Improving Transportation Services for Disadvantaged Populations

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ABSTRACT (Maximum 200 words)

This report is about understanding and improving the transportation services that are available to those people who cannot routinely use automobiles to transport themselves. We conclude that there are five basic questions that have to be successfully answered in any specialized transit improvement effort: what problem will be addressed, what program will address it, how the involvement of necessary stakeholders will be sustained, where funding will come from, and how the program will be administered.

We also find that there is little hard evidence regarding the size and even existence of many of the problems that improvement efforts are often meant to solve, or that the "improvements" put into place have actually made anything better. This is a major problem that should be addressed in future research.

The "traditional" idea of different agencies sharing resources and vehicle operations seems rare in practice, and the benefits poorly documented. A more realistic option for system improvement might involve a centralized effort to reduce the various administrative costs that agencies incur while operating transportation systems. An important future research objective
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Improving Transportation Services for Disadvantaged Populations

FTA-MN-26-7004

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University of Minnesota

December 2003

The Humphrey Institute of the University of Minnesota is hospitable to a diversity of opinions and aspirations. The Institute does not itself take positions on issues of public policy.

FOREWORD

This is the final report for the project "Improving Transportation Services for Disadvantaged Populations," performed by the State and Local Policy Program (SLPP) at the Hubert H. Humphrey Institute of Public Affairs, University of Minnesota. Hennepin County and the Federal Transit Administration sponsored the research, through the leadership and support of Congressman Martin Sabo.

The report is intended for anyone interested in improving transportation services for disadvantaged populations, commonly known as "community-based transportation." The report summarizes some of the most common perspectives of the major stakeholder groups (funding agencies, transportation providers, and users), outlines some typical classes of improvements that have been made to transportation systems around the country, and develops a framework for organizing ideas and developing system improvements.

ACKNOWLEDGEMENTS

Earlier research and outreach performed by the Center for Transportation Studies at the University of Minnesota, including a major local conference on the issue of community-based transportation in the fall of 2000, spurred interest in this topic in the Twin Cities and around the state; culminating in a request from our sponsors at Hennepin County that we look further at this issue.

Our project team included principal investigators Gary Barnes and Frank Douma, SLPP director Lee Munnich, and a number of graduate research assistants: Nancy Lueke, Yufeng Guo, Jennifer Menke, Emily Schug, Kiely Todd, and Sarah Grote. Graduate students Elizabeth Glidden and Heather Krause also contributed as part of a class project.

Throughout this project we worked with a group of local stakeholders who provided feedback on our work, insights into the subject, and ideas on future directions. We would like to acknowledge the help of this group in general, and thank the Center for Transportation Studies for organizing the meetings and another conference. A number of members of the stakeholder group made special contributions by working with us individually to help with clarifying certain issues or connecting us with needed resources. We would like to especially thank Dana Rude (Metro Mobility), Barb Green and Sue Olson (American Red Cross of St. Paul), Micky Gutzmann (Minnesota Department of Transportation), and Hal Freshley (Minnesota Department of Human Services) for their efforts on behalf of our project.

Any errors of fact or opinion in this report are the sole responsibility of the author.

EXECUTIVE SUMMARY

This report is about understanding and improving the transportation services that are available to those people who, because of age, disability, poverty, or other reasons, cannot routinely use automobiles to transport themselves. Our concern in particular is with the services commonly known as "community-based transportation." Our objective in this research was to take as broad a view as possible of the subject, not focusing on any particular problem or favoring any point of view. The litany of problems and barriers that are cited with regard to these systems can be overwhelming, and not just on first sight. Our goal was to move beyond individual complaints, observations, and anecdotes to develop a more general understanding of what is wrong with the system and what would make it work better.

We observed early that many of the commonly cited problems have been around for a long time, despite the apparent desire of everyone involved to solve them, and despite the existence of examples of how to solve them. We concluded from this that there must be significant barriers preventing solutions from being implemented; barriers that are not being systematically addressed or perhaps even acknowledged. Thus our ultimate objective was to develop a conceptual structure for identifying and addressing these barriers, rather than simply describing what has been done elsewhere, or promoting a particular approach.

Our first general finding was the observation that the word "coordination" is used in case studies to refer to at least two distinct types of activities. Operational coordination is the most intuitive (but the least common), that is, agencies working together on the operation of their vehicles. Administrative coordination is less intuitive but more common; this typically involves agencies centralizing certain administrative functions. In working more with this idea, we noticed further that the words "coordination," and to a lesser extent "brokerage," were being generically used to refer to a multitude of different activities, many of which actually had little or nothing to do with the word being used to describe them.

The use of just a couple of words to describe all activities has the undesirable effect of obscuring the variety of the improvements being undertaken; the words

themselves have natural interpretations that can lead lawmakers and others who don't follow the field closely to draw incorrect conclusions about what needs to be done.

But perhaps an even more serious problem is that overuse of these words tends to focus too much attention on the end state, that is, the system as it is finally implemented; while failing to adequately recognize the variety of issues that have to be grappled with during the development process. The plethora of circumstances and outcomes of the various improvements in place around the country can make the system development process appear infinitely complex; however, in our study we eventually concluded that there are just five basic classes of questions that have to be successfully addressed in any improvement effort:

- What is the specific improvement that is desired, or problem that needs to be solved? The point here is the end result, not the methods used to achieve it.
- How will the objective be achieved, i.e., how will the system be changed? Or put another way, what program will be implemented?
- Who needs to be involved to implement the change, and to keep it going in the future? How will their involvement be encouraged?
- How much money will be needed, up front and for sustaining the system? Where will it come from?
- How will the new system be implemented and managed in the future? That is, who will be in charge, and with what authority; and what type of administrative structure will be used?

While this framework may be of limited value to practitioners until it is further developed and refined, we do feel that it is a vitally needed first step in bringing some sense of order and organization to this extremely complex and often confusing subject. A major problem for us was that we encountered literally dozens of different complaints and ideas for improving the system, and had no way of understanding how they were related, or how to reduce them to a shorter list that we could actually work with. Thus this framework should also be of value to future researchers.

We are reluctant to make specific recommendations about how to make specialized transit systems better. The main reason is that the more we study this subject, the more we are struck by the almost complete absence of objective evidence of the magnitude, or even the existence, of many of the commonly cited problems. Any

significant improvements to the system will probably require the active cooperation of both funders and providers. Unless both sides can agree on what the most important problems are, and whose responsibility it is to address them, it is hard to imagine how any meaningful progress can be made. And it will be hard to develop such consensus in the absence of evidence that is both more clearly measured and more objective than anything we have observed to date.

We have also noted that there is often little evidence that the "improvements" put into place have actually made anything better; and in the cases where evidence is cited, it is often too vague to be useful, or is even irrelevant. In many cases the mere fact that the program is operating is considered in itself to constitute success, which given the difficulty of negotiating these things, is understandable. However, programs are, or should be, instituted in order to achieve some objective; and direct, unambiguous measurement of the extent to which the objectives have been met is hard to come by.

