Statement of
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NOTICE

This statement is not available for public release until it is delivered at 10:00 a.m. (EST) Monday, February 29, 1988.

Mr. Chairman: I am pleased to testify this morning on the future of the federal highway program. In my testimony, I will make the following points:

- Since the 1982-1984 highway tax increases, federal spending on Highway Trust Fund programs has exceeded tax revenues from highway users (but not all trust fund revenues);

- When the totality of highway spending is measured, highway spending has exceeded the level that could have been financed solely with dedicated taxes;

- Maintaining the nation's highways merits a national investment priority when measured by its economic rate of return; and

- The appropriate future roles of federal, state, and local governments in highway programs may bear some rethinking now that the completion of the Interstate System is at hand.

## SPENDING AND TAXES FOR HIGHWAYS

In 1988, outlays for the Highway Trust Fund's (HTF) highway account programs--this testimony does not deal with the transit account--

are estimated at $13.5 billion, a little more than highway account tax receipts of $13 billion. An excess of spending over tax receipts has occurred in every year since 1984 and, under Congressional Budget Office (CBO) baseline spending and revenue assumptions, it is expected to persist well into the 1990s. Between 1985 and 1993, total tax receipts of the highway account are estimated at a cumulative $117 billion, and outlays for Highway Trust Fund programs at $125 billion.

Since the inception of the program, however, spending has been less than taxes paid plus any interest accruing to the fund. Thus, the fund maintains a positive cash balance. Cash on hand in 1993 is projected to be higher than it is today, largely because of the lower federal aid highway obligation ceilings recently enacted by the Congress. CBO's estimates of the trust fund results are shown in Table 1.

In 1986 and 1987, outlays from the highway account exceeded total revenue, including interest income, so that the cash balance of the highway account dropped from $10.4 billion at the end of 1985 to $9.4 billion at the beginning of this fiscal year. In 1986 alone, the cash balance in the account dropped by around $900 million. As a result of the lower obligation ceiling set by the 1988 Department of Transportation Appropriation Act, spending from 1988 to 1990 is projected to be lower than overall revenue (though still higher than taxes alone). Consequently, the cash balance in the highway account

TABLE 1. RESULTS FOR THE HIGHWAY ACCOUNT OF THE HIGHWAY TRUST FUND (In billions of current dollars)

| Year | Highway Tax Receipts | Interest Income | Total Revenue | Outlays | Balance |
|---|---|---|---|---|---|
| | | **Actual** | | | |
| 1982 | 6.7 | 1.1 | 7.8 | 8.1 | 9.0 |
| 1983 | 7.8 | 1.1 | 8.9 | 8.8 | 9.1 |
| 1984 | 10.5 | 1.0 | 11.5 | 10.4 | 10.2 |
| 1985 | 11.6 | 1.3 | 12.9 | 12.8 | 10.4 |
| 1986 | 12.3 | 1.1 | 13.3 | 14.2 | 9.5 |
| 1987 | 11.8 | 0.9 | 12.7 | 12.8 | 9.4 |
| | | **Estimated** | | | |
| 1988 | 13.0 | 0.8 | 13.9 | 13.5 | 9.8 |
| | | **Projected** | | | |
| 1989 | 13.2 | 0.9 | 14.1 | 13.5 | 10.4 |
| 1990 | 13.3 | 0.9 | 14.2 | 13.9 | 10.7 |
| 1991 | 13.6 | 0.9 | 14.5 | 14.5 | 10.6 |
| 1992 | 13.8 | 0.8 | 14.6 | 14.8 | 10.5 |
| 1993 | 14.0 | 0.8 | 14.8 | 15.3 | 10.0 |

SOURCE: Congressional Budget Office.

will rise to $10.7 billion by the end of 1990. Thereafter, however, it will begin a sustained decline, falling to a balance of $10 billion in 1993.

Consequently, the current levels of spending from the highway account, though lower now than in 1986, are such that in the long term the cash balance in the highway account would be drawn down. This lower balance occurs because trust fund revenues are projected to increase more slowly than outlays, on average, over the next five years (assuming that the obligation ceiling is maintained at the 1988 level adjusted for inflation). After 1990, the real level of current spending could be maintained only by spending from the cash balance. In other words, the real value of future tax collections is less than the real value of current spending. Therefore, the highway tax increases voted by the Congress earlier in this decade are being spent.

