

Railroad Audit Guide

AASHTO Audit Subcommittee



**American Association
of State Highway &
Transportation Officials**

RAILROAD AUDIT GUIDE
FOR REVIEWING RAILROAD RATES
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PART I - INTRODUCTION

A. PURPOSE

This audit guide was originally developed by the Federal Highway Administration, United States Department of Transportation - Office of Inspector General and the American Association of State Highway and Transportation Officials (AASHTO).

At the annual meeting of the AASHTO Administrative Subcommittee on Internal/External Audit, a task force was formed to revise the guide by adding a portion pertaining to overhead and indirect construction costs as well as updating obsolete references. The membership of this task force consisted of Donald M. Breniman, Iowa, Ronald W. Gipp, Minnesota; and Donald P. Thannen, Illinois. The resultant revised guide was developed by the audit staffs of these three states with input from FHWA and the U.S. DOT/OIG.

This guide was developed to assist the State Highway Agency (SHA) in the audit of and reporting on actual cost rates submitted by railroads for:

1. Labor Surcharges
2. Equipment Usage
3. Material Handling
4. Transportation of Equipment and Material
5. Overhead and Indirect Construction Costs.

B. Background

The Federal Highway Administration (FHWA) policies, procedures and reimbursement provisions for costs incurred by railroads on federal-aid and direct federal projects are set forth in 23 CFR, Parts 140 and 646. The provisions of 23 CFR have been incorporated into the Federal-Aid Highway Program Manual (FHPM) Volume 1, Chapter 4, Section 3 and Volume 6, Chapter 6, Section 2.

FHWA regulations effective October 1, 1982 state that railroads will be reimbursed at actual cost or at rates representative of actual costs as submitted by the railroad and approved by the SHA and FHWA. Equipment costs may also be reimbursed at industry rates representative of actual costs if such rates are available for the period involved.

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FHPM 1-4-3 dated August 5, 1988 and published in the Federal Register as amendments to 23 CFR, Part 140, Subpart I, on May 23, 1988 now provides for the FHWA to allow, at the option of the SHA, Federal-aid highway funds to be used to pay for certain overhead and indirect construction costs incurred by the railroad for work performed on Federal-aid highway projects. An example of an overhead and indirect construction rate computation is included as Attachment F.

This audit guide was developed to assist in the review of actual cost rates submitted by the railroad companies. The guide includes audit objectives and illustrative audit steps.

Also included is an updated internal control questionnaire for evaluating selected features of the railroad's accounting system. It is not intended that all steps set forth in this guide be applied in all situations. Each situation should be judged on its own merits and the suggested audit steps be deleted, expanded or modified based upon the circumstances encountered by the auditor and previous railroad rate audit experience with the company. Some factors that should be considered in determining the degree of audit tests needed are:

1. Materiality and relative risk versus the audit resources required;
2. Reasonableness of submitted rates;
3. Results of previous audits;
4. Results of internal control evaluations.

C. Scope of Audit

The audit shall be performed in accordance with the Government Auditing Standards as promulgated by the Comptroller General of the United States (1988 Revision). Sufficient audit tests shall be performed to determine whether the rates submitted by the railroad are acceptable for use in billing costs to government projects.

D. Definitions

(DEFINITIONS SHOULD NOT BE INTERPRETED AS ELIGIBLE COSTS BUT ONLY AS CLARIFICATION OF THE GUIDELINES.)

1. Direct Cost

- a. A direct cost is any cost which can be identified specifically with a particular final cost objective. Costs identified specifically with other final cost objectives of the contractor are direct costs of those cost objectives and are not to be charged to the contract directly or indirectly.

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- b. Any direct cost of minor dollar amount may be treated as an indirect cost for reasons of practicality where the accounting treatment for such cost is consistently applied to all applicable final cost objectives, provided that such treatment produces results which are substantially the same as the results which would have been obtained if such costs had been treated as a direct cost.

2. Labor Surcharges

- a. This terminology generally refers to the cost of those allowances and services provided to the employee as compensation in addition to regular salaries and wages.
- b. While not precisely defined, the accounts normally included when a fringe benefit rate is separately identified are compensation accounts for:

vacations;

holidays;

sick leave;

military leave;

employee insurance;

pensions;

payroll taxes; and

workmen's compensation & PL/PD insurance

Such pooled expenses are normally allocated to the direct labor costs incurred during the same period.

- c. The "pool of expenses" is the total fringe expense for the specific class of labor represented in the labor base used for purposes of calculating the surcharge rate.

Total fringe expense pool of the entire organization must be allocated to total wages paid for the organization.

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(2) Total fringe expense pool of a specific class (or classes), e.g. engineering, signal, or maintenance of way must be allocated to total wages paid for identical class or classes of labor as represented in expense pool.

3. Indirect Cost

a. An indirect cost is one which:

(1) Because of its incurrence for common or joint objectives, is not readily subject to treatment as a direct cost; or

Is of minor dollar amount and for reasons of practicality is treated as an indirect cost, or

Is the remainder in clearing accounts after all identifiable direct costs have been charged to their appropriate cost objectives.

b. Indirect cost is inclusive of costs allocated to the contract by a percentage factor including fringe benefits, overhead, material handling, general and administrative, and parent organization additives.

c. The Cost Accounting Standards define indirect cost as "any cost not directly identified with a single final cost objective, but identified with at least one intermediate cost objective.

4. General and Administrative Expense (G&A)

a. These are defined by the Cost Accounting Standards Board as those management, financial, and similar expenses which are incurred by or allocated to a business unit for general management and administration and which have no directly measurable relationship to particular cost objectives as opposed to the business unit as a whole. Examples of these costs are certain management salaries and expenses, rent, utilities, property insurance, property taxes, etc.

b. It is not the auditor's responsibility to segregate the G&A expense accounts for the company, but only to determine the reasonableness, allocability, and allowability of the claimed costs.

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5. Provisional - Final Rate

- a. Provisional rate is based on:

A prior year's actual cost,

- (2) Projected costs for the fiscal year being considered,
or

A combination of historical and projected costs

- b. Final rate is based on the actual costs of the year being considered.
- c. Upon audit of the actual rates, billings may be revised retroactively. This may result in administrative problems for both the SHA and the railroad.

6. Predetermined Rate

This rate is based on a firm agreement not subject to revision except in most unusual circumstances and when substantial inequity to one of the parties exists.

- a. Similar to rate previously established in FHPM 1.4.3., 6-6-2-1, 6-6-2-2, by the GMA and/or actual cost.
- b. Is negotiated in advance of the fiscal period to which it applies.
- c. Requires advance agreement by the parties involved.
- d. Is used sparingly because of potential over or under recovery of costs.

7. Fixed Rate with Carry-Forward

- a. Based on an estimate of costs of a future period.
- b. Not subject to revision.
- c. Differences between estimated and actual costs, when they become known, are carried forward as an adjustment to a subsequently proposed rate.
- d. This rate combines the desirable features of both the "provisional" and the "predetermined" rate methods.

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- e. This rate requires that the railroad have a system to distribute costs to all direct labor, not merely to billable projects, and to determine over/under application to carry forward to the next period.

8. Base Period

The base period for distribution of indirect costs is the period during which such costs are incurred and accumulated for distribution to work performed within that period. The base period normally should coincide with the fiscal year established by the company but, in any event, the base period should be selected to avoid inequities in the distribution of costs and, generally, should not exceed a twelve month period.

9. Reasonable

A cost is reasonable if, in its nature or amount, it does not exceed that which would be incurred by an ordinarily prudent person in the conduct of competitive business. The question of the reasonableness of specific costs must be scrutinized with particular care in connection with firms or separate divisions thereof which may not be subject to effective competitive restraints. What is reasonable depends upon a variety of considerations and circumstance involving both the nature and amounts of the cost in question. In determining the reasonableness of a given cost, consideration shall be given to whether:

- a. The cost is of a type generally recognized as ordinary and necessary for the conduct of the company's business or the performance of the contract;
- b. The restraints or requirements imposed by such factors as generally accepted sound business practices, arm's length bargaining, Federal and State laws and regulations, and contract terms and specifications;
- c. The action that a prudent businessman would take in the circumstances, considering his responsibilities to the owners of the business, his employees, his customers, the Government, and the public at large; and,

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- d. Significant deviations exist from the established practices of the company.

10. Allocable

A cost is allocable if it is assignable or chargeable to one or more cost objectives in accordance with the relative benefits received or other equitable relationship. Subject to the foregoing, a cost is allocable to a Government contract if it:

- a. Is incurred for a specific contract; or
- b. Benefits both the contract and other work, or both Government work and other work, and can be distributed to them in reasonable proportion to the benefits received; or
- c. Is necessary to the overall operation of the business, although direct relationship to any particular cost object cannot be shown.

11. Credits

The applicable portion of any income, rebate, allowance, and other credit relating to any allowable cost, received by or accruing to the company, shall be credited to the Government either as a cost reduction or by cash refund, as appropriate.

E. Special Program Considerations

The following data is presented to highlight the significant items contained in the federal regulations which should be considered by the auditor in evaluating the railroad's compliance with program criteria.

1. Eligible Costs

The eligibility of specific items of cost is determined by the provisions of FHPM 1-4-3 and 6-6-2-1 and the Federal Acquisition Regulation (48 CFR), Part 31, Contract Cost Principles and Procedures.

2. Ineligible Costs

- a. Those costs specifically determined to be unallowable as contained in the Federal Acquisition Regulation (48 CFR), Part 31, Contract Cost Principles and Procedures.

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- b. Interest and other financial costs, including interest on loans or other borrowed funds to finance operations, purchase equipment or parts, and any legal or other professional fees incurred in connection with such loans or borrowed funds.
- c. Contingencies or reserves which have been set up to provide for unforeseen events.
- d. Factors for inflation, anticipated cost increases due to replacement of other comparable reasons.
- e. Questionable or unusual costs. These items should be discussed and their eligibility determined by the Federal Highway Administration.

3. Labor Surcharges

- a. Labor surcharges normally include such items as vacation, sick leave, paid holidays, workers compensation, payroll taxes, employee insurance plans, pensions and military leave.
- b. The cost of labor surcharges will be reimbursed at actual costs to the company or, at its option, the company may use an additive rate or other similar techniques in lieu of actual costs, provided that the rate is:
 - based on historical cost data of the company;
 - representative of actual costs incurred;
 - adjusted at least annually, taking into consideration known anticipated changes and correcting for any over/underapplied costs for the preceding period; and,
 - approved by the SHA and FHWA.
- c. Where the company is a self-insurer there may be reimbursement at experience rates properly developed from actual costs, not to exceed the rates of a regular insurance company for the class of employment covered.
- d. The "pool of expenses" may consist of total identified fringe benefits for:

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the entire organization, or

specific labor responsibility areas within the organization.

4. Company-Owned Equipment

- a. Cost of company-owned equipment may be reimbursed for the average or actual cost of operation, light and running repairs, and depreciation, or at industry rates representative of actual costs as agreed to by the railroad, SHA and FHWA.
- b. Reimbursement for company-owned vehicles may be made at average or actual costs or at rates of recorded use per mile which are representative of actual costs and agreed to by the railroad, SHA, and FHWA.

5. Material Handling Costs

The actual and direct costs of handling and loading out of materials and supplies at and from company stores or material yards and of unloading and handling of recovered materials accepted by the company at its stores or material yards, are reimbursable. At the option of the company, 5 percent of the amounts billed for the materials and supplies which are issued from company stores and material yards will be reimbursable in lieu of actual costs.

6. Transportation

The most economical movement of materials, supplies, and equipment to the project and necessary return to storage, including the associated costs of loading and unloading equipment, is reimbursable.

- a. Transportation by a railroad company over its own lines in a revenue train is reimbursable at average or actual costs or at rates which are representative of actual costs.
- b. Reimbursement at rates which a railroad charges its customers for similar shipments is allowable so long as the rate structure is documented and available to the public.

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- c. No charge other than the operating expenses of a work train will be permitted for transportation by the work train.
 - d. When it is more practicable or more economical to move equipment on its own wheels, reimbursement may be made at average or actual costs or at rates which are representative of actual costs.
 - e. The rate must be agreed to by the railroad, SHA and FHWA.
7. Overhead and Indirect Construction Costs
- a. The SHA may elect to reimburse the railroad company for its overhead and indirect construction costs.
 - b. The FHWA will participate in these costs provided that:
 - The costs are distributed to all applicable work orders and other functions on an equitable and uniform basis in accordance with generally accepted accounting principles;
 - (2) The costs included in the distribution are limited to costs actually incurred by the railroad;
 - The costs are eligible in accordance with the Federal Acquisition Regulation (48 CFR), Part 31, Contract Cost Principles and Procedures, relating to contracts with commercial organizations;
 - (4) The costs are considered reasonable;
 - (5) Records are readily available at a single location which adequately support the costs included in the distribution, the method used for distributing the costs, and the basis for determining the additive rates;
 - (6) The rates are adjusted at least annually taking into consideration any overrecovery or underrecovery of costs; and
 - 7 The railroad maintains written procedures which assure proper control and distribution of the overhead and indirect construction cost.

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8. Auditor References

- a. FHPM 1-4-3 (Attachment C), FHPM 6-6-2-1 (Attachment D) and FHPM 6-6-2-2 (Attachment E).
- b. "Government Auditing Standards" as published by the Comptroller General of the United States.
- c. Cost Accounting Standards, 4 CFR, Chapter 3, Sub-chapter G.
- d. Federal Acquisition Regulation, 48 CFR, Part 31.

F. Overall Audit Objectives

The audit objectives are to evaluate and determine that:

- 1 Costs included in the rate computations are actual, allowable, allocable and reasonable.
2. Costs are consistently treated in the railroad cost accounting system.
3. Bases used for allocation are appropriate, consistently used, and compatible with the period used for determining the applicable expense pool(s).
- 4 Accounting policies of the railroad are in accordance with generally accepted accounting principles.

