

# Transportation Coordination Toolkit

November 2005

Fully Allocated Costs

## **Topic: Fully Allocated Costs**

**Target Audience:** Human Service Agency Transportation Providers, Section 5310 Agencies, and Section 5311 Public Transit Systems and State Agencies.

**Goal:** To present the practice of determining the true cost of providing transportation service using Fully Allocated Costs.

Note: The sources for the information for this brief came from the Multi-State Technical Assistance Program (MTAP) Comprehensive Financial Management Guidelines Manual and fully allocated cost information from the states of Alabama, Kansas, Maryland, and Ohio

At the heart of financial management is understanding your revenues and expenses in relation to your units of service provided (passenger trips, vehicle miles, hours, etc.) so that you have a true picture of what your service costs.

Rural, small urban, and specialized transportation systems operate in environments that pose special challenges. Limited resources, multiple funding sources, and public accountability are among the challenges. Transportation systems need complete and accurate financial data in order to:

- Manage the system so that its goals and objectives are met;
- Know the true cost of operating the system so that costs may be billed or allocated appropriately to the system's users, and
- Report to the funding sources or purchasing agencies how money was spent, what revenues were realized, and the financial status of the organization.

## **Issue: Calculating the Costs**

Average unit costs are calculated by:

- Determining the value of each resource,
- Dividing the resource cost by the resource value to obtain the average unit cost, and
- Multiplying the hour and mile unit costs by the fixed cost factor.

In the example below, the values of the resource variables are:

28,811 total annual vehicle hours  
473,512 total annual vehicle miles  
\$146,978 of assigned fixed costs.

The average unit costs are computed by dividing the total amount of expenses assigned to a given resource variable by the value of that resource variable. For example, the \$9.62 cost per vehicle hour was derived by dividing the cost of

\$277,037 assigned to hours by 28,811 vehicle hours.

The fully allocated cost model is a relatively straightforward equation involving multiplication and addition. This model uses hours and miles as the two service variables and distributes the fixed costs over these variables.

$$\text{Annual Total Cost} = \text{Fixed Cost Factor} \times [(\text{Cost Per Hour} \times \text{Annual Hours of Operation}) + (\text{Cost Per Mile} \times \text{Annual Miles of Operation})]$$

Applying this model involves calculating your cost per hour, cost per mile (including vehicle depreciation), and fixed cost factor and applying these costs to the annual hours or miles of operation.

In the example, the costs are:

\$9.62 per hour of service  
\$0.40 per mile of service

and the overhead factor is:

1.32 (assuming that fixed costs are 32 percent of the total of hourly costs and mileage costs)

The cost allocation equation can be converted to:

$$\text{Annual Total Cost} = 1.32 \times [(\$9.62 \times \text{Annual Hours of Operation}) + (\$0.40 \times \text{Annual Miles of Operation})]$$

$$\text{Annual Total Cost} = [(\$12.70 \times \text{Annual Hours of Operation}) + (\$0.53 \times \text{Annual Miles of Operation})]$$

To find the cost of operating one vehicle that traveled 33,000 annual miles in

2,400 hours of operation, the equation would be:

$$\text{Annual Total Cost} = [(\$12.70 \times 2,400) + (\$0.53 \times 33,000)] = \$47,970.$$

The cost of \$47,970 is a good estimate of the **existing costs** of this service. This issue is important because it deals with the distribution or allocation of total costs among funding services to the individual routes or services provided by a local jurisdiction or non-profit agency. Knowing the costs of individual routes or services is useful for management purposes and for billing client agencies.

#### ***Issue: Multiple Funding Sources***

Assume that the transit system only operates two services and that each is supported by several funding sources. The problem is to determine the cost of service that should be provided by each funding source. The levels of service during the last calendar year are shown below.

	<b>Svc. A</b>	<b>Svc. B</b>	<b>Total</b>
<b>Hours</b>	2,400	29,360	31,760
<b>Miles</b>	33,000	440,512	473,512

As before, each average unit cost factor is multiplied by the appropriate resource variable value in each case and then summed to determine the cost estimate.

	Average Unit Cost	Value of Res. Variable	Total Cost
<b>Svc. A</b>			
<b>Hours</b>	\$12.70	2,400	\$30,480
<b>Miles</b>	\$0.53	33,000	\$17,490
<b>Total</b>			<b>\$47,970</b>
<b>Svc. B</b>			
<b>Hours</b>	\$12.70	29,360	\$372,872
<b>Miles</b>	\$0.53	440,512	\$233,471
<b>Total</b>			<b>\$606,343</b>

Thus, the cost of providing Service A is estimated to be \$47,970 while the cost of providing Service B is calculated to be \$606,343.

