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# Section III

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## **ESTIMATING THE NATIONAL ECONOMIC IMPACTS OF COORDINATED TRANSPORTATION SERVICES**

Major coordination strategies were addressed in the previous section, including tapping currently unused sources of funding, decreasing the direct costs of providing transportation, and increasing the productivity and utilization of vehicles on the road. This section examines the potential national impacts of applying the kinds of strategies previously documented to communities across the Nation.

From an overall impact perspective, the following specific strategies stand out as worthy of close examination: coordinating with human service programs (for example, Medicaid) to transport their clients; using

human service and other nontransit agencies to provide ADA paratransit services; shifting paratransit riders to fixed route services; coordinating the efforts of various human service agencies; and expanding transportation services to communities not previously served by public transportation.

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# Chapter 8

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## POTENTIAL NATIONAL BENEFITS OF COORDINATED TRANSPORTATION

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Many localities have developed some form of coordination between their human service transportation providers and local public transit authorities. Similarly, many states are engaged in some form of supporting coordinated transportation (see Chapter 9 for details). Still, it appears that coordination could be a much more widely applied management strategy than it currently is.

This chapter examines potential benefits that could be achieved if high-payoff strategies could be applied on a national basis. Although many of the strategies discussed are indeed possible at a wide variety of locations, it is important to remember that local conditions and resources may limit or enhance the applicability of particular strategies for specific communities. This means that real

caution is needed when creating estimates of the potential national economic benefits of coordinating human service transportation and public transit services.

### HIGH-PAYOFF STRATEGIES

Twenty-eight sites were found where sufficient information existed for the purpose of estimating the economic benefits of coordinated transportation services. Table 16 summarizes the economic benefits realized by human service agencies and transit operators from applying specific coordination strategies. (Note that most of these sites had applied multiple coordination strategies, but

Table 16

**Estimated Economic Benefits of Coordination for Human Service Agencies and Transit Providers by Strategy and Site**

		<i>New Revenue Sources</i>			<i>Cost-Saving Measures</i>		<i>Rideshare Expansion</i>	<i>Benefit</i>	
System/Program	Locality	State	Additional funding	Contracts with schools	HS agencies provide ADA	Shift paratransit riders to FR	HS agencies coordinate	Rideshare/ dispatching	Expand transit services
Dade County, Florida	Miami	FL	\$2,292,000						\$2,292,000
King County Metro Medicaid Pass Program	Seattle	WA	\$300,000						\$300,000
Lane Transit District	Eugene	OR	\$67,775						\$67,775
Philadelphia, Pennsylvania	Philadelphia	PA	\$2,089,000						\$2,089,000
State of Connecticut	Hartford	CT	\$1,802,000						\$1,802,000
State of Rhode Island	Providence	RI	\$2,100,000						\$2,100,000
Tri-Met's Medical Transportation Program	Portland	OR	\$1,404,503						\$1,404,503
Dodger Area Rapid Transit System	Fort Dodge	IA		\$20,000					\$20,000
Mason County Transportation Authority	Shelton	WA		\$99,377					\$46,200
People for People (Mabton School Program)	Yakima	WA		\$15,210					\$15,210
ACCESS	Pittsburgh	PA			\$26,136,066				\$26,136,066
Dakota Area Resources and Tr. Services	Dakota County	MN			\$395,000				\$395,000
Ride Connection	Portland	OR			\$1,972,951				\$1,972,951
STAR Paratransit	Arlington	VA			\$640,000				\$640,000
CTS/JAUNT	Charlottesville	VA				\$921,600			\$921,600
Phoenix Travel Training	Phoenix	AZ				\$107,600			\$107,600
Sacramento RT Contract w Paratransit	Sacramento	CA				\$1,046,000			\$1,046,000
Kentucky Coordinated HS Tr. System	Lexington	KY					\$22,467,379		\$22,467,379
Martin County Transit	Williamston	NC					\$178,447		\$178,447
R.Y.D.E.	Kearney	NE					\$400,358		\$400,358
King County Metro/DSHS Demo	Seattle	WA						\$100,970	\$100,970
People for People	Yakima	WA						\$13,044	\$13,044
People for People	Moses Lake	WA						\$265,000	\$265,000
Delta Area Rural Tr. System (DARTS)	Clarksdale	MS							\$4,700,000
Enabling Transportation (ET)	Mesa	AZ							\$306,342
Mountain Empire Transit	Big Stone Gap	VA							\$884,000
SMART	Detroit Region	MI							\$2,700,000
TRIP	Riverside	CA							\$1,526,150
Combined economic benefits of coordination strategies studied at these sites									\$74,950,772

