prohibits incurrence of expenses in excess of 10 percent of the expected selling price of a car.

GSA estimates that additional selling expenses of about \$6.50 a sedan will be incurred under a 1-year replacement cycle. Car preparation and selling costs were considered by us in determining the most economical replacement cycle and in computing the potential savings reported on page 12.

#### REPLACEMENT PRACTICES OF PRIVATE FIRMS

We discussed vehicle replacement practices with officials of two large commercial car rental firms and of one large nonprofit organization. An official of one commercial firm informed us that the firm replaced its vehicles

at least annually or after 20,000 miles of use. An official of the other commercial firm informed us that the firm replaced its vehicles at least annually or when the vehicles have been operated for 15,000 to 20,000 miles.

An official of the nonprofit organization informed us that the organization generally replaced its cars annually and that cars were usually driven an average of 12,000 miles a year. He informed us also that the organization had sold its cars above their original costs.

## CHAPTER 3

### AGENCY COMMENTS AND OUR EVALUATIONS

We furnished a draft of this report to the Administrator of General Services and to the Director, Office of Management and Budget (OMB), for review. Their comments were provided in letters dated September 17, 1970, and November 20, 1970, respectively, and are included as appendixes I and II of this report.

We proposed in the draft report that the Administrator of General Services with the concurrence and cooperation of OMB (1) adopt a 1-year replacement standard for sedans in its interagency motor pools, (2) revise the Federal Property Management Regulations to require other Federal civil agencies to adopt a 1-year replacement standard for sedans, and (3) examine into the feasibility of adopting a 1-year replacement standard for station wagons and light trucks in the civil fleet. In addition, we proposed that the Director, OMB, examine into the feasibility of adopting a 1-year replacement standard for Department of Defense sedans, station wagons, and light trucks.

#### GSA COMMENTS

GSA concurred with our proposals for adoption of a 1-year replacement standard for sedans in the GSA motor pools and for sedans of other Federal civil agencies. GSA stated that it had initiated a study to determine the impact of a 1-year replacement standard on the station wagons and pickup trucks in the GSA fleet.

GSA told us that, contingent upon OMB concurrence, it was preparing to include the necessary funding arrangements in the fiscal year 1972 budget that would permit the adoption of a 1-year replacement standard for the sedans in the GSA motor pools and was preparing to issue the necessary change to the Federal Property Management Regulations to require other civil agencies to adopt the 1-year replacement standard. However, as discussed herein, OMB does not plan to give the necessary concurrences at the present time.

GSA stated that it would have no difficulty in adopting the new standard for the vehicles in the GSA motor pools because procurement of these vehicles are funded through the General Supply Fund. GSA stated also that other civil agencies generally use appropriated funds for vehicle procurement and that they were subject to statutory limitations on the number of vehicles in their fleet. GSA concluded that many agencies would require specific action by the Congress each year prior to initiating disposal and replacement action and that changes in statutory provisions might be required to permit efficient and effective utilization of the new standard.

#### OMB COMMENTS

In commenting on our proposal for adoption of a 1-year replacement standard for the sedans in GSA's motor pools, OMB agreed that a 1-year replacement standard would result in some long-term savings but stated that it had reservations concerning certain of our assumptions and conclusions. OMB stated that it recommended that GSA continue the 6-year replacement standard for the present time.

OMB's primary reservation concerns our assumption that the resale value of used sedans will increase in proportion to the increase in the average cost to the Government of new sedans.

Statistics show, and it is understood by purchasers in general, that used car prices are related to new car prices and the general price level. We believe that, in effect, the Congress through changes that it makes in the statutory limitation adjusts prices that the Federal Government may pay for new cars to recognize changes in new car price levels. However, we need not rely on theory or belief in view of the availability of wholesale price indexes for used cars.

Our comparison of the average wholesale value of 1-year-old sedans in October 1969 with the average wholesale value of 1-year-old sedans in October 1970 showed that the values had increased by \$125 which closely approximates the \$131 increase that we had previously estimated as being proportionate to the increase in the average cost of new sedans. We believe that the result of this comparison supports our



assumption concerning increases in the resale value of used sedans.

