

REPORT OF DEPARTMENT OF HIGHWAY TRANSPORTATION ECONOMICS

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REPORT OF COMMITTEE ON UNIFORM HIGHWAY ACCOUNTING

PROGRESS REPORT ON DEVELOPMENT OF A SYSTEM

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SYNOPSIS

A previous progress report to November 1936 will be found in the Proceedings, Highway Research Board, Vol 16, p 46 Since that date, the Committee on Uniform Accounting of the American Association of State Highway Officials has proceeded very actively and successfully with its work First, 8 regional conferences were held to contact the maintenance engineers and the chief accountants of the several States Then a special subcommittee was appointed, consisting of one member at large and 8 regional representatives each of whom proceeded to visit and confer with each State highway department in his region Upon completion of these visits, the subcommittee met at Ames, Iowa, June 22-25, 1937, agreed upon the general features of a system of uniform highway accounts, and assigned the preparation of tentative manuscript sections thereof to a writing committee of four This writing committee met at Washington, D C, September 20-26, 1937, and completed a report which was presented, discussed, and adopted September 27-30, at the Boston meeting of the American Association of State Highway Officials by both the Association's full Committee on Uniform Accounting and by its Committee on Administration The Maintenance Committee concurred The Executive Committee has submitted the recommendations to the States for letter ballot

Included in the report thus adopted is a system of highway maintenance cost accounts, it is proposed that this shall constitute one of the sections in the final Uniform Highway Accounting Manual

Also included in the adopted report is a plan for active further work during 1937-1938 For this work, the United States has been divided into ten regions, in which ten regional conferences are being held for the study of construction cost classifications, equipment costs administrative expense, and fixed capital, income, balance sheet and general ledger accounts, including depreciation accounts for all fixed-capital property

When finished, the manual will contain classifications and suggestions for setting up and operating a system of double entry uniform highway accounts, classified and numbered, fully comparable with the uniform systems of accounts for steam railroads and other utilities prescribed by the U S Interstate Commerce Commission, the Federal Power Commission, and other regulatory authorities

The United States is now rapidly accepting the concepts that the highways are of the nature of public transportation utilities, and that the users thereof should pay for the services rendered and benefits received in proportion to their value,

in consequence, it is becoming increasingly apparent that the State Highway Departments must have a uniform accounting system that will enable each State to determine quickly and accurately what it is costing to produce and maintain its highway transportation services. Further, motor vehicle transportation is becoming more and more a national industry, unlimited by State boundaries, it is destined to become still more national in character. The records of the various States are being compared as to construction cost, maintenance cost, and highway user tariffs. Comparisons of these figures are rendering individual States gross injustices because the layman, the legislator, and the news reporter do not know that the reports showing differences in costs in different States are not compiled upon the same basis, the operation costs in two States may appear to differ widely although actually in close agreement.

In view of these new concepts regarding the functions and responsibilities of highway departments, the States, through their Association of State Highway Officials, are actively developing a system of uniform classification of highway accounting, which it is hoped will ultimately become the standard for all States in the same way that the railroads, the electric utilities, and many other organizations of similar character and purposes have reached common standards of accounting. To further this work, a committee of the Association has been given the responsibility of formulating the recommendations. A project committee of the Department of Highway Transportation Economics of the Highway Research Board was appointed last year to work with the Committee of the American Association of State Highway Officials, and to give special attention to the accounting classifications which are needed in studies of the economics and costs of highway transportation. The past and

present work of the Department of Highway Transportation Economics has been very much handicapped for lack of reliable highway investment figures and maintenance costs.

The progress made during the past twelve months is highly gratifying. Everyone is encouraged to expect the realization of a difficult goal much sooner than was anticipated a year ago. The following review of the work of the Association committee during the past year and of its plans for the coming year will indicate the progress.

The Association's first committee on accounting was organized in 1926. Fundamental principles of accounting and accounting organization in the several States were the topics of discussion of this committee until 1929, at which time its report on "Standardized Definitions of Highway Terms and Highway Cost Analyses" was submitted. The committee was not active again until 1936, when it was reorganized for the purpose of extending the work of the early committee to include actual classification of accounts on a uniform basis, and the preparation of a manual of instructions and suggestions. The reorganization of the committee and revivification of the work were prompted partly by a resolution of the Mississippi Valley Highway Association in February 1936, petitioning the U. S. Bureau of Public Roads to devise and establish a uniform system of accounting, and partly by repeated suggestions from the Department of Highway Transportation Economics of the Highway Research Board that something be done to make available really comparable cost reports from State highway departments which would furnish the figures necessary to the studies of transportation economics desired by the various department committees.

Under the auspices of the Association committee on accounting, eight regional meetings were held in November 1936

and January 1937, for the purpose of discussing with representatives of the State highway departments the classifications and procedures which the committee should consider. These meetings were attended by 90 State accountants and engineers, representing 38 States. The opinions offered at these meetings were unanimous in expressing the belief that there was immediate need for uniform accounting practices, and that the States would cooperate to the extent permitted by State laws by modifying present practices to conform to a uniform basis once such a system was adopted by the association.

To make such cooperation immediately active and effective, a special subcommittee was appointed, consisting of one member at large and 8 regional representatives, each of whom proceeded to visit and confer with each State Highway Department in his region. Upon completion of these visits, the subcommittee met at Ames, Iowa, June 22-25, 1937, agreed upon the general features of a system of uniform highway accounts, and assigned preparation of tentative manuscript sections of a manual to a writing committee of four. This writing committee met in Washington, D. C., September 20-26, 1937, and prepared the committee's report to the Annual Meeting of the American Association of State Highway Officials, Boston, September 26-30, 1937. A general classification of uniform highway accounts was tentatively recommended, as shown in Appendix I to this paper. Because maintenance cost accounting seemed to be the item on which interest most centered at the regional meetings, the committee undertook a special study of it and submitted at the Boston annual meeting a recommended uniform classification of maintenance accounts, together with suggestions for its use. These recommendations were concurred in by the Maintenance Committee of the As-

sociation, were adopted by the Committee on Administration, by the Executive Committee and have been now submitted to the States for a letter ballot. The recommended definition of maintenance and the recommended classification of maintenance accounts are given in Appendix II to this paper¹, at present there is much conflict of practice as to the dividing line between maintenance and construction.

Some preliminary consideration was given by the committee to fiscal accounts and to administration, construction, and equipment cost accounting. Thorough discussion of these items is planned in a new series of ten regional meetings with State representatives, similar to the eight that were held last year. Four of these meetings have been held, three are scheduled during this month, and the other three will have been completed by March 4.

Following these meetings, the committee expects to prepare definite recommendations to be submitted to the 1938 annual meeting. Thus, section by section, the committee is planning to cover the entire scope of highway department accounting. Ultimately, the recommendations, classifications, and suggestions will be coordinated in a complete manual on highway accounting².

The general character of the proposed Uniform Highway Accounting Manual is shown by the following quotation from material prepared by G. H. Lloyd, Chairman of the American Association of State Highway Officials' Committee on Uniform Accounting, for discussion in the 10 regional conferences now being held.

"The accounting system, to be understood and followed uniformly and to prevent dis-

¹ The numbers attached to the several accounts will be changed in the final manual.

