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CONTRACTING FOR
SOCIAL SERVICE CLIENT TRANSPORTATION

MULTNOMAH COUNTY, OREGON

Final Report

by

Kenneth J. Dueker
Judy S. Davis

A Study Conducted for
Multnomah County Developmentally Disabled Program
and
Multnomah County Aging Services Division

December 1987

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EXECUTIVE_SUMMARY

The Center for Urban Studies of Portland State University has examined Multnomah County's Aging Services Division (ASD) and the Tri-County Developmentally Disabled (DD) programs contractual relationship with TRI-MET to report client transportation. In addition, we have studied social service agency transportation programs in eight other West Coast cities. From this analysis we conclude that:

1. ASD and DD provide primary client transportation by purchasing over half the trips on TRI-MET's door-to-door LIFT system.

2. In 1986-87, the average cost of a LIFT trip was $7.83. This was lower than the cost in 4 out of 5 comparative programs. The cost of an ASD sponsored trip was between $4.19-$4.73, about average for six comparative aging programs. Also TRI-MET's cost per mile and cost per hour were less than averages for large programs reported in an 1985 survey of contracted transit services conducted by the Institute for Transit Studies at the University of California-Irvine.

3. The characteristics and hence the cost of ASD and DD trips differ. Over 90% of ASD trips are less than 4 miles long, and the majority of trips are grouped-at-one-end. ASD is paying an average of $1.94 per trip while the cost of provision is about $4.19-$4.73. Half of the DD trips are at least four miles long,

but they are more highly grouped than ASD trips. Because of length, average cost of providing DD trips is between $7.82 and $8.50 while DD pays $1.84 per trip. DD passengers also ride daily while ASD clients use transportation less frequently.

4. By contracting with TRI-MET, the county gains access to transportation funds not directly available to social service agencies. These include the Special Transportation Fund (STF), UMTA capital and planning grants, and TRI-MET's payroll tax. Agencies currently pay about 28% of the total cost of client transportation service, users pay 1%, the federal Urban Mass Transit Agency (UMTA) 18%, the state Special Transportation Fund (STF) 19%, and TRI-MET 34%. TRI-MET's budget proposal for 87-88 would change these rates to agencies 58%, users 2%, UMTA 13%, STF 20%, and TRI-MET 7%.

5. By serving agency clients, TRI-MET increases the productivity of the LIFT system and receives substantial LIFT funding from agencies. Nonetheless TRI-MET's payroll and farebox support of elderly and handicapped transportation, of which LIFT is a part, has been declining. TRI-MET budgeted 3.02% of its operating budget in 85-86 for elderly and handicapped transportation, but only 2.34% in 87-88. In contrast, Spokane Transit spends 8% and Pierce Transit 10% of their operating budgets on elderly and handicapped transportation.

6. The DD programs need additional funding to provide special transportation services. The current state appropriation of $28.23 per client is inadequate. DD programs in the tri-county

area cannot rely as extensively on fixed-route bus service as Salem's programs do because of differences in the geography and transit districts of the two areas.

7. There are five funding sources which ASD and DD programs could consider for additional resources.

a) Funds dedicated to elderly and handicapped transportation. The legislature did not increase STF funding for this biennium, but TRI-MET reallocation of STF is possible.

b) State general fund. DD programs are dependent on this source.

c) Local governments. ASD uses this source.

d) TRI-MET. TRI-MET has its own financial problems and is unlikely to have access to new resources. The TRI-MET board has made a limited commitment of payroll tax and farebox support for elderly and handicapped transportation equivalent to 2.5% of its average operating budget.

e) Clients. Clients have limited funds to contribute.

8. Current agency options include looking for greater efficiencies in service provision, requesting additional funds from the E-board (DD) or local governments (ASD), raising user contributions, or providing less service. TRI-MET's options include reducing demand by raising prices or changing trip priorities, improving efficiencies, or allocating more of their operating budget to elderly and handicapped services.

9. The proportion of transportation costs paid by other West Coast social service agencies ranges from 0 to 100%. Some agencies

spend nothing by referring their clients to general door-to-door services but in return have little control over the quantity and quality of service. Other agencies pay the full cost of service, generally by contracting outside the subsidized transportation system.

10. California funds general elderly and handicapped transportation with a dedicated portion of the state sales tax. Little state and local funding goes into aging services transportation. DD transportation is largely funded by the state DD program. Washington state puts little money into social service transportation budgets, and transit districts have become major social service providers more by default than by choice. Oregon social service transportation programs utilize a mix of funding sources--dedicated STF funds, transit district funds, and social service funds.

11. Recent amendments to the 504 regulations are unlikely to have an impact on TRI-MET's services because TRI-MET uses both accessible fixed-route service and door-to-door service to meet the guidelines and TRI-MET spends more than required minimum.

12. There is a lack of consensus among participants in the Portland area on the following issues:

a) The cost of various types of service and how to allocate expenses to different programs.

b) The proportion of transportation costs which should be the responsibility of social service agencies.

c) The role of TRI-MET in providing and funding social service transportation.

d) The allocation of STF funds to fixed route, LIFT, and volunteer programs.

e) The quality of service which agencies are purchasing with premium rates.

f) The proportion of LIFT service which should be available to general passengers.

g) Methods of expanding transportation services to serve additional clients, clients who live outside the LIFT service area, and clients needing transportation at odd hours.

INTRODUCTION

The Multnomah County Aging Services Division (ASD) and the tri-county developmentally disabled (DD) programs (jointly contracting through Multnomah County) provide transportation services for their elderly and handicapped clients primarily by contracting with TRI-MET, the regional transit district. This system is strained because the demands for transportation services are increasing, the cost of contracted services exceeds the county's transportation funds, the quality of service does not meet all clients' needs, and TRI-MET has been spending less of its primary funding sources on elderly and handicapped transportation. The county therefore contracted with the Center for Urban Studies of Portland State University, to examine the current provision of transportation services and to make recommendations for future actions. The specific objectives of the study were to:

1) Determine whether current contracted transportation charges are reasonable and comparable with areas similar to the tri-county area.

2) Review the current contracting and service delivery system, determine viable options and make recommendations as to the best course of action.

3) Review the funding situation and provide recommendations on alternative resources to increase services and/or methods to reduce demand.

4) Project the impact of recent amendments to 504 regulations and other federal regulatory changes.

Social service transportation programs must be examined within the context of general systems of elderly and handicapped transportation because the two are highly interrelated. Elderly and handicapped transportation systems are complex because there are many individuals and organizations with different viewpoints involved. In the Portland tri-county area, involved parties include:

1) The elderly and handicapped, some of whom are agency clients. Overall, this is a diverse group of people who do not agree on a best way to provide public transportation. They differ in their needs for transportation, their mobility limitations, their philosophies on mainstreaming, and their abilities to pay. Potential demand for public transportation for the elderly and handicapped far exceeds supply.

2) Multnomah County Aging Services Division (ASD), the tri-county DD programs, and other social service agencies which want to treat their clients as individuals by providing the most appropiate services for each. Transportation is an essential support service for their basic programs. All agencies would like to provide transportation which is responsive to client needs while staying within limited agency budgets. The agencies differ in their policies and requirements for contracted transportation services.

3) TRI-MET, the regional transit district, which operates a fixed-route general transit system and coordinates a door-to-door system for the transportation-handicapped. TRI-MET sees itself as the regional coordinator for elderly and handicapped transportation services and tries to balance funding, quality of services, and the needs of various constituents. However, services for the elderly and handicapped comprise only a small part of TRI-MET's total program and budget.

4) Private providers who contract with TRI-MET to operate the door-to-door system and thus have daily contact with riders.

They need to efficiently and effectively provide service within the policies established by TRI-MET and social service agencies and within their contracted funding levels.

5) Social service providers who need transportation services for their clients and yet have little control over the contracted transportation delivery system.

A system with so many interested parties and perspectives is bound to have disagreements and need compromises. This study will point out issues which are unresolved so that future negotiations can deal with them and reduce tensions among the various groups.

Information for the study was obtained by interviewing people involved in the elderly and handicapped transportation system in Portland and in eight West Coast cities. In addition, relevant literature was reviewed to obtain a broader perspective. The remainder of the report is divided into four parts: a description of Portland's elderly and handicapped transportation system; an analysis of comparative cities information; a discussion of issues; and a set of recommendations for Multnomah County. Descriptions of the comparative cities elderly and handicapped transportation systems are also included in Appendix 4.

THE PORTLAND SYSTEM

Portland's system of elderly and handicapped transportation serving both agency clients and general passengers is illustrated in Figure 1. This figure shows that there are two types of transportation purchasers, individuals and social service agencies, and three types of transportation providers, private transportation companies, TRI-MET, and a variety of volunteer and social service agency programs. Figure 1 also illustrates the flow of tax-supported funds into the system.

All transportation services begin with individuals who need to get somewhere. Most elderly and handicapped individuals access the transportation system directly by arranging and paying for their own rides in taxis, buses, or other vehicles. Low income elderly persons, developmentally disabled individuals, and certain other agency clients may, however, obtain transportation as part of the services they receive from social service agencies.

The Multnomah County's Aging Services Division (ASD) and the tri-county DD programs are two social service programs which supply client transportation. They obtain their primary transportation services by contracting with TRI-MET to carry clients on the door-to-door LIFT system. They also utilize taxis, volunteers, and other programs for additional transportation needs.