OMB was of the opinion that the increase in the statutory limitation on the price that GSA may pay for new sedans reflected price-cost changes which had already occurred. Our review shows that car prices tend to rise gradually whereas the statutory limitation is raised only at intervals of several years. We believe that it would have been unrealistic to use the increased cost of new sedans permitted by the current statutory limitation on the price that GSA may pay for new sedans without bringing up to date the value of used sedans as had been determined by GSA several months before the limitation was raised.

OMB stated that, if the increases in used sedan values were invalid, our estimated savings would be reduced from \$5.1 million to \$2.5 million and the period for recovery of the additional cash investment would be increased from 2 years to 8 years. OMB's estimate of the additional capital investment, since it is based on no increase in used car prices, is \$14 million as opposed to our estimate of \$8 million.

OMB stated that a relatively small variation that would increase the difference between purchase prices and resale prices could change the optimal replacement period from 1 year to 6 years. According to OMB, if this change occurred prior to the end of the 8-year period for recovery of the additional cash investment, changing to a 1-year replacement policy at the present time would be economically disadvantageous.

Variations in the difference between purchase prices and resale prices could, of course, affect the selection of the optimal replacement period. But since the values of used cars normally increase as the costs of new cars increase, it is unlikely that the difference between used car prices and new car prices would increase to the point where a 6-year cycle would be more economical than a 1-year cycle. This possibility is greater under OMB's position--which we believe is not realistic--that no increases in used car values should be assumed.

In any event, should conditions change at a later date, GSA could easily revert from a 1-year replacement cycle to a

longer cycle by spreading out the purchase of new sedans. As stated previously, the additional capital investment needed to convert to a 1-year cycle would be recovered in about 2 years rather than in the 8 years estimated by OMB.

Other factors mentioned by OMB were the impact of the additional cash investment needed to convert to a 1-year replacement cycle on overall budget and fiscal requirements and the investment competition between this project and other projects. OMB stated that the additional cash investment would be \$14 million; however, as indicated previously, we estimate that the amount would be about \$8 million.

We recognize that the change to a 1-year replacement standard would have some impact on overall budget and fiscal requirements. We believe, however, that the potential recurring annual savings of \$5.1 million from this additional one-time cash investment are significant. In addition, although our analysis clearly indicates that immediate conversion to a 1-year replacement cycle would result in maximum savings, some savings can be achieved if portions of the total sedan fleet are put on a 1-year cycle each year until the entire fleet is converted to a 1-year cycle.

OMB commented on certain defects of the earlier GSA studies. As stated in this report, the earlier studies indicated that cost reductions could be achieved by replacing passenger cars before they meet the replacement standard of 6 years or 60,000 miles; however, we do not disagree with OMB's statement that there were certain defects in some of the studies. Our conclusion in this report that a 1-year replacement cycle is optimal does not rely on these older studies. It is based primarily on the comprehensive information subsequently developed by our office and by GSA for its 1970 report.

## CHAPTER 4

### CONCLUSIONS AND RECOMMENDATIONS

#### CONCLUSIONS

As cars become older, their resale values decrease while their maintenance, repair, and tire costs increase. The resale values of cars decrease not only because of obsolescence brought on by restyling and technological innovation but also because of their loss of operating efficiency due to wear and tear. Shortening of the current replacement cycle would have the advantage of lessening depreciation, maintenance, repair, and tire costs.

Since adoption in 1947 of the current vehicle replacement standard of 6 years or 60,000 miles, GSA has made or has sponsored several studies of the effects of the length of the replacement cycle on vehicle costs. All of these studies, as well as other information presented in this report, indicate that a shorter replacement cycle will result in reduced ownership costs.

The average annual cost of owning a fleet of sedans is lower under a 1-year replacement cycle than it is under any cycle ranging from 2 to 6 years. Therefore, we conclude that a 1-year replacement cycle for sedans in the civil fleet should be adopted.

Although Department of Defense vehicles are not subject to GSA replacement standards and are therefore not included in the scope of our review, our findings may have application to these vehicles.

#### RECOMMENDATIONS

We recommend that the Administrator of General Services, with the concurrence and cooperation of the Office of Management and Budget

--adopt a 1-year replacement standard for sedans in its interagency motor pools,

- revise the Federal Property Management Regulations to require other Federal civil agencies to adopt a 1-year replacement standard for sedans, and
- examine into the feasibility of adopting a 1-year replacement standard for station wagons and light trucks in the civil fleet because they are purchased and operated under conditions similar to sedans.