² It should be emphasized that it is not the intention of the committee to recommend the details of procedure of organization, office practice, accounting equipment, and other items which are felt to be State rights.

tegration, should be placed in manual form. A uniform manual for all State highway departments, providing for standardization of accounts and definitions, should be of great assistance to the managements of the departments in supplying comparative costs on work accomplished. This Uniform Accounting Manual could follow along the same lines as the Uniform Accounting Manual used by railroads. Basic accounts should be included and to some extent suggestions for methods of handling the detailed source preparation of the accounting information. It is recognized that there must be some variance in each of the States due to statutory limitations and to the highway department organization, however, most of the highway department organizations are very similar and it is felt that the Uniform Accounting Manual, by laying down general principles and outlining the source preparation of accounting information, could be adapted to each type of State highway organization and fit each statutory limitation.

"The Uniform Accounting Manual should provide for a chart of fiscal accounts with an explanation of the purpose and use of each. It should also provide for a uniform chart of operating cost accounts for Construction and Maintenance. These charts of accounts should not be in such detail as to handicap any State, but should provide for more general classifications, and each account should be properly explained. Enlargement of the accounts and provisions for more detail could be added by the States, depending upon their individual needs or requirements. The arrangement of the accounts should be in such manner as could be used by a department whether operating on a centralized or decentralized type of organization.

"The Uniform Accounting Manual should not be designed to fit any type of accounting machine nor attempt to develop any detail forms, procedure or accounts requiring the use of any special type of office equipment or accounting machines. Any accounting system would unquestionably be more efficient and give better satisfaction, however, if modern accounting equipment were used in connection with the system. Modernized equipment is as necessary to the success of an accounting system as modernized equipment is to the successful and economical maintenance and construction of highways.

"It must be borne in mind that your highway costs will be no better than your system provides, and since the source material of highway costs is supplied by foremen, superintendents, etc. who are usually not trained in the accounting field, there should be an accounting manual

in each individual State to fit its particular needs. This manual should take up where the Uniform Accounting Manual leaves off, and should provide for detailed instructions in permanent form. These detailed instructions in the State manual should be strictly complied with in order that the system might function smoothly. The manual should be concise and presented in a simple and plain fashion to be easily understood by any person, and should cover the following material:

- 1 List of all forms to be used and instruction for the use of each form
- 2 Detailed explanation of pay rolls and their preparation
- 3 Detailed explanation of routine, internal checks, responsibilities, etc
- 4 Rules, regulations and methods of handling depreciation, equipment operation costs, stores and administration
- 5 A complete detail chart of accounts showing the symbols, description and purpose
- 6 Reports to be prepared, giving complete description as to what is included and for what purpose they serve

"Where changes are made in the accounting system of a State highway department, it is usually advisable not to attempt to make a complete change at one time. When there is a complete turnover of procedure and accounts, confusion usually exists among the employees handling accounting work which might cause discouragements, wrong impressions, and possibly ultimate inefficiency in the system. Thorough study should be given to the old system and old records, as many such old records could be used very well under the new system and should serve a very valuable purpose for comparisons and assistance in maintaining continuity in records. As sections of the new system are initiated by a State highway department, the employees participating in the preparation of source material and routine handling should be thoroughly schooled in the instructions and requirements before the new work or change is undertaken.

"In this connection it is pointed out that the installation of an accounting system does not consist in simply providing forms and procedure. The personnel having connection with the details as provided in a State accounting manual should be thoroughly trained and should clearly understand their functions to secure success of the system provided. They should understand also the necessity for complying strictly with the instructions in the manual.

"By way of summarization, a Uniform Accounting Manual for State highway depart-

ments should incorporate definitions, standardized account classifications for fiscal and cost accounts, with explanations, and only such general procedure for preparation of source material as necessary to secure uniformity of information under the standardized accounts, leaving all detail forms, procedure and accounts to the individual States which would be developed under separate State accounting manuals"

THE ESSENTIAL FEATURES OF SATISFACTORY UNIFORM HIGHWAY ACCOUNTING

The authors wish next to discuss the essential features of what they at present would consider a satisfactory system of uniform highway accounting

In the same document quoted just above, G H Lloyd, Chairman of the Committee on Uniform Accounts, has said

"The need for a well designed and comprehensive accounting system is apparent to the executives of every State highway department. It is essential that the system be designed to furnish complete information on all departmental operations and that it be sufficiently flexible to readily adjust itself to any change in organization, policies or laws. The system should embrace both *Fiscal* or *Fund Accounting* and *Cost Accounting*

"*Fiscal Accounting* deals with the payment of bills, pay rolls, contractors' estimates, collection of income or receipts, and the handling of all necessary journal entries that affect the General Ledger and the various income and expenditure accounts of the department. This work includes the recording and handling of all fund accounts; appropriation accounts, and classification of expenditures, and provides control accounts to insure the accuracy of the cost accounting records. *Fiscal Accounting* information should be collected according to functions, classes of work, organization units, and the object or purpose of expenditures

"*Cost Accounting* should include the collection of costs and statistics which have to do with the measurements of results accomplished against money spent, or the cost of the operating units of work. The cost accounting work of the highway department should be separated from the fiscal accounting work, but it is highly important that the cost accounting records balance with the controls established in the fiscal accounting ledgers. The classification of accounts to be kept under the cost accounting

section are for the purposes of accumulating costs into operating accounts (Maintenance and Construction), so that the executives and responsible department heads may review the efficiency of performing the work of the department"

Mr E E Hall, Secretary of the American Association of State Highway Officials' Committee on Uniform Accounting, has said³

"The building, maintenance, and administration of State highways is "big business." Even in the State having the smallest expenditures in 1936 it cannot be considered a small business, for it was well beyond the three million class, while the State having the largest expenditures made payments in excess of 80 million dollars. The business of a number of highway departments exceeded 25 million dollars last year. (It may be added by the authors that in the entire United States over \$1,100,000,000 was spent on State highway systems alone in 1936, and that the total expenditures on State systems since the World War has been about \$13,000,000,000)

"It should be apparent that if commercial big businesses maintain complete fiscal and cost accounting records, then considered from magnitude only, the State highway departments should have equally adequate systems. Actually, the State highway departments, because of their public character, have more cause to maintain complete records of accounts, and be in a position to prepare financial statements as comprehensive and complete as any big business"

"Believing that our State highway departments should be considered as the operating companies of a vast national system of highways, the fundamental principles of accounting should be predicated on needs of a transportation system, and not merely on the basis of recording expenditures of appropriated funds. Further, the basic accounting classifications should be essentially the same for all 48 operating States"

Mr Hall further outlined his views on highway account as follows

"The following general classification of accounts is suggested as a basis of discussion and

³ In material prepared by the American Association of State Highway Officials' Committee on Uniform Accounting for discussion at the 10 regional meetings now being held

as a foundation upon which the accounting system may be developed

Current Assets

- Proprietary accounts
 - Cash
 - Accounts receivable
 - Inventories
 - Prepaid expense
- Budgetary accounts
 - Estimated revenues
 - Unappropriated authorization

Fixed Assets

- Land, other than R/W
- Buildings
 - Less reserve for depreciation
- Investment in highways
 - Less reserve for depreciation
- Work under construction
- Equipment
 - Less reserve for depreciation

Expense

- By detailed classifications

Current Liabilities

- Proprietary accounts
 - Accounts payable
 - Short term notes payable
 - Accrued interest
- Budgetary accounts
 - Encumbrances
 - Appropriations

CURRENT SURPLUS

Deferred Liabilities

- Bonds outstanding
- Other long term obligations

Reserves

CAPITAL SURPLUS

Income

- By detailed classifications

"It is suggested that commercial accounting practice be followed very closely in so far as a double entry set of books kept on an accrual basis is concerned. It is also desirable that the general ledger contain either in summary or in detail the record of all financial transactions, supported by the necessary subsidiary ledgers and records. However, the absence of accounts and procedures concerned in determining profit and loss and individual ownership, and the use of budgetary accounts are characteristic of State highway department accounting.