ASD and the DD programs have different transportation needs. ASD contracts for service three to five days each week to sites serving noon meals, for weekly grocery shopping trips, and for intermittent trips primarily for medical appointments. Currently about 77% of the trips are to nutrition sites, 6% for shopping, and 17% for intermittent purposes. Trips are short, as shown in

Figure 1: PORTLAND'S ELDERLY AND HANDICAPPED TRANSPORTATION SYSTEM

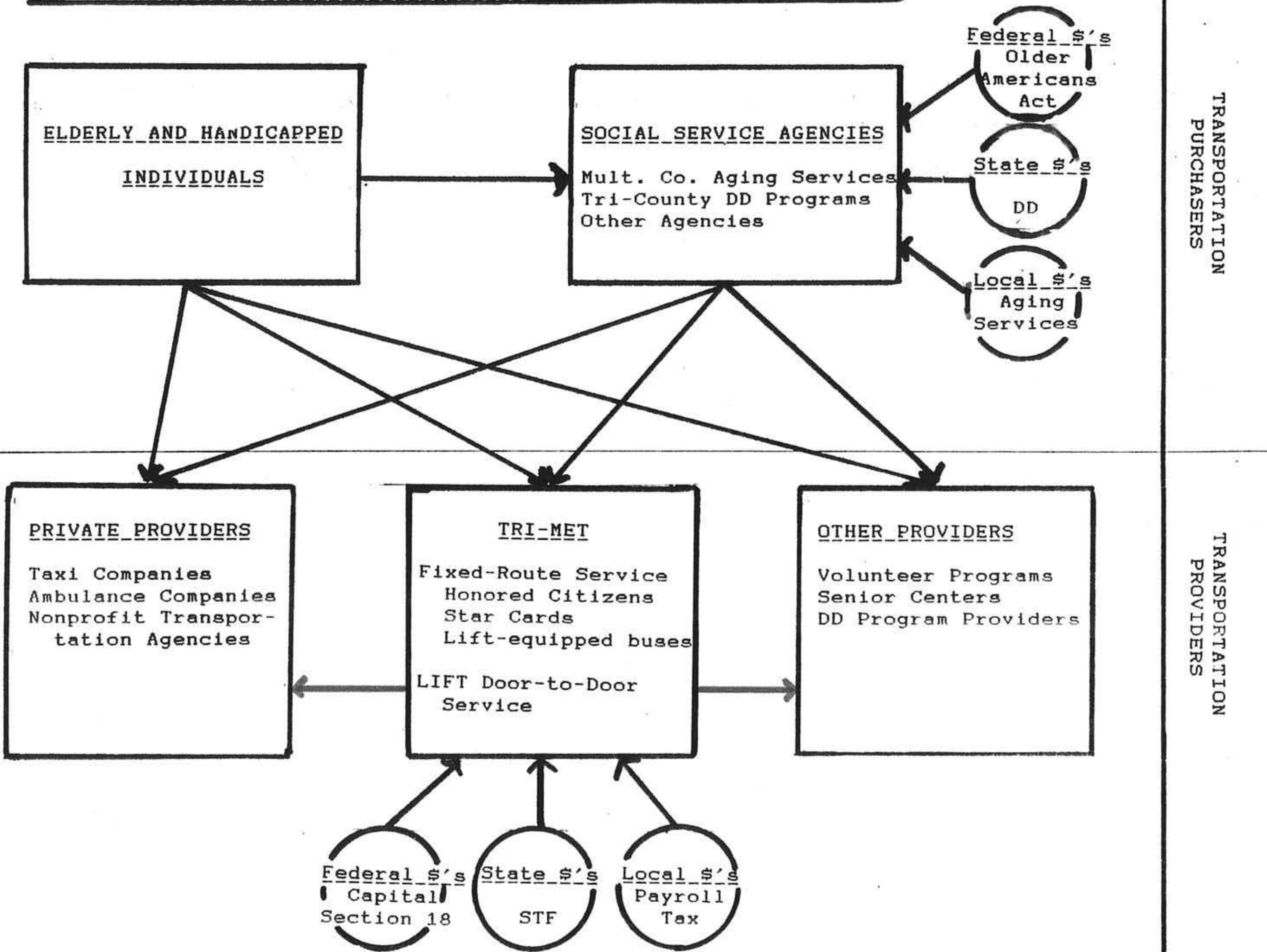

TABLE 1: TRIP LENGTHS ON TRI-MET'S LIFT SYSTEM

Trip Length	Type of Passenger: Aging Services	DD Programs	General Passengers
0-4 miles	91%	49%	64%
4-10 miles	9%	45%	31%
10+ miles	less than 1%	6%	5%

Source: TRI-MET January 1987 trip data

Note: General Passengers includes Section 18 passengers.

Table 1, because most clients use neighborhood services. As Table 2 indicates most trips are grouped at one or both ends because of the preponderance of nutrition and shopping trips.

In contrast, DD trips are daily to sheltered workshops. Most of the clients are served by routes which pick up people living in the same area who go to a single work site or to proximate work sites. Table 1 shows longer trip lengths reflecting the fact that group homes and sheltered workshops are often in different areas. There is considerable grouping evident in Table 2 because many clients live in group homes and the number of workplaces is limited. The percentage of grouped-at-one-end trips is however only a rough estimate.

The agencies also differ in their funding sources. ASD's transportation funds come from the federal Older Americans Act and

TABLE 2: INDIVIDUAL AND GROUP TRIPS ON TRI-MET LIFT SYSTEM

Trip Type	Type of Passenger: Aging Services	DD Programs	General Passengers
Individual	12%	14%	73%
Grouped-at-one-end	67%	42%	---
Grouped-at both-ends	21%	44%	27%

Source: TRI-MET January 1987 Trip data. Number of grouped-at-one-end agency trips estimated from number reported as individual trips.

TABLE 3: TRI-MET'S LIFT SYSTEM PASSENGERS FY 1986-87

Type of Passenger	Monthly Average		Percentage	
Agency				
Mult. Co. Aging Services				
Nutrition	6,723		20 %	
Medical, etc.	1,957		6	
Wash. Co. Aging	1,446		4	
DD programs	9,059		27	
Other Agency	708		2	
Agency Totals		19,893		59%
General Passenger				
Urban	10,287		31%	
Rural (Section 18)	2,986		9	
General Passenger Totals		13,273		40%
Total		33,166		99%

Source: TRI-MET

Note: Percentages do not add to 100 due to rounding. Data presented does not include volunteer program (1,090 rides/month) nor fixed-route service using LIFT vehicles (1,686 rides/month); so totals may not be the same as reported elsewhere.

city and county general funds. DD transportation is funded by the state which currently allocates $28.23 per month for each transportation slot. A supplemental appropriation of $88,274 for the tri-county DD programs was added in January 1986 to help meet costs.

As indicated in Table 3, ASD and the DD programs currently purchase over half the rides on TRI-MET's LIFT system in the Portland metropolitan area. Within Multnomah County, agencies purchase 71% of the LIFT rides leaving a smaller portion of the rides for general passengers.

Fare-paying general passengers and agency clients may ride on the same vehicle, although they are unlikely to do so because most agency trips are routes to or from nutrition sites, grocery stores, or work places. General passengers pay a 50 cent fare while aging service clients are encouraged to make donations (the Older Americans Act prohibits fares) and DD clients pay an $8.00 monthly fee. Donations currently average about 5 cents a ride up from 1/2 cent per ride in 1985 following a program to increase donations. ASD paid TRI-MET an average of $1.94 per ride in 1986-87 while DD paid $1.84.

There are restrictions on LIFT use. Transportation-handicapped persons must register with TRI-MET to obtain a LIFT card or use an agency card to obtain service. Trips must be arranged at least 48 hours in advance by calling the dispatch center in each county. Both TRI-MET and the agencies have trip purpose priorities for determining which rides will be served first. (See Appendix 2) In addition, agency trips are given priority over general passenger trips for the same purpose.

TRI-MET contracts with private providers to operate the LIFT system using TRI-MET owned vehicles. Separate contracts are let by competitive bidding in each county. Currently, Special Mobility Services serves Multnomah County, Broadway Cab in Washington County, and Willamette Falls Ambulance in Clackamas County. In addition some services--especially return trips--are subcontracted to taxi companies. Providers are responsible for scheduling, dispatching, driving, and maintaining the LIFT vehicles.

The LIFT door-to-door service is a major component of TRI-MET's special needs transportation program. Revenues and expenses for FY 1986-87 for the elderly and handicapped transportation program and for the LIFT portion of the program are presented in Table 4. This tabulation is similar to the special

TABLE 4: FY 1986-87 TRI-MET REVENUES AND EXPENDITURES FOR ELDERLY AND HANDICAPPED TRANSPORTATION AND LIFT SYSTEM

	Elderly & Handicapped		LIFT	
Revenues				
User charges (1)	$ 96,288	2%	$ 96,288	3%
Agency payments (2)	474,826	11	474,826	14
UMTA (3)	791,623	18	683,632	20
Local Government (4)	25,000	1	0	0
STF (5)	1,077,611	24	636,651	19
Payroll Tax	1,943,991	44	1,500,754	44
Total	$ 4,409,348	100%	$ 3,392,151	100%
Expenditures				
Staff (6)	$ 206,012	5%	$ 100,025	3%
Materials & Services	35,000	1	19,750	1
LIFT operating expenses	2,558,476	57	2,558,476	75
Fixed Route Access.	770,960	17	0	0
Capital (7)	838,900	19	713,900	21
Total	$ 4,409,348	99%	$ 3,392,151	100%

Source: TRI-MET data and estimation of LIFT allocation.

Notes:
(1) User charges include LIFT fares, AAA donations, DD fees and tickets.

(2) Agency payments are less than TRI-MET reports because fees are included in user charges and Section 18 revenues in UMTA.

(3) Elderly and Handicapped UMTA includes Section 18 ($68,706), Capital ($697,120), and Planning ($51,806).

(4) Local government payment is local match for accessible stops.

(5) STF does not include $84,922 from outside Tri-Met service area carried over to 87-88. $440,960 of STF is allocated to fixed route accessibility, the remainder is allocated to LIFT.

(6) LIFT staff includes 50% manager, 90% planner III, 25% of community relations specialist, 50% each information and customer services specialist, 75% of fiscal and legal staff time, and share of fringe benefits.

(7) LIFT capital expenses were for 6 mini-buses with lifts and radios, 12 vans with lifts and radios, flxette door repair, computer equipment, and radios.

needs transportation budget which TRI-MET prepares with differences explained in the notes section.

TRI-MET's revenue for elderly and handicapped transportation comes from local, state, and federal sources. Local revenues include fares, donations and fees; agency payments for service; and the payroll tax, TRI-MET's primary revenue source. The payroll tax is used to balance the elderly and handicapped transportation budget, paying the difference between what is raised from other sources and expenditures.