In addition, we recommend that the Director, Office of Management and Budget, examine into the feasibility of adopting a 1-year replacement standard for Department of Defense sedans, station wagons, and light trucks.

## CHAPTER 5

### SCOPE OF REVIEW

Our review was directed toward determining the optimum replacement standard for sedans in the Federal civil domestic fleet. We reviewed reports on studies of replacement standards prepared by GSA and other Government entities and analyzed cost and statistical data developed by GSA for a 1970 report on vehicle replacement standards. We also reviewed the National Automotive Dealers Association wholesale prices for used cars and discussed vehicle replacement standards with officials of large non-Government motor vehicle fleets.

Department of Defense vehicles are not subject to GSA replacement standards and were, therefore, not included in the scope of our review.

Our review was conducted primarily at GSA headquarters, Washington, D.C.

**APPENDIXES**

## GENERAL SERVICES ADMINISTRATION

Washington, D C. 20405



SEP 17 1970

- Honorable Elmer B. Staats  
Comptroller General of  
the United States  
Washington, D. C. 20548

Dear Mr. Staats:

We have reviewed the draft of your proposed report to the Congress on potential savings through annual replacement of Government-wide sedans (B-158712).

As noted in your report, the GSA study transmitted to the Office of Management and Budget on January 30, 1970, recommended the adoption of a one-year replacement cycle for the entire Federal civil sedan fleet. We proposed that GSA be authorized to convert to the new standard in FY 1972 and that other civil agencies be authorized to convert as soon as fiscal position of the Government would permit such action. No reply has been received to date.

The recommendations in your report would also apply the one-year replacement standard to station wagons and light trucks. Since we did not include such vehicles in our test sale, we do not have any specific data to prove or disprove your assumption that the application of the revised standard to such vehicles might produce substantial savings. We have recently initiated a study to determine the impact of such a standard on the station wagons and pickup trucks in the GSA fleet. You will be advised as to the results of the study.

GSA is preparing to include the necessary funding arrangements in the FY 1972 budget to permit the conversion of the GSA sedan fleet, as recommended. In addition, we are prepared to issue the necessary change to the Federal Property Management Regulations to require other civil agencies to adopt the one-year replacement standard, as soon as the Office of Management and Budget concurs.

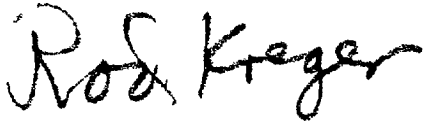
*Keep Freedom in Your Future With US Savings Bonds*

## APPENDIX I

GSA will have no difficulty in adopting the new standard, since it funds the procurement of its vehicles through the General Supply Fund. However, other civil agencies generally use appropriated funds for vehicle procurement. In addition, they are subject to statutory limitations on the number of vehicles in their fleet. Thus, many agencies would require specific action by the Congress each year, prior to initiating disposal and replacement action. Changes in statutory provisions might be required to permit efficient and effective utilization of the new standard.

We appreciate the opportunity to review your report in draft form and assure you we will cooperate fully in its implementation.

Sincerely,

A handwritten signature in black ink that reads "Rod Kreger". The signature is written in a cursive, slightly slanted style.

Rod Kreger  
Acting Administrator



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON D C 20503

NOV 20 1970

Honorable Elmer B. Staats  
Comptroller General of the  
United States  
Washington, D. C. 20548

Dear Mr. Staats:

This is in response to Mr. Ahart's August 25, 1970, letter requesting our comments on your draft report, "Potential Savings by Replacing Government-owned Sedans Each Year." As discussed below, we have some major reservations concerning a number of the assumptions, implications and conclusions contained in the report.

A section of the draft report reviews GSA studies which were conducted prior to the 1970 GSA study. The report points out that those studies recommended replacement periods of less than six years and infers that savings could have been obtained if the recommendations resulting from the prior studies had been adopted. However, the draft report fails to indicate that: (1) recommendations made in prior studies were not adopted because the Office of Management and Budget believed inappropriate or insufficient economic analysis was used to develop the recommendations (for this reason OMB requested further study); (2) the conclusion of the present 1970 GSA study is that a six-year replacement policy is economically preferable to all but a one-year policy. Therefore, if the prior recommendations of two-, three-, or four-year replacement periods had been adopted, it would have been economically disadvantageous to the Government.