benefits were calculated for only the primary coordination strategy at each site.)

From reviewing this table, it is clear that major economic benefits are possible from many of the specific strategies examined. The following strategies appear to hold particular promise:

- Generating additional income by coordinating with human service programs like Medicaid to transport their clients;
- Saving costs by using human service and other nontransit agencies to provide ADA paratransit services;
- Saving costs by shifting paratransit riders to fixed route services;
- Saving costs by coordinating the efforts of various human service agencies; and
- Expanding transportation services to communities not previously served by public transportation.

Two other strategies — transit authority contracts with local school districts and using coordinated dispatching to achieve higher levels of ridesharing and vehicle sharing — did not have economic benefits as large as the economic benefits of the above strategies in the communities studied. (Even though the economic benefits produced may not be as large, these strategies still offer significant benefits; for example, see Multisystems, et al., 1999).

## **INCOME GENERATED FROM COORDINATING PUBLIC TRANSIT SERVICES AND MEDICAID TRANSPORTATION**

Several of the cases examined — Miami, Philadelphia, the State of Connecticut, and the State of Rhode Island — generated about \$2 million per year in additional revenues for transit authorities when significant numbers of Medicaid clients who formerly used paratransit services became fixed route transit riders. Savings to the Medicaid program in each case were often two to four times as large as the additional revenues generated for transit operators. These savings and new revenues were achieved by transferring relatively small numbers of Medicaid clients from paratransit to fixed route transit services.

The number of local transit authorities offering transit passes to Medicaid clients is unknown but, based on anecdotal evidence, the number of times this is happening in 2002 seems to be a fraction of the overall potential market. There were 587 transit agencies receiving FTA Urban Area Formula Program funds in 2000 and about 1,270 recipients of FTA Nonurbanized Area Formula Grants. Therefore, the total number of transit operators that could participate in such programs is very large.

At any point in time during 2002, there were an estimated 36 million low-income persons in the United States (12.8 percent of the total U.S. population) receiving assistance with medical services through the Medicaid program. [Altogether, about 42,763,000 individuals were expected to receive Medicaid payments in 2002 (Centers for Medicare & Medicaid Services, 2002)]. Transportation assistance within the Medicaid program varies from state to state and, sometimes, from locality to locality.

Public transportation services are available to about two-thirds of all Americans, about 183,200,000 persons (for example, the National Health Interview Survey on Disability, Supplement on Aging II, reported that 65.1 percent of persons 69 and older had access to public transportation services, see Burkhardt et al., 2002). Assuming that Medicaid recipients live in communities served by transit at about the same proportion of all U.S. citizens, about 24 million Medicaid clients could possibly be served through the kinds of transit pass programs discussed earlier in this report.

Florida's Miami-Dade Transit (MDT), through a long-standing and well-documented program transporting Medicaid clients using MDT's bus pass program, serves about 1 percent of local Medicaid clients. This service generates revenues of about \$464 per year for each Medicaid client transported using bus passes. (As noted in Table 5 in Chapter 4, MDT actually receives revenues of about 25 percent of the savings generated for the Medicaid program through the local transit pass program. Some other programs

received a higher proportion of the savings. Some other programs also received greater revenues for their transit passes.)