State funding comes from the Special Transportation Fund (STF), raised with a one cent tax on cigarettes and dedicated to elderly and handicapped transportation. Many supporters of the STF fund hoped it would be used to expand transportation services for the elderly and handicapped. Instead TRI-MET has partially used it to replace payroll tax support as the numbers from the adopted budgets indicate in Table 5. In Table 4 the allocation of STF to LIFT is based on $440,960 of STF revenues being set aside as a capital fund for fixed-route accessibility. This capital

Table 5: BUDGETED STF AND PAYROLL TAX FUNDING OF TRI-MET ELDERLY AND HANDICAPPED TRANSPORTATION

Year	STF	TRI-MET Support (Payroll/Farebox)	Total TRI-MET Budget	TRI-MET Support as % of budget
1985-86	$ 0*	$ 2,111,677	$ 70,017,000	3.02 %
1986-87	1,288,723	1,938,011	74,843,000	2.59
1987-88	1,218,170**	1,883,579	80,639,000	2.34

Source: TRI-MET special needs transportation budgets

* Although no STF was budgeted for 85-86, TRI-MET received one quarterly payment of about $320,000 which reduced the actual amount of TRI-MET support.

** 87-88 STF includes $67,995 carryover from 86-87 for cigarette tax from outside TRI-MET's service area.

fund provides all of the local match for lifts on new fixed-route buses plus 21% of the cost of these buses reflecting the portion of elderly and handicapped use.

Federal funding from UMTA includes 80% of capital costs, some planning funds, and Section 18 which subsidizes up to half the cost of service in rural areas.

Using LIFT contracted operating costs ($2,558,476) for 1986-87, the average contracted cost per trip was $5.72. Using total LIFT costs ($3,392,151), the average total cost per trip was $7.83. This total average may be slightly high because actual capital expenditures ($648,900 for vehicles) were used rather than average annualized replacement costs (estimated at $480,000 to replace 1/7 of the 83 vehicle fleet annually).

TRI-MET's policy has been that agencies should pay 60% of the cost of service for their clients. They are billed at 60% of the rates specified in Appendix 3. These rates were set in 1982 and, according to TRI-MET, no longer reflect the actual cost of service. To check this point, we applied the billing rate schedule to all agency and general passenger trips in a sample month (See Appendix 5 for details) and determined that the average billing rate for a ride would be $5.51. This is 96% of the $5.72 average contracted cost or 70% of the $7.83 average total cost. Thus, if the billing rates were applied to all trips, they would recover almost all the contracted operating costs for LIFT.

Some DD clients receive service at a lower charge than 60% of the billing rates. Because the DD programs did not have adequate funding, a compromise was reached in January 1986 where a base group of clients (originally 223, now 164) receive services for a flat monthly fee of $9,533. TRI-MET and the DD programs dispute whether this was a temporary or permanent arrangement. TRI-MET has requested that all DD clients pay the full 60% of the billing rates starting this fall.

TRI-MET's LIFT service does not meet all the transportation needs of ASD and the DD programs, and both agencies utilize additional transportation services. Senior Centers use their own funding sources to provide additional transportation. Services include use of center vehicles, volunteer programs, staff provision of transportation, and use of taxis. ASD also funds transportation to ethnic meal sites using the sponsor's vehicles. DD programs use mobility training to facilitate use of the fixed route bus system, and day programs and parents provide additional transportation.

TRI-MET has recently increased their involvement in volunteer transportation programs. They are coordinating and partially funding seven programs with groups such as Neighborhood House, the North Plains Senior Center, and the Clackamas County Social Service Division. The objective is to increase transportation for people who are not adequately served by the LIFT program. This includes people who live outside the service area, some "last minute" medical trips, and some services that are low priorities on the LIFT system. Several of these programs use vehicles which TRI-MET has purchased. Agencies contend that while some individual service providers are involved in TRI-MET's new program, they have not been contacted to help determine what services should be provided.

TRI-MET also plans to begin a 50% user-side subsidy program for elderly and handicapped taxi service in 1987-88. Because of the cost to the user, this program will probably have little impact on social service transportation services.

The Portland area social service agencies have a number of concerns about their role in this interconnected transportation system. Their concerns include:

1) Is the current mix of funding for social service transportation adequate and appropiate?

2) Do the advantages of contracting with TRI-MET and participating in a highly coordinated system outweigh the disadvantages? Can the disadvantages be reduced through negotiation?

3) How can limited funds be stretched to serve increasing transportation needs? Do other funding sources exist or are cheaper methods of service provision possible?

The next two sections will discuss other cities' solutions to similar questions and look in more detail at these issues and options for solutions in the Portland metropolitan region.

COMPARATIVE CITIES ANALYSIS

Eight West Coast cities were contacted to obtain information on their elderly and handicapped transportation systems and to determine how agency transportation services fit in these systems. Areas contacted were Lane County and Salem in Oregon; Pierce County, Seattle, and Spokane in Washington; and Sacramento, San Francisco, and Santa Clara County in California. Each area operates a unique program shaped by the local history of transportation services and the regulatory and funding environment. Descriptions of these individual programs are provided in the Appendix.

No matter how varied the social service transportation delivery systems are all must address the following basic questions:

1) How should social service agency transportation be funded?
2) How much coordination and consolidation of agency and general passenger service is desirable?
3) How can supply and demand be balanced?

There are many solutions to these questions and current West Coast practices are discussed below.

1) How should social service agency transportation be funded?

There are three basic sources of funding for social service agency transportation--funds dedicated to transportation for the elderly and handicapped, social service agency budgets, and transit agency budgets. Funding may be provided by federal, state, and local levels of government. Federal sources--Older

Americans Act funds for aging programs and UMTA funds for some transit purposes are widely used. State and local funding, however, varies greatly.

In Oregon, all three basic sources are used to fund aging and DD client transportation. The ODOT-administered Special Transportation Fund (STF), funded by a one cent tax on cigarettes, is used to partially fund demand-responsive systems serving both general passengers and agency clients in Portland and Lane County. Additional funding comes from social service and transit budgets. Lane County, along with Salem, also uses STF to fund specialized transportation programs for DD clients. In Salem basic DD transportation services are fully funded by the transit district while aging agency services are funded by the agency, STF, and federal Section 18 rural operating subsidy.

Most California urban areas have door-to-door transportation services for the elderly and handicapped because 5% of the California Transit Development Act funds (raised by a 1/4 of 1% sales tax) are dedicated to special transportation. These funds may be administered by transit districts (San Francisco), counties or cities (Santa Clara County), or consolidated non-profit transportation agencies (Sacramento). San Francisco and Sacramento add significant additional funding for special transportation from the city and county general funds while most Santa Clara County cities spend only the dedicated funds.

California's aging agencies fund some additional transportation services using Older Americans Act funds. Because the state, counties, and cities are funding elderly and handicapped transportation services directly, rather than supporting transportation through aging agencies' budgets, the proportion of elderly and handicapped transportation funded by aging agencies is smaller than in Portland.

California's DD programs are administered by 21 regional centers. Some regional centers have placed clients on the door-to-door systems as general passengers effectively using the dedicated funding to pay for DD transportation. This has severely strained some systems and raised questions of equity. For example, in 1982 Getabout in east San Gabriel Valley was providing 65% of its service to 125 DD clients who represented less than 3% of the registered users.(1) Currently many regional centers are using some of their state social service funding to contract for transportation services with private providers or transit agencies. For example, the San Andreas Regional Center currently spends $2.5 million of its state funding to provide special transportation for 905 clients in a 4 county region (an average of $230/client/month).

Washington state relies mainly on transit district funding for social service transportation because there are no dedicated state funds for elderly and handicapped transportation and social service budgets are limited. There is some state and federal social service funding for elderly transportation. Seattle and Pierce County aging agencies use these funds to contract with private providers for services while Spokane's aging agency works with the transit district. Seattle's aging agency only funds nutrition and adult day health trips, Spokane focuses on intermittent trips, and Pierce County provides both types. No state funds are provided for DD transportation. Transit districts, however, are relatively well funded by locally-levied sales taxes. As a result, transit districts currently are serving DD clients and some aging agency clients as regular fare-paying passengers.

In general, the funding sources determine the nature of service delivery. California cities have elderly and handicapped transportation systems because of dedicated funding, although DD clients are often served separately from these systems. Washington relies heavily on transit districts because they are better funded than social service agencies. Oregon coordinates transit and social service programs because mixed funding is used.

2) How much coordination and consolidation of agency and general passenger service is desirable?

Coordination is a major concern in elderly and handicapped transportation. It was a principal issue at the First UMTA and AoA National Conference on Transportation for the Elderly and Handicapped held in 1985.(2) Perhaps as a result of the conference's recommendations, the federal Departments of Health and Human Services and Transportation announced an agreement in October 1986 to improve the coordination of federal transportation programs and policies.(3) California law requires coordination at the county levels. Most local areas do coordinate but the degree and type of coordination varies.

Coordination is usually viewed as a positive step which can improve service by eliminating duplication, increasing reliability and efficiency, achieving economies of scale in management and operations, and making the system more comprehensible to users. Nonetheless, a high degree of consolidation may result in a less flexible and responsive system, difficulty in sorting out who should pay for what, and a lack of feelings of ownership by participants not involved in the day-to-day operations. Hence, a balance needs to be struck between responsive but fragmented service on the one hand and efficient but monolithic service on the other hand.

The Portland metropolitan region has tipped the balance in favor of coordination. Portland's system is one of the most highly coordinated on the West Coast although similar systems exist in Philadelphia, Pennsylvania, and Charlottesville, Virginia.(4) In particular, the tri-county DD contractual relationship with the transit agency is different from other West Coast arrangements studied. In Washington state DD clients are treated as general passengers on door-to-door transportation systems or strongly encouraged to use the fixed-route system. In California, many DD programs contract directly with providers. In Oregon, Salem emphasizes use of the fixed-route system while both Lane County and Salem have developed more specialized DD transportation services using STF money.

In contrast most aging agencies' transportation services have ties to general passenger door-to-door systems. These connections range from some overlapping providers (Santa Clara County, Seattle) to common brokers but separate service (Sacramento, San Francisco) to highly coordinated programs (Lane County, Portland, Spokane). Two areas lack ties. Salem has no general passenger door-to-door system, and Pierce County has totally separate systems for general passengers and aging clients.

Oregon systems are coordinated in order to share resources. TRI-MET's LIFT general passenger and agency service is highly consolidated with a single provider in each county. While it is efficient, this consolidated system may be less responsive to different needs than one with multiple providers. Lane County has developed more flexibility by pooling resources in a system coordinated by the Lane Council of Government and using a variety of types of services.

