

# Sharing the Costs of Human Services Transportation

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University of Minnesota

*Executive Summary*

by Jon E. Burkhardt

## **NEEDED — A Common Transportation Language: Costs and Services**

In the vast majority of communities, coordinated transportation services are demonstrably more cost effective than similar services that are not coordinated. But many communities still provide human service transportation in an uncoordinated manner.

Over the years, one commonly reported hindrance to coordination efforts is the lack of a common, systematic approach to documenting transportation services and their costs. The lack of uniform reporting standards often results in incomplete or inconsistent statements of the programs' costs and services. Some agencies then are unwilling to coordinate because they have an unrealistically low perception of what it actually costs them to provide transportation. Other agencies may wonder if their coordination partners are paying their fair share of the costs.

The administrative and financial complexities involved in coordinating transportation are significant. Agencies with specific client populations and funding sources have their own operating procedures, even their own vocabularies. If these agencies are going to work together, how do they know that they are being treated fairly when it comes to paying for the services that they share?

## THIS REPORT

*TCRP Report 144* describes how to allocate and share costs among all stakeholders. It offers a common framework for recording and reporting transportation costs and services, whether they are provided by transit agencies or human service transportation providers and whether the transportation providers are large or small operations. This framework helps understand how transportation costs are incurred, and that understanding can lead to better management decisions regarding transportation services operations. A better understanding of transportation costs and services also supports a framework for community-wide discussions of how to achieve the most cost-effective services for the broadest possible range of residents and visitors.

Volume 1 of the ***Sharing the Costs of Human Services Transportation*** report is ***The Transportation Services Cost Sharing Toolkit***, which is a manual for transportation professionals that describes the rationale for the Cost Sharing Model (included as a series of Excel spreadsheets) and how to apply that model to community transportation. Volume 2 of the report is the ***Research Report***, which describes how the findings for this project were developed.

## Problems Hindering Common Reporting

Many different federal, state, and local programs fund community transportation services. These programs have specific missions, legislative origins, administrative departments, and target populations. While these differences are understandable, their sheer number can create significant complexities when communities want to coordinate the transportation services of the various programs:

- **The major federal programs have very different data collection and reporting requirements for transportation services, and many state administering agencies impose their own accounting and reporting practices on local service providers.**
- **Some local service administrators develop their own unique internal accounting and data collection processes — often more complex than the federal or state requirements.**
- **The lack of any uniform standards in the many different human service and transportation programs means that these individualistic approaches to data collection and reporting often result in incomplete statements of the programs' costs and services.**



The materials provided in this report are designed to be congruent with the major federal cost accounting standards, such as those in Office of Management and Budget (OMB) circulars and Federal Acquisition Regulation (FAR) policies.

## Objectives

Reports of services provided and their costs are needed in sufficient detail to allow for comparisons, analysis, accountability, and the determination of program effects. Improved accounting methods are needed to:

1. Ensure that all operators are recording all services and costs on an accurate and consistent basis.
2. Ensure that complete information is reported on transportation services and costs and is available to a wide range of decision-makers.
3. Develop a uniform service and cost reporting methodology that can be used to track and analyze transportation services and costs.
4. Share the costs of transportation services among the users and other beneficiaries of those services, when appropriate.

When these objectives are achieved, transportation providers, administrators, and funders will have the information that they need to provide the most transportation services they can in the most cost-effective manner.

A comprehensive cost accounting system for transportation services should:

- Describe in detail all costs that have been incurred and all services rendered.
- Describe in detail how the funds of all participating agencies have been spent. (This description should be designed to satisfy the audit and regulatory requirements of each participating agency.)
- Provide the opportunity to distribute the costs of transportation services among those receiving services based on the actual costs of the services each has received.

To achieve these objectives, it is necessary to take the following steps:

1. Agree on an overall approach and accounting structure.
2. Create standardized and commonly agreed upon definitions and data collection procedures for costs and services rendered.
3. Apply a standardized chart of accounts to record and analyze financial data.
4. Develop acceptable procedures for recording, reporting, and analyzing non-financial data.

## Transit Cooperative Research Program

## Data Needed

To be able to better manage current community transportation services and to compare alternative options for providing these community transportation services on an equal and consistent basis, information is needed on the following basic kinds of transportation data:



- **Total Dollar Costs**—all costs incurred in all categories: see page 5.
- **Total Vehicle Miles**—the miles a vehicle is scheduled to or actually travels from the time it pulls out from its point of departure to go into service to the time it pulls in from service.
- **Total Vehicle Hours**—the hours a vehicle is scheduled to or actually travels from the time it pulls out from its point of departure to go into service to the time it pulls in from service.
- **Total Passenger Trips (Unlinked)**—the number of passengers who board a transportation vehicle or other conveyance used to provide client transportation. “Unlinked” means that passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination.
- **Total Unduplicated Persons Served**—the number of individual persons who receive transportation services.