The fact that recent tax increases are being spent, however, does not tell us whether the fund could sustain further spending. Spending limitations (apart from direct obligation ceilings) are determined by the revised Byrd Amendment, which permits the fund's debts (as measured by unfunded authorizations) to total no more than two years' revenues. The ratio of unfunded authorizations to revenues should be near the 1.5-year level over the next several years, and should fall to about 1.1 years by 1993. Thus, the account

could sustain additional spending by drawing down its cash balance faster.

## DO HIGHWAY USERS FINANCE THE NATION'S HIGHWAY SPENDING?

Overall, users receive more in highway spending than they pay in dedicated taxes. In 1988, the projected $13.9 billion in revenue from dedicated federal highway taxes and interest on the fund's cash balance is greater than the projected $13.5 billion in outlays in Highway Trust Fund programs. But some $175 million will also be spent from federal funds on other highway programs, including the administration of some trust fund activities. Cumulatively, since 1957, the highway account has collected $191 billion in taxes and disbursed $195 billion for highway programs. But an additional $3.2 billion has been spent from federal funds on highway programs outside the trust fund, 70 percent of it in the 1980s.1/

The importance of this highway spending outside the trust fund can be seen in the following light. Had all federal highway

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1. This estimate excludes indirect federal subsidies through easy credit under the Right-of-Way Revolving Fund, and tax expenditures on municipal bonds issued to pay for highway projects, and on other pre-1986 special tax provisions for road transport companies. These amounts are relatively small--less than $40 million in 1986 and, following the Tax Reform Act of 1986, less than $20 million in 1988.

spending been charged to the Highway Trust Fund since 1957, the cash balance of the highway account, which remained around $9 billion to $10 billion during the 1980s, would have instead been $1.4 billion by the beginning of this fiscal year, and would have required added revenue, less spending, or both by 1990. These alternative estimates are shown in Table 2.

Moreover, these statistics deal only with federal spending. When the activities of state and local governments are taken into account, highway programs receive considerable financing from general tax sources. According to Federal Highway Administration (FHWA) data, in 1957, the first year of the Highway Trust Fund, total tax collections from highway users totaled $6.5 billion, or 73 percent of the $8.8 billion spent on highways at all levels of government; in 1987, dedicated taxes covered only 65 percent of national highway budgets. State and local governments are paying for the rest out of their general funds. Thus, if the highway account were to be accumulating cash, it would represent a subsidy from state and local taxpayers to the federal government, rather than an excess of payments by highway users. Regardless of whether or not the highway account is accruing additional cash on hand, highway users receive more in spending than they pay in dedicated taxes.