"It will be observed that the suggested classification completely segregates current assets, current liabilities, and operations, including income and expenses, from fixed assets and deferred liabilities. This actually results in a *dual balance sheet*, the difference between the current assets and current liabilities being represented by a *current surplus*, while the difference between fixed assets and deferred liabilities is

represented by *capital surplus*. These are in lieu of the ordinary profit and loss, and investment accounts of commercial concerns."

Appendix I illustrates the *general ledger accounts* referred to by Mr. Hall. The general ledger would show the balances from the various subsidiary ledgers in all the accounts listed.

Appendix II illustrates the primary classification of accounts which will be required for the maintenance cost section of a satisfactory system of uniform highway accounts.

THE AUTHOR'S VIEWS ON UNIFORM HIGHWAY ACCOUNTING

The State highways of each State constitute a great public utility,⁴ owned and maintained by the State for the purpose of supplying road services of various kinds to the public. In return, those using these services are required to pay for them in various ways. For *road access* services, the real estate owners served pay property highway taxes, for *road use services*, travelers on the highways pay motor-vehicle licenses fees, motor fuel taxes and ton-mile taxes. In reality, none of these payments are true *taxes*, they all are *charges for road services supplied*; just as payment of bills for electric light and power are payments for electricity furnished. This public utility character of highway systems is one of the main facts which should be recognized and understood in developing a uniform highway accounting system. Even more than in the case of privately owned utilities it is essential that highway accounts supply true full detailed, clearly arranged and summarized information concerning

First, all of the State's property now used for highway purposes, its cost new, its *present accrued depreciation* and its *present value*.

⁴ See Anson Marston, "Valuation of Highways," Highway Research Board Proceedings, Vol. 13, 1933.

Second, all capital expenditures for construction and/or purchase of fixed property, including, each year (a) highways, roads or streets, (b) buildings, (c) lands, (d) equipment, and (e) general administration and overheads applicable to the acquisition of the fixed property

Third, all expenditures for maintenance and operations, and depreciation and other operation costs, including, each year (a) direct maintenance expenditures, (b) general administration and overhead expenditures applicable to maintenance and operation, (c) depreciation on maintenance buildings and equipment, (d) depreciation on present fixed-capital roadway property

Fourth, all income from payments for road services, whether allocated by law directly (in full or in part), or indirectly by State appropriations, including, each year, (a) property highway taxes, (b) motor-vehicle license fees, (c) motor fuel taxes, (d) ton-mile taxes, (e) etc

Fifth, all income from other sources than payments for road services, including, each year (a) receipts from sales of bonds or other evidences of indebtedness, (b) receipts from appropriation of State funds other than payments for road services, (c) contributions from all sources including Federal aids and grants

Sixth, all income and expenditures for non-highway services rendered by the State highway department

Many public utility and other industrial enterprises have already developed standard uniform double entry accounting systems⁵ In these, the double entry primary accounts are usually arranged in 6 main groups, as follows

- 1 Fixed-Capital Accounts
- 2 Operating Expense Accounts

- 3 Operating Revenue Accounts (an Operating Statement summarizes Groups 2 and 3)
- 4 Income Accounts (and an Income Statement)
- 5 Profit and Loss Accounts (and a Profit and Loss Statement)
- 6 Balance Sheet Accounts (and the Balance Sheet Statement)

The more the authors study the subject of uniform highway accountancy the more clearly they realize that the main fundamental requirements of a satisfactory system of uniform highway accounting are essentially the same as those for other utilities However, the accounting problems for the three groups, *highway income*, *operating revenue* and *profit and loss* are so different from those of the corresponding accounts for other utilities that it may (or in the end may not) be practicable to combine them in one group

Mainly to assist in their thinking and study, the authors have prepared a tentative lineup of possible double entry highway primary accounts, arranged in four main groups as shown in Appendix III,⁶ which they now will proceed to discuss

ACCOUNT 1000 FIXED-CAPITAL INVESTMENT ACCOUNTS

The fixed-capital investment accounts are designed to show the investment of the department in all properties devoted to the maintenance, operation, and administration of highways The accounts should show the original cost and the true depreciation to date To the accounts in this group should be charged the cost of original highway construction, additions and betterments, and replacements, also values of right of way at time of acquisition, the cost of equipment, buildings, and other property pertaining thereto not consumed during the accounting year The accounts should be credited with depreciation

⁵ Good examples are those prescribed by the Interstate Commerce Commission and by the Federal Power Commission for use by utilities subject to their regulatory authority

⁶ The authors wish to emphasize the purely tentative character of Appendix III

Suitable property record ledgers will be required for each item or groups of similar items of property, on which the depreciations are credited as they accrue. For setting up these ledgers, the highways must be divided into unchangeable route sections, each with fixed geographical termini, these may be subdivided into subsections, of such length and characteristics that each may be accounted for as a unit.

Account 1100, Highways, Roads, and Streets This account should include the actual original costs of all highways, including surfacing and base, earthwork, structures, devices, appurtenances, engineering, and right of way. For purposes of administration and reports, the account should first be subdivided into major accounts for each road system, such as primary roads, secondary roads, municipal streets, and other classifications that are appropriate within the State. Further, subdivision common to all of these major divisions by road systems should show the items of construction costs with particular reference to grouping by units according to depreciation rates and probably maintenance requirements, as indicated in Accounts 1111-1121 in Appendix III. The corresponding credit accounts for accrued depreciation are numbered 1111 1-1121 1.

Account 1200, Equipment This account should include the cost of all equipment owned by the highway department with such subclassifications by type of equipment, function, and organization that are desirable from an administrative and cost control standpoint, as indicated in Accounts 1211-1215, 1221-1224, 1231-1233, 1241-1243 in Appendix III, with corresponding credit accounts for accrued depreciation.

Account 1300, Buildings This account should include the cost of all buildings divided by location and general purpose, as indicated by Accounts 1310, 1320, 1330, 1340, Appendix III. Individual ac-

counts should be kept for each building. All the building accounts should carry corresponding credit accounts for accrued depreciation.

Account 1400, Land Other than Right of Way This account should include the cost of land which is owned, each parcel being kept by separate account, the parcels being grouped by use as indicated by Accounts 1410, 1420, 1430, 1440, 1450, Appendix III. Ordinarily land will be carried at purchase price without depreciation or appreciation adjustments. In the event, however, that the values change materially from the purchase price, the accounts should be adjusted. Quarries and mineral deposits should be written down each year in accordance with the depletion of the deposits. For these reasons, credit accounts for accrued depreciation or depletion are indicated for all the 1400 accounts in Appendix III.

Account 1500, General Administration and Overhead Investment This account should include the cost of administration and such overhead expense that is chargeable to the construction of highways and acquisition of fixed property, as indicated by Accounts 1510, 1520, 1530, Appendix III. The expense of administration for a year should be prorated between fixed capital and operation expense. The portion charged to fixed capital should be depreciated annually the same as physical property, as indicated by credit Accounts 1510 1, 1520 1, 1530 1.