Data on these variables—costs, vehicle miles, vehicle hours, numbers of trips, and numbers of persons served—are all that is needed to describe the services provided and the services consumed.



## Benefits of Better Service and Cost Data

Cost accounting is a powerful tool. One of its key functions is to **illuminate possibilities for more cost-effective program operations.**

It does this by examining the costs of alternative methods of producing services (or the costs of alternative providers of those services, applicable in communities that actually have choices of service providers). Programs providing or funding transportation services to clients or customers clearly need to understand service alternatives (e.g., different modes, different providers, different models of service delivery) and their detailed cost implications to make informed management decisions about the most cost-effective strategies for delivering transportation services.

Why should agencies make changes in the way they approach data collection and reporting?

Why go to the cost and expense of doing things differently in the future?

- To improve internal program management.
- To increase the cost effectiveness of services throughout the community.
- To support requests for future funding.

Local program managers need detailed and accurate data to be better managers. High quality data allow managers to more completely understand their programs' operations and to provide more cost-effective services with limited resources. Detailed cost and service information can:

- Serve as a diagnostic tool that identifies specific areas of problems with performance, thus aiding in day-to-day management decision-making.
- Assist in long-term planning and decision-making, such as requests for future funding from state legislatures and local governments.
- Provide information to document transportation expenditures and meet other regulatory requirements of funding agencies and other supervisory bodies.

Detailed information **helps managers do a better job.** Especially in light of current serious financial constraints in many states and communities, there is a strong need to **work smarter** in human service programs. Techniques such as Management by Objectives, Continuous Quality Improvement, Total Quality Management, and others are tools that rely on intensive data collection efforts to assess and improve program performance. **Accurate cost reporting leads to better management of scarce resources.**

# An Overall Accounting Structure

## Overall Approach

A comprehensive cost accounting system for transportation services should detail **all costs incurred and all services rendered**, describe how the funds of all participating agencies have been spent, and equitably distribute the costs in proportion to the services rendered. The accounting approach recommended and used by successful business operations and transportation systems is called full cost accounting. Using full cost accounting means that the total costs include **any commitment of or use of time, money, physical resources, and other assets of the system used in the accomplishment of program objectives**. In full cost accounting, a value is given to these commitments whether or not they result in immediate out-of-pocket expenditures.

The primary reason for using full cost accounting is that **all costs must be paid sooner or later by someone**. Some transportation providers have gotten in trouble with this principle because they think about only out-of-pocket expenses (e.g., wages, gas, and maintenance) and not other costs (e.g., administration, rent, and depreciation). Some providers may not include infrequent expenses, including purchases of capital equipment like vehicles. This oversight often results in failing to bill agencies for enough money to cover all costs of the transportation services they are purchasing (including administrative time, facility leasing costs, and vehicle replacement costs); this can cause a severe financial shortfall for the provider.

Cost allocation helps determine what a service like transportation actually costs to provide. It is the first step in developing a system of charges to those users. The cost allocation method recommended in this **Toolkit** is often called **proportionate cost allocation**. This means that costs are allocated to participants according to the proportion of services provided to each of the participants.

## A Common Chart of Accounts

A fundamental component of cost analysis for human service transportation providers is the development of a financial **chart of accounts that can track all kinds of expenses** related to providing community transportation services. The literature generally agrees that, for human service community transportation providers, fundamental cost categories are capital, operating, and administrative costs, and that detailed expense classes should include the following:



- **Labor.**
- **Fringe benefits.**
- **Purchased transportation.**
- **Contracted services.**
- **Materials and supplies.**
- **General administrative expenses (including indirect organizational costs, if applicable).**
- **Utilities.**
- **Casualty and liability costs.**
- **Taxes.**
- **Miscellaneous expenses.**
- **Leases and rentals.**
- **Capital expenses.**
- **Depreciation and amortization.**

Each expense category should have detailed subcategories. Used together, the 13 categories of expenses fully describe all costs of transportation services.

## How the Cost Sharing Model Works

The **Human Services Transportation Cost Sharing Model** separates costs into **variable costs that change with the amount of service provided** (e.g., driver wages, fuel costs, and maintenance costs) and **fixed costs that do not change according to the amount of service provided** (e.g., administrative salaries and facility depreciation). The model then uses multiplication and addition to express the total costs of a specific service or program: total costs equal the transportation system's fixed cost factor times the sum of the system's annual hourly cost and annual mileage cost. (Definitions of all of these terms and the mathematical expression of the model are shown in Volumes 1 and 2 of *TCRP Report 144*.)