G. Audit Report Distribution

1. The SHA will submit copies of the following documents to all SHA's served by the audited railroad company;
 - a. Audit report.
 - b. SHA letter requesting FHWA approval of the rates.
 - c. FHWA approval letter
2. A copy of these documents will also be submitted to the audited railroad company.

PART II - AUDIT STEPS - GENERAL

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A. Preliminary Review

The purpose of the preliminary review is to familiarize the auditor with the subject matter and to identify areas needing detailed audit coverage.

The initial audit of a railroad's submitted rates should include site audit work by the SHA in order to develop bases for future reliance on audit work of others.

The following steps should be performed prior to the start of the field work.

1. Review the provisions of 23 CFR, Parts 140 and 646 and the Federal Highway Program Manual (FHPM) 1-4-3, 6-6-2-1 and 6-6-2-2. Note any special considerations which might affect audit tests.
2. Review any available permanent file information to identify both strong and weak points of railroad's accounting policies and procedures as they relate to rate development, calculation and application.
3. Review SHA files and contact FHWA personnel to identify any special considerations or changes in regulations or policies that might affect the current review.
4. Review a sample of railroad billings to determine that rates billed were approved and were properly applied.
5. Review railroad billings for equipment charges and identify classifications most commonly used on reimbursable work. (This information can be used in the detailed verification phase of the audit.)
6. If rates comparable to those submitted by the railroad are available, make comparisons in order to determine whether submitted rates are reasonable and whether any variances exist which may warrant additional examination. Comparable rates may include:
 - a. FHPM rates for previous periods.

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- b. Audited rates of other railroads for comparable periods.
7. Perform any additional preliminary review steps deemed necessary.
8. Prepare preliminary review summary and identify areas needing further evaluation and review at the railroad's office.
9. Contact responsible official at the railroad and arrange to commence site audit of submitted rates.

After the initial site audit of rates submitted by the railroad, the SHA may determine that, in the future, reliance may be placed on audit work of others; e.g., internal auditors of the railroad or independent auditors. If this course of action is chosen by the SHA, copies of pertinent audit reports may be requested at this time.

If copies of audit reports are provided the SHA, desk review may be sufficient to make a determination as to acceptance of submitted rates without site audit work.

B. Opening Conference

The purpose of the opening conference is to acquaint auditors with their primary contacts at the railroad and to outline to railroad officials the general objectives of the audit.

C. Evaluation of Internal Controls

The purpose of this phase of the audit is to identify the railroad's basic internal controls and determine the degree of reliance which can be placed on them.

1. Using Attachment A (Internal Control Questionnaire), review with railroad officials the internal controls related to the rate development methodology and calculation, as well as, the application and internal review of the various rates.
 - a. For any negative answer on the questionnaire, describe any alternate procedure used by the railroad which would act as a substitute.

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- b. If no alternate procedure exists, describe the potential adverse effect and make a recommendation concerning the degree of verification testing that needs to be performed.
2. Using a brief written narrative or flow chart(s), document the basic system of internal controls.
3. Prepare a summary evaluation of the internal controls, making specific comments on strengths and weaknesses of the system. The evaluation should indicate those areas which will require a more detailed examination.

D. Review of Rate Methodology

Review railroad's methodology submitted with the proposed rates to determine if it conforms with generally accepted accounting practice and the provisions of the FHPM. This step should give consideration to such things as:

1. Base period used to distribute cost.
2. Allocation method (e.g., Payroll Cost, Labor Hours, Equipment Hours, Mileage, Material Cost.)
3. Depreciation method.
4. Method of segregating ineligible costs.
5. Methods used to assure consistent treatment of costs.
6. Clearing accounts used to monitor the debits and credits for the various cost centers.
7. Consideration given to anticipated changes which might have an effect on the future period.
8. Treatment of over/underapplied costs.
9. Areas within the railroad's operation upon which the rates were determined.

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E. Review and Analysis of Allocation Bases

The purpose of this section of the audit guide is to determine that the data used to allocate the various expense pools is current, complete and supported by the railroad records.

1. Trace (salaries, equipment hours, cost of issued materials, etc.) to the railroad accounts or records to verify agreement.
2. Determine that the data being used is current and reflects all charges of the railroad.
3. Reconcile labor costs in the rate computation (direct labor and vacation, sick leave, holidays, etc.) to gross payroll to assure accounting for 100 percent of labor costs.
4. Compare the current year base to previous periods to identify any significant deviations. If significant differences exist, identify the reasons for the differences and evaluate the effect thereof.

F Review and Analysis of Expense Accounts

The purpose of this audit step is to determine whether the amounts used in the rate calculations are in agreement with amounts actually incurred or recorded in the accounts.

1. Test amounts included in the railroad's rate calculations to the general and/or subsidiary ledgers to assure agreement.
2. Test footings and crossfootings of the voucher register and trace postings to the appropriate ledger.
3. Analyze expense accounts in the trial balance to determine that only applicable accounts were included in the appropriate indirect cost center.
4. Review expense accounts to determine whether ineligible costs separately identified and have been excluded from the cost pools used to calculate the rates.

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5. Follow up any items noted in preliminary review and obtain explanation thereof.

G. Review and Analysis of Rate Calculation(s) and Application

The purpose of this section of the audit guide is to determine that the rate(s) were accurately computed and applied on a consistent and timely basis.

1. Obtain railroad records and/or worksheets used to compute the various rates and verify the mathematical accuracy.
2. Review expense accounts to determine whether ineligible costs are separately identified and have been excluded from the cost pools used to calculate the rates.
3. Determine that all amounts included in the expense pools are properly allocable to the reimbursable work.
4. Determine whether reviews and approvals of the rates are obtained prior to authorizing their applications.
5. Determine that the rates are applied to and amounts recorded in the railroad accounts for all work (both reimbursable and nonreimbursable).

H. Review and Analysis of Miscellaneous Income Accounts

The purpose of this section of the audit guide is to identify any amounts recorded by the railroad as income that may be more appropriately treated as contra-expense items affecting the expense pool accounts.

1. Review cash receipts records and general ledger miscellaneous income accounts for unusual items. Prepare schedule of unusual items that would be considered contra-expense accounts.
2. Test the recording of miscellaneous receipts to assure that credits to the appropriate expense accounts were made.

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The overall objectives of this part of the Audit Guide are to:

- 1 Determine that amounts recorded in allocation bases are inclusive of all applicable items for the appropriate time period.
2. Determine that amounts in the expense pools are reasonable, properly classified, allowable and properly allocable to the bases in the rate calculations.

A. Labor Surcharges

1. Reconcile total labor dollars in the rate base to total labor dollars shown in company records.
2. Verify that the costs used in the base are actual wages and salaries paid by the company.
3. Sample labor costs to Payroll Register. Determine if labor costs are adequately supported by company records.
4. Determine if the base includes premium overtime pay.

(If premium pay is included, it is appropriate for the surcharge rate to be applied to premium overtime pay on company billings.)

5. Determine how labor costs are treated for personnel within the company's overhead structure. Salaries of these employees are billable only:
 - a. When an employee is directly involved on a project and time is charged directly to a project.
 - b. When an employee responsibility can be appropriately allocated to a functional area approved for application of a rate (e.g., a storeroom manager's time would be properly includable in stores' expense pool).

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6. Verify labor surcharge expense pool
 - a. Reconcile categories and dollar totals of expense pool to those reflected in the company's records.
 - b. Verify that all costs in the surcharge expense pool are actual, not estimated.

Sample costs to source documentation.

Determine if all surcharge costs are adequately supported by company records and costing procedures.
 - c. Determine that surcharge expense pool does not include any ineligible costs.
 - d. Determine that costs are applicable to appropriate accounting and rate base period.
 - e. Determine that costs do not include any employee contributions.
 - f. Determine if any cost elements are duplicated in any manner in cost pools used in development of any other rates.
 - g. Determine if 1) cost pool includes insurance purchased for public liability property damage coverage, 2) purchased insurance is considered a direct project cost, or 3) self-insurance is utilized.
 - h. Determine whether cost pool items are related to the rate base used.
7. Verify accuracy of developed rate(s).
8. Express an opinion on the acceptability of the labor surcharge rate(s).

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B. Company-Owned Equipment

The purpose of this section of the audit guide is to determine whether the data used in computing the equipment rates is adequately supported by source documentation and includes only those costs eligible for reimbursement.

1. Obtain summary of charges to various equipment accounts representing asset acquisitions, deletions and depreciation.
2. Test mathematical accuracy of the schedule reconcile to books of record.
3. Trace opening balances to previous year's ending balances as shown on audited financial statements.
4. Select a sample of equipment purchase vouchers and test to determine if:
 - a. Approval of and justification for purchase are adequately documented.
 - b. Competitive bids were obtained if applicable).
 - c. Price paid was reasonable
 - d. Invoice terms and price agree with those on the purchase order and are mathematically accurate.
 - e. Documents supporting the transaction flow are adequate.
 - f. Recording in the accounting records is accurate and reliable.
5. Select a sample of asset deletion transactions and test to determine if:
 - a. They were properly authorized and approved
 - b. The transactions were properly recorded in the accounting records.

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- c. The income from any sales of equipment properly recorded.
6. Evaluate and test the calculation of depreciation.
 - a. Verify the mathematical accuracy of depreciation calculation.
 - b. Determine whether the depreciation was based on acquisition costs.
 - c. Determine that the method of depreciation is in accordance with generally accepted accounting principles.
7. Select a sample of transactions for various operating and repair expenses (gas, oil, batteries, repairs, etc.) for detailed testing. For each transaction selected, review source records to determine if:
 - a. Expenditures are properly supported allowable.
 - b. Expenses are properly classified allocable to cost objective.
 - c. Expenses are actual costs and were properly authorized.
 - d. Invoice/stores requisitions are extended correctly and agree with approved purchase orders, AFE authorizations or contracts.
 - e. The expenses are properly recorded in accounting cost accumulation records.
 - f. Expenses are assigned to appropriate period.
 - g. Expenses are related to equipment operation, maintenance or repair.
8. Select a sample of equipment usage reports for detailed testing. For each report selected, review source records to determine that:

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- a. Usage amounts in rate calculation base(s) are properly supported and classified.
- b. All equipment hours, mileage, etc. are accounted for and included in the rate calculation base(s); (e.g., does the railroad's accounting system provide for the recording of all equipment usage?)
- c. Usage is properly accumulated from initiation of source record to summarization of usage as reflected in rate calculation base(s).

9. If equipment rates are not supported in company records, reimbursement for company-owned equipment usage shall be limited to the GMA rates which were in effect on December 31, 1982 or equipment rates contained in the U.S. Army Corps of Engineers Manual, "Construction Equipment Ownership and Operating Expense Schedule".

10. Express an opinion on the equipment rates.

C. Material Handling Rate

The purpose of this section of the audit guide is to determine whether the amounts used to compute the material handling rate are adequately supported by source documentation and include only those costs considered eligible.

1. Preliminary audit considerations.

a. Elements of handling rate formula.

Materials and supplies through stores - material issues as they relate to cost functions, material classifications and final use.

Charge out price - dollar value of issues, based on unit costs assigned to "Inventory" and "Materials through Company Store."

Stores expense pool - total costs associated with and allocable to the stores function.

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Rate base - value of materials and supplies issued through stores.

2. Verify handling rate base.

Note: Previous audit work performed during reviews of the railroad's billings may be sufficient to accept the handling rate base development in lieu of site testing.

- a. Reconcile 1) total rate base dollars of materials and supplies issued to 2) total dollars supported in company records.
- b. Verify cost of materials and supplies as shown in rate base elements:

Materials issued through stores.

Determine material classifications employed by company in accounting for materials and supplies.

(3) Charge - out price (unit value of issues from stores).

(a) Determine treatment of issues to various cost functions as they affect the handling rate base:

i AFE's (billable & nonbillable)

ii) Maintenance of Way

iii) Refurbishment of used materials

iv) Repairs and maintenance of building and equipment

(b) Determine if material and supply issue transactions are adequately supported in company records.

(c) Determine if unit costs applied to new materials and supplies through stores reflect actual cost of inventory of such new items.

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- (d) Determine acceptability of pricing system utilized by the company.
- (e) Verify that correct unit costs are applied to material issues and are adequately supported in company records.

Determine that unit costs applied to "used" materials through stores represent reasonable and supportable value of inventory for such items.

- i) Are "used" materials charged through pricing system at book values?
 - ii) Does book value of such used material properly reflect company's investment therein?
 - iii) Verify that unit cost determinations for used materials are adequately supported in company records.
- (g) Determine treatment (inclusion in or exclusion from unit cost determination) of: freight over company-owned lines, foreign line freight, discounts, rebates and allowances, taxes, general overhead expenses, direct and indirect handling costs.

Determine whether unit costs are representative of the company's investment in inventory of used items and are reflected in all costing procedures for all materials and supplies issued from all store facilities for all purposes.

- 3. Verify stores expense pool.
 - a. Reconcile categories and total pooled costs to those shown in company records.

PART III - DETAILED AUDIT VERIFICATION

W/P
REF. AUDITOR DATE

- b. Verify that all costs accumulated in cost pool are actual.
 - (1) Determine how salaries, wages and related labor additives are recorded, accumulated and costed to stores expense pool; sample to appropriate source documentation.
 - (2) Determine how costs of storage and processing (other than labor) are recorded, accumulated and charged to stores expense pool; sample to appropriate source documentation.
 - (3) Determine that all costs in stores expense pool are fully supported by company records and costing procedures.
 - c. Determine that all pooled costs are associated with stores function; e.g., purchasing, handling, issues, returns, recovery of salvage, transfers, materials testing and inspection and materials transportation coordination.
 - d. Determine how labor and related additives for refurbishment of used materials and repair and maintenance of equipment and buildings are recorded, accumulated and excluded from the stores expense pool.
 - e. Determine how actual and direct handling charges, which are identified and billed to outside parties, are recorded, accumulated and excluded from stores expense pool.
4. Verify handling rate calculations.
- a. Determine that Material Issue Cost Base and pool expense costs are from the appropriate time period.