The percent of the fully allocated cost that is charged to an agency or that serve as the basis of the general public fare is a policy decision that should be made at the Board level. For example, the Board may determine that non-profit social service agencies should share in the State transit subsidies and therefore should only be required to pay 75% of the fully allocated cost. This Board might also establish the policy that all private for-profit agencies should not share in the subsidies and therefore would be required to pay 100% of the fully allocated cost. This decision should be made at the policy level and should be based on a well-thought out basis and not on an agency's ability to pay. Pricing decisions based on a case-by-case basis often result in inequities and cross-subsidization between agencies.

When determining fare/pricing policy, boards should consider rates for the following:

- ◆ General public

- ◆ Government agency (DHS)
- ◆ Non-profit human service agency
- ◆ For-profit human service entities (i.e. nursing homes)
- ◆ For-profit businesses

### 1. Capital Costs

Capital costs must also be figured into your rates and can be done so easily by dividing the cost of the vehicle (if purchased with non-Federal or non-State funds) or the local share of the vehicle (if purchased with Federal and State funds) by the estimated useful mileage life of the vehicle. For instance, for Section 5311 purchased vehicles where the local share may have been \$3,600 and the useful life is estimated at 150,000 miles, the capital cost per mile would be \$0.03 per mile. This cost should be added to your contract rate, and the revenue (each \$0.03 collected) placed in a capital replacement fund.

#### *Issue: Providing General Public Service V. Agency Sponsored Trips*

Section 5311 funding is to be used to provide public transportation to the general public. Communities must establish a service area and a base set of service hours in which to provide the service. A fare must be established which is typically far lower than the actual cost of the service. The difference between the cost and the fare, or the deficit, can then be paid for with Section 5311 funds. Some states, like Minnesota, also provide state assistance underwrite the cost of the service. The remainder of the service cost must be paid for with local funds.

As part of its general public service, however, communities are also

permitted within the Section 5311 guidelines to provide contract service to groups and agencies desiring public transportation for their clientele. In general, the transit industry makes a general differentiation between general public trips and agency trips based on whether the trip is made at the discretion of the individual or the agency.

Individuals who are clients of social service agencies, but who use public transit services for their own personal mobility needs independent of the agency, are considered part of the general public. Additionally, trip requests made by an agency on behalf of an individual for their own personal mobility needs independent of the agency are also considered general public.

***However, trip requests made by an agency that is service for the agency that would be provided by the agency if the transit system was not available are considered agency trips.*** If an agency chooses to use general public service at the regular transit fare rather than to contract for service for its customers, you should apply all of your system's general public policies, including no show, reservation and wait times policies, etc. Individual trip requests for an agency's client should be handled the same as any other request made by a member of the general public, without any deference to the agency. Therefore, if an agency using general public service makes a request, ask yourself if the same request would be honored for individuals in the general public. Some sample checklist items to categorize a task as general public service policy are as follows:

- General public service is first come first served – No guarantees;
- no additional reporting;
- no billing; and
- no special service requests.

If agencies have requirements that exceed those provided to the general public, the service should be considered agency sponsored contract trips.

Although provided within the context of the general public service, it is expected that agency trips will not detract from or negatively impact the general public service and that it should “pay for itself” or at a minimum, pay for the local share. Ideally, the contracting agency would pay for the entire cost of the service. Further, in cases where a Section 5311-funded transit system may be submitting a proposal or bid to provide a contract service, the proposal or bid must reflect the fully allocated cost of the service, since Section 5311 funds cannot be used to unfairly compete with private for-profit providers.

#### ***Issue: Fares V. Cost***

In order to provide agency sponsored service as part of your general public service, the first step is to determine the contract rate to be charged. You will need to know the true or actual cost in order to do this.

As stated above, general public transit fares are typically subsidized. In Minnesota, the fully allocated cost of a general public trip is offset by passenger fares, Federal (Section 5311), State transit assistance, and local (Minnesota Motor Vehicle Sales Tax) subsidies. Service provided to agencies should also recoup the full cost of the service. The

purchasing agency may offset the trip cost through passenger fares/fees/donations, agency program funds that can be used for transportation or other Federal/State subsidies available to the agency purchasing service.