That being said, we can offer a few observations based on what we have learned. The first of these is that the traditional notion of coordination, of different agencies sharing resources and coordinating their vehicle operations, seems rare in practice, and it is not even clear that it is desirable. The potential for significant benefit seems to exist more in principle than in actual documented evidence. Certainly it seems obvious that a van carrying ten people will cost less per person than ten vans carrying one person each, but in practice the opportunity for this appears to be infrequent (aside from prearranged groups that are already done this way), and the costs of arranging it substantial.

Perhaps a more realistic option within the realm of more efficient vehicle use would be to inventory all the vehicles that are currently underutilized, and develop a plan for inducing the owners to make them available for serving trips and people that are currently underserved. Again, it is not clear that there is really an opportunity here; there are many questions that would need to be answered. For example, are there actually idle vans out there, and could they really be made available for other purposes? Do the times when the vehicles are unused correspond to the times when other users need them? Who are the underserved populations who would use them? How can the two be connected without prohibitive "brokering"costs?

An even more realistic option for system improvement would involve ignoring vehicles for the moment and focusing on a centralized effort to reduce the various administrative costs that agencies incur while operating transportation systems. A couple of examples would be a listserv and website for providers to share and acquire information, and better data management software to simplify recordkeeping and reporting to funders.

One major research objective might be to develop a better understanding of how much community transportation costs and why. This is really a long range objective; it can't be done without better data. A shorter term goal might be to work toward defining some more standardized ways of describing the various functions that these systems undertake, and standardized ways of describing how much they cost.

In terms of describing what systems do, this could include what types of clients they serve, what types of trips, the extent of group vs. individual trips, how long the trips are, what time of day, special conditions, and so on. The cost per trip in general will depend on all these things. Without knowing this, it is impossible to compare systems, or evaluate if a given system is efficient, or how far off it is and why. The next necessary step would be a standardized way of describing how much systems cost to operate, for example accounting for volunteer labor. This would make it easier to tell if a cheaper system is really more efficient or is just paying less for its inputs.

A final, more theoretical, idea is determining if the financial and other incentives under which providers work are somehow at fault. People naturally want to cooperate and make things better; they seem to do so naturally in almost every other walk of life. If they are not doing it here, perhaps we should look harder at what the reasons are. For example, if providers are skeptical about coordinating their vehicles with other organizations, this may reflect an intuitive understanding of the hidden costs of doing this, more than a desire to "protect turf." Unfortunately, only the successful systems tend to be documented; there would be much to be learned from a series of case studies of system improvement efforts that didn't work out.

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INTRODUCTION

This report is about understanding and improving the transportation services that are available to those people who, because of age, disability, poverty, or other reasons, cannot routinely use automobiles to transport themselves. Our concern in particular is with the set of specialized, small-vehicle transit services that lie in the range between large-vehicle, fixed-route transit, and rides arranged privately with friends and family. These services, commonly known as "community-based transportation," can range from a single vehicle, operated when needed by a nursing home or small human service agency, to large public and private fleets operating around the clock, and metro-wide.

There has been for some time a general sense between both the funders of this system and the practitioners who operate it that the overall provision of these services could be better given the resources that are being expended. Some trips seem to fall through the cracks at the same time that other services are being duplicated by multiple agencies. Transportation providers complain of the difficulty of providing effective services while working within the multitude of rules from the various funding sources and regulatory agencies, while the funding sources believe that the providers could be more efficient if they would coordinate their activities with each other.

Our objective in this research was to take as broad a view as possible of this "system," not focusing on any particular problem or favoring any point of view. We wanted to understand the full range of activities that fall within the purview of community-based transportation, to identify and clarify the possible sources of inefficiency, and to develop ways to make the system work better. While our specific recommendations will inevitably tend to address specific problems, our broader intent is to provide a framework for thinking about the issue, so that others will have better tools to develop their own solutions to their own problems.

The challenge of community transit

The primary challenge facing researchers and practitioners who wish to improve the system of community-based transportation is that it is not really a "system" at all. It is in fact a plethora of different agencies, funding sources, and regulatory systems, some

focused on serving a particular type of client, others on a particular type of trip. It is a classic case of the old cliché: while everyone involved can discern that there is a "forest" there, the primary concern is always, and necessarily, with one's own "tree." While all seem to believe at some level that a greater focus on the system as a whole would be beneficial, no one has the resources or the authority to take this project on.

The fragmented nature of the funding, governance, and operation of community transit leads to a number of potential problems:

- There is a general belief that existing resources are underutilized; that more could be done with the money that is being spent.
- Providers and others believe that considerable resources go into determining what clients are eligible for what funding; in documenting how the objectives of various funding sources have been met; and in general in trying to meet the sometimes conflicting requirements of the various funding and regulatory rules.
- Because programs are developed with little if any reference to each other, some individuals may qualify for rides under several different programs while others may not qualify under any.
- Another aspect of the same problem is that some people may be able to get rides for some purposes, such as medical trips, but not for other purposes that may be equally important to them.
- It can be hard for providers to address gaps in coverage because taking on different clients, or different types of rides, can involve dealing with a whole new set of rules and regulations. For the same reason, it can be hard for providers with complementary skills to work with each other's clients.
- Because of the difficulty and expense of finding transportation, many human service agencies provide rides informally for their own clients. Many believe that this consumes resources that should be used for their primary mission of human services.
- At the same time, human service agencies are concerned that, because of the enormous variety of needs, it may be impossible for organizations specializing in transportation to be sensitive to the unique needs of their clients, or that their clients may not feel comfortable in such a setting.
- While there seems to be almost universal consensus that greater coordination among the various players would lead to better results, such improvements seem in practice to be very hard to establish, and very fragile once implemented.

Finally, it is necessary to keep in mind that the clients here are people who are facing considerable difficulties and who need to access the help and opportunities that are

available to make their lives better. The reason everyone cares about possible inefficiencies in the system is not usually from a desire to spend less money, but from a recognition that needs are almost always greater than the available resources. Budget constraints require agencies to reach more people by getting more out of the available resources.

What is unique about this research

We were fortunate in this research to have a funding agency which wanted us to take a broad approach to the subject rather than focus on a specific problem. We also worked with an advisory committee of diverse stakeholders, who similarly encouraged us to maintain a big-picture perspective. This was advantageous for two reasons. First, taking a broad approach made it possible for us to learn much more about the field in order to develop a longer-term research agenda. Second, taking a broad approach actually increased the odds that we could make an original contribution. Most research in this subject is sponsored by a particular agency with a particular problem in mind; a general perspective is in itself a somewhat unique approach.

Thus the philosophy with which we entered this research could be summarized as follows.

- A broad perspective, with no predetermined focus on a particular type of trip, or client, or on solving any one specific problem.
- No bias in favor of one point of view over another; understanding the perspectives of all the major stakeholder groups, finding common ground.
- No preconceptions about what any solution(s) should look like.

The litany of problems and barriers that are cited with regard to these systems can be overwhelming, and not just on first sight. Our goal was to move beyond individual complaints, observations, and anecdotes to develop a more general understanding of what is wrong with the system and what would make it work better. While we were interested in recommending improvements that could be implemented in the short term, we did not restrict ourselves to that. We wanted more generally to identify and address systemic barriers and problems, in the belief that many specific complaints might just be symptoms of deeper problems with system governance.

