

REPORT OF DEPARTMENT OF HIGHWAY TRANSPORTATION ECONOMICS

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UNIFORM CLASSIFICATION OF HIGHWAY ACCOUNTS

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SYNOPSIS

Present highway accounting methods are not at all uniform in the several states. Although sufficient to show that highway funds are spent in accordance with law, present accounts are seriously inadequate in many respects, they fail, for example, to account correctly for depreciation expense, although it undoubtedly is several times greater than annual highway maintenance expenditures.

Largely because of this failure, there now is a menacing move to divert highway revenues to other than highway uses, this would leave highway authorities without resources to meet inescapable future reconstruction needs. Highway accounting methods should recognize clearly the fact that highway "taxes" and "fees" are in reality charges for services rendered, just as much as are bills for the electricity supplied by publicly owned utilities. A satisfactory uniform system of highway accounting should doubtless include carefully planned, uniformly numbered, double entry primary accounts in all the customary six groups—Fixed-capital, Operation Expenditures, Highway Revenues, Income Statement, Surplus-and-Deficit (Profit-and-Loss), Balance Sheet. Correct distinction must be made between *construction* and *maintenance* in all items of expenditure. All annual depreciation of highway property must be correctly accounted for currently as real annual highway cost. The highway "depreciation reserve"—just as is true of other utilities—consists almost wholly of *investments in construction* (including reconstruction) *made from current highway revenues*.

During the last two years your chairman and the author have obeyed the expressed wishes of the Department of Highway Transportation Economics by urging that effective steps be taken to develop and secure the adoption of a uniform classification of highway accounts. Our efforts and a rapidly growing general recognition of the inadequacies of present highway accounts have been instrumental in the appointment by the American Association of State Highway Officials of a Committee on Uniform Highway Accounts.

Present highway accounts are not only

inadequate but dangerous, in that they treat highway revenues merely as taxes, if they are merely taxes, it seems logical to use them for any purpose for which taxes might legitimately be levied. Mr G G Clark, of the U S Bureau of Public Roads, has kindly prepared for the author the following description of present highway accounts.

Accounting practices now followed by the various State highway departments of the United States are divided into two separate fields (1) fiscal accounting, which deals with the disbursement of appropriations and other funds made available by the State statutes,

and (2) cost accounting, which is concerned with the measurement of efficiency of expenditure and cost values of results secured. Cost accounting may be applied to administrative units of the organization as well as to units of highways constructed and maintained.

A further investigation of the field of fiscal accounting shows that records of funds expended are maintained in all highway departments in a form satisfactory to supervisory or coordinate State officials, such as State auditors and State comptrollers. However, these records are kept for the purpose of recording expenditures of specific appropriations made for rarely to exceed a two-year period, and in most cases are not concerned with the cost or the efficiency of performance of units of work performed. Such records for fiscal periods do not as a rule provide records, on a cumulative basis, of the values of fixed investments such as land for right-of-way purposes, buildings, shops, highways, bridges, equipment, etc. However, such records may be kept without conflict with accounting procedure prescribed under the State statutes or administrative regulations by the addition of supplemental accounts to be kept on continuous records.

Cost accounting is provided to some degree in all State highway departments but unfortunately the procedures, practices and administrative control covering such accounts lack even the standardization of terms common to the fiscal side of accounting. In far too many cases, the records of highway mileage built are kept by the construction division and appear as miles of type constructed. Where reconstruction is performed this practice produces misleading figures of mileage existing. Maintenance cost records are kept by the maintenance engineer, or in some cases by the division or district engineer. Equipment records and costs of repairs and operations are kept as another unit of cost, with the result that analyses for cost and research purposes are made tedious if not impossible of execution by the fact that the department keeps a *collection* of books instead of an accurate, interlocking, proved *set* of books.

The sources of revenue for State Highway purposes are dependent to a large degree upon fees collected from the user of the highways. These fees, originally imposed for State highway purposes, are being diverted from this major objective and are being expended for county roads, city streets (not parts of the State highway systems), and even for purposes not related to highway transportation. This expansion of the field of expenditures has been made by statutory action without a full and complete analysis of the financial requirements

of the State systems already constructed and a reasonable estimate of the finances needed for revision, reconstruction and maintenance for the future.

As intimated by Mr. Clark, present highway accounts are seriously defective in that they do not provide proper records whereby the true actual total costs and the true actual depreciations of all *present* units of highway property are made available, and whereby all *retired* units are excluded. It is not an overstatement to say that there is no state in which it is now possible to find just what present highway property it owns or what is the true actual cost of its present highway system. Further, present highway accounts do not distinguish correctly, or even consistently, between *construction* costs and *maintenance* costs. Still further, present highway accounts fail almost or quite completely to account for *depreciation* costs, although the true annual actual depreciation of the present highway property in any system is undoubtedly several times as great as its annual maintenance costs.

The possible "order of magnitude" of some of these accounting costs may be illustrated numerically as follows:

The "*costs new*" of the present State highway property of an average state may be as much as \$300,000,000, but they cannot be ascertained correctly from present records.