In California, social service transportation programs (not including DD programs) must be coordinated at the county level. Santa Clara County meets this requirement by having a coordinating council of local government and agency representatives while maintaining individual city programs. In contrast, Sacramento County has consolidated most programs in a non-profit agency and San Francisco coordinates transit and agency services through a common broker.

There is little coordination between transit districts and social service agencies in Washington state. Transit districts have often become the primary social service providers more by default than by design. As a result social service agencies have no control over the quantity and quality of service except through the political process. Seattle's system is particularly fragmented at this time, and the aging agency feels that better coordination and perhaps a single broker is needed to make the system more comprehensible and accessible to users.

The general trend has been toward brokered services which provide a single contact point but multiple providers and a variety of services for different geographic areas and clientele. Lane County, Sacramento, and San Francisco have brokers separate from the transit agency. The San Andreas Regional Center (DD program) acts as its own broker by contracting with multiple providers. Like the brokered systems TRI-MET coordinates several services and has been increasing the number of providers.

3) How can supply and demand be balanced?

Demand for social service agency-sponsored transportation is expected to rise as the number of both elderly and community-based DD clients increase. To deal with increased demand, programs must find additional funding, more efficient service, or further ways to ration service. All social service transportation programs have some means of limiting transportation service which tries to balance cost, availability, and quality of transportation.

Social service agency's primary mechanism for limiting service to eligible clients is trip purpose priorities. DD programs generally provide transportation only to work activities. Aging programs vary in their choice of priorities. Sacramento and Spokane only fund intermittent trips for medical appointments and necessary personal business while Seattle and San Francisco concentrate on trips to nutrition sites and other agency programs. Portland and Pierce County supply nutrition, medical and some other trips.

Some agencies have funding too meager to offer much transportation and have focused attention on making services of the transit district available to their clients. For example in Seattle, DD and aging programs and their constituents recently convinced METRO to lower fares on the door-to-door system to the same rates as on fixed-route buses. They successfully argued that those with the greatest need for public transportation should not have to pay the highest price.

Whenever agency clients utilize public transportation either through contractual relationships or as fare-paying passengers, they are subject to rationing strategies of the transit agency. Transit agencies use price, waiting time, and trip purposes as rationing mechanisms. Seattle's case illustrates what happens when rationing methods are changed. Lowering prices has upset the balance of supply and demand. Passengers must now call further in advance, and more of the service is being reserved by regular daily passengers. Providers are considering imposing trip purpose constraints or limits on the amount of subscription service to help bring demand and supply back into balance.

When agency clients and general passengers use the same system, conflicts can develop between the two types of users. These conflicts are evident in Portland and have been a major concern of some California door-to-door programs where DD clients have overwhelmed the system. Transit agencies may take steps to limit the amount of service available to social service clients. One method is to charge agencies for some or all of the cost of service. In Portland, agency clients receive priority service in exchange for partial payment of costs. In Spokane, the aging agency pays the full cost of trips but receives no special services. Another stragegy, especially limiting for DD clients, is to restrict an individual's use of the service. For instance, San Diego allows only eight trips per month.(5) Seattle previously had a similar policy although the DD programs found ways to circumvent it.

Because potential demand for social service transportation exceeds the ability of agencies to pay, some restrictions on service is necessary. These restrictions may be on price, dependability, or availability of service. As Seattle amply illustrates, removing one type of restraint will cause others to increase in importance. The problem lies in finding a rationing system that is effective at balancing supply and demand, equitable in serving users, and able to fulfill other social policy goals.

In general, basic social service transportation concerns are shared by all programs. Whether deliberately or by default, solutions are found. However, each area's solutions are uniquely determined by local conditions. The experiences of other cities can suggest advantages and disadvantages of various solutions, but are unable to provide definitive answers to local problems.

ISSUES

This section reviews the issues specified in the study contract and discusses options available to ASD and the tri-county DD programs.

Contracted transportation charges

Table 6 compares TRI-MET's costs/ride with data from the West Coast comparative cities. This data should be interpreted cautiously as cost/ride measures more than efficiency. The measure depends on many factors including labor costs, size of the area and the transportation system, density of the population served, topography of the area, types of trips provided, proportion of passengers in wheelchairs, and the accounting methods used.

The top portion of the table compares TRI-MET's total LIFT cost/ride, including administration and capital, with cost/ride reported by other transit and paratransit agencies. TRI-MET's cost/ride was computed using the expenditures detailed in Table 4. We do not know if capital and all other expenses are included in the other transit agency figures. If other transit agencies have omitted some expenses, their cost/ride would be higher making TRI-MET's cost/ride look better.

TRI-MET ranks second among these six agencies. San Francisco's group van service is cheaper because, as the name implies, only trips grouped at one or both ends are provided. In contrast, San Francisco's lift van service is very expensive because all service is for people in wheelchairs traveling for individual purposes. Spokane, Sacramento, and Pierce County's

TABLE 6

COMPARATIVE TRIP DATA FOR DOOR-TO-DOOR TRANSPORTATION SYSTEMS

	trips/month	cost/trip	fares
Costs of transit and paratransit agencies for door-to-door service			
San Francisco (Group Van)	9,779	$ 6.19	$ .40
TRI-MET (1)	**36,105**	**7.83**	**.50**
Spokane	10,500	8.51	.60
Sacramento	15,575	8.65	2.00
Pierce County	14,775	8.76	.60/.25
San Francisco (Lift Van)	3,960	17.12	.40
Costs of contracted door-to-door service			
TRI-MET (2)	**36,105**	**5.72**	**.50**
Lane County	1,300	5.96	.50
Seattle	5,000	8.72	.20
Costs of aging agencies contracted door-to-door services			
Sacramento	1,650	3.64	
Pierce County	8,137	3.70	
Salem (Rural)	3,000	4.22	
San Francisco	5,800	4.60	
TRI-MET (3)	**8,680**	**4.73**	
Seattle		5.00	
Salem (Urban)	2,000	5.25	

Sources: Transit and social service agencies or transportation providers. All data for 1986-87 fiscal year, except San Francisco for 85-86. See Appendix for descriptions of individual programs.

Notes:
(1) Based on total LIFT costs of $3,392,151 (see Table 4)
(2) Based on LIFT contracted operating cost of $2,558,476.
(3) Based on ASD trip lengths and grouping. See Appendix 5 for computations.

services are more like TRI-MET's as all serve a mix of passengers and trip types.

The middle section of Table 6 compares TRI-MET's contracted cost/ride with that of other contracted services. This cost/ride is the one TRI-MET usually reports and is calculated using the contractors' costs of operating LIFT. TRI-MET's administrative costs and all capital costs are thus omitted. Lane County's figure is for Special Mobility Services, provider for dial-a-ride and some other services. Seattle's cost/ride is the contracted cost for the North King County provider. Again we do not know if any capital expenses are included in Lane County's or Seattle's costs and therefore can not assure that these cost/ride figures provide accurate comparisons.

The last section of Table 6 compares the costs of various aging services contracted transportation. The $4.73 estimate of TRI-MET's cost/ride is based on the trip lengths and grouping criteria currently used in billing. (See Appendix 5 for details of calculations and discussion of underlying assumptions.) We estimate that cost/ride of ASD-sponsored trips would be about $4.19 if grouped-at-one-end trips were considered as a separate category with costs halfway between individual and grouped costs. Therefore, TRI-MET's costs for aging service rides are average ranking either 3rd or 5th out of seven.

Table 7 compares TRI-MET's contracted costs per mile and per hour with results from a 1985 survey of transit agencies using contracted services. The survey was conducted by the Institute for Transit Studies at the University of California-Irvine. TRI-MET's costs were lower than average for large systems on both measures.

TABLE 7: COMPARATIVE COSTS OF CONTRACTED DOOR-TO-DOOR SERVICES

	Cost/Mile	Cost/Hour
TRI-MET (83 vehicles)	$1.29	$17.55
Univ. Calif-Irvine study		
1-25 vehicles	1.48	16.97
25 or more vehicles	1.60	18.55

Source: TRI-MET and PTI Journal, Vol 1., No. 2, May-June 1987

These tables indicate that TRI-MET is providing services at reasonable costs. The crucial question is then, what portion of these costs should social service agencies pay? There are two parts to answering this question. First, the costs of providing agency rides must be determined, and second, the responsibility for paying these costs must be assigned.

We used detailed billing information for a sample month to estimate the cost/ride figures presented in Table 8. Details of the calculations are in Appendix 5. This analysis considers the effects of grouping and trip length, but does not include all factors affecting cost because reliable data were unavailable. Some factors which might be included are the size of groups, the loss of flexibility associated with guaranteed agency trips, and the proportion of wheelchair passengers in each user group. As Table 8 indicates overall agency trips cost less than average but individual agency's clients have quite different patterns of

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TABLE 8: ESTIMATES OF COST/RIDE ON TRI-MET'S LIFT SYSTEM

Trip Type	Cost/Ride	Percent of Average Cost/Ride
LIFT	$7.83	100%
All Agency Trips	$6.28 - 6.74	80 - 86%
Mult. ASD	$4.19 - 4.73	54 - 60%
DD	$7.82 - 8.50	100 - 109%
General Passenger	$9.51-$10.17	121 - 130%

Source: Estimated from January 87 billing data

TABLE 9: ESTIMATION OF COST RESPONSIBILITY FOR LIFT IN FY 86-87

	Agency Passengers		General Passengers	
Expenditures				
50-50 division	$ 1,696,075	100 %	$ 1,696,075	100 %
Revenues				
User Charges	23,189	1 %	73,099	4 %
Agency Payments	474,823	28	0	0
UMTA	307,463	18	376,169	22
STF	318,325	19	318,325	19
Payroll Tax	572,262	34	928,482	55
Total	$ 1,696,075	100 %	$ 1,696,075	100 %

Source: Estimated from Table 4.

travel and, therefore, cost.

The second step is to determine the proportion of these costs that social service agencies should pay. Agencies currently pay a premium price for service, and in return, are given priority over general passengers. Agencies, however, contend that their clients' trips would be high priority trips anyway and they are not receiving quality service. There is variability in DD client pickup times and schedules are not adequately coordinated with day programs. Aging clients needing intermittent service often have long waiting times. When service doesn't meet clients' needs, agencies wonder why they pay extra for it.