Our belief in the existence of deeper systemic problems arose early in the research, from the observation that the problems noted earlier have been around for a long time, despite the desire of everyone involved to solve them, and despite the existence of apparent examples of how to solve them. We concluded from this that there must be significant barriers preventing solutions from being implemented; barriers that are not being systematically addressed or perhaps even acknowledged.

Our ultimate objective was to develop a conceptual structure for thinking about the problem, rather than simply describing what has been done elsewhere, or promoting a particular approach. While we did want to use existing systems to see potential solutions, we wanted to move beyond this by analyzing these systems to isolate the real sources of significant benefits. Our hope was to be able to bring some order to the chaos: to reduce the multitude of problems, and ideas for solving them, into a few specific themes; and from here to develop a systematic framework for identifying and evaluating potential system improvements.

Research and report overview

In keeping with our intent to take a very broad approach to the subject, our research project followed several, largely independent tracks.

- We met with a group of local stakeholders five times. This group was composed of individuals from a variety of backgrounds who had shown an ongoing interest in the subject of community-based transportation. Many were representatives of state agencies or local government entities, others represented large transportation providers, major user organizations, or charitable entities. They provided ideas to help us define research questions, as well as feedback on our work.
- We reviewed examples of other community-based transportation systems around the US, and studied other research that has been done in this field.
- We created an inventory of community transportation providers in the Twin Cities area. This helped us (and the stakeholder group) to understand the number (more than 140) and types of agencies providing specialized transportation services in this metro region. It also helped us to understand the range of funding sources and missions.
- We talked to a group of transportation providers, both individually and in a focus group, about their perceptions of the work that they do and how it could be done better. This group consisted of five providers from rural areas of Minnesota, and two from the Twin Cites metro area. Much of what we learned

from them is incorporated into the text of this report; it is also discussed at more length in an appendix.

- We held four focus groups of community transportation users. Their perspectives are also discussed in the body of this report, and documented at greater length in an appendix.
- We looked at technological improvements being implemented locally and around the U.S. These are primarily documented in an appendix, although they are discussed briefly in the main report.

Ultimately we tried to take all the information that we gathered from these various sources, and develop a conceptual framework for organizing it and some ideas about where to go from here. This report, which summarizes the results of this research, is organized into four main parts:

- *Stakeholder perspectives.* What the various stakeholder groups perceive to be wrong with the system, as well as what they like about it. We had two objectives here. First, to ascertain what the different groups see as being important; to see where there is consensus or dispute about what the problems are. Second, to develop a sense of what an "ideal" system might look like; to learn what issues the sides might be flexible on, and where they might draw a firmer line.
- *Examples of system improvements from around the country.* The intent here was to learn how other places have improved their transportation services, what problems they solved, what barriers they encountered, and so on. This helped us to understand what types of improvements are empirically more common, and hence more useful and/or easier to implement.
- *Steps to implementing system improvements*. Another use of the case studies was to "deconstruct" the variety of systems that are in place, to identify the various issues that have to be resolved for a system to be successful, and some of the possible ways of resolving them. We further develop this information into a "procedure" for identifying, developing, and implementing system improvements.
- *Conclusion*. We identified a number of important issues that we feel are inadequately understood, and for which this lack of understanding is limiting our (society's) ability to create significant and lasting improvements to the community transportation system.

STAKEHOLDER PERSPECTIVES

One of the major efforts of our research was to work with the various stakeholder groups to determine their opinions with regard to what the problems are, what improvements might have value, and ultimately what they see as the desirable characteristics of an "ideal" system. The ideas described in the following sections come primarily from our own discussions with stakeholders, and also from the literature.

One possible hypothesis for the slow progress of improvements in this area might be that the various stakeholders have different, possibly conflicting objectives. We found only partial support for this idea. In general, all the stakeholder groups seemed to have fairly similar ideas regarding what an "ideal" system would look like. There were, however, some key discrepancies in their opinions about the nature and sources of the barriers preventing such a system from emerging.

Transportation and human service funders

The desires of the various entities that pay for community transportation services are well documented; they have sponsored many studies and reports on how to make the system better. They are working within externally imposed budget constraints and need to do as much as possible. There is more need than money to serve it: a better system could mean freeing up money and/or human resources to provide more transportation or more human services with the available budget.

A key point with regard to funders' desire for greater system efficiency is that they are in the business because there are people whose needs they care about serving. Furthermore, they understand that transportation and human service providers are their partners in this venture. Thus they have no inherent interest in cutting service or "squeezing" providers as a way of saving money. Their desire to meet users' needs does, however, imply that these needs should be met in a cost-effective way, so that money will be freed to meet the needs of others. This desire often manifests itself in three major ways:

- Wanting their money to be used for rides that serve their mission, not for others. Two key elements of this are making sure that third parties (such as

medical sources) are billed when appropriate, and tracking how vehicles are used. This second point can sometimes appear, from the provider's perspective, to place unnecessary restrictions on how they use their vehicles. The extent to which this is really true is an important question.

- Shifting trips to less expensive modes, like fixed route transit, when appropriate. This seems in general like a good idea; if a much less expensive alternative is almost as good, it might as well be utilized. It is important, however, to make sure that the alternative really is comparable, and that the shifting is actually freeing other resources.
- Encouraging "coordination" among providers. Funders seem in general to believe that individual providers are often not particularly efficient, and that they could do much better by working more actively with other providers to share resources and duties. However, as researchers, it is not entirely clear to us on what specific evidence either of these beliefs is based.

Transportation providers

Transportation providers fall broadly into two categories: those whose primary mission is providing transportation, and those whose primary mission is human services, and who provide transportation incidentally or formally as a service to their own clients.

- Human service agencies sometimes have to provide transportation because they cannot find it elsewhere. They would like to have it more easily and cheaply accessible. They see it as a distraction from their main mission.
- Human service agencies that provide transportation as a formal service feel that the link with their own clients is important. They don't necessarily want a larger transportation provider to take this function over. This opinion is supported by the users as well, as discussed in the next section. However, funders sometimes see this as "protecting turf."
- Larger transportation-focused agencies sometimes see themselves as having expertise and efficiencies that smaller human-service based providers don't necessarily have; they believe that they could make better use of the resources.
- Providers in principle are interested in working with other providers and related agencies, and do in fact do so in many cases. However, they want to make sure that they are actually gaining something by doing this.
- They can feel burdened by the large number of rules, regulations, and reporting requirements, some of whose purpose is unclear to them. This can make it hard to cooperate with other providers or even for individual providers to expand their service. One possibility is that the different rules might conflict, although funders deny that this is the case. Another possibility is that the sheer cost of learning and complying with a new set of regulations is prohibitive.

- Providers would like better information. They all need to know many of the same things, but there is often no central source of information, or simplified ways of understanding it. They would also like more formal opportunities for interaction with other providers, both for sharing insights and possibly for greater operational interaction.
- They have noted several issues about how funding is provided; the extent to which these are truly problematic needs to be further explored:
    - The common one-year funding cycle makes it hard to plan or develop long-term improvements, because the focus is on immediate results for the next proposal rather than innovation, which might not have immediate payoffs.
    - Sometimes capital is more easily funded than operations; various programs will provide a van, but the agency must pay to operate it. This reduces the incentive to get the most out of the van, or to use it in cooperative arrangements, since cost would be incurred on behalf of someone else's client.
    - Providers sometimes see "collaboration" as a feel-good thing for funders; they "require" it but don't do much if anything to give incentives to actually make it happen.