TABLE 2. ALTERNATIVE ESTIMATES OF HIGHWAY TAXES AND SPENDING

| Fiscal Year | User Taxes | Federal Highway Programs: Actual Trust Fund: HTF Outlays | Actual Trust Fund: Interest (Actual) | Actual Trust Fund: Balance (Actual) | Trust Fund Including All Highway Programs: Federal Fund Outlays | Trust Fund Including All Highway Programs: All Outlays | Trust Fund Including All Highway Programs: Interest (Reestimate) | Trust Fund Including All Highway Programs: Balance a/ (Reestimate) |
|---|---|---|---|---|---|---|---|---|
| | | | | **Actual** | | | | |
| 1957-1959 | 5.6 | 5.1 | b/ | 0.5 | 0.6 | 5.7 | b/ | (0.1) |
| 1960-1969 | 36.1 | 35.3 | 0.2 | 1.5 | 0.1 | 35.4 | b/ | 0.7 |
| 1970-1979 | 62.2 | 55.6 | 4.5 | 12.6 | 0.3 | 56.9 | 3.7 | 10.6 |
| 1980 | 6.6 | 9.2 | 1.0 | 11.0 | 0.3 | 9.5 | 0.8 | 8.6 |
| 1981 | 6.3 | 9.2 | 1.1 | 9.3 | 0.2 | 9.4 | 0.8 | 6.3 |
| 1982 | 6.7 | 8.0 | 1.1 | 9.0 | 0.2 | 8.2 | 0.7 | 5.5 |
| 1983 | 7.8 | 8.8 | 1.1 | 9.1 | 0.3 | 9.1 | 0.6 | 4.8 |
| 1984 | 10.5 | 10.4 | 1.0 | 10.2 | 0.4 | 10.8 | 0.5 | 5.1 |
| 1985 | 11.6 | 12.8 | 1.3 | 10.4 | 0.3 | 13.1 | 0.6 | 4.2 |
| 1986 | 12.3 | 14.2 | 1.1 | 9.5 | 0.2 | 14.4 | 0.3 | 2.4 |
| 1987 | 11.8 | 12.8 | 0.9 | 9.4 | 0.2 | 13.0 | 0.2 | 1.4 |
| 1988 (est.) | 13.0 | 13.5 | 0.8 | 9.8 | 0.2 | 13.6 | 0.1 | 0.9 |
| 1980-1988 | 86.6 | 98.9 | 9.5 | 9.8 | 2.3 | 101.1 | 4.7 | 0.9 |
| 1957-1988 | 190.6 | 194.9 | 14.1 | 9.8 | 3.2 | 198.1 | 8.4 | 0.9 |
| | | | | **Projected** | | | | |
| 1989 | 13.2 | 13.5 | 0.9 | 10.4 | 0.2 | 13.7 | 0.1 | 0.4 |
| 1990 | 13.3 | 13.9 | 0.9 | 10.7 | 0.2 | 14.1 | b/ | (0.3) |
| 1991 | 13.6 | 14.5 | 0.9 | 10.6 | 0.2 | 14.7 | 0 | (1.4) |
| 1992 | 13.8 | 14.8 | 0.8 | 10.5 | 0.2 | 15.0 | 0 | (2.5) |
| 1993 | 14.0 | 15.3 | 0.8 | 10.0 | 0.2 | 15.4 | 0 | (4.0) |
| 1989-1993 | 67.9 | 72.0 | 4.3 | 10.0 | 0.8 | 72.8 | 0.1 | (4.0) |

SOURCE: Congressional Budget Office, based on budget data and data from the Federal Highway Administration.

a. Negative balances in the reestimated trust fund are illustrative only. In practice, trust fund accounting would require additional revenue (from taxes or transfers of federal funds) or spending cuts to avoid negative balances.

b. Less than $50 million.

## HOW MUCH HIGHWAY SPENDING IS ENOUGH?

The levels of spending that the Highway Trust Fund is now maintaining, or could maintain, do not tell us whether those levels are economically warranted. Highway spending is an investment, and the economically justifiable level of highway spending depends on that investment's rate of return. Our estimates suggest that maintaining the present good-to-very-good condition of the major highway system will prove to be one of the better paying investments of the 1990s, if spending is focused on 4R (resurfacing, restoration, rehabilitation, and reconstruction) work, which offers the highest returns.

FHWA data (reported in its biennial Status Report on the Nation's Highways to the Congress in June 1987) show a broad improvement in highway pavement condition since 1983, reversing a general slump in pavement ratings from 1981. By and large, the interstate network has been restored to generally better condition than in the mid-1970s, while all other parts of the network are in at least slightly better condition than in 1975.

Such broad improvements translate directly into lower costs for highway transportation. FHWA estimates show that improved highways lead to reduced operating costs for vehicles. They experience less wear and tear, lower fuel consumption, fewer

accidents, and faster journeys. These benefits may lower costs by as much as 3 percent to 5 percent on urban interstates and freeways, and just under an average of 2 percent for all traffic. Given that the nation spends about $630 billion annually owning and operating its vehicles, these savings are considerable.

It is through these economic savings, rather than the impact of highway projects on local spending or employment during construction, that highway investment provides returns. Reductions in transportation costs lead to real reductions in the costs of doing business and real increases in disposable personal income. Moreover, the lower cost of transportation to a city or a region may open up new commercial opportunities there. According to CBO's calculations (based on FHWA estimates of reductions in transportation costs), the broad improvements in highway conditions over the 1983-1985 period provided a national economic return of about 40 percent on the $23 billion investment (in 1986 dollars) spent on 4R projects during that period. This return is high by any standard and argues for a high priority for maintaining the condition of our highway system.

Economic returns are not, however, uniformly high over all segments of the system. In particular, returns for 4R spending on rural segments (apart from minor arterials and collectors) are generally lower than projected federal borrowing costs, indicating a poor investment. This result reflects the generally uncrowded state of most rural interstates and arterials; typically only 25 percent to 33

percent of the capacity of these roads is used. Benefits directed at this low level of traffic generally do not offset the amounts spent for 4R under current allocation formulas.