The comparative cities provide little guidance on the share of cost agencies should pay because the proportions ranged from 0 to 100% depending on funding sources and the regulatory environment. Table 9 is an attempt to uncover the current division of cost responsibility for the LIFT system. This table is based on LIFT costs and revenues reported in Table 4. In Table 9, 50% of the LIFT costs are assigned to each type of service. Agencies currently purchase 60% of the LIFT rides, but because of grouping

TABLE 10: SUMMARY OF ESTIMATED COST RESPONSIBILITY ALLOCATIONS

Revenue Sources	E & H 86-87	LIFT 86-87	Agency 86-87	Agency Proposed 87-88
User Charges	2 %	3 %	1%	2%
Agency Payments	11	14	28	58
UMTA	18	20	18	13
STF	24	19	19	20
Payroll Tax	44	44	34	7
Total	99 %	100 %	100 %	100 %
Budget Totals	$4.4 M	$3.4 M	$1.7 M	$1.6 M

Source: Tables 4 and 9 and estimation from 87-88 TRI-MET budget

and trip length these rides should cost only 80-87% of the average cost producing about a 50-50 division. Likewise, UMTA (except Section 18) and STF funding are divided equally while the payroll tax is used to balance each allocation.

TRI-MET proposed a doubling of agency payments in their 1987-88 budget. TRI-MET expected this increase to come from more agency rides, from DD paying the full rate for all clients, and from a general rate increase. This proposal shifts substantial cost responsibility from the payroll tax to agencies as Table 10 illustrates. Estimates for 87-88 were derived from the TRI-MET elderly and handicapped transportation budget using the same principles utilized in determining 86-87 levels.

Table 11 converts the cost responsibility data to cost/trip allocations based on actual 1986-87 payments and TRI-MET's 1987-88 budget proposal. The percent of current agency payments differs from that reported in Table 10 because the Table 10 figure is an average for all agencies. Table 11 indicates that TRI-MET's proposed rate hike would increase the cost of ASD trips by about $.49 each for an annual budget increase of around $50,000. DD payments would rise substantially more because TRI-MET's budget proposal includes payment at the full rate for all DD client trips. DD trip costs would increase by $2.70 each (about a 150%

TABLE 11: ESTIMATED COST RESPONSIBILITY ALLOCATIONS FOR AGENCY AND GENERAL PASSENGER LIFT TRIPS 1986-87 AND PROPOSED 1987-88

Aging Services Division

	Current		Tri-Met Proposal		Change
User Charges	$ .05	1 %	$ .05	1 %	$ .00
Agency Payments	1.94	46	2.43	58	+ .49
UMTA	.75	18	.55	13	- .20
STF	.80	19	.84	20	+ .04
Payroll Tax	.65	16	.32	8	- .33
Cost/Trip	$4.19	100 %	$4.19	100 %	$ .00

DD Programs

	Current		Tri-Met Proposal		Change
User Charges	$ .14	2 %	$ .14	2 %	$ .00
Agency Payments	1.84	24	4.54	58	+2.70
UMTA	1.41	18	1.02	13	- .39
STF	1.49	19	1.57	20	+ .08
Payroll Tax	2.94	38	.55	7	-2.39
Cost/Trip	$7.82	101 %	$7.82	100 %	$ .00

General Passengers

	Current		Tri-Met Proposal		Change
User Charges	$ .50	5 %	$ .50	5%	$ .00
Agency Payments	.00	0	.00	0	.00
UMTA	2.25	22	1.83	18	- .41
STF	1.93	19	2.03	20	+ .10
Payroll Tax	5.50	54	5.81	57	+ .31
Cost/Trip	$10.17	100 %	$10.17	100 %	$ .00

Sources: Current User Charges and Agency Payments are average per trip payments for 1986-87, UMTA and STF percentages from Table 9, Payroll Tax is amount needed to add to cost/trip, Cost/Trip calculated in Appendix 5 using new grouped-at-one-end billing category. Tri-Met proposal estimated from 1987-88 adopted budget for elderly and handicapped transportation (See Table 10 for agency percentages).

increase) with an annual budget increase of approximately $295,000.

Cost responsibility for agency client trips can also be compared with cost responsibility on fixed-route buses. Fixed-route passengers pay an average fare of $.52 covering 26% of the $2.01 cost. The remaining $1.49 is paid by TRI-MET primarily from payroll tax revenues.(6)

Some issues regarding contracted costs that need resolution are:

1) **STF allocation to LIFT program.** The proportion of STF support for LIFT is lower than the proportion in the overall elderly and handicapped transportation budget because $440,960 of STF is committed to a capital fund for fixed-route accessibility. STF is currently paying all the local match for bus lifts plus some additional costs of the new buses. TRI-MET probably would have funded these purchases even if no STF funds were available.

2) **Payroll tax support of agency rides.** While it can be argued that agencies with tax-supported transportation budgets should be expected to pay more relatively and absolutely than individuals, the proposed rate of TRI-MET support for agency rides in 1987-88 is less than 10%. Furthermore, TRI-MET's farebox and payroll tax commitment to elderly and handicapped transportation, including agency client transportation, is only equal to 2.5% of its average operating budget.

3) **Quality of service.** In exchange for premium prices, agencies ought to be able to specify some service performance standards in addition to being guaranteed service.

4) **Billing rates.** TRI-MET's rates (see Appendix 3) recognize only individual and grouped-at-both-end trips. Many agency trips fall in an intermediate grouped-at-one-end category. This might be handled with a new billing rate halfway between individual and group rates. Other options include simplifying billing by paying at average trip costs or billing by the hour or the mile. Billing methods vary in their computational costs and their efficiency incentives. For example, billing by the hour or the mile may simplify computation but may also encourage longer than necessary

routes. These factors should be considered when choosing a billing method.

5) **DD rates.** DD is paying an average cost of $1.84 per trip while ASD pays $1.94 even though DD trips are nearly twice as expensive to provide.

Contracting and service delivery options

Theoretically, the social service agencies could obtain transportation services without involving TRI-MET. Options include increasing transportation provided by senior centers and DD day and residential programs, contracting directly with transportation providers, or hiring a broker to contract with providers and handle the day-to-day management issues. The agencies would have to persuade TRI-MET to modify its policy on STF funds to obtain additional funding needed for any of these options. TRI-MET currently allocates all the region's STF funds to its own fixed-route, door-to-door, and volunteer programs. However, transit agencies in Salem and Lane County partially fund a variety of non-transit district programs with STF funds.

Senior centers and DD day programs might obtain vehicles with Section 16(b)(2) funds which, in Oregon, are only available for client specific transportation. However, program provision of transportation does have problems. For example, a Clackamas County model DD program for the multi-disabled would not be living within its state allocation of $210 per client per month if they fully accounted for maintanence and repair time or for depreciation of vehicles. They also report problems in hiring people interested and able to be both drivers and trainers.

Pierce County and Salem aging agencies and some California

DD programs are examples of agencies contracting directly for services while none of the areas examined has a broker exclusively for social service client transportation. The Los Angeles Regional Centers' experience with contracting points out that careful negotiation and monitoring are essential to obtain cost-effective service which meets performance standards. They have lowered costs and improved the quality of service by assigning purchasing and monitoring of transportation to a full-time coordinator, by maintaining a comprehensive computerized data base, and by using competitive bidding to assure efficient and on-time service.(7)

Another theoretical possibility is to stop funding client transportation and turn the responsibility over to TRI-MET. This could have serious consequences both for agency programs and the LIFT system. Because DD clients use the LIFT system more often than the average passenger, ending DD funding would probably have the greatest impact. At a minimum, DD clients would no longer be given priority, and service could become more erratic, negatively impacting day programs. In addition, reduced funding for LIFT would probably mean service cuts, exasperating tensions among user groups. TRI-MET and its advisory committee, the Committee on Accessible Transit (CAT), could react by limiting DD access to LIFT with new trip priorities or other strategies.

Aging agencies could withdraw support for certain types of services, but this has created problems in other areas. In Seattle, elderly people needing transportation for medical appointments and other intermittent purposes must deal with an uncoordinated system of METRO and volunteer services. In Sacramento, fewer people are traveling to nutrition sites because either the client or the nutrition program must pay the $2.00 one way fare.

Practically, social service agencies and TRI-MET have strong incentives to continue to work together. Despite current differences each depends on the other for financial and political support. TRI-MET currently pays 35-57% of the agencies' transportation costs from STF and the payroll tax. On their own, agencies would have no access to TRI-MET's payroll tax and would have to apply to TRI-MET for STF. TRI-MET also has exclusive access to most UMTA capital funds, and it owns the vehicles the LIFT providers use. TRI-MET benefits from the relationship because grouped agency rides increase the productivity of the LIFT system and social service agencies pay a substantial share of LIFT costs. Politically, all the transportation programs depend on state government for some of their funding. A united metropolitan region should have more clout with the legislature than a divided one.

The agencies and TRI-MET could jointly change the current system by establishing a brokered system more like Lane County's example. This would require the cooperation of both the social service agencies and TRI-MET. This might provide a third party to arbitrate disagreements and more evenly divide "ownership" of the system.

There are some minor irritations in the contracting process which should also be addressed. The county feels that TRI-MET takes advantage of them because TRI-MET knows more about transportation and its budget information is not detailed enough to define agency costs. On the other side, TRI-MET feels that the county treats it as a small provider dependent on the county to stay in business. Both sides might benefit from recognizing mutual benefits and treating each other more like partners in a cooperative endeavor.

<u>Alternative funding resources and demand reduction possibilities</u>

Both social service agencies have had difficulty making ends meet with their present funding levels. Aging services had cost overruns in 1985-86 and had to impose additional restrictions on trip use to balance their budget. ASD has a decentralized system with senior centers ordering intermittent trips which can vary substantially in number from month to month. Centers operate with an understanding that transportation is limited, but without any firm guidelines on how much transportation each center can use. TRI-MET's reports on trip use take a month for preparation and delivery creating a lag in adjustment time. More timely reports from TRI-MET (computerized scheduling might aid this) plus more centralized monitoring or decision making by ASD may be needed to balance use with funding.

State funding for DD programs ($28.23 per client per month) is lower than average monthly billings ($73.60) and substantially less than the total cost of providing service (about $320). Meanwhile, additional clients needing specialized transportation are being added to local programs as they are released from Fairview State Hospital. Although the state has added a supplemental appropiation for the region, their basic attitude is that the Portland region ought to be able to live within their budget because Salem does. This attitude ignores substantial differences in the geography and the transit systems of the two areas.