Public systems, and in particular human service transportation systems, typically have a difficult time costing their service because they don't account for all of the expenses.

To determine a rate based on your expenses, use a computer spreadsheet application that allows you to list all of your expenses and data and then, using that data, actually calculate a rate using a standard 2-variable cost model. It can be updated very easily from year to year as your data changes. You should use the information in your Uniform Standard Chart of Accounts that serves as the basis for your Section 5311 budget. The cost model developed as part of the MTAP Comprehensive Financial Management Guidelines Manual is the one most commonly used by many States and transit systems. There are also excellent examples of actual spreadsheets that have been developed, e.g., the Ohio Department of Transportation Rural Contract Rates White Paper and Spreadsheet which is based on the MTAP model.

### **Issue: Establishing a Contract Service Rate Policy**

If your board has decided that you will provide contract service as part of your overall transportation service, a policy should be established to establish your contract rates. There is no requirement for only one contract rate for all services. Rates can be established based on the

categories of passengers and service provided (see below, Establishing Fair and Equitable Rates). However, the rates you charge should be part of an overall policy based on your funding agencies, the subsidies you receive and the rules and regulations that govern each. Having an overall policy will provide the transit manager with the necessary guidance and direction to negotiate contract rates without having to return to the board for each routine contract.

### ***Issue: Implementing Fully Allocated Contract Rates***

How do you charge fully allocated costs to agencies which have traditionally paid only the transit fare or a small portion of the actual cost? Although you could simply inform the agencies that they will now have to pay a new, substantially higher rate for the service they receive, a "phase-in" plan can take the sting out of the higher costs, yet still result in your system receiving more of the cost of your service, and eventually, the full cost of the service. In the plan, provide the details of the rate (or fare) currently being charged, the difference between the rate and the actual cost, and the time span over which the rate will be increased until the fully allocated amount is reached, typically only over a 3-5 year period depending on the gap.

Make the contracting agency aware of the actual cost of the service even during the "phase-in" plan goal, the time it will take to get to there, and the steps that will be taken to attain the goal.

You will be asked "why should we pay this higher amount when the public only pays \$1.00 (or \$2.00, etc.) for the same service? Be prepared for this question.

Show them your spreadsheet and what the service costs. Explain that the Section 5311 funds are to be used for general public service and that contract service is expected to generate its own revenue at the rates established by the Board. Tell them what the rate is paying for, i.e., well-trained drivers, record keeping, scheduling, etc. and that, as service that is guaranteed to be provided, it will be given priority to ensure that it is provided in accordance with their contract.

Phasing-in the costs to agencies who have been receiving a discounted rate is strongly recommended. If you charge a discounted rate, you must be prepared to cover the “gap” between the actual cost of the service and the amount the agency is paying with funding from another source. A transit system must exercise extreme care both in determining from where the subsidy is derived, and in documenting the use of those funds.

### **Conclusion**

Accurate financial data is critical to the development of fully allocated costs. Once their true service costs are known, transportation providers gain not only the complete picture of the service they provide, but also the necessary tools they need to negotiate fair and equitable contracts.

### **Best Practices**

#### ***Tri-Cap Transit Connection, St. Cloud, MN***

*Tri-CAP Transit Connection provides contract service as part of its Section 5311 service in Benton and Stearns Counties for a contract rate that is over and above the regular fare and takes into*

*consideration the total cost to provide the service, including labor, fringes, fuel, maintenance, insurance, etc. For this contract rate, Tri-CAP not only schedules and provides the service to the contracting agency’s clients, but also tracks and invoices the agency by the hour for the time spent transporting those passengers. Tri-CAP estimates that it captures approximately 70% of its total expenses, dollars which then become part of the required match for the MnDOT grants. Tri-CAP monitors its revenues and expenses using the MnDOT Section 5311 monthly reports and spreadsheets that are a part of the annual Section 5311 application. Originally, Tri-CAP based its rate on what the contracting agency’s calculated costs were, however, since that time, Tri-CAP has implemented a 3% per year increase to keep pace with inflationary increases.*

*For further information, please contact Linda Elfstrand, Director, Tri-CAP Connection at (320) 202-7824, x217, or [Linda.elfstrand@tricap.org](mailto:Linda.elfstrand@tricap.org).*