Community transportation users

We talked with a number of community transportation users representing a variety of different perspectives. Not surprisingly, their interest was more in how they experience the system rather than in the technical and financial aspects of how it is operated; a perspective that funders and providers need to keep in mind as they think about how to "improve" the system.

- The presence of these services is important to them because it helps them to feel more independent, rather than relying on friends and family for all their activities.
- However, a sense of independence is greatly enhanced by convenience: not having to arrange a ride days in advance, and knowing with some degree of accuracy when they will be picked up.
- They feel vulnerable because of their dependence on others, so it is very important to them to be treated with courtesy and respect by drivers and others with whom they interact.
- They like having a variety of providers that can meet different needs in different ways; they value the personal connection with specific small providers. The convenience of having one number to call, and other potential advantages of a single large system, did not appeal as much.

- Many users are immigrants who have difficulties with the language and culture. Translating schedules and other information into a variety of languages would have great value for these groups.
- Some low-income users are able to drive but can't afford a car. At least a few suggested that they could contribute by driving others if a car were available to them.
- Fares are relatively low, but they can be hard to pay for users on low incomes.
- Transit is not always a simple substitute for paratransit. Walking to the bus stop in potentially dangerous neighborhoods, waiting outside in bad weather, and the difficulty of traveling with children are examples of extra user costs associated with transit.

In general, users seemed as concerned with "soft" issues like how they are treated by the driver, as with "hard" issues like on-time performance. This could be a reflection of generally good outcomes in terms of hard issues. Obviously a missed pickup is something a user will remember, but in some ways users seemed willing to forgive the rare and accidental transgressions if they felt they were treated well in general. What they seemed less inclined to forgive were the intentional transgressions: being treated with disrespect or made to feel vulnerable.

There are two interesting points with regard to this. The first is essentially the same question that emerged with regard to some provider complaints: to what extent are the problems that users cite truly pervasive and indeed problematic, or are they cases of bad experiences being recalled more easily than good ones? For example, the seeming ease with which our focus groups generated complaints about the local public transit ADA provider contrasts sharply with the provider's own complaint records and extensive customer surveys, which show a very high degree of satisfaction with the service. There would be some value in further exploring the sources of this discrepancy.

Another interesting point has to do with the contrast between what users claim is important to them and the factors that regulations sometimes force providers to focus their energy and investments on. If some of the opinions our users expressed were indeed representative, then perhaps regulations should focus on reducing the duration of the pickup "window" rather than further improving on-time performance. Or, perhaps a little more money should be invested in driver training and less on reducing trip denial rates. Obviously it is far too early to make such recommendations based on just a handful of

focus groups, but again, it seems worth exploring whether legal mandates regarding how systems are operated actually correspond to what users want the systems to be.

Some comments on stakeholder perspectives

It is helpful to understand more about what the various sides see as important, what they are and are not willing to do to improve the system, and what they see as constituting an "improvement." This can help in anticipating what kinds of system changes might be welcomed and politically acceptable. The major themes that frequently recurred across different stakeholder groups were the following.

- The need for better use of resources to be able to meet more of the need for services. However, there is disagreement over how to achieve "better use of resources," that is, where and why the waste is occurring, and what is needed to reduce it.
- The need for transportation providers and human service agencies to maintain their own missions and connections with clients - to keep control at the "ground level" to the greatest extent possible. This objective might be somewhat less important to funders, but it is quite important to the providers and users.
- The need for a collective voice in planning, lobbying, and other policy-related activities. Although this was not explicitly noted in any of the above sections, it was a recurring theme from many perspectives throughout our research.
- The desire for the system to be easy to use (including reducing gaps in coverage), and for users to have choices among providers where possible.

It is a reason for optimism to observe that the different groups do seem to agree, at least in broad outline, about what they would like the system to be. It is important to note, however, that they have fairly different ideas about what needs to be done to get there.

Resolving these conflicts among the stakeholders about what the key problems are and how they should be solved will not be a simple task with our present state of knowledge. Many of the assertions about the problems with the system don't seem to have any objective evidence supporting them, or are contradicted by other evidence or opinions of other stakeholders. For example:

- Funders' (and to a lesser extent, others') belief that the system is inefficient. This is presumably in relation to some baseline, specifically how much a system "should" cost given what it is doing. But there seems to be no standard

cost information, or even explicit documentation of what factors might matter. Generally, everyone seems to believe implicitly that it is someone else that is inefficient, or that their own inefficiency arises because of rules imposed by others.

- Providers' belief that rules and regulations limit what they can do in terms of coordinating with others, or even expanding their own scope of operations. Funders explicitly deny that this is true. If regulations are indeed a limiting factor, for what reason, or in what way is this the case? It may not be that regulations are contradictory, so much as they are hard to find, hard to understand, and expensive to comply with. Seemingly, something needs to be done, but what?
- Are user complaints about rude drivers, time wasted waiting for pickup, and so on, expressions about frequent occurrences, or just remembering the one bad time out of many good? As noted earlier, the widespread and eager complaining that took place in our focus groups is entirely inconsistent with more extensive, and scientifically valid, complaint records and customer surveys.

The purpose here is not to claim that there are no problems with the system, but rather to make the point that it is going to be hard to find effective – and cost-effective – improvements without at least some quantitative, documented facts about the nature and magnitude of what the problems are. As a purely political reason, it will be hard to get everyone to agree on what problems need to be solved first, and whose responsibility it is to solve them, if there is no agreement on how important the various problems are, and why they exist in the first place. And it is unlikely there will be agreement without at least some kind of at least semi-objective evidence.

It is not just a nicety, or a sterile theoretical ideal, to have a somewhat clear and objective understanding of the problem. Without it, there are a variety of things that can go wrong, and which very likely have, given the paucity of major successful systems around the country:

1. Just because everyone believes a problem exists doesn't mean that it does. This sounds facetious, and it is not our intent to argue that there is no problem, but we do want to make the point that exactly what the problem is might show considerable variation from one place to another. With a clear sense of where the waste or shortcomings are occurring, it is possible to devise solutions that target those problems specifically, rather than just casting a wide (and expensive) net in

the vague hopes of catching something. Besides incurring excess cost, a wide net also may be creating new problems by trying to control things that are best left at the local level. Regulations, to many people, are an example of this.

2. Even if a problem exists, it doesn't mean that there is a cost-effective solution to it. There is a certain amount of waste and underused resources inherent in any activity. Most households devote a considerable amount of money to owning one or two cars, which typically sit idle 23 hours per day. The typical suburban block might have ten houses, and ten lawnmowers. Hardly anyone carpools to work, let alone anywhere else. There are three points. First, capacity is needed for the peak, not for the average, so it will almost inevitably sit empty for much of the time. Second, negotiating how to share resources, like lawnmowers, might be more costly than just having one for everyone. If several people want to use it at once, who gets it? What happens to everyone else? If it breaks, who pays to fix it? There may be no way of sharing a resource and its costs that will be satisfactory to everyone. Third, even if there is a satisfactory solution, the effort and inconvenience of arranging it, like carpooling, might be bigger than the benefit to be gained.