The Salem area is smaller, shortening trip distances and facilitating use of the bus system to get from one point to another. A simpler bus system also aids transferring in downtown Salem. As a result Salem's DD program is able to make extensive use of fixed-route bus service. The same is true in Spokane, another smaller, more compact urban area.

Because the tri-county region is larger, the fixed-route bus system is more complex. Transferring in downtown Portland is more complicated, and especially for trips with origins and destinations in suburban areas, increases the trip length and time signficantly. This makes using fixed-route service less feasible. In addition, Clackamas County has especially long trips because of its geography. Overall trip lengths on the LIFT system average 4.40 miles, but in Clackamas County they average 7.62 miles.

The Salem Area Transit district is also more oriented to a social service transit mission than TRI-MET. TRI-MET emphasizes its commuter mission. This, in part, reflects the size and character of each area.

Assuming that no new federal funds will become available, there are five potential sources of additional funds for agency transportation services -- funds dedicated to elderly and handicapped transportation, the transit district budget, the state general fund, local government budgets, and client contributions. Obviously, the potential of each of these sources varies.

It was hoped that a one cent increase in the cigarette tax for STF would fill the gap between agencies' ability to pay and TRI-MET's ability to provide. However, the 1987 legislature did not pass this increase. Dedicated funds have proved useful in other states, and increases in STF could be sought in future legislative sessions. In addition to California's sales-tax financed community transit fund, Pennslyvania has lottery funds dedicated to elderly transportation and Wisconsin has a portion of the highway users fees dedicated to elderly and handicapped transportation.

TRI-MET already pays a portion of social service transportation costs and, as previously discussed, the level of their subsidy should be negotiated. However, TRI-MET has its own financial problems and is unlikely to receive additional resources. Thus increasing support for agency transportation will mean tradeoffs with other programs. Tradeoffs within the elderly and handicapped budget might exasperate tensions between agency and other riders. Since both agency rides and turndowns are increasing, some members of the Committee on Accessible Transit, TRI-MET's elderly and handicapped advisory group, feel they are being crowded out of the system. This issue might be addressed with a policy dedicating a specific portion of the LIFT service to general passengers.

TRI-MET could, however, place more emphasis on and devote more of its overall budget to the social service functions of transit. The TRI-MET board took a first step this year by guaranteeing a minimum commitment of payroll tax and farebox support to special needs transportation equal to 2.5% of its average operating budget. However, this commitment comes after several years of declining TRI-MET support already documented in this report, and it did not increase funding for these programs. Some other transit districts spend more. For example, Spokane Transit spends 8% of its $15 million operating budget on its demand responsive system, and Pierce Transit spends over 10% of its $21.5 million operating budget on fixed-route accessibility and door-to-door service for the elderly and handicapped. Since Washington state does not have a state fund dedicated to special needs transportation, both of these districts rely mainly on local funding for these programs.

Another potential source of TRI-MET aid is their growing involvement in volunteer programs. Agencies might work with TRI-MET to assure that these programs serve high priority purposes.

DD programs depend on the state general fund and will need to seek additional funds from that source. Funding on a statewide per client basis does not consider differences in the cost of providing services, and Portland's DD programs cannot buy sufficient service with the amount provided. Washington state's Medicaid program is confronting the same issue. Currently a flat rate of $5.00 per ride is paid to non-profit transportation providers, but service cannot be provided in rural areas for that fee. The state is re-evaluating its payment rate and considering tying payments to local costs. In Portland it is important that an understanding be reached at both the state and local levels about the cost of providing service and the proportion of costs the DD budget should cover.

Aging services is partially funded by the city and county and could seek additional funding from these sources as the aged population grows.

Clients already pay some of the costs through aging program donations and DD fees. Both types of clients have limited incomes and cannot be expected to solve current budget problems. However, client payments are a useful tool for balancing supply and demand. The Older Americans Act prohibition on charging fares is a problem in many areas. Donations are generally small and most systems, Portland and Lane County excepted, will not mix fare and non-fare passengers on the same vehicle.

Rationing mechanisms have already been discussed as ways to reduce demand. Other possible agency actions include increasing mobility training to make more use of the fixed-route system, giving more consideration to long-term transportation costs when siting facilities, and making more efficient use of the system by tightening the criteria for using services.

In sum, there are no easy solutions to current budget problems and, especially in the short term, few places to seek additional resources. Greater efficiencies are possible, but basically more money will be needed to provide even the current level of service.

Impact of the 504 amendments

Recent changes in 504 regulations allow transit agencies to serve disabled populations with fixed route accessible transit (Seattle), demand-responsive transit (Spokane), or a mix of the two systems (Portland and most other West Coast areas). While Portland has emphasized demand-responsive service for the elderly and handicapped, 504 regulations combined with pressure from disabled persons who desire mainstreaming have caused the agency to increase its efforts to make buses accessible.

Under the 504 amendments, demand-responsive transit needs to meet certain criteria such as same hours of service and fares as regular transit. However, the agency does not need to meet all criteria if they are spending at least 3% of their operating budget on disabled transportation and fulfilling the requirments for communicating with the disabled community. Transit disticts can include funding sources such as STF and agency payments in calculating the portion of their budget spent on disabled transportation, and TRI-MET has done this to meet the 3% requirement. In the process of adopting the 504 plan the board did make a commitment to provide a minimum level of support from the payroll tax and farebox revenues to special needs transportation. Other than this commitment, which did not increase the elderly and handicapped budget, the 504 amendments are unlikely to affect TRI-MET's services.

CONCLUSIONS AND RECOMMENDATIONS

The issues discussion leads to the following recommendations for new policies and a context within which Multnomah County can request additional state funding for DD client transportation and both agencies can negotiate new agreements with TRI-MET for client transportation.

1. **Establish a basis for the identification and measurement of the actual cost of client transportation services provided by TRI-MET.** This study proposes a cost allocation method using trip length and grouping data. Consensus should be sought on this or alternative methods of separating costs of agency transportation from other TRI-MET services.

2. **Establish principles for assigning cost responsibility for client transportation services provided by TRI-MET.** This study examines the current assignment of cost responsibility for client transportation. Both TRI-MET and the social service agencies should pay portions of the costs. TRI-MET is responsible for a share of the transportation costs of all residents in the transit district utilizing their services, irrespective of whether they are social service clients. Similarly, the social service agencies are responsible for the cost of service levels beyond that provided the general passenger on the door-to-door LIFT system.

Recommended cost responsibility principles are: 1) TRI-MET should on average cover client transportation at the same level per trip as they do regular fixed-route bus passengers, approximately $1.50; 2) STF should cover the same proportion of social service transportation costs as it does for general passengers; and 3) the agency's share ought to exceed TRI-MET's.

3. **Request increased funding from the State for DD program transportation.** Sufficient DD transportation cannot be provided at the present rate of reimbursement. Since additional funding for STF was not approved in the recent legislative session, the Emergency Board will have to be approached to obtain funding for DD transportation.

4. **Reexamine Aging Services Division priorities for transportation.** ASD needs to assess the tradeoffs between increased funding to maintain existing levels of service or tightened trip purpose eligibility requirements to meet budget constraints. In addition, ASD has the option of access to the 16(b)(2) program for acquiring vans for senior centers for client specific transportation, but not for a transportation system that would duplicate the LIFT service.

5. **Exert influence on TRI-MET to emphasize its social service transportation mission.** Social service transportation is a growing need, while TRI-MET's commuting mission serves a declining market. TRI-MET needs to increase its budgetary commitment to elderly and handicapped transportation and expand the level of service. Specifically, TRI-MET is employing too much of the STF for capital expenses of the fixed-route system. STF funding of

fixed-route capital costs should be limited to one-half of the local match for bus lifts on new buses.

6. **Pricing policies for transportation should provide incentives for riders to make economic transportation choices.** At zero price, demand for goods and services is infinite. Although it is difficult to charge low income or disabled persons high fares, it is also difficult to make them wait intolerable amounts of time or to deny them service. There needs to be a balance among the rationing devices--fare, waiting time, and eligible trip purposes. Particularly, the Aging Services Division should exert influence to modify the prohibition on fares for transportation services subsidized under the Older Americans Act. In the meantime, service providers should continue to seek increased donations. ASD could also transfer some nutrition site transportation service to a nonsubsidized basis where fares could be charged. The new van service of Broadway Cab may be a viable alternative.

7. **Be more explicit in defining the quality of service purchased.** Dissatisfactions with timing and other aspects of service should be negotiable issues. Agencies pay premium prices and in return should negotiate more specific performance standards.

8. **Negotiate with TRI-MET a more differentiated set of client transportation services.** Quality control may be achieved by redefining the types of services purchased. For instance, DD may wish to be involved in the establishment of routes to serve clients and to pay for these routes on an hourly basis rather than a per client basis. A variation of this would be for TRI-MET to

establish subscription service exclusively for agency clients using regular buses. Transit districts in Sacramento and Salem provide this type of service. Changing types of service would necessarily require renegotiating cost responsibility. Some clients who are more difficult to incorporate into routed service might continue to need LIFT service and could be paid for on a per trip basis. Still other trips might be handled in other forms, by volunteers or by subsidized taxi.

Similarily, the Aging Services Division may wish to better control the level of service by negotiating routes for nutrition site service. This would require a determination of cost responsibility and would be paid on an hourly basis. Other service would continue on a per trip basis, but this service needs to be modified to provide better control. With different people ordering service, it is difficult to control costs. More timely reporting from TRI-MET is needed to provide guidance and feedback to those ordering trips.

9. **Locational decisions for group housing, DD workshops, and senior centers ought to explicitly consider the on-going transportation costs as well as the initial or rental cost.** Difficult to serve locations add to the transportation problem.

10. **Oregon's institutional and transportation policies limit the organizational alternatives that do not include TRI-MET as a major actor.** TRI-MET's costs are lower than those of most areas studied, and they provide Multnomah County with access to

transportation subsidies that are not directly available to social service agencies. Organizational forms found in California and Washington are not appropriate to Oregon given differences in state programs and enabling legislation. The Lane County organization should be observed closely to see if it might be a useful model. However, there is concern that contributing agencies may not increase their funding to keep pace with inflation and growing demand.