Projections of the rates of return on different types of highway spending vary widely. The extra spending needed to fix all deficiencies on the Federal Aid System--that is, to bring every road back to its original design standard--generally would have a negative rate of return. New construction projects will generally convey low rates of return; exceptions would be those in urban areas (where the ratio of traffic to highway capacity averages 40 percent nationally), and possibly those created to avoid bottlenecks caused by substandard bridges on the national truck network. But the need for entirely new roads is slight; the United States already has far greater road density than any other industrialized nation. These results are summarized in Table 3, and compared with projected borrowing costs for federal, state, and private investors.

Thus, investing to maintain the current condition of the main highway network promises a high rate of return during the 1990s. The case for higher levels of spending, however, depends on how these returns compare with those of other government programs and on the economic effects of additional federal borrowing to finance the investment. Hence, deciding how much to spend on highways involves broad choices between social and economic goals, as well as choices regarding how much of the nation's investment should occur

TABLE 3. ECONOMIC PRIORITIES FOR HIGHWAY INVESTMENTS

| Investment Strategy | Expected Real Rate of Return on Investment (national averages) |
|---|---|
| 4R Projects to Maintain Current Highway Conditions (Average Present Serviceability Rating of 3.1) [a] | 30 percent to 40 percent |
| New Construction, Urban Areas | 10 percent to 20 percent |
| 4R Projects to Upgrade Sections Not Meeting Minimum Service or Safety Standards | 3 percent to 7 percent |
| Projected 1993 Federal, State, and Private 10-Year Borrowing Rate | 3 percent to 4 percent |
| New Construction, Rural Areas | low [b] |
| 4R Projects to Fix All Deficiencies Above Minimum Service and Safety Standards | negative |

SOURCE: Congressional Budget Office, based on data from the Federal Highway Administration.

a. Present Serviceability Ratings rate highway conditions on a scale from 0 (very bad) to 5 (excellent). A rating of 3.1 puts the Federal Aid System in good to very good condition.

b. Except for replacement of substandard bridges on the National Truck Network, where economic returns may be higher.

in the public sector and how diversified that public investment should be.

## THE FUTURE FEDERAL ROLE IN HIGHWAYS

Given the relatively small portion of the Interstate System that remains to be built, it is reasonable to anticipate that by 1993 the Interstate System will be completed. Thus, with the national highway network almost complete, the Congress may wish to rethink the federal role in providing highways. There are many possibilities for such a new role, and this testimony points to only some of the issues to be considered in devising it.

The current federal role was designed to provide leadership in a plan for national highway development that depended on all the states acting together. Thus, a high federal profile and large federal subsidies emerged in the mid-1950s as ways of promoting the development of the national system. These subsidies were designed to counter the fact that states lacked the incentives to build roads according to their national, rather than local, benefit. But as I have discussed earlier in my testimony, in the 1990s, the high prospective rates of return for highway investment--specifically, the 4R program -- indicate that local rewards may be sufficient for maintaining the national system without such a large federal stake. In fact, state governments are now actively involved in improving their

infrastructure services as part of their concern over economic development.

Moreover, the rates of return on various classes of highway projects point to the need for major maintenance and 4R projects rather than new construction. These projects require less national coordination and have traditionally been state and local responsibilities. Lastly, federal, state, and local governments all rely on virtually the same revenue sources for highways. Continuing federal intervention at best will affect the distribution--not the amount--of spending for the nation's highways.

What are the possibilities for future federal involvement? One option is to lower the cost shares offered to the states because of the greater local benefits of the most pressing highway need of the 1990s--life-cycle maintenance, or the 4R program. Either new cost shares could be devised, or the FHWA could be allowed to tailor federal assistance according to the nature of the project and the degree to which its benefits were demonstrably national rather than local. A second option would be to force highway projects to compete with other forms of infrastructure for federal resources. Commercial and recreational highway uses now compete with rail, air, and water transportation in a largely deregulated environment. Perhaps a parallel development in providing these forms of infrastructure, such as folding all infrastructure programs into a single infrastructure development account, would therefore be

appropriate. Finally, federal assistance may no longer be needed, and states and localities may have both the wherewithal and the incentive to maintain and rehabilitate the nation's highways once the Interstate System is complete.