3. Even if there is truly something that needs to be done, there are several things that could go wrong. One might be placing the burden of improvement on parties who have no authority or ability to deal with the real source of the problem. The converse of this is that the party that would need to address the problem doesn't believe that there is one (as with provider complaints about regulations). Both of these are manifestations of the point noted above; that almost any improvement requires funders and providers to work together, with each side taking responsibility for those issues that they can do something about. It is not enough that both sides agree there is a problem. They also have to agree on what it is and what needs to be done about it.

Ultimately solving problems, like giving rides, has to be done with limited resources. We need to understand the problems with the system so that we can prioritize them and figure out who should be responsible for dealing with them:

- What are the big problems that affect many people in a major way, that we should really focus on and devote considerable resources to solving?
- What are the small problems that we should try to deal with if we can do so easily, but otherwise should probably just accept as annoyances?
- What are just problems of perception that could be "solved" through better information or communication? These should certainly be dealt with.

And, as has been seen above, what constitutes a big versus a small versus a perception problem depends to a large extent on individual perspectives. To reconcile these different points of view there is a need for some way of describing the scope and impact of the problems and measuring their magnitudes.

If providers and funders could come together with a clear understanding and consensus on what the most important problems are and why they are arising, it would be possible to move on to the next step of identifying possible solutions. The next chapter of this report describes a number of different types of system improvements that have been implemented in the Twin Cities and around the U.S.

SOME EXAMPLES OF "COORDINATED SYSTEMS"

There are many examples around the country of efforts to improve the efficiency or quality of community transportation services. In this chapter we briefly describe a few of these in order to provide a sense of the range of improvements that can be undertaken. Case studies can be helpful for generating ideas and showing how a given idea was implemented in a particular place. However, the more general principles of how to evaluate, develop, and implement an idea can sometimes be hard to discern through the project-specific detail. Our ultimate goal and major contribution of this research is to use these case studies as raw material for developing a general procedure for developing system improvements.

Case Studies

We describe five system improvements, three from around the U.S. and two in the Twin Cities. Our focus here is not on the details of implementation, but on the general characteristics of the system. The eventual objective is to use these cases to illustrate the range of issues that need to be addressed in designing system improvements more generally. Readers interested in the details of these systems should refer to the original sources in which they are described, which are noted in the individual cases. In addition to the examples described here, there are at least two major sources of detailed case studies from around the U.S., and many other cases are described on internet web sites.

Florida

The system in Florida is unique in that it has a much greater scope than any other system, in terms of being statewide, serving multiple passenger and trip types, and pooling funds from multiple sources. There is a state-level commission, comprised of representatives from a number of major stakeholder groups, which provides high-level planning and monitoring functions. The responsibility for actual operations is delegated to the county level; each county has a similar commission that oversees a transportation coordinator. The county coordinator can provide trips directly, contract for trip services

from other providers, or dispatch and broker services from other providers. There is a high degree of operational flexibility at the county level.

This system is described at greater length in Burkhardt (2000), which in turn cites other documents. The Florida Commission for the Transportation Disadvantaged also has a web site, listed in the references.

While this system was implemented in 1979, to our knowledge it has not been copied in any other state. It is not clear why this is the case. Perhaps stakeholders in other states prefer more of a ground-up, voluntary approach, as seems to be the case in Minnesota. Maybe other state legislatures don't feel that they understand the issue well enough to justify creating a new and substantial bureaucracy to manage it. Or, perhaps the Florida system has not produced compelling documentation of cost savings or improved service quality; the case study that we primarily worked from contained only a very short, vague, and ambiguous discussion of benefits and economic consequences.

Pittsburgh

The ACCESS program in Pittsburgh is open to the general public, but primarily serves persons with disabilities, clients of human service agencies, and older persons. It is operated by a private firm under contract to the local transit authority. This firm contracts for rides with several providers chosen through competitive bidding. Almost all human service agencies in the area contract with ACCESS to provide trips for their clients. The program also provides services such as eligibility screening and invoicing for its human service agency sponsors. Much of the funding for purchasing trips comes from lottery proceeds, as well as from other government sources.

This program seems similar to what might go on in a county in Florida under that system, with the exception that there seems here to be a much more explicit emphasis on tracking the characteristics and costs of rides, and using the example of low-cost providers to motivate the others. They seem to have created a kind of quasi-competitive system: providers are motivated to keep costs low to win contracts; but they are also motivated to keep service quality high, because users can often choose which provider to use, and because ACCESS itself has service quality standards.

This program is described in more detail in Burkhardt (2003), and on the ACCESS website, listed in the references.

This program also started in 1979 and, like Florida, to the best of our knowledge it has not been duplicated elsewhere. Again, the reasons for this are not clear. Given the admittedly limited information we have, this program seems to have many of the characteristics that were cited as desirable in our discussions with stakeholders: participation is largely voluntary, clients can in many cases choose their provider rather than being assigned, administrative functions are centralized, and so on. Further study of this system could be fruitful.

New Mexico

The CRRAFT (Client Referral, Ridership, and Financial Tracking) program in New Mexico is a web-based software application that centralizes and automates a variety of functions, in the process making it easier for various state agencies and transportation providers to work together. The program can be used by providers to schedule trips, track usage, generate reports to funders, and segregate funding sources, among other functions. Because the program is accessed through the internet, it can be easily upgraded and expanded to include new functions. A recent innovation is the use of "smart cards" for tracking passenger activity as well as providing access to other government services.

This program takes a different approach from Florida or Pittsburgh. Here there is no particular concern about the efficiency of the transportation system per se, or any complicated administrative structure, but rather just the relatively low-cost provision of a service to allow easier and better tracking and reporting of activities. In addition to the immediate benefits to providers, the presence of common record keeping standards and centralized access to information on passengers (through appropriate security, of course) is making it possible over time to expand these services to address other transportation and human service delivery issues.

This program has been in place only a couple of years. It is documented in an academic paper, and more can be learned at the CRRAFT website, listed in the references.

American Red Cross of St. Paul

The St. Paul area Red Cross has been providing transportation services for many years. They operate a number of vehicles themselves using funding from a variety of sources, and they provide scheduling, billing, negotiating trip reimbursement rates, and other administrative services to a number of subcontractors, primarily human service agencies who provide transportation as a secondary activity. They also were recently the manager and primary transportation provider in a county-wide pilot program to provide comprehensive transportation services to disadvantaged children and families.

In some ways their programs are similar to those in Pittsburgh and New Mexico, in the sense that a primary source of efficiency is the centralization of administrative functions that would otherwise be duplicated across many smaller agencies. Their relatively large size makes it possible for them to invest in scheduling software and other labor-saving technologies that would otherwise not be accessible to smaller agencies. They are different from the other programs, however, in that they are a private entity; they derive their authority from the goodwill of their funders and affiliated agencies rather than from legislative fiat. In this sense they represent a fundamentally different, and in many ways desirable, model of system improvement.