Operating the **Human Services Transportation Cost Sharing Model** requires the following sequence of inputs and calculations:

- The user of the model enters data from prior years (or other periods) on:
  - Total service outputs — miles, hours, and passengers — (based on actual figures for the previous year or projected figures for the coming year); and
  - Line item expenses (for the previous year or the coming year as projected).
- The model assigns each expense to variable and fixed cost categories.
- The user enters the anticipated number of miles, hours, and passengers for the service alternative being considered.
- The model calculates the costs of those services.
- The user chooses the basis for a cost recovery contract (i.e., a price per mile, per hour, or per passenger trip).
- The model calculates a price per mile, per hour, or per passenger, whichever is specified by the user.
- The user can then repeat these calculations for each agency purchasing transportation services to establish a unit rate for each purchasing agency.

### Sharing the Costs of Transportation Services

#### Background Cost and Service Data Entry

Go

**Step 1: Enter Service Data for Your Transportation System**

Go

**Step 2: Enter Budget Data for Your Transportation System**

Go

**Step 3: Calculate the Fully Allocated Cost of Any Service Component**

Go

**Step 4: Price a Transit Service Based on Fully Allocated Costs**

This cost sharing model is one component of The Transportation Services Cost Sharing Toolkit, developed under TCRP Project G-09, "Human Services Transportation Cost Reporting to Facilitate Cost Sharing Agreements."

## What's the Right Price for that Transportation Service?

To meet the goal of cost-effectiveness, the costs of transportation services will need to be equitably allocated — shared — among stakeholders, which typically include riders, transportation providers and purchasers, local governments, and programs sponsored by state and federal programs.

Carefully consider the distinction between the cost of a transportation service and the price that transportation providers charge their customers, particularly when those customers are human service agencies. “Cost” means the total cost of producing transportation services (measured as completed one-way passenger trips); these costs include the salaries and benefits of drivers, administrators, and dispatch and maintenance personnel; fuel; vehicles; space; supplies; insurance; taxes; and all other costs attributable to producing the trips.

On the other hand, “price” refers to a rate of payment that may be negotiated and specified in a contract between the transportation provider and those persons purchasing the trips. Price can be specified as a cost per trip, per mile, per hour, or some combination of these; additions to the price might be allowed for special or extraordinary services or assistance.

Costs tend to vary from time to time and may change rapidly; prices tend to be fixed for a specified contractual period of time, such as 6 months or 1 year, although mid-course corrections sometimes are allowed in certain contracts.

Not all trips are the same length, take the same amount of time, or require the same level of passenger assistance. In short, **different kinds of trips require different amounts of resources to provide.** Gaining greater efficiencies by coordinating transportation services and spreading costs over a broad base of agencies in a coordinated



transportation system enhances cost effectiveness. Such coordination can be promoted if all participants in the program understand that costs will be allocated in a fair and equitable manner among everyone.

Key concepts for the development of prices are:

- Prices charged should be equitable and understandable.
- All stakeholders should pay their fair share.

When each stakeholder's proportion of payments for service equals that stakeholder's proportion of costs required to provide services, these requirements for equity, fairness, and understanding have been met.

The process of determining how much a specific transportation service costs to provide has the following steps:

1. Assembling data on all services provided and all expenses required to provide those services.
2. Assigning the expenses to cost categories that explain how these costs vary according to the resources required to produce these services.
3. Calculating average unit costs on a per mile, per hour, or per trip basis.
4. Allocating the costs of services among those parties receiving the services in proportion to the services that those parties have actually received.

## RECOMMENDATIONS

This project recommends relatively simple enhancements to current data recording and reporting procedures:

**1. Data should be collected on total costs, services delivered, and services consumed by all organizations that provide community transportation services to consumers.**

- Data for services provided should consist of the numbers of vehicle hours and vehicle miles.
- Data for services consumed should consist of unlinked passenger trips and an unduplicated count of persons served.
- Cost data should include all costs required to produce transportation services.

**2. These data should be reported to funders and administrators of all transportation programs.**

**3. These data should be used to allocate costs among all participants in coordinated transportation services.**

## Who Needs to Address These Changes?

**This project provides a framework for uniform service and cost reports on transportation services.** All human service organizations, but especially those funded by the U.S. Departments of Health and Human Services, Transportation, Education, and Labor, should consider making some improvements in data recording and reporting:

- DOT-funded agencies should consider recording and reporting more information on numbers of unduplicated persons transported.
- Other agencies should consider recording and reporting more information on services provided — vehicle miles and vehicle hours — and services consumed — passenger trips and unduplicated persons transported.

Specific information on current data gaps is provided in Volume 2 of *TCRP Report 144*.

The good news is that nearly all of the currently available paratransit software programs collect all of these data, so that community transportation services that use such software for scheduling, dispatching, and billing purposes will be able to generate the data needed for management and reporting purposes at the federal, state, and local levels. Transportation services not now using paratransit software programs can still readily record and report the modest amount of data needed to create equitable cost sharing agreements.

Published products of this project, TCRP G-09, “Human Services Transportation Cost Reporting to Facilitate Cost Sharing Agreements,” are available from the Transportation Research Board. On-line requests may be placed at [www.tcrponline.org](http://www.tcrponline.org) or [www.trb.org](http://www.trb.org).

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