If 20 percent of transit operators in the United States were involved in coordinated programs providing transit passes to Medicaid clients, and about 1 percent of the potential Medicaid clients were provided transit passes to shift their rides to public transit, approximately 48,000 Medicaid clients would be affected. Using these figures, transit operators that participated in transit pass programs aimed at Medicaid clients would receive total new revenues of

$$\begin{aligned} & \$464 \text{ per client per year} \times 48,000 \\ & \text{clients} = \$22,272,000. \end{aligned}$$

If these operators served not 1 percent but 2 percent of the Medicaid clients in their communities, they could receive \$44,544,000 in additional revenues based on the MDT figures. If 50 percent of the transit operators in the United States each provided trips for 2 percent of their local Medicaid clients using bus passes, the transit agencies could receive \$111,360,000 in additional revenues. The same additional revenue figure of \$111,360,000 could be achieved if 20 percent of all transit operators each provided bus pass trips for 5 percent of their local Medicaid clients. Considering this entire range of estimates, figures of from \$50 million to \$100 million per year in additional revenues to transit properties seem well within the range of possibility.

Because some of the properties identified in Chapter 4 received more revenues on a per client basis than MDT, the above figures can still be considered as conservative estimates of the potential level of benefits. Extending such programs beyond transit-oriented center cities to suburban and non-urban communities would increase the numbers of individuals served and thus the total level of benefits; so would serving a greater percentage of Medicaid clients; so would charging more for transit passes. Under such expanded scenarios, annual benefits of more than \$100 million per year or more could well be possible. Programs with benefits of this magnitude obviously deserve substantial support from policymakers and operators.

## **SAVINGS ACHIEVED WHEN NONTRANSIT AGENCIES PROVIDE ADA AND OTHER PARATRANSIT SERVICES**

Pittsburgh, Pennsylvania, and Portland, Oregon, have achieved very substantial economic benefits when nontransit agencies provide ADA and other paratransit services there. In Pittsburgh, the private broker service, ACCESS, provided trips in 2001 at about 53 percent of the cost of the trips that it provided in 1980. ACCESS's 2001 per-trip cost of \$14.34 is less than one-half of the cost of ADA paratransit trips in some major metropolitan areas. In the Portland region, Ride Connection, using volunteer drivers and other cost-saving measures, is able to provide paratransit trips for about 32 percent of the cost of similar trips on Tri-

Met's LIFT service (which focuses on ADA paratransit trips). In the Washington, DC, metropolitan area, Arlington County uses taxi operators for its STAR program, which provides paratransit services to ADA clients and other persons at about 73 percent of the costs of WMATA's MetroAccess program.

According to the National Transit Database, there were about 45 million ADA paratransit trips taken in 2000 (representing 40.2 percent of all paratransit trips made that year). Considering all 104 million paratransit trips made in 2000, the average cost for all these trips was \$17.28. ADA paratransit trips are likely to be more expensive than this average because of regulatory requirements and the need to serve persons with significant disabilities. Assuming a national average ADA paratransit per trip cost of \$25, a number of calculations can be made. If the U.S. total of 45 million ADA paratransit trips had been made using nontransit agencies as the trip providers,

- \$479,000,000 could have been saved with ACCESS's \$10.66 per trip cost savings;
- \$852,750,000 could have been saved with Ride Connection's \$18.95 per trip cost savings; and
- \$303,750,000 could have been saved with STAR's \$6.75 per trip cost savings.

Certainly, the services provided by Ride Connection would not qualify to serve all 45 million ADA paratransit trips, so the \$853 million savings figure is a significant overestimate of potential savings. However,

if the estimates used in the previous examples — from 10 to 33 percent of current service providers adopting a new coordinated services strategy — are applied, then the cost savings from contracting with nontransit agencies for ADA and other paratransit services could conservatively range from \$30 million to \$158 million per year, based on the kinds of savings achieved by STAR and ACCESS and depending on many local conditions. Again, these estimates are large enough to warrant serious in-depth examinations of their potential benefits to many communities.