11. **Withdrawal of social service agency support for client transportation and requesting service for clients as LIFT general passengers would overwhelm a reduced level of service.** Social service clients would not get priority service and day programs would be negatively impacted. The Committee on Accessible Transit would be more hostile toward client transportation and would in all likelihood seek a lower priority for work and nutrition rides.

12. **Explore a new organizational form using STF monies for charter service for client transportation.** Work with TRI-MET and ODOT to use STF monies matched with social service agency funds to contract for chartered transportation services. Multnomah County would then be free to contract with a non-profit provider, a for-profit provider, or with TRI-MET.

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APPENDIX 1: PERSONS CONTACTED

Portland Metropolitan Region
Roberta Anderson, PMCoA
Gary Boley, Tri-Met
David Braunschweiger, SMS
Kamala Bremer, Multnomah County ASD
Elly Dammann, Washington Co. DD program
Charlotte Duncan, Multnomah Co. DD program
Cathy Hillman, Clackamas Challenge Center
Alan Hoag, Multnomah County ASD
Jan Morgan, Clackamas County DD program
Denny Reed, Broadway Cab
Janet Straw, Oregon Industries for the Blind
Connie Soper, Tri-Met
Nancy Tucker, Multnomah County DD program
Becky Wahrli, Portland-Multnomah AAA
Nancy Wood, Friendly House
Park Woodworth, Tri-Met
Joe Wykowski, Edwards Center

State of Oregon
Laurie Lindberg, Mental Health
Dennis Moore, Oregon Department of Transportation
Joan Plack, Oregon Department of Transportation

Lane County, Oregon
Joanne Gulsvig, LCOG
Micki Kaplan, Lane Transit District

Pierce County, Washington
Chris Colburn, Pierce Transit
Barbara Cooper, Area Agency on Aging

Sacramento, California
Linda Campbell, Paratransit, Inc.
Phil McGuire, Paratransit, Inc. (formerly)

Salem, Oregon
Al Hampton, Salem Area Transit District
Eleanor Miller, Marion County Health Department
Donna Wickman, Wheels

San Francisco, California
Tom Rickert, MUNI

Santa Clara County, Oregon
Dennis Guinaw, Transportation Agency, County of Santa Clara
Marty DeNaro, San Andreas Regional Center

Seattle, Washington
Alice Jordon, transportation provider North King County
Ralph Larson, DD program
Bill Loewen, Division on Aging
Mary Malcolm, METRO

Spokane, Washington
Charles Davis, Spokane Transit Authority
Eastern Washington Area Agency on Aging

APPENDIX 2: TRI-MET LIFT PROGRAM GENERAL PASSENGER TRIP PRIORITIES

Priority 1	work education/training medical (life sustaining)
Priority 2	other medical supportive services jury duty
Priority 3	nutrition volunteer work
Priority 4	shopping
Priority 5	recreation/personal

APPENDIX 3

TRI-MET LIFT PROGRAM RATES FOR AGENCY-SPONSORED RIDES

	Direct Trip Distance in Miles		
	0-4	4-10	over 10
Individual Trip	$3.00	$10.00	$24.00
Group Trip	1.50	5.00	12.00

Late Cancel - One fourth of cost of trip scheduled

No Show - One half of cost of trip scheduled

Definitions:

Individual Trip - a one-way trip made from one origin to one destination by one person.

Group Trip - a one-way trip made from one origin to one destination by two or more people and scheduled (ordered) together.

Late Cancel - a scheduled trip which is cancelled the day it is to be taken but prior to the vehicle arriving at the origin of the trip.

No Show - a scheduled trip for which the passenger is not available or which is cancelled after the vehicle arrives at the origin of the trip.

Direct Trip - the line between the trip origin and the trip destination on a map, or "as the crow flies."

APPENDIX 4

COMPARATIVE CITIES ELDERLY AND HANDICAPPED TRANSPORTATION

OREGON

Lane County

Lane County's transit district and social service agencies have pooled their resources to provided elderly and handicapped transportation in addition to the accessible fixed-route bus service of Lane Transit. A dial-a-ride program within the Lane Transit district boundaries (Eugene-Springfield area) and a number of individual programs throughout the county are coordinated by the Lane Council of Governments. The council of governments has contracted with Special Mobility Services to serve as broker. Providers include the broker, taxis, other van services, and volunteers with their own vehicles.

Lane County had a long and thorough planning process for STF funds and is using the money innovatively. DD programs, in particular, have been expanded. New services include a van for a highway rest area cleaning program, taxi service for off-hour workers, insurance and maintanence costs for center vehicles, and transportation for weekend recreation programs.

Funding for all these programs comes from the STF program, $100,000 from Lane Transit District, fares ($.50 a ride for general dial-a-ride passengers), and the transportation budgets of the aging agency, Adult and Family Services, and DD program. There currently is no detailed monitoring of agency client usage of the dial-a-ride program to determine whether funding sources and ridership match. While the parties involved are satisfied with this arrangement, the only incentive to pay a fair share is good will. Problems could develop if any group's use of the system increases more than its funding commitment.

Salem

The Salem Area Transit, the fixed route provider; Wheels, a door-to-door van service; and subsidized taxis provide elderly and handicapped transportation in the Salem area. The aging agency contracts with Wheels to provide service to the elderly. The DD program administered by the Marion County Health Department relies heavily on Salem Area Transit for transportation services. Salem Area Transit provides their service on existing routes and special "tripper" service to vocational training and sheltered work sites at no cost to the Health Department. The fixed route transit service which radiates from downtown Salem can accommodate most DD clients. Consequently, DD transportation reimbursement funds and STF can be concentrated on the more difficult to serve clients. The Health Department uses STF and DD transportation allotments to purchase additional service from Wheels and taxis primarily for service outside the Salem Area Transit district and for evening and weekend service. The Health Department pays the full cost of these transportation services.

Wheels primarily serves the elderly. Contracts with aging service only cover 50% of the costs, however. The remainder comes from STF and Section 18. Cost allocation is a major contention within elderly transportation in Salem. Aging services is only willing to pay half the cost and Wheels is unwilling to provide service at that level of participation.

Salem's success with mobility training and use of the fixed route service has influenced the administration of the state DD program. Notwithstanding the Portland metropolitan region's more complex structure, the state DD perspective is that Portland ought to be as efficient as Salem.

WASHINGTON

Pierce County

Pierce Transit and the Area Agency on Aging have separate transportation systems to serve the elderly and handicapped populations.

Pierce Transit provides the most extensive special needs transportation program in Washington by operating both an accessible fixed route system and a demand responsive system. Pierce Transit spends 10.7% of its operating budget on elderly and handicapped transportation. Their demand responsive system is more expensive than many ($8.76 per ride) because it uses regular transit drivers. Some service is also subcontracted to taxi companies. The system operates seven days a week with the same fares as the fixed route system ($.60 peak, $.25 offpeak). There are no restrictions on trip purposes, but some rides are turned down for efficieny reasons such as being difficult to group. DD clients are carried on the demand-responsive system as general passengers at regular fares.

The Area Agency on Aging has contracted since 1975 with the American Red Cross for client transportation. Services are funded by the AAA, Medicaid, and United Way. Red Cross's costs are low because they use volunteers and senior aides as well as drivers paid a lower scale than the transit agency. Trips include 36% to nutrition sites, 34% to adult day health, 11% home meal delivery, 6% medical and 13% shopping, recreation, and other. The AAA has looked for other providers but has been unable to generate interest because of the low cost of their current provider and because of their reporting and service requirements.

Seattle

Seattle's METRO has emphasized making the fixed route system accessible and the mainstreaming of handicapped and elderly riders. However, recognizing that fixed routes cannot serve everyone, they have contracted with private providers for demand responsive transit in rural King County for the past six years and in the city of Seattle for the past two years. About 5,000 rides per month were provided in 1986 by four non-profit and one for-profit providers who serve separate geographic areas. An additional 5,200 rides were provided with a user-side subsidy program for taxi service. Demand for METRO's door-to-door program has increased dramatically in 1987 because social service agencies have reduced their transportation budgets and METRO lowered fares on June 15th to the same rate as fixed route bus service ($.20 anytime, or $3.00 for a monthly pass). METRO and its providers are just beginning to grapple with the problems created by excess demand.

The details of METRO's program and their relationship with social service agencies have changed frequently. Originally METRO had a policy of providing no service for agency clients. This policy was unpopular, particularly with DD programs and their constituents, and has been changed. Recently social service agencies have reduced funding for transportation and METRO has become by default a major provider of social service rides. In addition METRO and the Division on Aging previously had a joint RFP process which assured use of the same providers. Today they are not contracting together, and METRO and the aging agency now use separate providers in south King County.

The Division on Aging's current policy is to provide transportation to its own programs with priority given to nutrition and adult day health. Providers serving both METRO and the aging program do not mix clients on trips. The aging program does not fund intermittent trips such as for medical appointments. Clients needing intermittent transportation are served either by using METRO's services, by Medicaid funding (the state pays non-profit providers $5.00 per one-way trip), or by volunteer and hospital escort programs. These programs are not well coordinated, a condition the Division on Aging would like to change.

DD clients needing special transportation services use the METRO system by purchasing a monthly pass for $3.00. The DD program currently provides no funds for transportation to day programs. When METRO previously had a script program and limited the amount of script individuals could purchase, DD programs where paying half the cost of client-purchased script and purchasing about 40% more script to provide the client with daily transportation. Under that program clients were paying about $20 per month for transportation from limited personal funds.

METRO's five providers have recently formed a formal coalition to provide joint employee training and address mutual concerns about METRO rules. These providers seek additional funding for transportation from hospitals, city governments, and other sources to expand the service available. However, this makes the system more complex to explain to clients and increases the reporting requirements.

Providers and agencies have identified a number of issues which need to be addressed in Seattle. These include making the system more user-friendly through greater coordination, determining what proportion of service should be dedicated to regular routes and/or available for intermittent trips, examining the current first-come-first-served policy to determine if it is a reasonable way to allocate service, and clarifying the transportation funding responsibilities of social service agencies.

Spokane

Spokane Transit spends 8.14% of its operating budget to operate a demand responsive system to meet the needs of the elderly and handicapped in the Spokane area. Spokane Transit has opposed past UMTA efforts to require lifts on their fixed route buses, relying instead on door-to-door service. The drivers for the demand responsive system are transit employees, but are in a separate bargaining unit from fixed-route drivers and are paid less. Some service is subcontracted to a taxi company to increase capacity at peak hours and to reduce staffing needs at infrequent travel times.