Account 1600, Suspense Accounts. This account should include the cost for properties which at the time may not be assigned to a final account. Particularly, it will be found convenient to charge to this account the monthly contractor's payments, pending settlement of the final estimates, and allocation of the final cost to highways, roads, and streets. See Accounts 1610, 1620, Appendix III.

ACCOUNT 2000 OPERATING EXPENSE ACCOUNTS

The accounts devised under the title of operating expense are those to show the expenses of furnishing the public with a highway transportation facility, including maintaining roadways, administration costs, and depreciation and maintenance of buildings and equipment. The depreciation of fixed-capital highway, road and street property is also a highway operating expense. (See accrued depreciation credit Accounts 1111-11211, and also Accounts 2411-2420, 2451-2453.)

Account 2100, General Administration Expense This account should include the cost of administering the department, including salaries of administrative officials, wages, office expenses, office building expense, office equipment expense, and other items of expense which are general in nature and difficult to charge to a specific construction or operation account at the time of payment. A schedule of expense items to be included in this account will be developed after study of current practice and organization of the departments. The total cost of general administration is ultimately chargeable in part to fixed capital and in part to operation expense. For the total general administration cost, see Accounts 2100, Appendix III.

Account 2200, Rental, Proration, and Suspense Accounts The group of accounts suggested under this major account are those expenses of service bureaus which are usually absorbed by other accounts and activities. At the close of the accounting period each account would be closed out to operating expense or to fixed property accounts. In most cases the expense would be closed out currently by use of purchase slip or service charges. Each of the functions represented in the list of accounts is primarily an organization serv-

ing other functions of the department. See Accounts 2200, Appendix III.

Account 2300, Highway Operation Expense This account should include the general operation expenses of the highway department, exclusive of those expenditures for fixed properties, and for other functions which are not directly in connection with the furnishing of a complete highway facility. A separation of these expenditures is necessary in setting up a classification for use by all States, for the reason that the duties and responsibilities imposed by State laws are not common to all States. See Accounts 2300, Appendix III.

Account 2400, Highway Depreciation This account should include the operation expense on account of depreciation of the highways and retirement of them. The classifications will follow those included under the corresponding fixed capital accounts. The account should also include the depreciation of general administration, research, and other general property accounts which are not classified with highways, equipment, buildings, and other tangible items. See Accounts 2411-2420 and 2451-2453, Appendix III.

Account 2500, Other Highway Department Expense This account should include separate subaccounts for those functions of the highway department which are not directly related to the furnishing and maintenance of the highway system and which are not common to all States. It will be important to show the expense of collection of income when such duty is that of the highway department. See Accounts 2500, Appendix III.

ACCOUNT 3000 OPERATING REVENUE AND INCOME ACCOUNTS

As already stated, the factual situation as to the operation revenues and other income receivable by the State highway departments differs in important particulars from the situation pre-

valent in the administration of other public utilities. State highway departments do not receive payments of charges for road services direct from those to whom such services are rendered. Collections for road services rendered are made by various State, county and Federal agencies, and go first into various public funds, they finally get to the highway departments by acts of State legislatures and of Congress. Besides income from payments for road services rendered, highway department may receive large sums obtained by the sale of bonds. Since these bonds and bond interest are usually to be paid from future receipts for future road services, it often becomes necessary to forecast such receipts for 15 to 20 years ahead. Even merely for setting up construction programs and letting highway construction contracts, anticipated future highway revenues must be set up in some form of accounts against contractual obligations to show a clear picture of the true financial situation from time to time. In addition, good highway management calls for setting up regular budget accounts in advance of anticipated revenues and anticipated expenditures.

The authors are not including any *anticipated revenue* accounts¹ in Accounts 3000, in Appendix III, providing therein only for actual receipts. These should be segregated into

1 Highway operating revenue

2 Income from sources other than highway operations

Income Accounts 3110, 3120, 3130, 3140, 3150, 3160, and 3170 include the receipts which constitute what might perhaps be fairly termed the highway operating revenue. However, it is conceivable that legislative appropriation *might* be made of other State funds for highway construction as well as of funds

¹ Provision is made, however, in Balance Sheet Accounts 4130 and 4220 for anticipated revenues and expenditures.

received as payment for road services rendered.

Credit Income Accounts 3181-3183, and Debit Income Accounts 3281-3282 together with Highway Operation Expense Accounts 2351-2356 (bond interest, discount and administrative debt expense), provide the necessary accounts for all receipts and expenditures on account of debt service.

ACCOUNT 4000 GENERAL BALANCE SHEET ACCOUNTS

In addition to a "Highway Operating and Income Statement," such as is shown in Appendix IV, highway accountants from time to time will need to prepare "General Balance Sheet" statements, each giving a clear picture of the status of the highway system at some particular date. The accounts needed for such balance sheets are listed in Appendix III, under Account 4000.

These balance sheet accounts are listed in two columns, corresponding to the Asset and the Liability sides of the customary balance sheet form.

Account 4100 includes the asset (debit) accounts.

Accounts 4111-4116, show the current assets.

Accounts 4121-4125 show the office, engineering, laboratory, stores and shop inventories assets.

Accounts 4131-4133 show the contingent current assets. Note that it is here that *estimated future incomes*, sometimes not receivable for one or more years, come into the highway accounts.

Account 4140 shows sinking fund assets.

Accounts 4151-4159 show the fixed-capital assets. They may amount to several hundreds of millions of dollars in a single State. Their main items are the actual highways (of which there may be many thousands of miles), the road equipment, the highway department shops and buildings of various kinds.

It is most customary to carry these at their actual costs *new* on the asset side of the balance sheet, with a corresponding liability account "Reserve for Depreciation" on the liability side. The authors prefer the form shown in Appendix III, in which the physical assets are carried at their *present depreciated* values, instead of their *values new*, the *depreciation reserve account* disappearing from the liability side.

Considering next the balance sheet liabilities items, carried under Account 4200

Accounts 4211-4216 show the current liabilities

Accounts 4221-4224 show the budgetary liabilities. Like the contingent current asset accounts, these deal with *estimated future transactions* (in this case estimated future expenditures)

Accounts 4231, 4232 show the deferred liabilities

Accounts 4251, 4252 show the funded debts

CURRENT SURPLUS AND NET CAPITAL SURPLUS

The form of balance sheet shown in Appendix III, is a *dual balance sheet*

Subtracting the sum of current liabilities, budgetary liabilities and deferred liabilities from the sum of current assets, inventories and contingent current assets, we have a CURRENT SURPLUS

Subtracting the funded debt liability from the sum of sinking fund and fixed-capital assets we have a CAPITAL SURPLUS

HIGHWAY OPERATING AND INCOME STATEMENT

In public utility accountancy it is customary to provide for four "Periodic Statements," as follows

- 1 The operating statement
- 2 The income statement
- 3 The profit and loss statement
- 4 The balance sheet

In Appendix IV, the authors are presenting a form of combined "Highway Operating and Income Statement," which (or some improved equivalent) they are inclined to believe can be used to advantage in highway accountancy in place of the first three of the above customary four periodic statements. With this probability in mind, the authors have not set up any highway "profit and loss" account in Appendix III