PART III - DETAILED AUDIT VERIFICATION

W/P
REF. AUDITOR DATE

- b. Determine if rate is applied to all materials issued from stores and material yards for all material classes and functions.
- (1) Determine and describe method used to price secondhand materials.
 - (2) Determine if the prices developed for secondhand materials represent reasonable values for such items.
 - (3) Test and describe procedures followed when materials are returned to stores (due to temporary use or overissue) in the same condition as when originally issued.
 - (4) Test and describe procedures followed when materials returned to stock are not in the same condition as when originally issued.
 - (5) Determine if all issue prices and resultant inventory value are reflected in the costing procedures for all materials and supplies issued from company stores facilities.
 - (6) Determine if the company's inventory valuation is representative of the company's investment.
 - (7) Determine and describe method of accounting for material issues to cost functions. Cost functions should include:
 - i) Billable and nonbillable projects.
 - ii) Maintenance of way
 - iii) Refurbishment of used materials.
 - iv) Repair and maintenance of equipment and buildings.
 - v) Auto and equipment supplies

PART III - DETAILED AUDIT VERIFICATION

W/P
REF. AUDITOR DATE

- c. Verify mathematical accuracy of calculations
 - 5. Prepare opinion on adequacy and accuracy of material handling rate.
- D. Transportation of Materials, Supplies and Equipment

1. Options available to a railroad per provisions of FHPM 1.4.3. Rev. 08/05/88 provide that transportation over its own lines in a revenue train is reimbursable at:

- a. Average or actual costs at rates representative of actual costs.
- b. Rates which the company charges its customer for similar shipments providing that:

The rate structure is documented and available to the public.

(2) Rates are agreed to by company, SHA and FHWA.

No charge made for transportation by work train other than operating expenses of the work train.

2. For the movement of equipment on its own wheels when more economical, reimbursement shall be at:

(Average or actual costs.

Rates representative of actual costs and agreed to by railroad, SHA and FHWA.

3. Preliminary audit considerations.

Determine if rate is reasonable

- a. Compare to audited rates of other railroads.
- b. Compare to rates of previous periods.

4. Determine if rate is published and billed to the public for transportation of similar items.

a. If published:

Verify rate from submittal to publishing document.

PART III - DETAILED AUDIT VERIFICATION

W/P
REF. AUDITOR DATE

Verify sample of rate(s) from publishing source to bills submitted to the public.

If Steps (1) and (2) are adequately verified, rate may be considered adequate and acceptable for use on SHA billings. Proceed to Audit Program Step D.6.

- b. If rate not published, proceed to Program Step D.5.

5. Verify calculation of transportation rate.

- a. Determine ton miles of freight hauled in period being audited. Best source: Railroad Annual report (R-1 Report), Schedule 755.

Total ton miles of freight hauled

less:

Freight hauled in work train

Freight hauled in passenger train

Net deduction

Net ton miles of freight

- b. Verify total cost of operation to transport the net ton miles as calculated above. Source: Railroad Annual Report R-1, Schedule 440, Railway Operating Expense.

(Deduct ineligible costs and passenger service expenses.)

- c. Divide adjusted total operating expense by net ton miles of transported freight. Result is rate per ton mile.

6. Express an opinion on the transportation rate.

PART III - DETAILED AUDIT VERIFICATION

W/P
REF. AUDITOR DATE

E. Overhead and Indirect Construction Costs

1. Review railroad's written procedures and policies regarding overhead and indirect construction costs.
2. Determine that the proposed overhead and indirect construction cost rate development is consistent with written procedures and policies.
3. Reconcile total dollars in the rate base to total dollars shown in company records.
4. Verify that the rate base reflects all applicable company dollars (i.e. labor) paid by company.
5. If the rate base is total labor dollars, determine if premium overtime pay is included.

(If premium pay is included, it is appropriate for the overhead and indirect construction cost rate to be applied to premium overtime pay on company billings.)
6. If "total expenditures" is rate base, determine that all overhead expenses are excluded therefrom.
7. Verify overhead and indirect construction cost expense pool.
 - a. Reconcile categories and dollar totals of expense pool to those reflected in company records.
 - b. Verify that all costs in the overhead and indirect construction cost expense pool are actual, not estimated.

Sample costs to source documentation.

Determine if all overhead and indirect construction costs are adequately supported by company records and costing procedures.

PART III - DETAILED AUDIT VERIFICATION

W/P
REF. AUDITOR DATE

- c. Determine that all costs in the expense pool are considered reasonable.
- d. Determine that the overhead and indirect construction cost expense pool does not contain ineligible and unallowable costs as contained in the Federal Acquisition Regulation (48 CFR), Part 31, Contract Cost Principles and Procedures.
- e. Determine that costs are applicable to appropriate accounting and rate base period.
- f. Determine that the cost pool does reflect any employee contributions.
- g. Determine if any cost elements included in the overhead and indirect construction cost expense pool are duplicated in any manner in other cost pools used in the development of any other rates.
- h. Determine that the cost pool does not reflect any elements which are considered direct project costs (i.e. liability insurance, engineering and accounting labor, etc.)

Determine whether cost pool items directly related to the rate base used.

- 8. Verify the accuracy of the developed rate.
- 9. Express an opinion on the overhead and indirect construction cost rate.

F Closing Conference

After the auditor has completed all field work and the results of the audit are known, the audit findings should be discussed with responsible railroad officials.

Comments from railroad officials should be noted included in the audit work papers.

PART IV - OPINION

The opinion statement expresses the degree of responsibility assumed by the auditor, with respect to the activities and related costs subjected to the audit.

Justification for the opinion statement rests on the extent to which the audit scope conforms with generally accepted auditing standards and the Government Auditing Standards promulgated by the Comptroller General of the United States (1988 Revision).

The opinion statement relates first to the overall organization or operation and related rate computations and, secondly, to specific rates developed by the railroad.

ATTACHMENT A

INTERNAL CONTROL QUESTIONNAIRE

INTERNAL CONTROL QUESTIONNAIRE

I. INTRODUCTION

This questionnaire was developed as an aid in evaluating and reviewing the internal controls of railroad companies as they relate to general accounting, cost accounting and billings. The material presented is designed to provide basic coverage and is not intended to be all inclusive. The auditor should add or delete material based upon the individual circumstances encountered during an audit.

This questionnaire does not include an evaluation of controls in a computer-based system. In the event such a system is used by the railroad, it is suggested that the US General Accounting Office Audit Guide (June, 1981) titled "Evaluating Internal Controls in Computer-Based Systems" be used as a supplement to this guide.

The nature, size and scope of the railroad's operations relating to State and Federal aid work are important factors in determining the degree of audit review and tests. In addition, information regarding responsible management officials, accounting manuals and management reviews should be identified to make maximum use of audit resources. This questionnaire is designed to obtain this information.

The questionnaire should be retained with the audit workpapers along with the auditor's overall evaluation of internal controls.

II. GENERAL INFORMATION

A. Name of Railroad _____

Address _____

B. Key Positions

1. Audit
Liaison _____

2. Area/Personnel responsible for rate development:

a. Labor
Surcharges _____

INTERNAL CONTROL QUESTIONNAIRE

- b. Equipment Rates _____
- c. Handling _____
- d. Transportation of Equipment and Materials _____
- e. Overhead and Indirect Construction Cost Rates _____
- 3. Comptroller _____
- 4. Chief Accountant _____
- 5. General Ledger Accountant _____
- 6. Cost (Work Order or AFE) Accountant _____
- 7. Billing Manager _____
- 8. Disbursements Accountant _____
- 9. Accounts Receivable Manager _____
- 10. Purchasing Director _____
- 11. Internal Auditor _____
- C. Obtain an organization chart _____
- D. Railroad's accounting period _____
- E. Were there any management system reviews in the past 2 years which may be of assistance during course of this audit?

III. BASIC ACCOUNTING SYSTEM

YES NO

- A. Is there a standard chart of accounts?

INTERNAL CONTROL QUESTIONNAIRE

YES NO

B. Is the accounting for government work integrated with the railroad's cost accounting system?

C. Are billings prepared from reports generated by the cost accounting system?

D. Are journal entries 1) approved and 2) supported by explanations?

E. Are cost accounting reports reconciled to general ledger accounts? If yes, by whom?

F. Does the railroad have an internal audit function to monitor compliance with company policies and procedures?

1. If yes, to whom does audit function report?

2. If no internal audit, how does the company monitor its activities?

INTERNAL CONTROL QUESTIONNAIRE

YES NO

G. Determine if clearing accounts are maintained for:

- Labor Surcharges _____
- 2. Equipment Rates _____
- 3. Handling _____
- 4. Transportation of
Equipment and material _____
- 5. Overhead and Indirect
Construction Cost Rates _____

H. How often are clearing accounts reviewed and evaluated?

I. Determine the fiscal period(s) for which rates are determined?

- 1. Labor Surcharges _____
- 2. Equipment Rates _____
- 3. Handling _____
- 4. Transportation of
Equipment and Material _____
- 5. Overhead and Indirect
Construction Cost Rates _____

J. When, in relation to the close of fiscal period(s), are rates prepared?

- 1 Labor Surcharges _____
- 2. Equipment Rates _____
- 3. Handling _____

INTERNAL CONTROL QUESTIONNAIRE

YES NO

4. Transportation of Equipment and Material _____

5. Overhead and Indirect Construction Cost Rates _____

K. Who approves the rates?

1 Labor Surcharges _____

2. Equipment Rates _____

3. Handling _____

4. Transportation of Equipment and Material _____

5. Overhead and Indirect Construction Cost Rates _____

L. How is the implementation of approved rates accomplished?

M. Are the rates evaluated for reasonableness by the company before they are approved?

1. How? _____

2. By whom? _____

INTERNAL CONTROL QUESTIONNAIRE

YES NO

N. Are the rates audited by the company before they are approved for use?

By whom? _____

O. Are the expenditures used to calculate the rates actual costs incurred? Are the expenditures properly recorded in books of account?

1 Labor Surcharges _____

2. Equipment Rates _____

3. Handling _____

4. Transportation of
Equipment and Material _____

5. Overhead and Indirect
Construction Cost Rates _____

P. Are the amounts used in the rate bases supported by actual cost or usage records?

1. Labor Surcharges _____

2. Equipment Rates _____

3. Handling _____

4. Transportation of
Equipment and Material _____

5. Overhead and Indirect
Construction Cost Rates _____

INTERNAL CONTROL QUESTIONNAIRE

YES NO

Q. Are the rates used by the railroad for purposes other than governmental reimbursable work?

- 1. Labor Surcharges _____
- 2. Equipment Rates _____
- 3. Handling _____
- 4. Transportation of Equipment and Material _____
- 5. Overhead and Indirect Construction Cost Rates _____
- 6. If not, why? _____

R. List the written procedures, directives or manuals applicable to basis accounting and to rate development:

IV. Property Management

A. Determine whether the accounting system provides for property records which identify:

- 1. Item description
- 2. Control and/or serial number
- 3. Date acquired

INTERNAL CONTROL QUESTIONNAIRE

YES NO

- 4. Cost or value
 - 5. Location
 - 6. Condition
- B. Are physical inventories taken?
- 1. Equipment
 - 2. Materials
- If yes, how often? _____
- _____
- _____
- C. Are supplies and materials inventories protected from loss, damage and theft?
- D. Are there controls to prevent overstocking of materials and supplies?
- E. Are adjustments based on physical count of inventories approved by responsible management officials?
- 1. Equipment
 - 2. Materials
- F. Are there periodic evaluations performed to assure that all assets are needed and effectively used?
- 1. If yes, by whom? _____
- _____
- _____
- 2. Are written reports prepared?

INTERNAL CONTROL QUESTIONNAIRE

YES NO

G. Is the responsibility for authorizing the purchase of capital assets and inventory items separate from the responsibilities of (1) payment and (2) maintenance of detailed records?

H. Are withdrawals from inventories supported by authorized requisitions?

I. Are all requisitions sequentially numbered and accounted for?

J. Are detailed property records periodically reconciled to ledger accounts?

K. Are lease/purchase evaluations made and documented prior to acquiring capital assets?

L. Are transaction registers used to record all additions, deletions, changes and adjustments to property records?

M. Does the railroad have written policies covering depreciation methods?

1. Is depreciation based on historical costs?

2. If not historical cost, what is used?

N. Does the railroad lease any equipment or property from an affiliate or commonly held company?

1 If yes, from whom? _____

O. Are records maintained which identify fuel, parts, repairs, etc. for each specific unit of equipment?

INTERNAL CONTROL QUESTIONNAIRE

YES NO

P. List the written procedures, directives or manuals applicable to the Property Management activity.

1. _____
2. _____
3. _____

V. Purchasing

A. Does the Purchasing Department have final authority approving all purchases?

B. Is the purchasing function separate from the accounting and receiving functions?

C. Are there procedures to assure that items are procured at best possible price?

1. Are they pre-numbered?
2. Is a log book maintained?
3. When a purchase order number is not accounted for, what happens?

D. Are receiving reports used to control the receipt of purchases?

E. Are purchase orders, receiving reports and invoices reconciled before disbursements are authorized?

F. Can an oral request for acquisition of property, plant or equipment be accepted?

G. Are justifications for property, plant and equipment purchases based upon specific needs and objectives?

1. Is the functional use stated?
2. The estimated cost?

INTERNAL CONTROL QUESTIONNAIRE

YES NO

3. Proposed method of procurement?

H. List the written procedures, directives or manuals applicable to the Purchasing activity.

1. _____
2. _____
3. _____
4. _____

VI. Cash Disbursements/Accounts Payable

A. Are duties of persons responsible for approving disbursements, preparing checks, signing checks, receiving cash receipts and reconciling bank accounts adequately separated?