The January 1970 GSA study was used as the basis for the GAO draft report. However, certain important modifications have been made in the data by using a different assumption concerning the resale values for used GSA sedans. The GAO report assumes that GSA used sedan values will increase in proportion to the average increase in the Federal Government's cost of new sedans, which is directly affected by the statutory limitation. The report does not provide any justification supporting the resale assumption which is the basis for revising the estimated savings. To the contrary, we do not believe that the price the Government pays for its new cars has any direct relationship to the value received for sale of used cars. The price received from the sale of used cars would appear to be based primarily on national and local used car markets rather than the price the Government is prepared to pay for new cars. Furthermore, the GSA

## APPENDIX II

estimates of resale values were based on actual used car sales at a time when the statutory limitation did not actually reflect manufacturers costs in the new car market. The recent increase in the statutory limitation from \$1,500 to \$1,650 primarily reflected price-cost changes which had already occurred rather than an anticipation of future increases. Consequently, it would be incorrect to conclude that there is an imbalance between used and new car prices estimated in the GSA study. In our opinion, the GSA method of estimating resale value on the basis of actual sale experience is more realistic than estimates based upon a percentage formula relating to increases in statutory price limitations.

If the assumption in the GAO report is invalid, the estimated savings resulting from a change to a one-year replacement policy is substantially less. The annual savings contained on page 12 of the draft report (which does not include the cost of capital) would then be reduced from \$5.1 M to \$2.5 M. The resulting "pay-back" period would then be approximately eight years, rather than the two- to three-year period estimated in the draft report.

We concur in the draft report's general conclusion that present economic analysis indicates some long-run savings can be obtained by adopting an annual replacement policy for GSA motor pool vehicles. However, the following factors must be considered in making any policy determination, and GAO might wish to recognize these factors in the final report.

1. The present cost data indicate that a relatively small variation which increases the difference between resale price and purchase price (approximately \$100 per sedan according to GSA data) could change the optimum replacement period to six years, rather than one year. If this shift occurred prior to the eight-year "pay-back" period, changing to one-year replacement now would be economically disadvantageous. Such a shift may or may not occur in the future but should be considered in any proposed policy change.

2. Though no new appropriation would be required to shift to a one-year replacement policy, Federal net outlays from existing balances would need to be increased by approximately \$14 million. This, of course, would have an impact on overall budget and fiscal requirements.

3. Though the new investment would be expected to result in Government savings, the investment may not have the highest payoff or be the highest priority of all projects presently competing for expenditure of the Federal dollar.

Enclosed is a copy of the letter we have sent the Administrator of General Services recommending (1) continuance of the six-year/60,000 mile replacement criteria for the present; (2) maintenance of their study of replacement policy on a continuing basis; and (3) study of a more comprehensive alternative, the relative costs of leasing versus ownership of the Government's vehicle fleet.

Sincerely,

A handwritten signature in black ink, appearing to read "Caspar W. Weinberger". The signature is written in a cursive style with a large initial "C".

Caspar W. Weinberger  
Deputy Director

EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

NOV 20 1970

Honorable Robert L. Kunzig  
Administrator of General Services  
Washington, D.C. 20405

Dear Mr. Kunzig:

This is in response to your January 30, 1970, letter which transmitted the General Services Administration Automobile Replacement Policy Study and Program Memorandum.

We have reviewed the study and have discussed its contents with your staff at various times since you transmitted the study. The study reflects careful planning and the competent application of appropriate analytic techniques.

Our reaction to the study may be summarized as follows:

1. The economic analysis generally supports a one-year replacement policy over the long-term for GSA motor pool vehicles.
2. Our analysis indicates that the cost of the added capital outlay required to accelerate the replacement cycle to one year would defer the realization of economic benefits for at least six years. Your staff has a copy of this analysis.
3. The results of the analysis are highly susceptible to relatively small cost changes, which would reduce or eliminate anticipated benefits.
4. The estimated long term benefits do not appear to justify assigning a high priority to achievement of a one-year replacement cycle when the investment required is considered in relation to other demands upon the budget.