APPENDIX I

SUGGESTED CLASSIFICATION OF GENERAL LEDGER ACCOUNTS¹

ASSETS		Deferred Items	
<i>Current Assets</i>		Prepaid expense	
Cash accounts—Separate accounts for each fund		Suspense accounts	
Accounts receivable—Miscellaneous items		<i>Fixed Assets</i>	
Reimbursements receivable		Equipment	
Federal aid—By apportionments		Office equipment	
Counties, cities, etc		Shop equipment	
Railroads and other organizations		Laboratory equipment	
Inventories		Engineering equipment	
By appropriate subclassifications, such as materials and supplies, stores accounts, etc		Highway construction and maintenance equipment	
		Major construction and maintenance equipment	
		Minor construction and maintenance equipment	
		Less Reserves for depreciation for each class of equipment	

¹ From the report of the Committee on Uniform Accounting AASHO, Boston, Massachusetts, September 28, 1937

Land—Building sites, material deposits, quarries, pits, etc (Not including right of way)
 Buildings
 Less Reserve for depreciation on buildings
 Work under construction
 Highways and structures—Completed construction, additions and betterments, including right of way
 Less Reserves for depreciation
 (To be eventually arrived at by inventory valuation of the Highway System based on present value)
 Experimental work, research and patents

LIABILITIES

Current Liabilities

Accounts payable
 Short term notes or interest bearing warrants
 Accrued interest and principal payments on long term bonds

Deferred Liabilities

Bonds or long term warrants—Principal outstanding
 Advance deposits (By source)
 Reserves for employees compensation insurance, retirement, etc

CAPITAL OUTLAY

Highways and structures
Equipment
Lands and buildings

WORKING CAPITAL FUNDS

Excess of current assets over current liabilities

INCOME

Highway users revenue (By sources, gas tax, license fees, etc)

Other revenue

Appropriations—General fund
 Transfers from Other State Funds
 Other sources

Federal government contributions and aid

By funds and source

All other contributions (By source, counties, cities, railroads, etc)*Miscellaneous income*

Interest
 Sales and services
 Miscellaneous

EXPENDITURES

Administration

Central office (By organizational units, functions, and objective classifications)
 Field office—same breakdown
 Other than highway functions

Operating plants, shops, etc

Separate set of accounts for each organizational unit and function, such as warehouses, shops, testing laboratories, cement plants, equipment operations, stores

Maintenance of highways and structures

To be analyzed in subsidiary ledgers as outlined in the Maintenance section of the Manual

Construction of highways and structures (including acquisition of right of way)

To be analyzed in subsidiary ledgers as outlined in the Construction section of the Manual

Equipment purchases, construction and acquisition (By classes of equipment)

Construction and acquisition of land and buildings, exclusive of right of way

Debt service—By subaccounts for each class of indebtedness or expense*Other departmental functions*

Separate set of accounts by objective classification for each function such as highway patrol, revenue collection expense, State parks, toll bridges, toll ferries, etc

APPENDIX II

MAINTENANCE COST ACCOUNTING

From the Section on Maintenance Accounting as Proposed by the AASHO Committee
 for the Manual on Uniform Highway Accounting

Definition of Maintenance Highway maintenance is the preserving and keeping of each type of roadway, roadside, structure and facility as nearly as possible in its original condition as constructed or as subsequently improved, and the operation of highway facilities and services

to provide satisfactory and safe highway transportation

Classification of Accounts The account numbers and symbols which are used in this manual to identify the various classes of maintenance expenditures are *not recommended for*

adoption but are employed solely for convenience and by way of illustration

Maintenance expenditures shall be accounted under the following main headings ¹

- Account 100-A Routine roadway surface operations—by surface types
- Account 100-B Special roadway surface operations—by surface types
- Account 100-C Shoulders and side approaches—by surface types
- Account 100-D Roadside and drainage
- Account 100-E Traffic services
- Account 100-F Snow, ice and sand control
- Account 100-G Structures
- Account 100-H Extraordinary repair and maintenance due to flood, storm, fire, earthquake, and major landslides

Account 100-I Maintenance general expense

The total of the expenditures under these headings shall be accumulated in Account 100 Highway Maintenance

At the option of the State the above accounts may be further sub-divided by operations as indicated in the descriptions below. It should be clearly understood that any subdivisions by operations in addition to the nine listed above are entirely optional with the State highway department

Account 100-A Routine Roadway Surface Operations To this account shall be charged all routine work performed on the roadway surface, base and subgrade, including

- 1 Patching holes, rough spots, ruts, blow-ups and raveled edges, sanding bleeding spots and spot sealing, providing temporary traffic ways during such operations
- 2 Dragging, blading, reshaping, scarifying, cleaning and raking, picking up oversize rock
- 3 Filling and trimming expansion joints and cracks

Account 100-B Special Roadway Surface Operations To this account shall be charged periodic work performed on the roadway sur-

face, base and subgrade, usually by special crews, including

- 1 Application of dust palliatives when done annually or when the application does not result in a permanent improvement
- 2 Replacement of sand, sand-gravel, gravel, crushed stone, chat, etc., on the same or a similar type of surface
- 3 Reprocessing or reconditioning bituminous surfaces or shoulders when but little or no new oil or gravel material is added
- 4 Bituminous surface treating, seal coating, light road mixing operations, and major patching by special crews
- 5 Mud-jacking
- 6 Protection and handling of traffic during the above operations

When the surface type is changed by any of the above operations, or when the road is completely reggraded, the operation shall be classed as construction

Reconditioning operations, additions of bituminous seal coats, surface treatments, mats or retreads which add in one operation $\frac{3}{4}$ inch or more to the thickness of the surface shall be classed as construction, the original surface being retired

The first seal coat shall be considered as construction if applied as within the following construction season, otherwise it will be classed as maintenance

Account 100-C Shoulders and Side Approaches To this account shall be charged expenditures for the repair and maintenance of shoulders and side approaches, including

- 1 Patching, dragging, blading, filling ruts and replacing washouts
- 2 Reseeding or resodding including original seeding on old work
- 3 Ribbon bituminous treatments (without excavation)
- 4 Second or subsequent bituminous treatment of shoulders and replacement of gravel or stone

Account 100-D Roadside and Drainage To this account shall be charged expenditures for the repair and maintenance of that portion of the right of way outside the limits of the traveled roadway surface and improved shoulders, including

- 1 The repairing of cuts, fills, slopes, washouts, and the removal of minor slides
- 2 Cleaning or retrenching drains, channels, culverts, and maintaining drainage structures of 20 feet in length or less
- 3 The removal and burning of weeds, removal of debris, planting or removal and trim-

¹ Note by the authors The general maintenance organization and plan for maintenance operations described in report (but not quoted herein) from which Appendix II is quoted contemplates taking into account depreciation of maintenance buildings and equipment by a rental plan (or some equivalent system)

In the opinion of the authors, depreciation on all other highway property (such as road surfaces, culverts, bridges, construction buildings and equipment, administration buildings and equipment) should likewise be debited to the proper accounts

ming of trees, brush and shrubs, and seeding and sodding to prevent erosion

- 4 Care and replacement of special roadside development projects
- 5 Repair and maintenance of sidewalks, dikes, retaining walls, riprap, pumping stations, slope pavements, right of way fences, and other similar structures and facilities

Account 100-E Traffic Services To this function shall be charged the repair and maintenance of those facilities which relate directly to the convenience and safety of the traveling public, including

- 1 Repairing, repainting and resetting of direction markers, route markers, signals, gates and other safety devices, and magnetic dragging to remove iron
- 2 Traffic lane and guide line painting
- 3 Repair and repainting of guard rails
- 4 Highway lighting and electricity for the operation of signals
- 5 Operation of comfort stations and picnic grounds
- 6 Detours not chargeable to construction or other maintenance operations