B. Is control established over incoming vendor invoices?

1. Are all invoices sent to one location for processing and payment?
2. Are original invoices perforated or otherwise marked to prevent duplicate payment?

C. Are all disbursements supported by evidence of receipt or performance?

D. Is the account to be charged entered on the invoice and checked against the P.O. or contract for proper classification?

E. Have procedures been established to assure that all invoices are scheduled for payment in a timely manner to avoid loss of discounts or payment of late charges?

F. Is a voucher system used?

1. Are issued checks cross referenced to vouchers?
2. Are unpaid vouchers totalled and reconciled to disbursement records?
3. Are vouchers and supporting documents cancelled to prevent reuse?

INTERNAL CONTROL QUESTIONNAIRE

YES NO

- G. Are checks controlled and accounted for (unused, returned and voided)?
- H. Are bank accounts reconciled monthly?
- I. Are two signatures required for all checks?
 - 1. If signature plates are used, are they properly safeguarded to avoid unauthorized use?
- J. Is authorization by railroad officials required to open or close all bank accounts of the company?
- K. List the written procedures, directives or manuals applicable to the Cash Disbursements/Accounts Payable activity.
 - 1. _____
 - 2. _____
 - 3. _____
 - 4. _____

VII. Payroll and Timekeeping

- A. Are rates of pay and payroll deductions supported by written authorizations in the employees' files?
- B. Are time cards or attendance sheets used to control charges to specific cost objectives or projects (work orders)?
 - 1. Do the time records account for all hours incurred in the period (e.g., regular time, leave, overtime)?
 - 2. Are time records approved by supervisors?
- C. Are there procedures to control overtime?
- D. Are actual cost rates used to assign costs to the labor distribution system?
- E. Are costs assigned to the labor distribution system checked for accuracy and reconciled to gross payroll?

INTERNAL CONTROL QUESTIONNAIRE

YES NO

By whom? _____

- _____
- F. Are there procedures and controls to identify and correct unusual amounts of unassigned time?
 - G. Are payroll charges compared to budgets for reasonableness?
 - H. Does the payroll system have controls to limit maximum amounts of individual checks?
 - I. Are these procedures to ensure that employees are paid in accordance with approved wage rates?
 - J. Is distribution of payroll checks made by persons other than those responsible for preparing checks?
 - K. Do internal or independent auditors periodically distribute payroll checks to determine that employees exist?
 - L. List the written procedures, directives or manuals applicable to the Payroll and Timekeeping activity.

- 1. _____
- 2. _____
- 3. _____
- 4. _____

ATTACHMENT B

A U D I T R E P O R T F O R M A T

February 15, 199X

J. D. Brown
Director of Audits
Illinois Department of Transportation
123 East Street
Springfield, Illinois 66666

In accordance with your request dated February 1, 199X we have completed our audit of the labor surcharges, material handling, equipment rental and transportation rate proposals as submitted by the A B C Railroad Company, Inc.

Attached are originals of Audit Report No. 123-456-789 and the audit working papers.

We would appreciate receiving a copy of the action taken in regard to your decisions on our audit report recommendations.

John Brown, Jr.
Utility/Railroad Auditor
Minnesota Department of Transportation

J. D. Smith
External Auditor
Missouri Department of Transportation

J. D. Smythe
Staff Auditor
Wisconsin Department of Transportation

(Audit Report Transmittal Letter - Audit Team to railroad company
home state Director of Audits)

AUDIT OF ABC RAILROAD COMPANY, INC.
 456 West Street
 Chicago, Illinois 77777

An audit of the labor surcharges, material handling, equipment rental and transportation rate proposals as submitted by the A B C Railroad Company, Inc. has been completed.

REPORT NUMBER 123-456-789
DATE COMPLETED February 14, 199X
Audited Period January 1, 199X to December 31, 199X
APPLICABLE PERIOD FOR
USE OF AUDITED RATES Calendar Year 199X
AUDIT PERFORMED BY

John Brown, Jr.
Utility/Railroad Auditor
Minnesota Department of Transportation

J. D. Smith
External Auditor
Missouri Department of Transportation

J. D. Smythe
Staff Auditor
Wisconsin Department of Transportation

(Audit Report Cover Sheet)

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(Audit Report Table of Contents)

I. INTRODUCTION:

Introduction should contain a brief description of the company, the states in which the company owns and uses track and company operating practices of note. (Operating practices should only be those which are pertinent to rates being audited. Example: Material inventory levels permitted by management and effect as reflected in material handling costs.)

A brief description of audit mission and circumstances that prompted need for the audit.

A brief summary of the importance of rates to the operation of company audited.

A brief summary of the importance of rates to the involvement of State and Federal governments with the company audited.

II. SCOPE, OPINION AND SUMMARY:

A. SCOPE OF AUDIT:

1. PURPOSE AND OBJECTIVE;

- a. Establish propriety of each of the several rates for use by the company in billing for work on State and/or Federal funded projects.

Document and evaluate all cost elements and procedures used to develop rates proposed.

Determine validity of all cost data incorporated within the several rates and the propriety of rate development formulas utilized.

- (3) Determine if State and Federal reimbursement policies are recognized and applied in the development of rate and to the cost data incorporated.

Determine quality of internal controls which are exercised in segregating and accumulating rate cost data.

- b. Determine quality of internal controls which are exercised in segregating and accumulating rate cost data.

2. RECORDS AND DATA EXAMINED:

- a. Identify books of account, records, documents and other cost data examined and applicable time periods.
- b. In order to accurately define the scope of audit work accomplished, identify any limitations to scope in any areas which normally would be examined during the course of a rate audit. (Auditor elective limitations of scope cannot be used to qualify the Audit Report Opinion Statement).
- c. Identify any work papers and schedules utilized which were prepared by the company and indicate the degree of reliance placed on such work papers and schedules.

3. COMPLIANCE STATEMENT:

Audit was performed in accordance with the Government Auditing Standards as promulgated by the Comptroller General of the United States and included such tests of procedures and accounting records as were considered necessary under the circumstances.

B. OPINION STATEMENT:

Objective of the Opinion Statement is to make clear the degree of responsibility the auditors are assuming with respect to the several rates and related costs which were subjected to audit.

Also, present opinions as to whether pertinent financial operations of the company are properly conducted, whether pertinent financial reports and records and the rate proposals were presented fairly, and whether the company has complied with State and Federal reimbursement policies in developing the rates and in applying costs incorporated.

Summarize the Opinion Statement as one of four possibilities: Unqualified, Qualified, Adverse or Disclaimer.

C. SUMMARY STATEMENT:

1 LABOR SURCHARGES:

a. Present results of audit in tabular summary form:

Show labor surcharge rates as proposed, rates as audited and any differences.

(2) Show cost data subtotals by category and the totals used to develop proposed rates, the subtotals and totals as audited and any differences.

Designate any differences which were noted only and not carried forward to other sections of the Audit Report.

b. Cross-reference differences in tabular summary to applicable findings and conclusions and recommendations in Parts III.A. and V.A. of Audit Report.

2. MATERIAL HANDLING RATE;

a. Present results of audit in tabular summary form:

Show material handling rates as proposed, rates as audited and any differences.

(2) Show cost data subtotals by category and the totals used to develop proposed rates, the subtotals and totals as audited and any differences.

(3) Designate any differences which were noted only and not carried forward to other sections of the Audit Report.

b. Cross-reference differences in tabular summary to applicable findings and conclusions and recommendations in Parts III.B. and V.B. of Audit Report.

3. EQUIPMENT RENTAL RATES:

a. Company Owned Equipment:

(1) Present results of audit in tabular summary form:

(a) Show equipment classifications and corresponding rates as proposed, class rates as audited and any differences.

(b) Show cost data subtotals by category, the totals and the usage data used to develop proposed rates for each equipment class: the subtotals, totals and usage data as audited for equipment class and any differences.

(c) Designate any differences which were noted only and not carried forward to other sections of the Audit Report.

Cross-reference differences in tabular summary to applicable findings and conclusions and recommendations in Parts III.C. and V.C. of Audit Report.

b. Leased Equipment:

- (1) Summarize audit findings concerning the treatment of leased equipment:

Relate how company will compute costs or rates for leased equipment.

Relate how operational costs and usage reporting for leased equipment are kept separate from such costs and reporting for company owned equipment or how such costs and usage are incorporated in rates for "owned" equipment under single rate concept.

- (2) Summarize determinations concerning propriety of any lease/purchase arrangements in relation to proposed rates for company owned equipment and in relation to procedures for billing costs or rates for leased equipment.

4. TRANSPORTATION RATE:

a. Present results of audit in tabular summary form:

- (1) Show transportation rate as proposed, rate as audited and any difference.
- (2) Show cost data subtotals by category and the totals used to develop proposed rate, the subtotals and totals as audited and any differences.
- (3) Show tonnage and mileage data used to develop proposed rate, the data as audited and any differences.
- (4) Designate any differences which were noted only and not carried forward to other sections of the Audit Report.

b. Cross-reference differences in tabular summary to applicable findings and conclusions and recommendations in Parts III.D. and V.D. of Audit Report.

5. OVERHEAD AND INDIRECT CONSTRUCTION COST RATE

a. Present results of audit in tabular summary form:

Show overhead and indirect construction surcharge rates as proposed, rates as audited and any differences.

Show cost data subtotals by category and the totals used to develop proposed rates, the subtotals and totals as audited and any differences.

(3) Designate any differences which were noted only and not carried forward to other sections of the Audit Report.

b. Cross reference differences in tabular summary to applicable findings and conclusions and recommendations in Parts III.A. and V.A. of Audit Report.

III. FINDINGS AND CONCLUSIONS:

A. LABOR SURCHARGE RATES:

- a. CAPTION - A descriptive caption should be devised to identify each finding.
- b. OPENING STATEMENT - A statement containing the essential facts necessary to provide a clear and concise presentation of a finding and its basic cause and effect.
- c. CONCLUSION - The necessary expansion and explanation of finding opening statement which will serve as the basis for auditors' conclusion concerning the finding.
 - (1) The audit finding disclosed.
 - (2) The audit criteria used in developing the finding.
 - (3) The basic cause.
 - (4) The effect of finding on proposal costs or element(s) of cost within proposal.

The response of responsible company officials to the finding. Be sure to include any anticipated or stated rebuttal.

Auditors' conclusion based on all of the information set out in the finding and discussion.

B. MATERIAL HANDLING RATE:

1. AUDIT FINDINGS:

- a. **CAPTION** - A descriptive caption should be devised to identify each finding.
- b. **OPENING STATEMENT** - A statement containing the essential facts necessary to provide a clear and concise presentation of a finding and its basic cause and effect.
- c. **CONCLUSION** - The necessary expansion and explanation of finding opening statement which will serve as the basis for auditors' conclusion concerning the finding.
 - (1) The audit finding disclosed.
 - (2) The audit criteria used in developing the finding.
 - (3) The basic cause
 - (4) The effect of finding on proposal costs or element(s) of cost within proposal.
 - (5) The response of responsible company officials to the finding. Be sure to include any anticipated or stated rebuttal.
 - (6) Auditors' conclusion based on all of the information set out in the finding and discussion.

C. EQUIPMENT RATES:

1. AUDIT FINDINGS:

- a. **CAPTION** - A descriptive caption should be devised to identify each finding.

- b. **OPENING STATEMENT** - A statement containing the essential facts necessary to provide a clear and concise presentation of a finding and its basic cause and effect.
- c. **CONCLUSION** - The necessary expansion and explanation of finding opening statement which will serve as the basis for auditors' conclusion concerning the finding.
 - 1) The audit finding disclosed.
The audit criteria used in developing the finding.
The basic cause.
 - (4) The effect of finding on proposal costs or element(s) of cost within proposal.
The response of responsible company officials to the finding. Be sure to include any anticipated or stated rebuttal.
Auditors' conclusion based on all of the information set out in the finding and discussion.

D. TRANSPORTATION RATE:

1. AUDIT FINDINGS:

- a. **CAPTION** - A descriptive caption should be devised to identify each finding.
- b. **OPENING STATEMENT** - A statement containing the essential facts necessary to provide a clear and concise presentation of a finding and its basic cause and effect.
- c. **CONCLUSION** - The necessary expansion and explanation of finding opening statement which will serve as the basis for auditors' conclusion concerning the finding.
 - The audit finding disclosed.
 - The audit criteria used in developing the finding.

The basic cause.

The effect of finding on proposal costs or element(s) of cost within proposal.

The response of responsible company officials to the finding. Be sure to include any anticipated or stated rebuttal.

Auditors' conclusion based on all of the information set out in the finding and discussion.

E. OVERHEAD AND INDIRECT CONSTRUCTION COST RATES

1. AUDIT FINDINGS:

- a. **CAPTION** - A descriptive caption should be devised to identify each finding.
- b. **OPENING STATEMENT** - A statement containing the essential facts necessary to provide a clear and concise presentation of a finding and its basic cause and effect.
- c. **CONCLUSION** - The necessary expansion and explanation of finding opening statement which will serve as the basis for auditors' conclusion concerning the finding.

The audit finding disclosed.

The audit criteria used in developing the finding.

The basic cause.

The effect of finding on proposal costs or element(s) of cost within proposal.

The response of responsible company officials to the finding. Be sure to include any anticipated or stated rebuttal.

Auditors' conclusion based on all of the information set out in the finding and discussion.

IV. AUDITORS' COMMENTS

Use this section to disclose any matters, which have a bearing on audit or future audits, that will not be discussed elsewhere in the Audit Report. Examples of the kind of information which might be presented include:

Minor findings disclosed during course of the audit which were resolved and incorporated within the audited figures shown on tabulation summaries, Part II. C. of Audit Report.

Information which will be useful in the performance and resolution of future rate audits.

Consideration and cooperation extended auditors by the company.

This section is optional. If there is no appropriate information to present, do not complete this section of the Audit Report; simply state - No Comments.