Therefore, in view of the budgetary situation, the Office of Management and Budget recommends that the present sedan replacement policy be continued at least through fiscal year 1972. We suggest that you consider maintaining your study on a current basis for possible resubmission at a time when the budgetary

situation is improved and potential benefits would represent a higher priority in comparison with other budget requirements. We suggest that any updating of the study should also include consideration of current factors influencing cost criteria, such as the recent passage of P. L. 91-243, approved September 26, 1970, which could raise the effective purchase price of new Government sedans and increase the resale value. In view of GSA's government-wide responsibility for motor vehicle operations, we also suggest that GSA discuss any future policy proposals with other Federal agencies to provide a coordinated government-wide approach.

In addition to maintaining your study of replacement policy on a current basis, we would appreciate your undertaking an analysis of the relative costs of leasing versus ownership of the Government's vehicle fleet. OMB staff will be in touch with your staff to discuss the development of a plan for such a study.

Sincerely,

/s/ Caspar Weinberger

Caspar W. Weinberger  
Deputy Director

PRESENT VALUE ANALYSIS - NO INCREASE IN TRADE-IN VALUES

Cost of retaining one sedan under replacement cycles of from 1 to 6 years.

Interest rate.  $i = 8$  percent

$n =$  Number of years in cycle

Cost of new car \$1683

Trade-in values:	Age of car (years)	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
	Value	\$1443	\$1093	\$835	\$506	\$408	\$311

Column 1 Cycle term (yr.)	Column 2 M&R and tire costs	Column 3 Present value factor	Column 4 Present value amount (col. 2 x col. 3)	Column 5 Cumulative present value	Column 6 First cycle cost (\$1683 + col. 5)
1	\$ 41	.925926	\$ 37	\$ 37	\$1,720
2	141	.857339	120	157	1,840
3	150	.793833	119	276	1,959
4	164	.73503	120	396	2,079
5	184	.680584	125	521	2,204
6	183	.63017	115	636	2,319

PRESENT VALUE ANALYSIS - INCREASED TRADE-IN VALUES

Cost of retaining one sedan under replacement cycles of from 1 to 6 years.

Interest rate.  $i = 8$  percent

$n =$  Number of years in cycle

Cost of new car: \$1683

Trade-in values:	Age of car (years)	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
	Value	\$1574	\$1192	\$910	\$552	\$445	\$340

Column 1 Cycle term (yr.)	Column 2 M&R and tire costs	Column 3 Present value factor	Column 4 Present value amount (col. 2 x col. 3)	Column 5 Cumulative present value	Column 6 First cycle cost (\$1683 + col. 5)
1	\$ 41	.925926	\$ 37	\$ 37	\$1,720
2	141	.857339	120	157	1,840
3	150	.793833	119	276	1,959
4	164	.73503	120	396	2,079
5	184	.680584	125	521	2,204
6	183	.63017	115	636	2,319

<sup>a</sup>Includes \$5.50 selling cost. See note on page 36 regarding column 7.

<sup>b</sup>A 1-year cycle is the most economical.

APPENDIX III

Column 7 Subsequent cycle cost (col. 6 - trade-in)	Column 8 Perpetuity factor $1 / (i \times n)$	Column 9 Cost of future cycles (col. 7 x col. 8)	Column 10 Total cost (col. 6 + col. 9)
\$ 283.5 <sup>a</sup>	12.5	\$3,543	\$5,263 <sup>b</sup>
747	6.25	4,668	6,508
1,124	4.16667	4,683	6,642
1,573	3.125	4,915	6,994
1,796	2.5	4,490	6,694
2,008	2.08333	4,183	6,502

Column 7 Subsequent cycle cost (col. 6 - trade-in)	Column 8 Perpetuity factor $1 / (i \times n)$	Column 9 Cost of future cycles (col. 7 x col. 8)	Column 10 Total cost (col. 6 + col. 9)
\$ 152.5 <sup>a</sup>	12.5	\$1,906	\$3,626 <sup>b</sup>
648	6.25	4,050	5,890
1,049	4.16667	4,370	6,329
1,527	3.125	4,771	6,850
1,759	2.5	4,398	6,602
1,979	2.08333	4,122	6,441

The major variable costs of retaining a sedan in GSA's interagency motor pool under different replacement cycles are depreciation costs; maintenance, repair, and tire costs; and interest on investment. These costs are analyzed for a single sedan on the preceding pages to determine the most economical cycle. The columns in the analyses have the following meanings.