#### ***Kansas Department of Transportation (KDOT)***

*When the Kansas Department of Social and Rehabilitation Services (SRS) modified its rules to allow federally-funded vehicles to be used in the transportation of Medicaid clients, the door was opened for increased funded ridership for Kansas transit systems. Developing a contract to provide these services, however, required careful allocation of funding resources.*

*The Kansas Department of Transportation (KDOT), SRS, and the University of Kansas Transportation Center worked together to provide*

*guidance to Kansas transit agencies and area SRS managers to develop valid cost allocated contracts. The procedures developed can be used in developing rates for any fee-for-service contract, subject to specific rules or regulations of the funding agency. The basis for the Kansas model is the Comprehensive Financial Management Guidelines for Rural and Small Urban Public Transportation Providers developed by the American Association of State Highway and Transportation Officials (AASHTO) Multi-State Technical Assistance Program (MTAP). The MTAP program is a fully allocated cost model which accounts for all costs of providing transportation service using a simple equation of hours and miles as the two service variables.*

*The allocation model can be used to determine the cost of services provided. Allocating costs in a fee-for-service contract requires the transportation provider to ask, “how much will the ride cost?” before it can decide the amount to be charged.*

*Cost allocation can serve several purposes. First, it allows the determination of the actual cost of providing the service so that the transportation provider can be assured that the full cost of providing the service is covered. Second, it provides for the distribution of costs among funding sources when more than one funding agency is involved. Cost allocation models can also be used for a true cost comparison when offering service that is also provided by private for profit providers. When multiple jurisdictions are involved in financially supporting a transportation service, cost allocation can be used to determine the fair share of costs attributable to different entities.*

*Finally, cost allocation can be used to help determine the revenue-to-costs ratio and overall deficit for each service.*

*The basis for the Kansas model is the AASHTO (American Association of State Highway and Transportation Officials) Multi-State Technical Assistance Program (MTAP) developed the Comprehensive Financial Management Guidelines for Rural and Small Urban Public Transportation Providers, a fully allocated cost model which accounts for all costs of providing transportation service, is a simple equation which uses hours and miles as the two service variables. As Kansas is using the model, three steps are involved: 1) assembling the expense, revenue, and operations data; 2) assign line item expense accounts, and 3) calculating the average unit costs. A detailed chart of accounts is essential in following this model. A sample is provided in the MTAP guidelines.*

*For further information, please contact the Kansas Rural Transit Assistance Program (RTAP), (785)864-2595, or [www.kutc.ku.edu](http://www.kutc.ku.edu).*

### ***Alabama Department of Transportation (ADOT)***

*Since the state of Alabama provides no state match to Federal transit grant funding, the burden for providing the non-Federal match relies solely on the local transit operators. The “life blood” for these operators has been third party contract revenue, which in turn, required the development of uniform allocation of costs, billing, and record keeping.*

*In order to facilitate the use of fully allocated rates in their third party*

*contracts, the Alabama Department of Transportation provided training to their Section 5311 providers to assist them in the development of a unit cost rate that allowed them to fully recoup the cost of their service provided to third parties. This unit cost rate and pricing structure, developed approximately fifteen years ago, is still in effect and working successfully.*

For further information, please contact Joe Nix, Senior Transportation Planner, Alabama Department of Transportation, Multimodal Transportation Bureau, 1100 John Overton Drive, Montgomery, AL 36110, (334) 353-6421, [nixj@dot.state.al.us](mailto:nixj@dot.state.al.us).

#### ***Maryland – Standardized Cost Allocation***

*The Maryland Transit Administration requires that its rural and small urban transit systems have an approved plan for allocating costs among funding programs and services. The objective of requiring cost allocation is to fairly represent the actual cost of providing the service. The MTA provides each rural and small urban transit system the cost allocation model in Microsoft Excel, along with instructions for its use. The model requires two inputs: 1) expenses by cost category and 2) miles and hours of each route or service.*

*The model employs a straightforward process to group costs into three categories: fixed costs, variable costs dependent upon hours of service, or variable costs dependent on miles of service. The model can then be used to allocate costs to various routes/services/grants, offering some control by jurisdictions over services*

*operated on their behalf. The state provides training on the use of the cost allocation model and tailoring the best application to the particular system or organization. Supplemental training is also provided via RTAP training sessions and within the state's annual transit association conference when additional support is necessary.*

For additional information, contact Nancy Noonan, Maryland DOT Mass Transit Administration, (410) 767-3772, or [nnoonan@mdot.state.md.us](mailto:nnoonan@mdot.state.md.us).