Metropolitan Health Plan, Minneapolis

Metropolitan Health Plan (MHP) is currently engaged in a pilot program providing a brokerage service for non-emergency medical transportation, to Hennepin County Economic Assistance fee-for-service clients. MHP does not operate any vehicles; they confirm eligibility, refer clients to appropriate transportation providers, and provide trip cost reimbursement. This program is aimed at consolidating the provision of these medical transportation services; they are currently dispersed and inconsistently administered across a number of departments within Hennepin County. The program is currently focused on simplifying interactions with customers by providing a single phone number with guaranteed live answering, operators with multiple language skills, an emphasis on educating customers about the transportation options available to them, and a simplified process for trip cost reimbursement.

This program is unique among those that we describe here (and somewhat unusual more generally) in that the emphasis is much more on improving the experience for the customer rather than on monitoring costs. There is still a considerable potential cost savings in this approach. Centralizing customer interactions makes it possible to apply consistent standards regarding what types of transportation should be used, and routinely educating customers about the transportation options available to them should make them more likely to at least occasionally use inexpensive options such as fixed-route transit.

Analysis

Case studies, although they provide valuable examples, may be of limited value in developing system improvements in one's own area. The most obvious limitation is that political or financial circumstances in the case study area may not be the same. A related point is that the functions of the case study system may not correspond well to what someone in a different area perceives their own objectives to be. This is a fairly small field; what improvements actually get done in a given area will depend as much or more on personalities and politics as on any kind of objective analysis. Knowing the features of another system does not necessarily provide much insight on how to implement something similar in one's own area.

A more subtle but ultimately more important point is that case studies tend to describe a variety of features of a system, and it can be hard to discern what is really important or useful; that is, what aspects of the system are most important to creating the benefits that the system generates. Descriptions of case studies tend naturally to focus on how the system is organized and what activities it undertakes; this can lead casual readers to assign too much importance to the administrative features of how the solution was implemented (brokerage, coordination) rather than to the problem that was being solved and whether it was solved in an efficient way.

As a general principle, it seems good to start out with the minimum bureaucracy necessary to achieve a particular objective, and to limit the objectives to those whose benefits are clearly established and agreed upon. The stakeholders we worked with all believed that better coordination could improve the system, but at the same time they

were very concerned about "mission creep." Their fear was that bureaucracies, once established for whatever valid reason, can tend to try to expand the range of things that they control, even to the point where they are no longer providing any value.

If "coordination" is to create net benefits from a financial perspective, it is critical that the coordinative entity itself does not consume too many resources. If a "brokerage" is performing ten different functions, but most of the benefits are coming from one of them, then maybe it would make more sense to implement a simpler system that just does that one function. Such information would be helpful to others trying to create their own improvements. However, this information is hard to discern from the case study literature, for two reasons: ad hoc financial analysis and imprecise language.

The problem with the financial analysis in the case studies is essentially the issue described in the commentary at the end of the previous chapter. That is, there are no standardized rules about how to describe what different systems do and how much they cost. As a result, it is basically impossible to discern how much a given innovation costs to implement and operate, versus how much savings it generates. Indeed, in many case studies the cost of implementing and operating the new system is hardly discussed at all. And the notion that the size of the cost savings might depend on specific local conditions, and hence might vary from one place to another, seems to be rarely even acknowledged.

Another significant problem with using case studies to design system improvements is imprecise language. A major shortcoming of the case study literature and other research in this field is that the word "coordination" (and to a lesser extent, "brokerage") is used to refer to all attempted improvements, regardless of scale, method of implementation, nature of the improvement, or any other differences. One issue is that many of the improvements don't appear to involve anything being coordinated, but even when coordination is involved, there are at least two completely different ways in which the word can be interpreted.

The interpretation that seems most intuitive, and that is often described in general discussions, is operational coordination; agencies use their vehicles jointly, giving rides to each other's clients, or transferring passengers from one to the other. However, this seems relatively rare in practice, and the benefits relatively small; perhaps because the

time that is necessary to arrange such coordination cancels much of the benefits of doing it (carpooling, for example, is a good idea on paper, but most people don't seem to find it a good idea in practice).

The other interpretation is administrative coordination. This, ironically, does not seem to be what most people intuitively think of as "coordination," yet it does seem to be what is most often successfully implemented. This includes situations in which agencies or government entities provide administrative services, such as eligibility checking, rate negotiation, record keeping, billing, and so on, on behalf of other transportation providers. Indeed, all of the case studies described above, which are typical of the literature, fall more into this category. To use a different word to describe this type of activity, or even to use a multitude of different terms to differentiate all the various manifestations of administrative coordination, would be a useful innovation.

But what seems even more significant than the failure to distinguish clearly between these two different types of coordination is that many of the systems that are cited as examples don't seem to have anything to do with coordination at all, in the sense of different agencies actively working together. In some cases, such as shifting paratransit clients to fixed-route transit (a major source of cost savings in Florida), there is no coordination at all, just a redefinition of who qualifies for what service, and perhaps a simple purchase and distribution of a quantity of bus passes. In other cases, benefits arise from incidental discoveries of fraud or overcharges, and not from the coordination of rides per se.

Even in some of the cases that are closest to an intuitive notion of "coordination," a case could be made that they are really just simple market transactions, or should be. If a merchant hires an accountant to keep the books and do taxes, no one thinks of this as coordination. Similarly, franchisers provide various services on behalf of their franchisees, but no one calls it "coordination." Yet situations like these are essentially what many coordinated systems come down to (as illustrated here by the examples from Pittsburgh and the Red Cross).

This is not just a petty dispute about wording. There are a multitude of potential problems that arise from relying on the single word "coordination" rather than utilizing a broader and more sophisticated vocabulary:

- In developing system improvements, it is hard to have fruitful discussions or reach consensus if everyone in the room is thinking about something different.
- The word intuitively places the focus on certain types of activities when most of the benefits in practice seem to arise from different types of activities.
- The word seems to imply something complex and labor-intensive, when many of the functions being described are routine and straightforward in other walks of life.
- People might try to implement inappropriate or unhelpful changes because they believe that "coordination" is always a good thing.
- Or, as noted earlier, they might try to implement systems that are more complex and expensive than they need to be to achieve the given benefits.

Finally, using one word to refer to a multifaceted process makes it hard to distinguish the various independent issues that have to be addressed. It would be helpful to be able to identify specific potential improvements, prioritize them, and have a systematic way of thinking about how to design and implement them. To be able to do this requires a more precise language, in which it is possible to clearly distinguish the different types of questions, and answers; and to offer specific guidance with regard to each individually, rather than vague, general guidance on how to achieve "coordination."

The major contribution of our research is the development of a prototype of such a conceptual structure; it is described in the next chapter.

STEPS TO CREATING SYSTEM IMPROVEMENTS

One of our primary objectives in this research was developing a method by which we could organize the multitude of complaints, beliefs, and ideas that we encountered into a simple framework that we could use not only to describe community transit systems, but to think more systematically about how to improve them. In studying examples of successful innovations locally and around the country, we eventually were able to identify five categories of issues that they all had to address, and that seem among them to incorporate almost all of the specific ideas that we encountered.