Column 1--The numbers, 1, 2, 3, 4, 5, and 6 should be interpreted as first year, second year, etc., in relation to columns 2, 3, and 4. They should be interpreted as 1-year cycle, 2-year cycle, etc., with respect to all other columns.

Column 2--These amounts represent maintenance and repair (M&R) and tire costs for the various years as developed by GSA for its 1970 report.

Column 3--For convenience, we regard M&R and tire costs as occurring at the beginning of the cycle. For this reason, we apply the present value factors shown in this column, on the basis of an interest rate of 8 percent, to obtain their present values at the beginning of the cycles.

Column 4--These are the present value amounts obtained.

Column 5--The present value of M&R and tire costs for a 2-year cycle will be \$37 the first year and \$120 the second year for a cumulative total of \$157. In this column are accumulated the items in column 4 to obtain the total present value of M&R and tire costs for each cycle.

Column 6--Each item in this column represents the present value of the costs for the initial cycle consisting of the cost of a new car and the M&R and tire costs incurred during each cycle as shown in column 5.

Column 7--In subsequent cycles there will be cars sold. The resale values are a setoff against the purchase price of new cars. Taking this into account each item in this column shows the present value cost of a subsequent cycle. An amount of \$6.50 has been added to the cost of a 1-year



cycle to cover GSA's estimate of the additional cost of selling an increased number of cars.

Column 8--The cycle costs in column 7 cannot be compared directly with each other because they are not on an equal basis. For example, the costs of a 1-year cycle are incurred during a 1-year period whereas the costs of a 6-year cycle are spread unevenly over a 6-year period. Applying the perpetuity factors shown in this column will transform the cycle costs of column 7 into present values of perpetuities and thus put all the cycles on an equal footing.

Column 9--These amounts represent the present value of the costs for all future cycles based on an interest rate of 8 percent.

Column 10--This column shows total present value costs, composed of the present value costs of the initial cycle (col. 6) and the present value cost of all future cycles (col. 9). The most economic cycle is the one that minimizes the present value of total costs. The 1-year cycle is the most economical.

APPENDIX IV

PRINCIPAL OFFICIALS RESPONSIBLE  
 FOR THE POLICIES AND THE CONDUCT OF THE  
 ACTIVITIES DISCUSSED IN THIS REPORT

Tenure of office  
From                      To

GENERAL SERVICES ADMINISTRATION

ADMINISTRATOR OF GENERAL SERVICES:

Robert L. Kunzig	Mar. 1969	Present
Lawson B. Knott, Jr.	Nov. 1964	Feb. 1969
Bernard L. Boutin	Nov. 1961	Nov. 1964

OFFICE OF MANAGEMENT AND BUDGET

DIRECTOR, OFFICE OF MANAGEMENT AND  
 BUDGET:

George P. Shultz	July 1970	Present
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DIRECTOR, BUREAU OF THE BUDGET  
 (now OMB):

Robert P. Mayo	Jan. 1969	June 1970
Charles J. Zwick	Jan. 1968	Jan. 1969
Charles L. Schultze	June 1965	Jan. 1968
Kermit Gordon	Dec. 1962	June 1965

POTENTIAL SAVINGS BY REPLACING GOVERNMENT-OWNED  
SEDANS EACH YEAR--GENERAL SERVICES ADMINISTRATION

B-158712  
6-9-71

The Federal civil agencies had a domestic fleet of 37,000 sedans at the end of fiscal year 1969. The cost of operating them during that year was \$27.7 million, of which \$17.8 million was related to the 22,500 sedans in the General Services Administration's (GSA) inter-agency motor pools.