V RECOMMENDATIONS:

A. LABOR SURCHARGE RATES:

1. FINDING CAPTION - Reference Part III. A. 1. of the Audit Report.

Recommendation should be directly related to correcting the effect of the finding on the rate proposal as submitted by the company.

When necessary and/or possible present alternative solutions.

Be specific - cure the effect; correct the cause.

2. FINDING CAPTION - Reference Part III. A. 2. of Audit Report and etc.

B. MATERIAL HANDLING RATE:

1. FINDING CAPTION - Reference Part III. B. 1. of Audit Report.

Recommendation should be directly related to correcting the effect of the finding on the rate proposal as submitted by the company.

When necessary and/or possible present alternative solutions.

Be specific - cure the effect; correct the cause.

2. FINDING CAPTION - Reference Part III. B. 2. of Audit Report and etc.

C. EQUIPMENT RENTAL RATES:

- 1 FINDING CAPTION - Reference Part III. C. 1. of Audit Report.

Recommendation should be directly related to correcting the effect of the finding on the rate proposal as submitted by the company.

When necessary and/or possible present alternative solutions.

Be specific - cure the effect; correct the cause.

2. FINDING CAPTION - Reference Part III. C. 2. of the Audit Report and etc.

D. TRANSPORTATION RATE:

1. FINDING CAPTION - Reference Part III. D. 1. of the Audit Report.

Recommendation should be directly related to correcting the effect of the finding on the rate proposal as submitted by the company.

When necessary and/or possible present alternative solutions.

Be specific - cure the effect; correct the cause.

2. FINDING CAPTION - Reference Part III. D. 2. of the Audit Report and etc.

E. OVERHEAD AND INDIRECT CONSTRUCTION COST RATE:

1. FINDING CAPTION - Reference Part III. E. 1. of the Audit Report.

Recommendation should be directly related to correcting the effect of the finding on the rate proposal as submitted by the company.

When necessary and/or possible present alternative solutions.

Be specific - cure the effect; correct the cause.

2. FINDING CAPTION - Reference Part III. E. 2. of the Audit Report and etc.

VI. INDEX OF EXHIBITS TO AUDIT REPORT:

(Examples)

	Attachment
Rate Proposals As Submitted By Company	A.
Supporting Schedules and Other Pertinent Audit Information	B.
Audit Report References To Code And Regulatory Memoranda	C.

ATTACHMENT C

F H P M 1-4-3 (R E V I S E D A U G U S T 5, 1 9 8 8)



U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FEDERAL-AID HIGHWAY PROGRAM MANUAL

VOLUME	1	PAYMENT PROCEDURES
CHAPTER	4	REIMBURSEMENT
SECTION	3	REIMBURSEMENT FOR RAILROAD WORK

Transmittal 423
August 5, 1988
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- Par. 1. Purpose
 2. Authority
 3. Applicability
 4. Reimbursement Basis
 5. Labor Costs
 6. Overhead and Indirect Construction Costs
 7. Materials and Supplies
 8. Equipment
 9. Transportation
 10. Credits for Improvements
 11. Protection
 12. Maintenance and Extended Construction
 13. Lump Sum Payments
 14. Billings

1. PURPOSE. **To prescribe policies and procedures on reimbursement to the States for railroad work done on projects undertaken pursuant to the provisions of Volume 6, Chapter 6, Section 2, Subsection 1, of the Federal-Aid Highway Program Manual (FHPM).*
2. AUTHORITY. *23 U.S.C. 315; 49 CFR 1.48.*
3. APPLICABILITY. *This directive, and all references hereinafter made to "projects," applies to Federal-aid projects involving railroad facilities, including projects for the elimination of hazards of railroad-highway crossings, and other projects which use railroad properties or which involve adjustments required by highway construction to either railroad facilities or facilities that are jointly owned or used by railroad and utility companies.*

* Italicized material is published in 23 CFR 140I

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4. REIMBURSEMENT BASIS

a. General. On projects involving the elimination of hazards of railroad-highway crossings, and on other projects where a railroad company is not obligated to move or to change its facilities at its own expense, reimbursement will be made for the costs incurred by the State in making changes to railroad facilities as required in connection with a Federal-aid highway project, in accordance with the provisions of this directive.

b. Eligibility. To be eligible, the costs must be:

for work which is included in an approved program,

incurred subsequent to the date of authorization by the Federal Highway Administration (FHWA),

incurred in accordance with the provisions of Volume 6, Chapter 6, Section 2 of the FHPM, and

(4) properly attributable to the project.

5. LABOR COSTS

a. General

(1) Salaries and wages, at actual or average rates, and related expenses paid by a company to individuals for the time they are working on the project, are reimbursable when supported by adequate records. This shall include labor associated with preliminary engineering, construction engineering, right-of-way, and force account construction.

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Salaries and expenses paid to individuals who are normally part of the overhead organization of the company may be reimbursed for the time they are working directly on the project, such as for accounting and bill preparation, when supported by adequate records and when the work performed by such individuals is essential to the project and could not have been accomplished as economically by employees outside the overhead organization.

Amounts paid to engineers, architects and others for services directly related to projects may be reimbursed.

b. Labor Surcharges

Labor surcharges include worker compensation insurance, public liability and property damage insurance, and such fringe benefits as the company has established for the benefit of its employees. The cost of labor surcharges will be reimbursed at actual cost to the company or a company may, at its option, use an additive rate or other similar technique in lieu of actual costs provided that (a) the rate is based on historical cost data of the company, (b) such rate is representative of actual costs incurred, (c) the rate is adjusted at least annually taking into consideration known anticipated changes and correcting for any over or under applied costs for the preceding period, and (d) the rate is approved by the State and FHWA.

Where the company is a self-insurer there may be reimbursement at experience rates properly developed from actual costs, not to exceed the rates of a regular insurance company for the class of employment covered.

6. OVERHEAD AND INDIRECT CONSTRUCTION COSTS

- a. A State may elect to reimburse the railroad company for its overhead and indirect construction costs.

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- b. The FHWA will participate in these costs provided that:
- (1) the costs are distributed to all applicable work orders and other functions on an equitable and uniform basis in accordance with generally accepted accounting principles,
 - (2) the costs included in the distribution are limited to costs actually incurred by the railroad,
 - (3) the costs are eligible in accordance with the Federal Acquisition Regulation (48 CFR), Part 31, Contract Cost Principles and Procedures, relating to contracts with commercial organizations,
 - (4) the costs are considered reasonable,
 - (5) records are readily available at a single location which adequately support the costs included in the distribution, the method used for distributing the costs, and the basis for determining additive rates,
 - (6) the rates are adjusted at least annually taking into consideration any overrecovery or underrecovery of costs, and
 - (7) the railroad maintains written procedures which assure proper control and distribution of the overhead and indirect construction costs.

7. MATERIALS AND SUPPLIES

- a. Procurement. Materials and supplies, if available, are to be furnished from company stock, except they may be obtained from other sources near the project site when available at less cost. Where not available from company stock, they may be purchased either under competitive bids or existing continuing

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contracts, under which the lowest available prices are developed. Minor quantities and proprietary products are excluded from these requirements. The company shall not be required to change its existing standards for materials used in permanent changes to its facilities.

b. Costs

Materials and supplies furnished from company stock shall be billed at current stock price of such new or used material at time of issue.

Materials and supplies not furnished from company stock shall be billed at actual costs to the company delivered to the point of entry on the railroad company's line nearest the source of procurement.

A reasonable cost of plant inspection and testing may be included in the costs of materials and supplies where such expense has been incurred. The computation of actual costs of materials and supplies shall include the deduction of all offered discounts, rebates, and allowances.

c. Materials Recovered

Materials recovered from temporary use and accepted for reuse by the company shall be credited to the project at prices charged to the job, less a consideration for loss in service life at 10 percent for rails, angle bars, tie plates, and metal turnout materials and 15 percent for all other materials.

Materials recovered from the permanent facility of the company that are accepted by the company for return to stock shall be credited to the project at current stock prices of such used material.

Materials recovered and not accepted for reuse by the company, if determined to have a net sale value, shall be sold by the State or railroad following an opportunity for State

inspection and appropriate solicitation for bids, to the highest bidder; or if the company practices a system of periodic disposal by sale, credit to the project shall be at the going prices supported by the records of the company. Where applicable, credit for materials recovered from the permanent facility in length or quantities in excess of that being placed should be reduced to reflect any increased cost of railroad operation resulting from the adjustment.

- d. Removal Costs. Federal participation in the costs of removing, salvaging, transporting, and handling recovered materials will be limited to the value of materials recovered, except where FHWA approves additional measures for restoration of affected areas as required by the physical construction or by reason of safety or aesthetics.
- e. Handling Costs. The actual and direct costs of handling and loading out of materials and supplies at and from company stores or material yards and of unloading and handling of recovered materials accepted by the company at its stores or materials yards, are reimbursable. At the option of the company, 5 percent of the amounts billed for the materials and supplies which are issued from company stores and material yards will be reimbursable in lieu of actual costs.
- f. Credit Losses. On projects where a company actually suffers loss by application of credits, the company shall have the opportunity of submitting a detailed statement of such loss as a basis for further adjustment.

8. EQUIPMENT

- a. Company-Owned Equipment. Cost of company-owned equipment may be reimbursed for the average or actual cost of operation, light and running repairs, and depreciation, or at industry rates representative of actual costs as agreed to by the

railroad, State and FHWA. Reimbursement for company-owned vehicles may be made at average or actual costs or at rates of recorded use per mile which are representative of actual costs and agreed to by the company, State and FHWA.

- b. Other Equipment. Where company-owned equipment is not available, reimbursement will be limited to the amount of rental paid (1) to the lowest qualified bidder, (2) under existing continuing contracts at reasonable cost, or (3) as an exception, by negotiation where (1) and (2) are impractical due to project location or schedule.

9. TRANSPORTATION

- a. Employees. The company's cost of necessary employee transportation and subsistence directly attributable to the project, which is consistent with overall policy of the company, is reimbursable.
- b. Materials, Supplies, and Equipment. The most economical movement of materials, supplies, and equipment to the project and necessary return to storage, including the associated costs of loading and unloading equipment, is reimbursable. Transportation by a railroad company over its own lines in a revenue train is reimbursable at average or actual costs, at rates which are representative of actual costs, or at rates which the company charges its customers for similar shipments provided the rate structure is documented and available to the public. These rates are to be agreed to by the company, State and FHWA. No charge will be made for transportation by work train other than the operating expenses of the work train. When it is more practicable or more economical to move equipment on its own wheels, reimbursement may be made at average or actual costs or at rates which are representative of actual costs and are agreed to by the railroad, State and FHWA.

10. CREDITS FOR IMPROVEMENTS

- a. Credit shall be made to the project for additions or improvements which provide for higher quality or increased service capability of the operating facility and which are provided solely for the benefit of the company.
- b. Where buildings and other depreciable structures of a company which are integral to operation of rail traffic must be replaced, credit shall be made to the project as set forth in paragraph 9c(2) of Volume 6, Chapter 6, Section 2, Subsection 1, of the FHPM.
- c. No credit is required for additions or improvements which are:

Necessitated by the requirements of the highway project.

Replacements which, although not identical, are of equivalent standard.

Replacements of devices or materials no longer regularly manufactured and the next highest grade or size is used.

Required by governmental and appropriate regulatory commission requirements.

- 11. **PROTECTION.** The cost of essential protective services which, in the opinion of a railroad company, are required to ensure safety to railroad operations during certain periods of the construction of a project, is reimbursable provided an item for such services is incorporated in the State-Railroad Agreement or in a work order issued by the State and approved by FHWA.
- 12. **MAINTENANCE AND EXTENDED CONSTRUCTION.** The cost of maintenance and extended construction is reimbursable to the extent provided for in paragraph 9f(5) of Volume 6, Chapter 6, Section 2, Subsection 1, of the FHPM and where included in the State-Railroad Agreement or otherwise approved by the State and FHWA.

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13. LUMP SUM PAYMENTS. Where approved by FHWA, pursuant to paragraph 9d(3) of Volume 6, Chapter 6, Section 2, Subsection 1, of the FHPM, reimbursement may be made as a lump sum payment, in lieu of actual costs.
14. BILLINGS
- a. After the executed State-Railroad Agreement has been approved by FHWA, the company may be reimbursed on progress billings of incurred costs. Costs for materials stockpiled at the project site or specifically purchased and delivered to the company for use on the project may be reimbursed on progress billings following approval of the executed State-Railroad Agreement or the written agreement under paragraph 10b of Volume 6, Chapter 6, Section 2, Subsection 1 of the FHPM.
 - b. The company shall provide one final and complete billing of all incurred costs, or of the agreed-to lump sum, at the earliest practicable date. The final billing to FHWA shall include a State certification that the work is complete, acceptable and in accordance with the terms of the agreement.
 - c. All company cost records and accounts relating to the project are subject to audit by representatives of the State and/or the Federal Government for a period of 3 years from the date final payment has been received by the company.
 - d. A railroad company must advise the State promptly of any outstanding obligation of the State's contractor for services furnished by the company such as protective services.