The aging agency contracts with the transit authority to provide necessary trips for medical appointments, grocery shopping, and other purposes. The agency pays the full cost of these trips calculated on a per mile basis. Nutrition trips are arranged by the nutrition providers. Some nutrition centers operate their own vans while others purchase passes for client use of the demand-responsive system. The aging agency and the county, which sponsors some additional services, pay for less than 5% of the demand-responsive trips. Considering this low figure, transit officials assume that many agency clients are riding as general passengers. Currently, Spokane Transit can afford to provide this service, but in the long run the issue of whether agency transportation should be funded by the transit district or by social service agencies needs to be addressed.

Most DD clients use Spokane's fixed route system. The Spokane urban area is compact enough to provide bus access to most locations within the city and bus service is also provided to the state hospital outside city limits. Extensive mobility training saves capacity on the demand responsive system for other, more disabled riders.

CALIFORNIA

Sacramento

Paratransit, Inc., a private non-profit agency, coordinates transportation for the elderly and handicapped in Sacramento County. Paratransit, Inc. currently operates separate systems for general passengers and aging agency clients. General passengers are served with vans while agency clients utilize shared taxi services. Paratransit, Inc., also does mobility training under contract to social service agencies. 1986 funding was $2,825,000 from the following sources:

City of Sacramento	23%
Sales Tax for community transit	36%
Capital (UMTA 16(b)(2))	17%
Fares ($2.00 per one-way trip)	12%
Aging Agency	4%
Nutrition Centers' Fees	2%
Sacramento and Yolo Counties, United Way, SETA, other	5%

Trips funded by the aging agency declined in 1986-87 because the agency reduced its funding by $70,000 and changed its trip priorities. Intermittent trips for medical and necessary personal business were assigned top priority. Funding for nutrition trips was shifted to nutrition providers. One provider opted to develop its own transportation system, while other providers pay $2.00 a ride to use Paratransit's van service.

Some DD clients ride Paratransit, Inc. vans as general passengers. Others are served by closed route service of the regional transit district. Paratransit's mobility training program is used to increase DD fixed-route usage.

San Francisco

The San Francisco Municipal Railway (MUNI) operates an accessible fixed-route system and contracts with a paratransit broker for door-to-door service. The paratransit broker coordinates trips sponsored by MUNI, by the Commission on Aging, and by adult day health programs. Services include group vans primarily serving senior centers and nutrition programs, lift vans serving wheel chair users for individual trips, and subsidized taxi service mainly for medical appointments. A variety of non-profit and for-profit providers are used. In 1985-86 MUNI funded 284,563 trips at a total cost of $2,045,000. In 1986-87, the city of San Francisco boosted its funding by $1,000,000 to provide additional services. Increased funding eliminated the 400 person waiting list for group van service and reduced the waiting list for taxi service from 2,300 to 300 people. A 100 person waiting list for lift van service was not affected. Additional funding is needed to maintain service levels in 1987-88 because of cost of living adjustments and a 20% increase in taxi fares.

Santa Clara County

The Santa Clara Paratransit Coordinating Council, comprised of representatives of local governments and social service agencies, coordinates community transit programs in Santa Clara County. Curb-to-curb service is, however, provided by each city with funds primarily from state sales tax. In 1983, there were seven taxi programs, seven accessible van programs, two non-accessible van programs and three escort programs. Each city determines the type of program, sets fares, and contracts for service.

The area agency on aging administers an escort program which provides additional services for individuals who need more assistance than the paratransit program provides. This program is targeted to specific geographic areas and certain ethnic groups and is funded at $100,000. In addition, the aging agency funds some nutrition trips. The same provider may serve nutrition sites and general passengers but there is no mixing of fare and non-fare riders. Some nutrition programs also operate their own vehicles.

Santa Clara County is one of four counties whose DD clients are served by the San Andreas Regional Center. California's 22 regional centers are fully funded by the state to provide residential and day programs and necessary transportation. The San Andreas Center serves 3,000 clients, 905 of whom receive special transportation. The state provides $2.5 million for this transportation (about $230 per client each month). The center currently contracts with 8 providers including four for-profit firms, one non-profit agency, and 3 day programs. In addition, taxi service is used for clients who work irregular hours. All services are paid on a per-mile rate, but each contract has different rates depending on the geography of the service area and the type of client served.

APPENDIX 5 - COST ALLOCATION COMPUTATIONS

1. Calculating cost/trip assuming current individual and group categories.

TRI-MET provided detailed billing data for January, 1987. We prepared the following matrix of trip sponsors and trip types (individual (I) or grouped (G), length in miles) from that data.

	DD	ASD	SECT 18	GEN PAS	OTHER	TOTAL
I 0-4	2386	6109	104	4890	1514	15003
I 4-10	2080	681	421	2452	398	6032
I 10+	520	26	591	860	129	2126
G 0-4	1937	1746	1649	1507	229	7068
G 4-10	1956	74	618	405	82	3135
G 10+	2	0	76	114	16	208
Total	8881	8636	3459	10228	2368	33572

We then applied TRI-MET's schedule of agency billing rates to all rides to determine the total revenue this would generate and the cost/trip.

	TOTAL	RATES	BILLING
I 0-4	15003	$ 3.00	$ 45,009
I 4-10	6032	10.00	60,320
I 10+	2126	24.00	51,024
G 0-4	7068	1.50	10,602
G 4-10	3135	5.00	15,675
G 10+	208	12.00	2,496
Total	33572		$185,126

This generated an average cost/trip of $5.51 compared to an average contracted cost/trip of $5.72 or an average total cost/trip of $7.83. In other words, the billing rate represents 96% of contracted costs or 70% of total costs. Agencies pay 60% of the billing rate or 58% of contracted costs or 42% of total costs.

To determine the average total cost/trip of an agency trip we summed the agency trips (DD + ASD + OTHER), applied the billing rates, and then multiplied by the ratio of average total cost to average billing rate for the system (7.83/5.51). Similarly average cost/trip of DD, ASD, and General Passengers (GEN PASS + SECT 18) were calculated. The results were:

Trip Sponsor	Average Cost/Trip
LIFT	$ 7.83
Agency	6.74
DD	8.50
Mult ASD	4.73
General Passenger	9.51

2. Calculating cost/trip with an additional category for routes.

Next we created a new category of trips--routes or grouped-at-one-end trips--and estimated the number of agency trips currently charged as individual trips which would fit this category. For ASD we assigned all individual nutrition trips and 28.5% of intermittent individual trips (the percentage of shopping trips) to the new route category (R). According to Special Mobility Services most DD trips are served by routes. We used a conservative estimate of 75% of DD trips currently charged as individual trips as actually grouped-at-one end. This yields a new matrix of trips.

	DD	ASD	SECT 18	GEN PAS	OTHER	TOTAL
I 0-4	596	714	104	4890	1514	7818
I 4-10	520	296	421	2452	392	4087
I 10+	130	16	591	860	129	1726
R 0-4	1790	5395				7185
R 4-10	1560	385				1945
R 10+	390	10				400
G 0-4	1937	1746	1649	1507	229	7068
G 4-10	1956	74	618	405	82	3135
G 10+	2	0	76	114	16	208
Total	8881	8636	3459	10228	2368	33572

We assumed a routed trip would cost the mean of the individual and group rates. The new schedule of billing rates was applied to all rides producing total revenue of $172,474.75, $12,651.25 less than TRI-MET's current billing rates. To bring the total revenue up to the same level generated by the original billing schedule we increased all rates by 10% (8% would do, but 10% allows for some error such as other agencies having routed trips which we did not estimate). The results are:

	TOTAL	NEW RATE	NEW BILLING
I 0-4	7818	$ 3.30	$ 25,799
I 4-10	4087	11.00	44,957
I 10+	1726	26.40	45,566
R 0-4	7185	2.48	17,783
R 4-10	1945	8.25	16,046
R 10+	400	19.80	7,920
G 0-4	7068	1.65	11,662
G 4-10	3135	5.50	17,242
G 10+	208	13.20	2,456
Total	33572		$189,972

New average costs per trip were calculated from this matrix and are reported below.

Trip Sponsor	Average Cost/Trip
LIFT	$ 7.83
Agency	6.28
DD	7.82
Mult ASD	4.19
General Passenger	10.17

3) Allocating LIFT budget to agency and general passengers.

To determine the proportion of LIFT expenditures that should be assigned to agencies we used the following formula:

$$\text{Ratio of agency cost/trip to LIFT cost/trip} \times \text{Agency proportion of total trips} = \text{Agency proportion of expenditures}$$

With no category for routed trips (i.e. the current procedure), 86% of trip costs X 60% of trips = 52% of expenditures. With routed trips, 80% of trip costs X 60% of trips = 48% of expenditures. We used the average of the two calculations or 50% for assigning expenditures to agencies. This 50% clearly should be applied to LIFT operating costs. Lacking any better allocating principle, we also assigned 50% of all other costs as well as 50% of revenues which could not clearly be separated into agency and general passenger categories (i.e. STF and UMTA capital and planning funds).

4) Additional Assumptions

This analysis has been built on a number of assumptions which have not yet been made explicit.

a) January 1987 was a typical month for LIFT use. Comparing percent of trips in each sponsor category with 86-87 averages indicates it was fairly typical. We have no comparisons to test trip length and extent of grouping, but suspect these don't vary much.

	DD	ASD	SECT 18	GENPASS	OTHER
Jan. 87	26.5%	25.7%	10.3%	30.5%	7.0%
86-87	27%	26%	9%	31%	8%

b) The ratios of costs contained in TRI-MET's billing rates, though not necessarily the rates themselves, are correct. In other words, on average it costs 3.3 times as much to provide a 4-10 mile trip as it does a 0-4 mile trip and 8 times as much to provide a trip over 10 miles as one 0-4 miles in length. In addition, grouped trips on average cost half as much per person as individual trips. The computations depend on this assumption, and if it is wrong so are all the calculated trip costs. The same method of analysis could, however, be used with other cost ratios.

c) Trip length and grouping are the only important variables influencing cost/trip on the LIFT system. If other variables were considered, different cost assignments might be made. One variable that comes to mind is the proportion of passengers in wheelchairs since these passengers take longer to load and unload. We lacked data on wheelchair passengers and other potential variables and have not included them in the analysis.