Account 100-F Snow, Ice and Sand Control To this account shall be charged all expenditures in connection with the removal of ice and drift material from the roadway, and preventive work in connection with such operations, including

- 1 Erection and removal of snow fences
- 2 Removal of snow and ice
- 3 Sanding ice surfaces
- 4 Snow and ice removal to open waterways
- 5 Removal of sand drifts

Account 100-G Structures To this account shall be charged expenditures incidental to the repair and maintenance and operation of bridges, subways, tunnels, overhead grade separations and other structures having a length of more than 20 feet

Each such structure may at the time of construction be assigned a number, which number

will be used in reporting expenditures on any of these structures. The subsidiary ledger under the account "Structures" will consist of an account for each structure and from this detail summaries of expenditures for each class of structure can be compiled if desired

Charges to this account shall include operating expenses of bridges, drawbridges and ferries

Account 100-H Extraordinary Maintenance To this account shall be charged special repairs and maintenance of the roadway surface, roadbed, shoulders, roadside, drainage facilities, safety devices or structures due to flood, storm, fire, earthquake, major landslide, or other catastrophe. Expenses in connection with the handling and protection of traffic during such emergency shall also be charged to this function

Account 100-I Maintenance General Expense To this account shall be charged maintenance expenditures of a general nature which cannot at the time be charged direct to roadway sections, including

- 1 Prorata of district office and/or headquarters office expense chargeable to maintenance
- 2 Field maintenance supervision
- 3 Purchase and repair of small tools, rental charges on inactive equipment, and similar items. The account will serve as a suspense account during the accounting period, at the end of which the entire balance will be prorated to roadway sections in the manner provided in a later section of the manual

For administrative purposes it will probably be found desirable to have an analysis of the charges going into this account, and it is therefore suggested that the following information be available from the records

DO	District and headquarters office charges
MS	Field maintenance supervision
ST	Small tools
RT	Repair of small tools
SE	Sundry expense

APPENDIX III

A SUGGESTED LIST OF PRIMARY ACCOUNTS FOR HIGHWAY DEPARTMENTS

1000 FIXED CAPITAL INVESTMENT ACCOUNTS

Each capital investment debit account should carry an accrued depreciation credit account. These are shown below. For example, Account 11111, Surfacing and base—Depreciation

1100 Highways, Roads and Streets

- 1110 Rural mileage, State primary system
 - 1111 Surfacing and base
 - 11111 Surfacing and base—reserve for depreciation

- 1112 Improved shoulders
 - 1112 1 Improved shoulders—reserve for depreciation
 - 1113 Earthwork
 - 1113 1 Earthwork—reserve for depreciation
 - 1114 Earthwork protective structures
 - 1114 1 Earthwork protective structures—reserve for depreciation
 - 1115 Culverts and drainage structures
 - 1115 1 Culverts and drainage structures—reserve for depreciation
 - 1116 Traffic services
 - 1116 1 Traffic services—reserve for depreciation
 - 1117 Bridges and tunnels
 - 1117 1 Bridges and tunnels—reserve for depreciation
 - 1118 Grade separation structures
 - 1118 1 Grade separation structures—reserve for depreciation
 - 1119 Engineering
 - 1119 1 Engineering—reserve for depreciation
 - 1120 Right-of-way land purchased
 - 1120 1 Right-of-way land purchased—reserve for depreciation
 - 1121 Right-of-way land-easements
 - 1121 1 Right-of-way land-easements—reserve for depreciation
- 1200 Equipment*
- 1210 Road equipment
 - 1211 Roadway motor equipment
 - 1211 1 Roadway motor equipment—reserve for depreciation
 - 1212 Roadway non-motor equipment
 - 1212 1 Roadway non-motor equipment—reserve for depreciation
 - 1213 Motor trucks
 - 1213 1 Motor trucks—reserve for depreciation
 - 1214 Automobiles
 - 1214 1 Automobiles—reserve for depreciation
 - 1215 Road tools
 - 1215 1 Road tools—reserve for depreciation
 - 1220 Shop and service equipment
 - 1221 Shop equipment
 - 1221 1 Shop equipment—reserve for depreciation
 - 1222 Shop machines
 - 1222 1 Shop machines—reserve for depreciation
 - 1223 Shop tools
 - 1223 1 Shop tools—reserve for depreciation
 - 1224 Warehouse equipment
 - 1224 1 Warehouse equipment—reserve for depreciation
 - 1230 Office and administrative equipment
 - 1231 Office furniture, files and equipment
 - 1231 1 Office furniture, files, and equipment—reserve for depreciation
 - 1232 Typewriters, calculators, and office machines
 - 1232 1 Typewriters, calculators, and office machines—reserve for depreciation
 - 1233 Communication systems
 - 1233 1 Communication systems—reserve for depreciation
 - 1240 Engineering and laboratory equipment
 - 1241 Field engineering instruments and tools
 - 1241 1 Field engineering instruments and tools—reserve for depreciation
 - 1242 Office engineering instruments
 - 1242 1 Office engineering instruments—reserve for depreciation
 - 1243 Laboratory equipment and apparatus
 - 1243 1 Laboratory equipment and apparatus—reserve for depreciation
- 1300 Buildings*
- 1310 Central office buildings
 - 1310 1 Central office buildings—reserve for depreciation
 - 1320 Central shop and warehouse buildings
 - 1320 1 Central shop and warehouse buildings—reserve for depreciation
 - 1330 Field office buildings
 - 1330 1 Field office buildings—reserve for depreciation
 - 1340 Field shop and warehouse buildings
 - 1340 1 Field shop and warehouse buildings—reserve for depreciation
- 1400 Land Other than R/W*
- 1401 Central office building land
 - 1410 1 Central office building land—reserve for depreciation

- 1420 Field building land
 - 1420 1 Field building—reserve for depreciation
- 1430 Other land
 - 1430 1 Other land—reserve for depreciation
- 1440 Gravel deposits
 - 1440 1 Gravel deposits—reserve for depreciation
- 1450 Rock quarries
 - 1450 1 Rock quarries—reserve for depreciation
- 1500 *General Administration and Overhead Investment*
- 1510 General administration investment
 - 1510 1 General administration—reserve for depreciation
- 1520 Research and planning
 - 1520 1 Research and planning—reserve for depreciation
- 1530 General engineering not prorated
 - 1530 1 Undistributed engineering—reserve for depreciation

1600 *Suspense Accounts*

- 1610 Earnings on work under construction
(suspense until final costs are spread to the proper asset account)
- 1620 Loss of construction due to catastrophe
(suspense during reconstruction)

2000 *OPERATING EXPENSE ACCOUNTS*

2100 *General Administration Expense*

- 2110 Commission and State expense
 - 2111 Salaries
 - 2112 Traveling expense
 - 2113 Other
- 2120 General office expense
 - 2121 Salaries and wages
 - 2122 Traveling expense
 - 2123 Communication
 - 2124 Supplies and expense
 - 2125 Printing and binding
 - 2126 Repair of office furniture, files, and equipment
 - 2127 Depreciation of office furniture, files, and equipment
 - 2128 Repair and rental of office machines
 - 2129 Depreciation of office machines
- 2130 General accounting expense
 - 2131 Salaries and wages
 - 2132 Traveling expense
 - 2133 Communication
 - 2134 Supplies and expense