## **GENERATING COST SAVINGS BY SHIFTING PARATRANSIT RIDERS TO FIXED ROUTE SERVICES**

Charlottesville, Virginia, and Sacramento, California, are communities that succeeded in generating large cost savings by shifting paratransit riders to fixed route services. In Charlottesville, this was accomplished by offering fixed route trips for free to individuals who qualified for paratransit services. The Sacramento strategy was to provide travel training to teach certain persons to ride fixed route transit to reach certain destinations. In FY 2001, the Charlottesville Transit System reported 76,800 trips on the free ride program, a substantial number for a city of 45,000 persons. Estimated annual cost savings

were \$921,6000. Sacramento, with a city population of 407,000 persons, successfully trained 587 persons in FY 2002 to ride fixed route transit instead of paratransit services, generating a savings after program costs of \$1,046,000.

If paratransit and transit services were coordinated across the Nation as they are in these two communities, substantial paratransit costs could be saved. Assume that programs like these could apply to one-half of the 104 million paratransit trips in the United States, or 52 million trips. In this instance, apply the national average paratransit trip cost of \$17.28.

Charlottesville was able to achieve its savings at essentially zero program costs because no costs were incurred for additional fixed route services, although some funding should be included for marketing the program. In Sacramento, program costs were 20.8 percent of the savings realized. Using these figures provides the following estimates:

- If 10 percent of all U.S. communities used this coordination technique, 5.2 million paratransit trips might be taken for an overall savings of \$89,856,000; and
- If 33 percent of all U.S. communities used this coordination technique, 17.2 million paratransit trips might be taken for an overall savings of \$296,524,800.

Again, the potential cost savings are very large.

## **HUMAN SERVICE AGENCIES COORDINATE THEIR TRANSPORTATION EFFORTS**

The State of Kentucky and Buffalo County, Nebraska, are two examples where the coordination of transportation services led to large cost savings. In Kentucky, statewide program management substantially reduced the growth in expenditures for non-emergency Medicaid trips, saving \$22 million; in Buffalo County, the disparate efforts of 14 agencies were combined to generate an increase of almost 600 percent in the number of rides over a 2-year period and a cost savings of more than \$400,000. These programs have enough differences that they need to be treated separately.

The Kentucky example of providing more oversight for Medicaid transportation (nearly always the largest transportation program in terms of numbers of dollars and trips in any state) has 50 potential sites for replication. Some of these, such as the State of Washington, have had Medicaid transportation brokerage operations in place for some time. Other states are struggling with the brokerage concept, and a number of states have implemented Medicaid transportation brokerages but have ignored the opportunities for coordination with the transportation services of other programs. If 10 of the 50 states (20 percent) were to implement a program such as that being created in Kentucky, annual benefits to the Medicaid program could reach \$100 million per year. If, as in other cases, transit operators were to receive from 20 to 50

percent of the Medicaid program savings in new revenues, benefits to the transit industry could range from \$20 million to \$50 million per year; \$35 million is the mid-point of these estimates.

FTA's National Transit Database records 5,252 agencies providing demand-responsive services in the United States in 2000. We know that about 1,200 of these are rural public transportation services (with an additional 100 rural operations that do not offer demand-responsive services) and that about 3,500 others receive funds from FTA's Elderly and Persons with Disabilities (Section 5310) Program. In Buffalo County, 14 distinct operations were replaced by one coordinated operator; in Pittsburgh, ACCESS now performs the functions of 112 previous transportation providers. Of the 3,041 counties in the United States, if 5 percent of them could achieve Buffalo County's \$400,000 annual level of benefits, the total annual benefits could reach \$60,800,000.

## **EXPANDING TRANSPORTATION SERVICES THROUGH LOCAL GOVERNMENT OR HUMAN SERVICE AGENCY PARTNERSHIPS**

The SMART system in the suburban Detroit region, the DARTS system in Mississippi, and TRIP in southern California are three fine examples of the economic benefits that can be gained by expanding public transportation services through partnerships with other agencies. In

these cases, the partnership arrangements have allowed large expansions of transportation services into communities that previously had no public transportation. The partnerships have allowed the service expansions to occur for substantially lower costs than would have been possible without coordination.