ATTACHMENT D

FHPM 6-6-2-1 (REVISED APRIL 24, 1984)

U. S. DEPARTMENT OF TRANSPORTATION		
FEDERAL HIGHWAY ADMINISTRATION		
FEDERAL-AID HIGHWAY PROGRAM MANUAL		
VOLUME	6	ENGINEERING AND TRAFFIC OPERATIONS
CHAPTER	6	RAILROADS AND UTILITIES
SECTION	2	RAILROADS
SUBSECTION	1	RAILROAD-HIGHWAY PROJECTS

Transmittal 374
April 24, 1984
HNG-12

- Par. 1. Purpose and Applicability
- 2. Authority
- 3. Definitions
- 4. Types of Projects
- 5. Funding
- 6. Classification of Projects and Railroad Share of the Cost
- 7. Federal Share
- 8. Design
- 9. General Procedures
- 10. Simplified Procedure for Accelerating Grade Crossing Improvements
- 11. Alternate Federal-State Procedure

1. PURPOSE AND APPLICABILITY

- a. **To prescribe policies and procedures for advancing Federal-aid projects involving railroad facilities.*
- b. *This directive, and all references hereinafter made to "projects," applies to Federal-aid projects involving railroad facilities, including projects for the elimination of hazards of railroad-highway crossings, and other projects which use railroad properties or which involve adjustments required by highway construction to either railroad facilities or facilities that are jointly owned or used by railroad and utility companies.*

**Italicized material is published in 23 CFR 646B.*

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Sec. 2, Subsec. 1

- c. Additional instructions for projects involving the elimination of hazards of railroad-highway grade crossings pursuant to 23 U.S.C. 405 and Section 203 of the Highway Safety Act of 1973 are set forth in Volume 8, Chapter 2, Section 3, of the Federal-Aid Highway Program Manual (FHPM).
 - d. Procedures on reimbursement for projects undertaken pursuant to this directive are set forth in Volume 1, Chapter 4, Section 3, of the FHPM.
 - e. Procedures on insurance required of contractors working on or about railroad right-of-way are set forth in Volume 6, Chapter 6, Section 2, Subsection 2, of the FHPM.
 - f. Audit requirements for work undertaken pursuant to this directive which is not accomplished under competitive bidding procedures are set forth in Volume 1, Chapter 7, Section 2, of the FHPM.
2. AUTHORITY. 23 U.S.C. 109(e), 120(d), 130, 315, and 405; 49 CFR 1.48(b).
3. DEFINITIONS. For the purposes of this directive, the following definitions apply:
- a. Railroad - all rail carriers, publicly owned, private, and common carriers, including line haul freight and passenger railroads, switching and terminal railroads and passenger carrying railroads such as rapid transit, commuter and street railroads.
 - b. Utility - the lines and facilities for producing, transmitting or distributing communications, power, electricity, light, heat, gas, oil, water, steam, sewer and similar commodities.
 - c. Company - any railroad or utility company including any wholly owned or controlled subsidiary thereof.

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- d. "G" Funds - those Federal-aid highway funds which, pursuant to 23 U.S.C. 120(d), may be used for projects for the elimination of hazards of railroad-highway crossings not to exceed 10 percent of Federal-aid funds apportioned in accordance with 23 U.S.C. 104.
- e. Preliminary Engineering - the work necessary to produce construction plans, specifications, and estimates to the degree of completeness required for undertaking construction thereunder, including locating, surveying, designing, and related work.
- f. Construction - the actual physical construction to improve or eliminate a railroad-highway grade crossing or accomplish other railroad involved work.
- g. A Diagnostic Team - a group of knowledgeable representatives of the parties of interest in a railroad-highway crossing or a group of crossings. The team will generally include a representative of the railroad(s) operating the tracks at the crossing(s), the Federal Highway Administration (FHWA), the State highway agency, and any other State agency or political subdivision exercising jurisdiction over the crossing(s) involved.
- n. Main Line Railroad Track - a track of a principal line of a railroad, including extensions through yards, upon which trains are operated by timetable or train order or both, or the use of which is governed by block signals or by centralized traffic control.
- i. Passive Warning Devices - those types of traffic control devices, including signs, markings and other devices, located at or in advance of grade crossings to indicate the presence of a crossing but which do not change aspect upon the approach or presence of a train.

Active Warning Devices - those traffic control devices activated by the approach or presence of a train, such as flashing light signals, automatic gates and similar devices, as well as manually operated devices and crossing watchmen, all of which display to motorists positive warning of the approach or presence of a train.

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4. TYPES OF PROJECTS

- a. *Projects for the elimination of hazards, to both vehicles and pedestrians, of railroad-highway crossings may include but are not limited to:*

Grade crossing elimination by:

- (a) new grade separations
- (b) relocation of highways
- (c) relocation of railroads
- (d) crossing closure without other construction

Reconstruction of existing grade separations

Grade crossing improvement by:

- (a) installation of standard signs and pavement markings
- (b) installation or replacement of active warning devices
- (c) upgrading of active warning devices, including track circuit improvements and interconnection with highway traffic signals
- (d) crossing illumination
- (e) crossing surface improvements
- (f) general site improvements

- b. *Other railroad-highway projects are those which use railroad properties or involve adjustments to railroad facilities required by highway construction but do not involve the elimination of hazards of railroad-highway crossings. Also included are adjustments to facilities that are jointly owned or used by railroad and utility companies.*

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5. FUNDING

- a. Federal-aid funding for projects which involve the elimination of hazards of railroad-highway crossings may, at the option of the State, be provided through one of the following alternative methods, within the qualifications prescribed for each:

"G" funding, as provided by 23 U.S.C. 120(d) and 130,

regular pro rata sharing as provided by 23 U.S.C. 120(a) and 120(c), and

funding authorized by 23 U.S.C. 405 and Section 203 of the Highway Safety Act of 1973.

- b. The adjustment of railroad facilities which does not involve the elimination of hazards of railroad-highway crossings may be funded through regular pro rata sharing, as provided by 23 U.S.C. 120(a) and (c).

6. CLASSIFICATION OF PROJECTS AND RAILROAD SHARE OF THE COST

- a. State laws requiring railroads to share in the cost of work for the elimination of hazards at railroad-highway crossings shall not apply to Federal-aid projects.
- b. Pursuant to 23 U.S.C. 130(b), and 49 CFR 1.48:
- (1) Projects for grade crossing improvements are deemed to be of no ascertainable net benefit to the railroads and there shall be no required railroad share of the costs.
 - (2) Projects for the reconstruction of existing grade separations are deemed to generally be of no ascertainable net benefit to the railroads and there shall be no required railroad share of the costs, unless the railroad has a specific contractual obligation with the State or its political subdivision to share in the costs.

- (3) On projects for the elimination of existing grade crossings at which active warning devices are in place or ordered to be installed by a State regulatory agency, the railroad share of the project costs shall be 5 percent.

On projects for the elimination of existing grade crossings at which active warning devices are not in place and have not been ordered installed by a State regulatory agency, or on projects which do not eliminate an existing crossing, there shall be no required railroad share of the project cost.

- c. The required railroad share of the cost under paragraph 6b(3) shall be based on the costs for preliminary engineering, right-of-way and construction within the limits described below:

Where a grade crossing is eliminated by grade separation, the structure and approaches required to transition to a theoretical highway profile which would have been constructed if there were no railroad present, for the number of lanes on the existing highway and in accordance with the current design standards of the State highway agency.

- (2) Where another facility, such as a highway or waterway, requiring a bridge structure is located within the limits of a grade separation project, the estimated cost of a theoretical structure and approaches as described in paragraph 6c(1) to eliminate the railroad-highway grade crossing without considering the presence of the waterway or other highway.

- (3) Where a grade crossing is eliminated by railroad or highway relocation, the actual cost of the relocation project, or the estimated cost of a structure and approaches as described in paragraph 6c(1), whichever is less.

- d. Railroads may voluntarily contribute a greater share of project costs than is required. Also other parties may voluntarily assume the railroad's share.

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7 FEDERAL SHARE

a. General

Federal funds are not eligible to participate in costs incurred solely for the benefit of the railroad.

At grade separations Federal funds are eligible to participate in costs to provide space for more tracks than are in place when the railroad establishes to the satisfaction of the State highway agency and FHWA that it has a definite demand and plans for installation of the additional tracks within a reasonable time.

- (3) The Federal share of the cost of a grade separation project shall be based on the cost to provide horizontal and/or vertical clearances used by the railroad in its normal practice subject to limitations as shown in Attachment 1 or as required by a State regulatory agency.

b. "G" Funds

- (1) The Federal share of the cost of a "G" funded project may be up to 100 percent of the cost of preliminary engineering and construction and 75 percent of the cost of right-of-way and property damage, except that the Federal share shall be reduced by the amount of any required railroad share of the cost.
- (2) Projects for the elimination of hazards of railroad-highway crossings, either by crossing elimination, improvement, or the reconstruction of existing grade separations, as described in paragraph 4a are eligible for "G" funding subject to the following limitations:

For a new or reconstructed grade separation, the entire structure or structures and necessary highway and railroad approaches to accommodate both vehicular and pedestrian traffic.

Where another facility, such as a highway or waterway requiring a bridge structure, is located within the limits of a grade separation project, the estimated cost and limits of work for a theoretical structure and necessary approaches as in paragraph 7b(2)(a) without considering the presence of the waterway or other highway.

For railroad or highway relocation the actual cost of the relocation project or the estimated cost of a theoretical structure and necessary approaches to eliminate the grade crossing(s) as in paragraph 7b(2)(a), whichever is less.

Grade crossing improvements in the vicinity of the crossing and related work, including construction or reconstruction of the approaches as necessary to provide an acceptable transition to existing or improved highway gradients and alignments, and advance warning devices.

8. DESIGN

a. General

- (1) Facilities that are the responsibility of the railroad for maintenance and operation shall conform to the specifications and design standards used by the railroad in its normal practice, subject to approval by the State highway agency and FHWA. These facilities shall comply with applicable Federal, State, and local laws, regulations, codes, and standards and should, as a minimum, meet the specifications and design standards of the American Railway Engineering Association and the AAR.

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Facilities that are the responsibility of the highway agency for maintenance and operation shall conform to the specifications and design standards and guides used by the highway agency in its normal practice, subject to approval by FHWA. These facilities should, as a minimum, meet the specifications and design standards and guides issued or concurred in by AASHTO.

b. Grade Crossing Improvements

All traffic control devices proposed shall comply with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways supplemented to the extent applicable by State standards.

Pursuant to 23 U.S.C. 109(e), where a rail-road-highway grade crossing is located within the limits of or near the terminus of a Federal-aid highway project for construction of a new highway or improvement of the existing roadway, the crossing shall not be opened for unrestricted use by traffic or the project accepted by FHWA until adequate warning devices for the crossing are installed and functioning properly.

- (3) "Adequate warning devices," under paragraph 8b(2) or on any project where Federal-aid funds participate in the installation of the devices are to include automatic gates with flashing light signals when one or more of the conditions listed in Attachment 2 exist.
- (4) For crossings where the requirements of paragraph 8b(3) are not applicable, the type of warning device to be installed, whether the determination is made by a State regulatory agency, State highway agency, and/or the railroad, is subject to the approval of FHWA.

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c. Grade Crossing Elimination

All crossings of railroads and highways at grade shall be eliminated where there is full control of access on the highway (a freeway) regardless of the volume of railroad or highway traffic.

When initiating a project to eliminate a grade crossing of a highway and a low traffic volume railroad line, the State highway agency should determine if abandonment of the railroad line is probable within a reasonable time.

9. GENERAL PROCEDURES

a. General. Unless specifically modified herein, otherwise applicable Federal-aid procedures govern projects undertaken pursuant to this directive.

b. Preliminary Engineering and Engineering Services

(1) As mutually agreed to by the State highway agency and railroad, and subject to the provisions of paragraph 9b(2), preliminary engineering work on railroad-highway projects may be accomplished by one of the following methods:

- (a) the State or railroad's engineering forces,
- (b) an engineering consultant selected by the State after consultation with the railroad, and the State administering the contract,
- (c) an engineering consultant selected by the railroad, with the approval of the State and with the railroad administering the contract.

(2) Where a railroad is not adequately staffed, Federal-aid funds may participate in the amounts paid to engineering consultants and others for required services, provided such amounts are not based on a percentage of the cost of construction, either under

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contracts for individual projects or under existing written continuing contracts where such work is regularly performed for the railroad in its own work under such contracts at reasonable costs. It is expected the State and railroad will insofar as practicable, follow the procedures set out in Volume 1, Chapter 7, Section 2, of the FHPM regarding the use of consultants. The Division Administrator should forego preaward review and/or approval of any proposed consultant contract which is not expected to exceed \$5,000 unless the State specifically requests preaward assistance.

c. Rights-of-Way

Acquisition of right-of-way by a State highway agency on behalf of a railroad or acquisition of nonoperating real property from a railroad shall be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. 4601 et seq.) and applicable FHWA right-of-way procedures in Volume 7 of the FHPM. On projects for the elimination of hazards of railroad-highway crossings by the relocation of railroads, acquisition of replacement right-of-way by a railroad shall be in accordance with 42 U.S.C. 4601 et seq.

Where buildings and other depreciable structures of the railroad (such as signal towers, passenger stations, depots, and other buildings and equipment housings) which are integral to operation of railroad traffic are

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wholly or partly affected by a highway project, the costs of work necessary to functionally restore such facilities are eligible for participation. However, when replacement of such facilities is necessary, credits shall be made to the cost of the project for:

Accrued depreciation, which is that amount based on the ratio between the period of actual length of service and total life expectancy applied to the original cost.

Additions or improvements which provide higher quality or increased service capability of the facility and which are provided solely for the benefit of the railroad.

Actual salvage value of the material recovered from the facility being replaced.

(d) Total credits to a project shall not be required in excess of the replacement cost of the facility.

(3) Replacement right-of-way to be acquired by or on behalf of a railroad may be programmed and authorized either as an expense incidental to the cost of construction, or as a part of the right-of-way acquisition phase of either the highway project as a whole or a separate railroad project. The valuation of replacement right-of-way acquisition by a railroad may consist of appraisals by qualified railroad employees or independent appraisers. Sound valuation and acquisition practices are to be followed and the railroad should, by its records, be in a position to justify amounts paid for such right-of-way. Where Federal funds participate in the cost of replacement right-of-way, there will be no charge to the project for the railroad's existing right-of-way being transferred to the State highway agency except when

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the value of the right-of-way being taken exceeds the value of the replacement right-of-way. In these cases, Federal participation should reflect offsetting benefits to the railroad such as reduced maintenance and operating costs.