- 2135 Printing and binding
- 2136 Repair of office furniture and equipment
- 2137 Depreciation of office furniture and equipment
- 2138 Repair and rental of office machines
- 2139 Depreciation of office machines
- 2140 Legal expense
 - 2141 Salaries and services
 - 2142 Traveling expense
 - 2143 Supplies and expense
- 2150 Office building expense
 - 2151 Salaries and wages
 - 2152 Operation supplies
 - 2153 Utility services
 - 2154 Repair and maintenance
 - 2155 Building depreciation
 - 2156 Heating or heating plant expense
- 2160 Other administrative expense
 - 2161 Injuries and damages
 - 2162 Other

2200 *Rental, Proration and Suspense Accounts*

(This group of service accounts will be ultimately closed out to other accounts)

- 2210 Stores and stocks
 - 2211 Salaries and wages
 - 2212 Traveling expenses
 - 2213 Supplies and expense
 - 2214 Utility services
 - 2215 Building operation
 - 2216 Building repairs
 - 2217 Building depreciation
 - 2218 Equipment repairs
 - 2219 Equipment depreciation
- 2220 Material deposits
 - 2221 Salaries and wages
 - 2222 Traveling expense
 - 2223 Equipment operation and repair
 - 2224 Equipment depreciation
 - 2225 Depletion of deposits
- 2230 Blue printing and duplicating
 - 2231 Salaries and wages
 - 2232 Supplies and expense
 - 2233 Equipment repair
 - 2234 Equipment depreciation
- 2240 Shop overhead expense (to be prorated to operation of each equipment unit)
 - 2241 Salaries and wages
 - 2242 Office supplies and expense
 - 2243 Traveling expense
 - 2244 Machine and equipment repairs
 - 2245 Machine and equipment depreciation
 - 2246 Tools and supplies
 - 2247 Building operation and utilities
 - 2248 Building repairs and maintenance
 - 2249 Building depreciation

- 2250. Equipment operating expense (by equipment operating unit)
 - 2251. Wages, repair work
 - 2252. Parts, repair
 - 2253. Grease and service
 - 2254. Fuel
 - 2255. Oil
 - 2256. Tires
 - 2257. Depreciation
 - 2258. Shop overhead
- 2260. Engineering expenses (field and office)
 - 2261. Salaries and wages
 - 2262. Traveling expense
 - 2263. Office supplies and expense
 - 2264. Tools and engineering supplies
 - 2265. Office files and equipment repair
 - 2266. Office files and equipment depreciation
 - 2267. Instrument and machine repairs
 - 2268. Instrument and machine depreciation
- 2270. Testing laboratory
 - 2271. Salaries and wages
 - 2272. Traveling expense
 - 2273. Office supplies and expense
 - 2274. Laboratory tools and supplies
 - 2275. Instrument and equipment repairs
 - 2276. Instrument and equipment depreciation
 - 2277. Building operation and utilities
 - 2278. Building repairs and maintenance
 - 2279. Building depreciation
- 2280. Research and planning
 - 2281. Salaries and wages
 - 2282. Traveling expense
 - 2283. Office supplies and expense
 - 2284. Research tools and supplies
 - 2285. Equipment repairs
 - 2286. Equipment depreciation
 - 2287. Patent expense
- 2290. Radio operation
 - 2291. Salaries and wages
 - 2292. Traveling expense
 - 2293. Supplies and expense
 - 2294. Repair and maintenance of equipment
 - 2295. Depreciation of equipment
- 2300. *Highway Operation Expense*
- 2310. General administration proration
- 2320. Highway maintenance (show labor, materials, equipment)
 - 2321. Routine roadway surface operation
 - 2322. Special roadway surface operations
 - 2323. Shoulders and side approaches
 - 2324. Roadside and drainage
 - 2325. Traffic services
 - 2326. Snow, ice and sand control
- 2327. Bridges, viaducts and tunnels
- 2328. Extraordinary repair and maintenance due to catastrophe
- 2329. Maintenance general expense
- 2330. Operation of drawbridge, toll and ferry facilities (by each facility) (structure maintenance under highway maintenance account 2320)
 - 2331. Salaries and wages
 - 2332. Traveling expense
 - 2333. Supplies and expense
 - 2334. Building operation and repair
 - 2335. Building depreciation
- 2340. Tourist bureau expense
 - 2341. Salaries and wages
 - 2342. Traveling expense
 - 2343. Supplies and expense
 - 2344. Printing and advertising
- 2350. Debt service general expense
 - 2351. Salaries and wages
 - 2352. Office expense and printing
 - 2353. Legal expense
 - 2354. Bond interest
 - 2355. Bond discount
 - 2356. Short term interest
- 2400. *Highway Depreciation*
- 2410. Depreciation of highway investment
 - 2411. Surfacing and base
 - 2412. Improved shoulders
 - 2413. Earthwork
 - 2414. Earthwork protective structures
 - 2415. Culverts and drainage structures
 - 2416. Traffic services
 - 2417. Bridges and tunnels
 - 2418. Grade separation structures
 - 2419. Engineering
 - 2420. Right-of-way
- 2430. Transfer of highways to other jurisdictions
 - 2431. Surfacing and base
 - 2432. Improved shoulders
 - 2433. Earthwork
 - 2434. Earthwork protective structures
 - 2435. Culverts and drainage structures
 - 2436. Traffic services
 - 2437. Bridges and tunnels
 - 2438. Grade separation structures
 - 2439. Engineering
 - 2440. Right-of-way
- 2450. Other depreciation expense
 - 2451. Depreciation of general administration
 - 2452. Depreciation of research and planning
 - 2453. Depreciation of undistributed engineering

2500. Other Highway Department Expense

- 2510. Revenue collection expense (for each revenue or income source)
 - 2511. Salaries and wages
 - 2512. Traveling expense
 - 2513. Communication
 - 2514. Office supplies and expense
 - 2515. Printing and binding
 - 2516. Repair of office furniture, files and equipment
 - 2517. Depreciation of office furniture, files and equipment
 - 2518. Repair and rental of office machine
 - 2519. Depreciation of office machine
 - 2520. Refunds due to errors
 - 2521. Exemption refunds
- 2530. Highway patrol
 - 2531. Salaries and wages
 - 2532. Traveling expense
 - 2533. Office supplies and expense
 - 2534. Automobile operation (patrol)
 - 2535. Uniforms
 - 2536. Tools and supplies
 - 2537. Legal expense
 - 2538. Building operation
 - 2539. Building repairs and maintenance
 - 2540. Building depreciation
 - 2541. Training school and personnel
- 2550. Other expense
 - 2551. Testing and engineering expense for others
 - 2552. County road supervision
 - 2553. Maintenance of State institution roads
 - 2554. Outdoor advertising regulation
 - 2555. Operation of State parks and park roads

3000. OPERATING REVENUE AND INCOME ACCOUNTS

3100. Credits

- 3110. Highway user—general
 - 3111. Vehicle license fee
 - 3112. Motor fuel tax
 - 3113. Driver license
- 3120. Highway user—specific
 - 3121. Ton-mile tax
 - 3122. Port of entry