The true annual actual depreciations of average State highway systems are quite likely of the general order of magnitude of \$10,000,000 (perhaps much more in some states) but they cannot be determined with even approximate exactness from any present existing State highway accounts.

The annual *maintenance costs* reported for a certain average state are about \$3,500,000 (perhaps $\frac{1}{3}$ its annual actual depreciation costs), but an examination of the detailed accounts shows that large capital investments in equipment and

structures are being reported (incorrectly) as "annual maintenance cost"

Evidently our States own State highway property which has cost them many, many billions of dollars, but they do not have even mere lists of the items of their immensely costly properties, there are no means of determining their present values, there are no means of determining their true annual highway costs, the expenditures reported as annual costs are only fractions of the true costs

The author believes that the cause of the inadequacies and inconsistencies of our present highway accounts is mainly a fundamental error in our concept of the true status of highway systems. We have thought of them as merely special examples of general governmental activities, like legislative, executive, judicial, and police activities, all housed, maintained and rehoused by taxes levied on all rather than by charges to individuals for the actual services rendered to each. In contrast to this erroneous concept, our highways are simply great public utilities, comparable to publicly owned power and light plants, waterworks, and the like. So called highway "taxes" and "fees" are comparable to the bills against customers of power and light plants for the services rendered them individually. Highway revenue charges should be distributed among highway users in equitable proportion to services rendered. Highway accounting systems should provide all the accounting data needed to show true present actual (depreciated) values of highway property, and the true annual actual total costs of highway systems, including their true annual actual depreciations.

Unless highway depreciations are correctly determined each year, and are recouped each year from current highway revenue, present highway "taxes" and "fees" cannot be proven justifiable on the basis of services rendered. For example, a certain State highway organization has an annual income averaging about \$21-

500,000. It is paying out annually over \$8,000,000 for bond redemption and interest, and less than \$4,000,000 for what it reports as maintenance. How shall it justify collection of the remaining \$9,500,000 (which it devotes to construction, including reconstruction, additions and betterments) on the basis of fair charges for services rendered unless it takes annual depreciation into account?

The author wishes to call attention here to a common misconception of the "depreciation reserve." It is not uncommon for highway officials to say that if a highway depreciation reserve were established politicians most likely would divert it to other uses. Annual depreciation appropriations are not accumulated as liquid trust funds, *they are currently reinvested in the property*, for *replacements* of former property units, for *betterments* of existing property units, and for the *construction of additional* new property units. The various State highway systems already have highway "depreciation reserves," consisting of highways built out of current highway revenues instead of from new appropriations of additional public funds.

There are numerous examples of uniform classifications of accounts already in use for various kinds of industrial enterprises. Those prepared for various types of public utilities by the Interstate Commerce Commission (and other federal agencies) and by the public service commissions of the several states seem to furnish the best basis for comparison with State highway accounts. Every reasonable effort must be made to develop the simplest practicable system which will be completely adequate to supply all really useful and needed accounting records. The fact that, broadly speaking, the vehicles using the highways are not operated by the State, should greatly simplify highway revenue and expenditure accounts. For preliminary study, all the six well-known groups of double entry *primary accounts* which long ac-

counting experience has shown to be necessary for other utilities should be carefully investigated for possible adaptation to highway accounts

Each of the *six groups of primary accounts* consists of a series of carefully arranged, formally numbered accounts, with definite instructions for each. The several groups will be named and very briefly discussed, as follows.

Highway Fixed-capital Primary Accounts—A complete but simple classification should be developed. Property ledgers should be set up for all items of property not consumed within one year. These ledgers should show the total actual costs new (both direct and overhead), and the annual depreciations year by year of each property item or age-group of like items.

Note: Until correct inventories of all present existing property items can be prepared, the property ledgers might be required for *new items only*.

Highway Operation Expense Primary Accounts—Operation expenses include operation expenditures and depreciation costs of production. A complete but simple classification of operation expenditures should be developed. Both direct and overhead expenditures should be accounted for. The true annual actual depreciations of all fixed-capital property items (road, structures and equipment) should be included in the different classes of operation expense.

Highway Revenue Primary Accounts—These should be developed to serve two purposes, (1) accounting for highway revenues in accordance with State laws, (2) accounting for highway revenues classified with reference to their ultimate sources (e g bonds, property road taxes, motor vehicle license fees, fuel taxes, ton-mile taxes, miscellaneous).

Highway Income Statement Primary Accounts—These should include miscellaneous income accounts, but merely summaries of the various highway revenue, construction expenditures, and operation expense accounts.

Highway Surplus-and-Deficit Primary Accounts—(Profit-and-Loss Accounts) These should show expenditures for bond redemption and interest, miscellaneous adjustments, disposition of surplus or deficit.

Highway Balance Sheet Primary Accounts—By summaries of various fixed asset and funded accounts, and by original ledger accounts of current assets and liabilities, these should show the total assets, liabilities and net worth at fixed dates.

In conclusion, the author would say that the successful development, the general adoption and the faithful maintenance of a complete, satisfactory uniform classification of highway accounts would, in his judgment, constitute a very great public service to the United States.