We are of the opinion that large-scale reorganizations of the community transit system are premature in the absence of more and better evidence of the specific problems with the system and their magnitude. However, we do believe that there are probably specific small improvements that can be implemented voluntarily by small sets of interested parties. We believe that these issues that we identify in this chapter must be addressed by the participants in any effort to create lasting improvements, even at the small scale that is realistic in the short term.

- What is the specific improvement that is desired, or problem that needs to be solved? The point here is the end result, not the methods used to achieve it.
- How will the objective be achieved, i.e., how will the system be changed? Or put another way, what program will be implemented?
- Who needs to be involved to implement the change, and to keep it going in the future? How will their involvement be encouraged?
- How much money will be needed, up front and for sustaining the system? Where will it come from?
- How will the new system be implemented and managed in the future? That is, who will be in charge, and with what authority; and what type of administrative structure will be used?

We envision that normally these issues would be addressed in order. There could be situations where later questions get answered first for some reason; for example, the availability of a particular funding source might be contingent on it being applied to certain types of problems. And it may be necessary to iterate, as barriers that emerge in later questions may require modifications to earlier answers. But normally it wouldn't

make sense to start out by discussing the program that will be implemented without first knowing something about the problem that the program would solve. Even more to the point, we believe that it will almost never be ideal to start by defining an institutional or administrative structure, and then charging that bureaucracy with trying to find problems to solve.

In the following sections we discuss each of these issues, explaining them in some cases by providing examples of possible answers that have been developed in other places, and more generally by outlining related or subsidiary questions that fall under a given issue. System improvements don't come as packages where you have to accept all or nothing; at the same time, you don't have to consider the whole universe of possible answers. The answer to question one does not imply what the answers to all the other questions must be, but it will typically narrow the range of options that needs to be considered. And focusing on one decision at a time, within a limited range of possibilities, could generate greater creativity, or point to potential solutions that might not have been apparent in a less structured framework.

What is the desired improvement?

Ultimately, changes to the transportation system, if they are to be classed as "improvements," must actually solve some problem, or improve the system in some way. This may seem tautological, but there is a real point here: that the first step in developing better systems has to be the identification of a significant problem. And the extent, magnitude, and nature of this problem should be understood in as much detail as possible.

There are two key advantages to having a good understanding of the problem before moving on to develop solutions. First, to be more sure that some good will actually come out of all the effort that is expended; that the effort won't be wasted on a problem that wasn't really very significant to start with, or that the solution won't be inappropriate and ineffective. Second, that understanding the problem should be of considerable value in answering the remaining questions, such as how much money will be needed and who needs to be involved, and in making a case for why others should provide the money or the involvement.

The case studies described earlier, and others in the literature, exhibit a variety of objectives for potential system improvements. Some of the most significant of these are:

- Shift some users to less costly modes, e.g. fixed route transit (Florida, MHP)
- Appropriate billing of third party sources (Red Cross, New Mexico, MHP)
- Reduction of fraud and inappropriate billing. (Florida, New Mexico, MHP)
- Simplified administration, reporting, eligibility checking, etc. (Pittsburgh, New Mexico, MHP, Red Cross)
- Better service quality, reduced gaps in coverage (Florida, Pittsburgh, MHP)

Having settled on an objective, there is a set of subsidiary questions that serve to fill in the details (there may be others as well):

- What specific benefits are expected?
- How big will they be?
- Where they will come from (what is the waste in the system currently)?
- What is the evidence on which the belief in benefits is based? Anecdotes? Claimed benefits elsewhere? Measured, objective evidence?
- Who will receive the benefits? Are there others who will incur costs as a result?
- What factors might prevent benefits from being realized? Is there anyone who might object to this problem being solved? If so, why?

A final point to bear in mind with regard to the system objective is how success will be measured. That is, a system is successful not just because it is operational, but because it is achieving what it set out to do. The objective that is defined, besides being as specific as possible, should ideally be something that can be measured in some way.

What program will be implemented?

When an objective has been defined, the next step is to define the program that will be implemented to meet that objective. There is no need to justify this step; this is the aspect of the process that is most interesting and where effort naturally focuses. The only comment we would offer is that there should be some thought given to finding the minimal program that will meet the defined objectives. The two advantages of this approach are: 1) a smaller program will require less money to set up and operate, which

should increase the odds of finding adequate funding, 2) a program that controls only what it needs to is less likely to provoke opposition from impacted parties.

Again, the literature provides a wealth of examples of possible programs. It is worth drawing the distinction again; that programs are not objectives in their own right, they are ways of meeting an objective. There sometimes seems to be confusion on this point; merely implementing a program is taken to constitute "success," as opposed to whether the program actually accomplished what it was supposed to.

Some common examples of possible programs include:

- Bus passes to specialized transportation recipients
- Central negotiation of provider fees and payment rates
- Centralized process for eligibility checking and record keeping and reporting
- Coordination of vehicles and drivers to improve service, better utilize resources

These and other changes can also involve implementing new or improved technologies:

- Administrative (e.g. data management software, electronic on-board tracking of riders, internet communications and information sharing)
- Operational (e.g. scheduling software, automatic vehicle locators, mobile data terminals)

Again, there is a host of subsidiary questions, such as:

- How will the proposed program lead to the desired benefits?
- Are the benefits inevitable given this program, or do supporting policies or actions need to be in place?
- What other programs would also meet the objective? Why is the chosen program better than the others?
- Who are the winners and losers under this program? Are there those, for example, who will see it as competition or interference in their own work?
- Does this program impose costs on others? If so, will this pose a barrier?

Who needs to be involved?

The questions of who needs to be involved in a program, and the more difficult follow-on of how to elicit their involvement are, anecdotally at least, the sticking point in

many failed efforts to develop new programs. The basic problem is that any idea implies a certain set of entities that need to be involved, and those entities must all believe that the problem is important and the idea for solving it is valid. Finding an idea that meets these criteria is not a trivial undertaking.

The first basic question of who needs to be involved has several aspects:

- Some entities may need to be involved in developing and implementing the program, others in ongoing participation.
- Entities may need to be involved at different levels; from more active and frequent to more passive and occasional.
- And in different ways, from investing major resources to simply utilizing the system as a customer.

Defining the scope, both geographically and in terms of the various types of organizations that need to be involved, has two opposing objectives. Having fewer groups involved increases the odds of making faster progress. But those excluded might object, especially if there is no good objective reason for their exclusion.

The second, and probably more difficult issue, is how to convince the various necessary entities that they will benefit from being involved. Some "successful" systems from around the country seem to have bypassed this problem by simply legislating involvement. Ideally, however, we would like agencies and others to participate because they see some advantage in doing so. This approach is better both because it is nicer (and hence will increase the odds of helpful cooperation later on), and because voluntary participation implies that the benefits really do outweigh the costs; one can't be sure that this is true if participation is mandated.

The questions that fill in the details here are straightforward to list, but may be very hard to answer:

- What benefits do the various entities stand to gain by participating? What costs are they likely to incur? If costs are bigger than benefits for some group, is there any way of reducing the costs, or otherwise compensating them?
    - Will groups need to give up control over certain things, and will they object to this?
    - Will differing rules and regulations be a problem?