- 3123. Bridge and ferry tolls
- 3124. Special permits
- 3125. Fines and penalties
- 3130. U. S. Government aid
 - 3131. Federal aid
 - 3132. Flood relief
 - 3133. Emergency
- 3140. Other government aid and joint operations
 - 3141. Other States
 - 3142. Counties
 - 3143. Towns and cities
- 3150. Legislative appropriations from general funds and property taxation
 - 3151. Legislative appropriations
 - 3152. Special assessments
 - 3153. Benefit districts
 - 3154. Property road taxes
- 3160. Miscellaneous income
 - 3161. Donations and grants
 - 3162. Railways
 - 3163. Oil and land royalties
 - 3164. Interest on deposits
 - 3165. Sales, service and incidentals
 - 3166. Rentals (buildings and equipment)
 - 3167. Other income
- 3170. Receipts other than cash
 - 3171. Receipts other than cash
- 3180. Income from borrowing
 - 3181. Bond sales
 - 3182. Bond premiums
 - 3183. Short term loans

3200. Debits

- 1000. Fixed Capital Investment expenditures
 - 1100. Highways, roads, and streets
 - 1200. Equipment
 - 1300. Buildings
 - 1400. Land other than R/W
- 2000. Operating expense accounts
 - 2100. General administration expense
 - 2300. Highway operation expense
 - 2400. Highway depreciation expense
 - 2500. Other highway department expense
- 3280. Extinguishment of debt principal
 - 3281. Bond payments (principal)
 - 3282. Short time loan payments (principal)

4000. GENERAL BALANCE SHEET ACCOUNTS

4200. Liabilities and other Credits

- 4210. Current liabilities
 - 4211. General accounts payable
 - 4212. Wages payable
 - 4213. Current notes payable

- 4214. Short term debts
- 4215. Unearned construction and maintenance contracts
- 4216. Interest due on funded debt
- 4220. Budgetary liabilities
 - 4221. Administrative budget balance

4222. Construction budget balance not obligated by contracts or work orders	4124. Stores and stocks
4223. Maintenance budget balance	4125. Shop parts and supplies
4224. Other budget balance not obligated	4130. Contingent current assets
4230. Deferred liabilities	4131. Appropriations not received
4231. Advance deposits	4132. Anticipated income
4232. Reserve for employees insurance and retirement	4133. Federal allotments not received
4240. CURRENT SURPLUS	4140. Sinking funds
4250. Funded debt	4150. Fixed capital assets
4251. Highway bonds	4151. Office and administrative equipment
4252. Long term warrants	Less reserve for depreciation
4260. NET CAPITAL SURPLUS	4152. Engineering and laboratory equipment
	Less reserve for depreciation
4100. Assets and other Debits	4153. Shop and service equipment
4110. Current assets	Less reserve for depreciation
4111. Cash (by funds)	4154. Road equipment
4112. General accounts receivable	Less reserve for depreciation
4113. Federal and other reimbursements receivable (by accounts)	4155. Land other than R/W
4114. Interest receivable	Less reserve for depreciation
4115. Notes receivable	4156. Buildings
4116. Prepaid expense	Less reserve for depreciation
4120. Inventories	4157. General administration and overheads
4121. Office supplies	Less reserve for depreciation
4122. Engineering tools and supplies	4158. Highways, roads, and streets
4123. Laboratory supplies	Less reserve for depreciation
	4159. Earnings on work under construction

APPENDIX IV

FORM OF HIGHWAY INCOME AND OPERATING STATEMENT

The following suggested classified form of income and operating statement is intended to show a classified summary of the significant financial results of the operations (including construction) of a State highway system during a given accounting period (usually one year).

I. HIGHWAY OPERATING RECEIPTS AND REVENUE

	Cash received	Appropriation income, or accounts due	Total earned revenue
3111. Vehicle license fee.....
3112. Motor-fuel tax
3113. Driver license
3121. Ton-mile tax
3122. Port of entry
3123. Bridge and ferry tolls.....
3124. Special permits
3125. Fines and penalties.....
3131. Federal aid
3132. Federal flood relief.....
3133. Federal emergency
3140. Other government aid.....
3151. Legislative appropriation from general fund..
3152. Special assessments
3153. Benefit districts
3154. Property road tax.....
3160. Miscellaneous income
3170. Revenue, other than cash.....
Total revenue

II. HIGHWAY OPERATING EXPENDITURES

2310. General administration proration ¹.....	.....
2320. Highway maintenance ¹.....	.....
2330. Operation of toll facilities ¹.....	.....
2340. Tourist Bureau expense.....	.....
2500. Other highway department expense ¹.....	.....

Total highway operating expenditures.....

III. HIGHWAY OPERATING RETURN ²

IV. HIGHWAY DEPRECIATION

1100.1. Depreciation of highways.....	.....
1200.1. Depreciation of equipment.....	.....
1300.1. Depreciation of buildings.....	.....
1400.1. Depreciation of land, gravel and rock deposits.....	.....
1500.1. Depreciation of general administration and overheads.....	.....

Total depreciation expense appropriation for depreciation reserve
highway construction, and purchase of equipment and buildings.. ..

V. HIGHWAY NET OPERATING RETURN ³

Operating return .....	.....
Less interest cost charge ⁴.....	.....
Highway operating income compared with cost, surplus or deficit.....	.....

VI. DISPOSITION OF HIGHWAY NET OPERATING RETURN

1. Debt service payments and expense

2351-2353. Debt service general expense.....	.....
2354. Bond interest .....	.....
2356. Short term interest.....	.....
3281. Bond payments (principal).....	.....
3282. Short time loans payments (principal).....	.....

Total debt service payments.....

2. Fixed-Capital Investment purchases ⁵

1100. Investment in highway, road, and street construction.....	.....
1200. Investments in equipment.....	.....
1300. Investments in buildings.....	.....
1400. Investments in land (other than R/W), gravel deposits, rock quarries .....	.....
1500. Investment in general administration and overheads ⁶.....	.....
1600. Earnings on work under construction.....	.....

Total fixed-capital investment during year.....

Total expenditures of highway net operating return.....

Balance

VII. CONSTRUCTION WITH BORROWED FUNDS

1. Receipts

Balance January 1 (or other beginning date).....	.....
3181, 3182. Bonds and bond premiums. (by issues).....	.....
3182. Short term loans (by loans).....	.....

Total receipts

¹ Excluding depreciation.

² Highway operating return = operating income — operating expenditures.

³ Highway net operating return = operation return — highway depreciation accruing during the accounting period.

⁴ Interest cost charge = interest on fixed capital assets and working capital.

⁵ Less investments from borrowed funds and from depreciation expense appropriation.

⁶ Proration of general administration expense (Account 2100) and of suspense accounts (Account 2200).

2. Investments paid for by borrowed funds

1100. Highways, roads, and streets.....	.....
1200. Equipment .....	.....
1300. Buildings .....	.....
1400. Land, other than R/W.....	.....
1500. Administration and overhead.....	.....
1600. Earnings on work under construction.....	.....

Total investments

Balance December 31 (or other closing date).....

VIII. TOTAL FIXED-CAPITAL INVESTMENTS DURING YEAR

1100. Highway construction paid for from borrowed funds.....	.....
1100. Depreciation reserve highway construction.....	.....
1100. Net operation return highway construction.....	.....

Total investments in highway construction.....

1200. Investments in equipment.....	.....
1300. Investments in buildings.....	.....
1400 Investments in land (other than R/W), gravel deposits, rock quarries .....	.....
1500. Administration and overheads.....	.....
1600. Earnings on work under construction.....	.....

Total investment other than highways.....

Total Fixed-Capital Investments During Year.....