We reported that

1. Five Government studies during the past sixteen years have shown that substantial reductions in operating costs could be achieved by replacing passenger cars before they meet GSA's current replacement standard of 6 years or 60,000 miles. We estimated that replacing GSA's sedans each year would save the Government \$5.1 million annually because (a) maintenance, repair, and tire costs are lowest during the first year of ownership and (b) the discount obtained by the Government when it purchases sedans substantially offsets the depreciation factor during the first year of ownership.
2. Since station wagons and light trucks in the civil fleet are purchased and operated under conditions similar to sedans, we believe that replacing them each year may also produce substantial savings.
3. We recognized that the establishment of a shorter replacement cycle for Government-owned motor vehicles involves consideration of other factors such as (a) effect on the new and used car markets, (b) additional cash investment, and (c) costs involved in purchasing and selling the increased number of vehicles.

We recommended that the Administrator of GSA, with the concurrence and cooperation of the Office of Management and Budget (OMB)

- 1 Adopt a 1-year replacement standard in its interagency motor pools
- 2 Revise the Federal Property Management Regulations to require other Federal civil agencies to adopt a 1-year replacement standard for station wagons and light trucks in the civil fleet
- 3 Examine into the feasibility of adopting a 1-year replacement standard for station wagons and light trucks in the civil fleet

The Administrator, GSA, concurred in our recommendations. The Deputy Director, OMB, did not give the necessary concurrences.

# PROPERTY

## Procurement

~~OMB~~

Adopt a 1-year replacement standard for sedans  
in Federal civil fleet

Adopt a 1-year replacement standard for station  
wagons and light trucks in civil fleet

Other factors affecting choice of a replacement standard

## VEHICLES

~~OMB~~

Adopt a 1-year replacement standard for sedans  
in Federal civil fleet

Adopt a 1-year replacement standard for sedans  
in Federal civil fleet

Other factors affecting choice of a replacement standard

POTENTIAL SAVINGS BY REPLACING  
GOVERNMENT-OWNED SEDANS EACH YEAR--  
GENERAL SERVICES ADMINISTRATION

B-158712  
6/9 /71

The Federal civil agencies had a domestic fleet of 37,000 sedans at the end of fiscal year 1969. The cost of operating them during that year was \$27.7 million, of which \$17.8 million was related to the \$22,500 sedans in GSA's interagency motor pools.

We reported that replacing GSA's sedans each year rather than every 5 years as is currently being done would save the Government an estimated \$5.1 million annually because (1) maintenance, repair, and tire costs are lowest during the first year of ownership and (2) the discount obtained by the Government when it purchases sedans substantially offsets the depreciation factor during the first year of ownership.

We recommended that the Administrator of General Services, with the concurrence and cooperation of the Office of Management and Budget (OMB)

- adopt a 1-year replacement standard for sedans  
in its interagency motor pools,
- revise the Federal Property Management Regulations to  
require other Federal civil agencies to adopt a 1-year  
replacement standard for sedans, and
- examine into the feasibility of adopting a 1-year  
replacement standard for station wagons and light  
trucks in the civil fleet since they are purchased and  
operated under conditions similar to sedans.

*Revised*

Departments of Defense vehicles are not subject to GSA replacement standards and were therefore excluded from our review. However, because our findings may have application to these vehicles as well, we recommended that OMB examine into the feasibility of adopting a 1-year replacement standard for Department of Defense sedans, station wagons, and light trucks.

GSA agreed with our proposals, OMB also agreed that a 1-year replacement cycle for GSA's sedans was optimal in the long run but plans to continue the current replacement cycle for the present time -- primarily because of the impact of the additional capital investment on the overall Federal budget and the relative priority of other Federal projects. We expressed the belief that the payoff on the capital outlay was significant and that the additional capital investment plus imputed interest would be recovered through annual savings in about 2 years.

*Revised*

POTENTIAL SAVINGS BY REPLACING  
GOVERNMENT-OWNED SEDANS EACH YEAR --  
GENERAL SERVICES ADMINISTRATION

B-158712  
6/9/71

VEHICLES

Optimum time to replace sedans in Federal civil fleet is  
at the end of first year of ownership.

*Revised*



POTENTIAL SAVINGS BY REPLACING  
GOVERNMENT-OWNED SEDANS EACH YEAR --  
GENERAL SERVICES ADMINISTRATION

B-158712  
6/9/71

PROPERTY

Procurement:

Optimum time to replace sedans in Federal civil fleet  
is at the end of first year of ownership.

*Revised*