Federal funds are eligible to participate in costs incurred by a railroad incident to the acquisition of right-of-way. These expenses may include such items as: salaries and expenses of railroad employees while engaged in the appraisal of and negotiation for such right-of-way, amounts paid independent appraisers for appraisals of such right-of-way, recording costs, deed fees, and similar costs normally paid incident to land acquisition.

d. State-Railroad Agreements

Where construction of a Federal-aid project requires use of railroad properties or adjustments to railroad facilities, there shall be an agreement in writing between the State highway agency and the railroad company. No special form of written agreement is prescribed. Such agreement usually consists of a formal document signed by officers who are authorized to bind the parties thereto, but in appropriate cases, it may consist of an exchange of correspondence which fully sets forth all the essential terms and conditions and bears the endorsements of both parties.

(2) The written agreement between the State and the railroad shall, as a minimum include the following, where applicable:

(a) The regulatory provisions of this subsection and of Volume 1, Chapter 4, Section 3, of the FHPM incorporated by reference,

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a detailed statement of the work to be performed by each party,

method of payment (either actual cost or lump sum),

for projects which are not for the elimination of hazards of railroad-highway crossings, the extent to which the railroad is obligated to move or adjust its facilities at its own expense.

the railroad's share of the project cost,

an itemized estimate of the cost of the work to be performed by the railroad (see Attachments 4 and 5, as appropriate, for examples),

method to be used for performing the work, either by railroad forces or by contract,

- (h) maintenance responsibility,
- (i) form, duration, and amounts of any needed insurance,
- (j) appropriate reference to or identification of plans and specifications,
- (k) statements defining the conditions under which the railroad will provide or require protective services during performance of the work, the type of protective services and the method of reimbursement to the railroad, and
- () provisions regarding inspection of any recovered materials.

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On work to be performed by the railroad with its own forces and where the State highway agency and railroad agree, subject to approval by FHWA, an agreement providing for a lump sum payment in lieu of later determination of actual costs may be used for any of the following:

- (a) installation or improvement of grade crossing warning devices and/or grade crossing surfaces, regardless of cost, or
- (b) any other eligible work where the estimated cost to the State of the proposed railroad work does not exceed \$25,000, or
- (c) where FHWA Headquarters finds that the circumstances are such that this method of developing costs would be in the best interest of the public.

Where the lump sum method of payment is used periodic reviews and analyses of the railroad's methods and cost data used to develop lump sum estimates will be made.

Master agreements between a State and a railroad on an areawide or statewide basis may be used. These agreements would contain the specifications, regulations, and provision required in conjunction with work performed on all projects. Supporting data for each project or group of projects must, when combined with the master agreement by reference satisfy the provisions of paragraph 9d(2).

Official orders issued by regulatory agencies will be accepted in lieu of State-railroad agreements only where, together with supplementary written understandings between the State and the railroad, they include the items required by paragraph 9d(2).

- (7) In extraordinary cases where FHWA Headquarters finds that the circumstances are such that requiring such agreement or order would not be in the best interest of the public, projects may be approved for construction with the aid of Federal funds, provided satisfactory commitments have been made with respect to construction, maintenance, and the railroad share of project costs.

e. Authorizations

- (1) The costs of preliminary engineering, right-of-way acquisition, and construction incurred after the date each phase of the work is included in an approved program and authorized by FHWA are eligible for Federal-aid participation. Preliminary engineering and right-of-way acquisition costs which are otherwise eligible, but incurred by a railroad prior to authorization by FHWA, although not reimbursable, may be included as part of the railroad share of project cost where such is required.
- (2) Prior to issuance of authorization by FHWA either to advertise the physical construction for bids or to proceed with force account construction, for railroad work or for other construction affected by railroad work, the following must be accomplished:
- the plans, specifications, and estimates must be approved by FHWA,
 - a proposed agreement between the State and railroad must be found satisfactory by FHWA. Before Federal funds may be used to reimburse the State for railroad costs, the executed agreement must be approved by FHWA. However, cost for materials stockpiled at the project site or specifically purchased and delivered to the company for use on the project may be reimbursed on progress billings prior to the approval of the executed State-Railroad Agreement in accordance with FHPM 1-4-3 and paragraph 10 of this directive.

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adequate provision must be made for any needed easements, right-of-way, temporary crossings for construction purposes or other property interests, and

- (d) the pertinent portions of the State-Railroad Agreement applicable to any protective services required during performance of the work must be included in the project specifications and special provisions for any construction contract.
- (3) In unusual cases, pending compliance with paragraphs 9e(2), (b), (c), and (d), authorization may be given by FHWA to advertise for bids for highway construction under conditions where a railroad grants a right-of-entry to its property as necessary to prosecute the physical construction.

f Construction

- (1) Construction may be accomplished by:

railroad force account,

contracting with the lowest qualified bidder based on appropriate solicitation,

existing continuing contracts at reasonable costs, or

contract without competitive bidding, for minor work, at reasonable costs.

- (2) Reimbursement will not be made for any increased costs due to changes in plans (a) for the convenience of the contractor, or (b) not approved by the State and FHWA.
- (3) The railroad should notify the State in writing (a) when work will commence, and (b) when work is completed.

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The State and FHWA shall be afforded a reasonable opportunity to inspect materials recovered by the railroad prior to disposal by sale or scrap. This requirement will be satisfied by the railroad giving written notice, or oral notice with prompt written confirmation, to the State of the time and place where the materials will be available for inspection. The giving of notice is the responsibility of the railroad, and it may be held accountable for full value of materials disposed of without notice.

In addition to normal construction costs, the following construction costs are eligible for participation with Federal-aid funds when approved by the State and FHWA:

- (a) The cost of maintaining temporary facilities of a railroad company required by and during the highway construction to the extent that such costs exceed the documented normal costs of maintaining the permanent facilities.*
- (b) The cost of stage or extended construction involving grade corrections and/or slope stabilization for permanent tracks of a railroad which are required to be relocated on new grade by the highway construction. Such costs should generally be limited to the first 24-month period of operation of the company's revenue trains on the relocated tracks and to those costs in excess of the cost of normal maintenance which would have been incurred had the old permanent track remained in service. Stage or extended construction will be approved by FHWA only when documentation submitted by the State establishes the proposed method of construction to be the only practical method and that the cost of the extended construction within the period specified is estimated to be less than the cost of any practicable*

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alternate procedure. Participation in costs of grade corrections and slope stabilization should not exceed the amount set up for the items in the estimate portion of the State/railroad agreement without approval by FHWA.

The cost of restoring the company's service by adjustments of existing facilities away from the project site, in lieu of and not to exceed the cost of replacing, adjusting, or relocating facilities at the project site.

The cost of an addition or improvement to an existing railroad facility which is required by the highway construction.

10. SIMPLIFIED PROCEDURE FOR ACCELERATING GRADE CROSSING IMPROVEMENTS. The following procedure is encouraged for use in simplifying and accelerating the processing of single or multiple grade crossing improvements:
- a. Eligible preliminary engineering costs may include those incurred in selecting crossings to be improved, determining the type of improvement for each crossing, estimating the cost and preparing the required agreement.
 - b. The written agreement between a State and a railroad shall contain as a minimum:
 - (1) identification of each crossing location.
 - (2) description of improvement and estimate of cost for each crossing location (see Attachment 6 for example).
 - (3) estimated schedule for completion of work at each location.
 - c. Following programming, authorization, and approval of the agreement under paragraph 10b, FHWA may authorize construction, including acquisition of warning device materials, with the condition that work at any particular location will not be undertaken until the proposed or executed State-railroad agreement under paragraph 9d(2)

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is found satisfactory by FHWA and the final plans, specifications, and estimates are approved and with the condition that only material actually incorporated into the project will be eligible for Federal participation.

- d. Work programmed and authorized under this simplified procedure should include only that which can reasonably be expected to reach the construction stage within one year and be completed within two years after the initial authorization date.

11. ALTERNATE FEDERAL-STATE PROCEDURE

- a. On other than Interstate projects, an alternate procedure may be used, at the election of the State, for processing certain types of railroad-highway work. Under this procedure, the State highway agency will act in the relative position of FHWA for reviewing and approving projects.
- b. The scope of the State's approval authority under the alternate procedure includes all actions necessary to advance and complete the following types of railroad-highway work:
 - All types of grade crossing improvements under paragraph 4a(3).
 - Minor adjustments to railroad facilities under paragraph 4b.
- c. The following types of work are to be reviewed and approved in the normal manner, as prescribed elsewhere in this directive.
 - All projects under paragraphs 4a(1) and (2).
 - Major adjustments to railroad facilities under paragraph 4b.
- d. Any State wishing to adopt the alternate procedure may file a formal application for approval by FHWA. The application must include the following:

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The State's written policies and procedures for administering and processing Federal-aid railroad-highway work, which make adequate provisions with respect to all of the following:

- (a) Compliance with the provisions of Title 23, U.S.C., Title 23 CFR, and other applicable Federal laws and Executive Orders.
- (b) Compliance with the regulatory provisions of this subsection and the regulatory provisions of Volume 1, Chapter 4, Section 3, and of Volume 1, Chapter 7, Section 2, of the FHPM.
- (c) For grade crossing safety improvements, compliance with the requirements of Volume 8, Chapter 2, Section 3, (Highway Safety Improvement Program) of the FHPM.

A statement signed by the Chief Administrative Officer of the State highway agency certifying that:

- (a) The work will be done in accordance with the applicable provisions of the State's policies and procedures submitted under paragraph 11d(1), and
 - (b) reimbursement will be requested in only those costs properly attributable to the highway construction and eligible for Federal fund participation.
- e. The State's application, or changes thereto, along with the FHWA Division Administrator's recommendations, will be reviewed and, if satisfactory approved by the Regional Administrator.
 - f. When FHWA has approved the alternate procedure, it may authorize the State to proceed in accordance with the State's certification, subject to the following conditions:

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The work has been programmed.

The State submits in writing a request for such authorization which shall include a list of the improvements or adjustments to be processed under the alternate procedure, along with the best available estimate of cost.

- g. Periodically, the FHWA Division Administrator shall review and evaluate the State's procedures and practices under the alternate procedure and submit a written report to the FHWA Regional Administrator, with a copy to Washington Headquarters.*
- h. The FHWA Regional Administrator may suspend approval of the certified procedure, where FHWA reviews disclose noncompliance with the certification. Federal-aid funds will not be eligible to participate in costs that do not qualify under paragraph 11d(1).*
- i. A copy of the approved alternated procedures and related actions shall be furnished by the Division Administrator to the Regional Administrator and to FHWA Headquarters.*

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ATTACHMENT 1

HORIZONTAL AND VERTICAL CLEARANCE PROVISIONS
FOR OVERPASS AND UNDERPASS STRUCTURES

The following implements provisions of paragraph 7a(3).

a. Lateral Geometrics

A cross section with a horizontal distance of 20 feet, measured at right angles from the centerline of track at the top of rails, to the face of the embankment slope, may be approved. The 20-foot distance may be increased at individual structure locations as appropriate to provide for drainage if justified by a hydraulic analysis or to allow adequate room to accommodate special conditions, such as where heavy and drifting snow is a problem. The railroad must demonstrate that this is its normal practice to address these special conditions in the manner proposed. Additionally, this distance may also be increased up to 8 feet as may be necessary for off-track maintenance equipment, provided adequate horizontal clearance is not available in adjacent spans and where justified by the presence of an existing maintenance road or by evidence of future need for such equipment. All piers should be placed at least 9 feet horizontally from the centerline of the track and preferably beyond the drainage ditch. For multiple track facilities, all dimensions apply to the centerline of the outside track.

Any increase above the 20-foot horizontal clearance distance must be required by specific site conditions and be justified by the railroad to the satisfaction of the State highway agency (SHA) and the FHWA.

b. Vertical Clearance

A vertical clearance of 23 feet above the top of rails, which includes an allowance for future ballasting of the railroad tracks, may be approved. Vertical clearance greater than 23 feet may be approved when the State regulatory agency having jurisdiction over such matters requires a vertical clearance in excess of 23 feet or on a site by site basis where justified by the railroad to the satisfaction of the SHA and the

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FHWA. A railroad's justification for increased vertical clearance should be based on an analysis of engineering, operational and/or economic conditions at a specific structure location.

Federal-aid highway funds are also eligible to participate in the cost of providing vertical clearance greater than 23 feet where a railroad establishes to the satisfaction of a SHA and the FHWA that it has a definite formal plan for electrification of its rail system where the proposed grade separation project is located. The plan must cover a logical independent segment of the rail system and be approved by the railroad's corporate headquarters. For 25 kv line, a vertical clearance of 24 feet 3 inches may be approved. For 50 kv line, a vertical clearance of 26 feet may be approved.

A railroad's justification to support its plan for electrification shall include maps and plans or drawings showing those lines to be electrified; actions taken by its corporate headquarters committing it to electrification including a proposed schedule; and actions initiated or completed to date implementing its electrification plan such as a showing of the amounts of funds and identification of structures, if any, where the railroad has expended its own funds to provide added clearance for the proposed electrification. If available, the railroad's justification should include information on its contemplated treatment of existing grade separations along the section of its rail system proposed for electrification.

The cost of reconstructing or modifying any existing railroad-highway grade separation structures solely to accommodate electrification will not be eligible for Federal-aid highway fund participation.

c. Railroad Structure Width

Nine feet of structure width outside of the centerline of the outside tracks may be approved for a structure carrying railroad tracks. Greater structure width may

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definitiveness of its plans to electrify its lines. If available, the railroad should furnish information on its contemplated treatment of existing grade separations along the section of its rail system proposed for electrification. The cost of reconstructing or modifying any existing railroad-highway grade separation structures solely to accommodate electrification will not be eligible for Federal-aid highway fund participation.

For information and coordination purposes, a railroad should furnish copies of the above information to each State highway agency and each FHWA Division Administrator involved along the section of its rail system to be electrified when it makes its initial request for increased vertical clearance.

d. Railroad Structure Width

Eight feet of structure width outside of the centerline of the outside tracks may be approved for a structure carrying railroad tracks. Greater structure width may be approved when in accordance with standards established and used by the affected railroad in its normal practice.