In the Detroit region, the partnership between the regional public transit operator, SMART, and the localities has greatly increased mobility at substantially less cost to the public than SMART alone would be able to provide. The program costs \$7 million; alternative services would cost \$9.7 million. Therefore, the Community Partnership Program operates at about 72 percent of the potential program cost. In Riverside County, the TRIP program, which costs \$350,000 a year, would cost \$1,876,307 to operate under alternative circumstances. This means TRIP operates at about 19 percent of the potential program cost. DARTS' JOBLINKS program provides about 18,000 passenger trips at a cost of \$180,000. For the year 2000, DARTS averaged about 100,000 miles per month or 1,200,000 miles per year. At 27.5 cents per mile (a typical volunteer driver reimbursement), this program would have cost \$330,000 for the year or \$150,000 more than it actually did. DARTS has thus been operating at 54.5 percent of alternative program costs.

Most communities in the United States need additional public transportation services. If the total capital and operating expenses for the 2,262 bus system operators were added to the total capital and operating expenses for the 5,252 paratransit

system operators for the year 2000, the total expenses for transportation in the United States would be \$18.15 billion. Assuming that a 1 percent additional expense would be needed to initiate new services (\$181.5 million), if that expense were coupled with the kinds of coordinated partnership arrangements noted above, the additional benefits could range from \$40 million to \$132 million per year. A \$90 million benefit would not be an unreasonable assumption; exact figures would depend on the nature of the communities and the transportation systems implemented.

## CONCLUSION

Additional coordination of transportation services could provide very substantial economic benefits. Although some but not all of the strategies noted above could be applied simultaneously, a conservative approach to benefit estimation suggests that these strategies be considered by themselves.

On a national level, great benefits are possible from coordinating transportation services. Actual national benefit levels will depend on the numbers of communities applying different coordination strategies, the levels of effort that they put into these strategies, and a complete determination of all parties affected by the coordination actions (not just transit providers and human service agencies). Still, some order of magnitude estimates of overall impacts are possible for each strategy. The potential impacts that were discussed in this chapter are summarized in Table 17. Additional revenues can be generated, cost savings can

**Table 17**

**Aggregate Potential Annual Industry Benefits Associated with Various Transportation Coordination Strategies**

<i>Strategy</i>	<i>Potential Aggregate Benefits</i>
Additional revenues generated when transit authorities provide trips for Medicaid agency clients	\$15,000,000 to \$50,000,000
Cost savings realized when nontransit agencies provide ADA and other paratransit services	\$30,000,000 to \$148,000,000
Cost savings realized when paratransit riders are shifted to fixed route services	\$90,000,000 to \$300,000,000
Cost savings realized when local human service agencies coordinate their transportation services	\$35,000,000 to \$60,000,000
Economic benefits realized when transportation services are expanded to areas or populations not now served	\$40,000,000 to \$132,000,000

be obtained, and other economic benefits can be generated by coordinating transportation services. Estimated benefits range from tens of millions to hundreds of millions of dollars per year, depending upon the strategy applied, the number of localities where it is applied, and the resources and conditions in the localities where the strategies are applied. These estimates have been conservatively generated; they do not include all possible benefits at each site or other important economic benefits (such as the value of increased mobility in terms of employment or independent living or the multiplier effects that transportation expenses generate in local areas). The estimates also do not include important negative impacts or costs, such as impacts on paratransit providers who may no longer be providing services.

Based on these estimates, transportation planners and operators should look closely into the cost savings that could potentially be derived from coordination strategies that involve shifting paratransit riders to fixed route services and having ADA paratransit services provided by nontransit agencies. Other priorities should include partnership arrangements to expand transportation services into areas not now receiving public transit services and to generate additional income for transit authorities through the provision of travel services to clients of human service agencies. Although not offering benefits as large as the previous four strategies, the coordination of services by local human service agencies still has a significant level of benefits to offer on a national basis. All of these strategies deserve strong support from policymakers and transportation operators.