In order to maintain continuity of off-track equipment roadways at structures carrying tracks over limited access highways, consideration should be given at the preliminary design stage to the feasibility of utilizing public road crossings for this purpose. Where not feasible, an additional structure width of 8 feet may be approved if designed for off-track equipment only.

e. Implementation

Structure designs to accommodate railroad facilities that fall within the framework of the foregoing criteria shall continue to be in accordance with standards established and used by the affected railroad in its normal practice, subject to approval of the State highway agency and concurrence by FHWA. Requests for Federal-aid participation involving exceptions to the criteria set forth in this attachment are to be referred to the FHWA Headquarters for prior review.

Federal-Aid Highway Program Manual
Transmittal 129, April 25, 1975

Vol. 6, Ch. 6, Sec. 2
Subsec. 1, Attach. 2

USE OF AUTOMATIC GATES

Pursuant to paragraph 8b(3), automatic gates with flashing light signals are to be installed when one or more of the following conditions exists:

- a. Multiple main line railroad tracks.*
- b. Multiple tracks at or in the vicinity of the crossing which may be occupied by a train or locomotive so as to obscure the movement of another train approaching the crossing.*
- c. High speed train operation combined with limited sight distance at either single or multiple track crossings.*
- d. A combination of high speeds and moderately high volumes of highway and railroad traffic.*
- e. Either a high volume of vehicular traffic, high number of train movements, substantial numbers of schoolbuses or trucks carrying hazardous materials, unusually restricted sight distance, continuing accident occurrences, or any combination of these conditions.*
- f. A diagnostic team recommends them.*

In individual cases where a diagnostic team justifies that gates are not appropriate, FHWA may find that the above requirements are not applicable.

Federal-Aid Highway Program Manual
Transmittal 574, April 24, 1984

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Attachment 3 - Reserved

Federal-Aid Highway Program Manual
Transmittal 129, April 25, 1975

Vol. 6, Ch. 6, Sec. 2,
Subsec. 1, Attach. 4

EXAMPLE OF AN ESTIMATE OF COST FOR GRADE CROSSING WARNING DEVICES
TO SUPPORT AN AUTHORIZATION TO PROCEED WITH CONSTRUCTION
UNDER AN ACTUAL COST AGREEMENT

a. Description of Improvement

Installation of two automatic gate units with cantilever
mounted flashing light signals controlled by motion
sensor and other track circuit equipment at the crossing
of _____ Road and a single main line
track, replacing existing reflectorized crossbuck signs.

b. Estimate of Cost

ITEM	QUANTITY	AMOUNT
------	----------	--------

Preliminary Engineering

Construction Engineering

Material

Automatic gate signals

Cantilever mounted flashing
light signals

Motion sensor

(any other major item)

Other Material

Total Material

Transportation of Material

Store expense

Equipment

<u>ITEM</u>	<u>QUANTITY</u>	<u>AMOUNT</u>
<u>Labor</u>		---
Direct Labor		
Holidays, vacation, and pension		
Payroll taxes		
Insurance		
Meals and lodging		
Total Labor		
<u>Contingencies</u>		
Total Cost		
Less credit for salvage		
Net Total		

NOTE: Where agreed to by the State and the railroad and concurred in by FHWA, this estimate format may be used for any program or agreement purpose except for support of an authorization to proceed with construction under a lump sum agreement.

Federal-Aid Highway Program Manual
Transmittal 129, April 25, 1975

Vol. 6, Ch. 6, Sec. 2
Subsec. 1, Attach. 5

ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Transportation of Material		L. Sum		
Store expense		‡		
<u>Equipment</u>				
Outfit cars		Days		
Trucks		Days		
Trencher				
<u>Labor</u>				
Foreman				
Signalmen		Hrs.	_____	
Asst. Signalmen		Hrs.	_____	
Holidays		‡		
Vacation		‡		
Payroll taxes		‡		
Supplemental pension		‡		
Insurance		‡		
Meal and Lodging Allowance		Man-Hrs.		
Total Labor		Man-Hrs.		
(No contingencies allowed)				
Less credit for material salvaged				

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Subsec. 1, Attach. 5

ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
------	----------	------	------------	--------

Net Total

NOTE: Where agreed to by the State and the railroad and concurred in by FHWA, this estimate format may be used for any program or agreement purpose including with agreements providing for a lump sum payment. When used for lump sum agreements, the estimate must be based upon completed design and plans.

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Subsec. 1, Attach.

EXAMPLE OF DESCRIPTION OF IMPROVEMENT AND PRELIMINARY ESTIMATE
OF COST FOR GRADE CROSSING WARNING DEVICES
FOR PROGRAMING AND AGREEMENT PURPOSES

Description of improvement and preliminary estimate of cost for installation of two automatic gate units with cantilever mounted flashing light signals controlled by motion sensor and other track circuit equipment at the crossing of _____ Road and a single main line track, replacing existing reflectorized crossbuck signs: \$19,450.

NOTE: Where agreed to be the State and the railroad and concurred in by FHWA, this estimate format is acceptable for program purposes and for agreement purposes on projects where a detailed estimate of the attachment 4 or 5 type as appropriate will be submitted by the railroad and approved by the State and FHWA prior to authorization to proceed with the installation.

ATTACHMENT E

FHPM 6-6-2-2 (REVISED OCTOBER 1, 1982)



U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FEDERAL-AID HIGHWAY PROGRAM MANUAL

VOLUME	6	ENGINEERING AND TRAFFIC OPERATIONS
CHAPTER	6	RAILROADS AND UTILITIES
SECTION	2	RAILROADS

SUBSECTION 2 RAILROAD-HIGHWAY INSURANCE PROTECTION REQUIRED OF CONTRACTORS

Transmittal 350
October 1, 1982
HNG-12

- Par. 1. Purpose
2. Applicability
3. Contractor's Public Liability and Property Damage Insurance
4. Railroad Protective Insurance
5. Standards for Railroad Protective Insurance

1. PURPOSE

- * *The purpose of this directive is to prescribe provisions under which Federal funds may be applied to the costs of public liability and property damage insurance obtained by contractors (a) for their own operations, and (b) on behalf of railroads on or about whose right-of-way the contractors are required to work in the construction of highway projects financed in whole or in part with Federal funds.*

2. APPLICABILITY

- a. *This directive applies:*

to contractors' legal liability for bodily injury to or death of persons and for injury to or destruction of property,

to the liability which may attach to railroads for bodily injury to or death of persons and for injury to or destruction of property, and

*Regulatory material is italicized

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- (3) *to damage to property owned by or in the care, custody or control of the railroads, both as such liability or damage may arise out of the contractor's operations, or may result from certain work, described in paragraph 5, that may be performed by railroads at or about railroad rights-of-way in connection with projects financed in whole or in part with Federal funds.*
- b. *Where the highway construction is under the direct supervision of the Federal Highway Administration (FHWA), all references herein to the State shall be considered as references to the FHWA.*

3. CONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

- a. *Contractors may be subject to liability with respect to bodily injury to or death of persons, and injury to or destruction of property, which may be suffered by persons other than their own employees as a result of their operations in connection with construction of highway projects located wholly or partly within railroad right-of-way and financed in whole or in part with Federal funds. Protection to cover such liability of contractors shall be furnished under regular contractors' public liability and property damage insurance policies issued in the names of the contractors. Such policies shall be so written as to furnish protection to contractors respecting their operations in performing work covered by their contract.*
- b. *Where a contractor sublets a part of the work on any project to a subcontractor, the contractor shall be required to secure insurance protection in his own behalf under contractor's public liability and property damage insurance policies to cover any liability imposed on him by law for damages because of bodily injury to or death of persons and injury to or destruction of property as a result of work undertaken by such subcontractors. In addition, the contractor shall provide for and on behalf of any such subcontractors protection to cover like liability imposed upon the latter as a result of their operations by means of separate and individual contractor's public liability and property damage policies; or, in the alternative, each subcontractor shall provide satisfactory insurance on his own behalf to cover his individual operations.*

- c. *The contractor shall furnish to the State highway department evidence satisfactory to such department and to the FHWA that the insurance coverages required herein have been provided. The contractor shall also furnish a copy of such evidence to the railroad or railroads involved. The insurance specified shall be kept in force until all work required to be performed shall have been satisfactorily completed and accepted in accordance with the contract under which the construction work is undertaken.*

4. RAILROAD PROTECTIVE INSURANCE

In connection with highway projects for the elimination of hazards of railroad-highway crossings and other highway construction projects wholly or partly within railroad right-of-way, railroad protective liability insurance shall be purchased on behalf of the railroad by the contractor. The standards for railroad protective insurance established by this directive shall be adhered to insofar as the insurance laws of the State will permit.

5. STANDARDS FOR RAILROAD PROTECTIVE INSURANCE

a. Types of Coverage

Coverage shall be limited to damage suffered by the railroad on account of occurrences arising out of the work of the contractor on or about the railroad right-of-way, independent of the railroad's general supervision or control, except as noted in paragraph 5a(2)(d) below.

Coverage shall include:

- (a) *death of or bodily injury to passengers of the railroad and employees of the railroad not covered by State workmen's compensation laws,*
- (b) *personal property owned by or in the care, custody or control of the railroads,*
- (c) *the contractor, or any of his agents or employees who suffer bodily injury or death as a result of acts of the railroad or its agents, regardless of the negligence of the railroads, and*

(d) *negligence of only the following classes of railroad employees:*

1 *any supervisory employee of the railroad at the job site*

2 *any employee of the railroad while operating, attached to, or engaged on, work trains or other railroad equipment at the job site which are assigned exclusively to the contractor, or*

3 *any employee of the railroad not within 1 or 2 above who is specifically loaned or assigned to the work of the contractor for prevention of accidents or protection of property, the cost of whose services is borne specifically by the contractor or Governmental authority.*

b. Amount of Coverage

(1) *The maximum dollar amounts of coverage to be reimbursed from Federal funds with respect to bodily injury, death, and property damage is limited to a combined amount of \$2 million per occurrence with an aggregate of \$6 million applying separately to each annual period, except as provided in paragraph 5b(2) below.*

(2) *In cases involving real and demonstrable danger of appreciably higher risks, higher dollar amounts of coverage for which premiums will be reimbursable from Federal funds shall be allowed. These larger amounts will depend on circumstances and shall be written for the individual project in accordance with standard underwriting practices upon approval of the FHWA Division Administrator.*

(3) *In determining whether a larger dollar amount of coverage is necessary for a particular project, consideration shall be given to:*

(a) *the size of the project in question,*

(b) *the amount and type of railroad traffic passing through the project area,*

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the volume of highway traffic in the project area, including traffic generated by the contractor's activities, and

the accident experience rating, if available, for the contractor involved in the particular project.

- (4) The decision of the Division Administrator as to Federal participation in railroad protective insurance exceeding the dollar amounts in paragraph 5b(1) above shall ordinarily be final. Exceptional or unusual cases shall be referred through the regional office to the FHWA Headquarters, Office of Engineering, for decision.

ATTACHMENT F

OVERHEAD AND INDIRECT
CONSTRUCTION RATE WORKSHEET

EXAMPLE OF AN OVERHEAD AND
INDIRECT CONSTRUCTION RATE COMPUTATION

The Overhead and Indirect Construction Rate Worksheet shown on the following page is illustrative of a fairly simple method of calculating the majority of overhead costs. This method utilizes the "Annual Report to the Interstate Commerce Commission (ICC) for Class I Railroads" referred to as the "R-1".

The advantage to the railroad company in using the R-1 is that financial data is readily available from company accounting records and must be prepared annually in this format for the ICC. Advantages to the SHA Auditor are that various elements of the R-1 are taken from the company's audited financial statements, the R-1 is subject to review and audit by the ICC, verification of R-1 amounts to source documents should be relatively simple. SHA's could use the R-1 to determine elements of costs to be consistently allowed as part of the overhead and indirect construction rate.

Since there are differences in railroad accounting systems and policies employed, it is important for the SHA Auditors to understand how the R-1 was used to develop the rate. There may be some costs duplicated in another rate, for example small tools and supplies, that must be eliminated.

EXAMPLE OF AN OVERHEAD AND
INDIRECT CONSTRUCTION RATE COMPUTATION

Source: R-1 for Class I Railroads, Schedule 410 - Railway Operating Expenses:

MAINTENANCE OF WAY & STRUCTURE

Compensation Base

Schedule 410, Column B, (Wages & Salaries) Line 151	\$ _____	(A)
Less: Administrative Salaries		
Line 1 - Track	\$ _____	
Line 2 - Bridge & Building	_____	
Line 3 - Signal	_____	
Line 4 - Communication	_____	
Line 5 - Other	_____	
Total Administrative Salaries	\$(_____)	(B)
Compensation Base for MofW&S	\$ _____	(C)
<u>Total Administrative Salaries (B)</u> <u>Compensation Base (C)</u>	= MofW&S Overhead Rate	_____ % (D)

CORPORATE GENERAL AND ADMINISTRATIVE

Compensation Base

Overhead for G & A will be applied to MofW&S labor:
MofW&S Compensation Base (see C above) \$ _____ (C)

Expense

Line 601 - Officers-General Administration	\$ _____	
Line 602 - Accounting, Auditing, & Finance	_____	
Line 603 - Mgmt. Serv: & EDP	_____	
Total G & A to be allocated	\$ _____	(E)

Percent of G & A Attributed to MofW&S

Total Carrier Operating Expense - Line 620 \$ _____ (F)

Total MofW&S Wages (A)
Total Carrier Operating Expense Line 620 (F) = _____ % (G)

MofW&S % (G) X Total G&A Allocated (E) = Total G&A Allowed \$ _____ (H)

Total G & A Allowed (H)
MofW&S Compensation Base (C) = _____ %
(Percent of G&A to be added to Direct Labor)

Grand Total Overhead Rate to be Applied to
Direct Labor (D) + (I) = (J) _____ %