- Does everyone agree on what the benefits and costs are likely to be? If some are much more pessimistic than others, could better information change this?
    - Do all the parties adequately know and trust each other?

How much money is needed, where will it come from?

Everyone who works in this field is occupied full time operating the existing system. Developing and implementing long term changes will require additional effort and probably funding. Furthermore, any resources saved may go into meeting more needs rather than reducing expenses. And many of the agencies or individuals that might benefit from an improved system might not be in a position to contribute any funds towards its development or operation.

The type of system being contemplated should naturally point toward certain sources of funding (easier said than done, of course). Again, the relevant questions are easy to state but hard to answer:

- How much will the system cost, both to set up and for ongoing operations?
- Will it be possible to capture any of the cost savings that the system might generate to use for continued funding?
- If funding is available for setting the system up, can it or other funding be continued for future operations?
- What are the benefits to the potential funders? That is, why would they be interested?

How will the solution be administered? Who will be in charge?

The final issue, once there is an objective, a plan for achieving it, buy-in from the necessary parties, and a budget, is to figure out how the program will be administered. There are at least two reasonable objectives here. The first is to find the minimal structure that will accomplish the objectives that the program is meant to accomplish, so that any savings that the program generates are not consumed in administrative costs. The second is to develop a structure that will be perceived as fair and appropriate by the various entities that are involved in the program, so as to motivate their continued involvement.

Some examples of administrative structures that have been used include:

- Individual providers and agencies working together on their own initiative.

- A centralized, perhaps state-sponsored office to reduce administrative duplication, such as tracking eligibility.
- A brokerage to monitor costs, match users with providers, and other functions.
- A "franchise" system, in which one entity provides administrative and perhaps other services on behalf of several others.

The other important question is who will be in charge, and with what authority and supporting governance structure. Perhaps it is obvious, but whatever governance structure is chosen has to make it possible to make decisions in a timely manner, and it must have the support of the entities that will be participating in the system. Ideally a good governance structure would arise in a natural way from the nature of the system that is being proposed and the entities that are participating in it.

CONCLUSIONS AND RECOMMENDATIONS

Our original idea for this research project was to pick a specific problem with the system and work through the process of trying to define and implement a solution. In this way, we believed, we could achieve multiple objectives of learning about the system and barriers to improving it, illustrating how a change could be achieved, and actually making the system better to boot. This objective was, however, naive, as we immediately ran into barriers of our own.

Although our advisory stakeholder panel proved very proficient at generating a list of possible problems with the system, they (and we) were unable to make any progress at all toward prioritizing them, and picking one to focus on. In retrospect, a large part of this was probably the issue we have discussed at some length in this report; that in the absence of objective description and measurement of the various problems, the ranking of most to least important depends to a large extent on who is doing the ranking.

We encountered a similar problem in our study of other systems from around the country, which we undertook in the hope that it would give us ideas on improvements to work on here as well as on how to implement them. Again, the range of possibilities, while enlightening, was so extensive and so diverse, that it was impossible to draw any specific conclusions about what could be applied here.

We came to feel that our inability to make progress even in defining a problem, let alone solving it, was due in large part to the absence in the literature of any kind of organizing structure, either from the standpoint of defining and prioritizing problems, or in terms of having a systematic procedure for thinking about how to define and implement potential solutions. Thus much of our effort in the project, and ultimately our major contribution, was to develop such an organizing framework.

Our first step in this direction was the observation that the word “coordination” is used in case studies to refer to at least two distinct types of activities. Operational coordination is the most intuitive (but the least common), that is, agencies working together on the operation of their vehicles. Administrative coordination is less intuitive but more common; this typically involves agencies centralizing certain administrative

functions. In principle there could also be other forms, such as financial coordination, in which agencies actually coordinate and even share their financial resources.

In working more with this idea, we became increasingly frustrated that the words "coordination," and to a lesser extent "brokerage," were being generically used to refer to a multitude of different activities, many of which actually had little or nothing to do with the word being used to describe them. The use of just a couple of words to describe everything has the undesirable effect of obscuring the variety of the improvements being undertaken; the words themselves have natural interpretations that can lead lawmakers and others who don't follow the field closely to draw incorrect conclusions about what needs to be done.

But perhaps an even more serious problem is that overuse of these words tends to focus too much attention on the end state, that is, the system as it is finally implemented; while failing to specify or even recognize the variety of issues that have to be grappled with during the development process. The plethora of circumstances and outcomes of the various improvements in place around the country can make the system development process appear infinitely complex; however, in our study we eventually concluded that there are just five basic classes of questions that have to be successfully addressed in any improvement effort:

- What is the specific improvement that is desired, or problem that needs to be solved? The point here is the end result, not the methods used to achieve it.
- How will the objective be achieved, i.e., how will the system be changed? Or put another way, what program will be implemented?
- Who needs to be involved to implement the change, and to keep it going in the future? How will their involvement be encouraged?
- How much money will be needed, up front and for sustaining the system? Where will it come from?
- How will the new system be implemented and managed in the future? That is, who will be in charge, and with what authority; and what type of administrative structure will be used?

While this process may be of limited value to practitioners until it is further developed and refined, we do feel that it is a vitally needed first step in bringing some sense of order and organization to this extremely complex and often confusing subject.

While those who would improve the system may not be able to successfully address all these issues, we think that there is considerable value in at least knowing what the issues are before the process starts. In this way problems can be addressed in an orderly, systematic way, and perhaps even anticipated, rather than simply letting issues arise whenever someone thinks of them.

It is worth noting as well that these categories should be of value in increasing the efficiency of future research in this field. A major problem for us was that we encountered literally dozens of different complaints and ideas for improving the system, and had no way of understanding how they were related, or how to reduce them to a shorter list that we could actually work with. This framework should considerably simplify this problem for future researchers.

In terms of using what we have learned to make recommendations, there are two issues: what should be done about the community transportation system, and what should be done about future research in this field.

Improving the system

We are somewhat reluctant to make recommendations about improving the system, for two reasons. The first reason is that recommendations are to some extent gratuitous; there is no shortage of ideas out there about how to make the system better. The real problem is not in coming up with ideas, but in actually working through all the issues that are necessary for development and implementation of the ideas. We believe that our work in this research on developing a more systematic method for developing system improvements will be of value in helping to solve this problem.

The other reason we are reluctant to make specific recommendations is that the more we study this subject, the more we are struck by the almost complete absence of objective evidence of the magnitude, or even the existence, of many of the commonly cited problems. Any significant improvements to the system will probably require the active cooperation of both funders and providers. Unless both sides can agree on what the most important problems are, and whose responsibility it is to address them, it is hard to imagine how any meaningful progress can be made. And it will be hard to develop such

consensus in the absence of evidence that is both more clearly measured and more objective than anything we have observed to date.

We have also noted that there is often little evidence that the "improvements" put into place have actually made anything better; and in the cases where evidence is cited, it is often too vague to be useful, or is even irrelevant. In many cases the mere fact that the program is operating is considered in itself to constitute success, which given the difficulty of negotiating these things, is understandable. However, programs are, or should be, instituted in order to achieve some objective; and direct, unambiguous measurement of the extent to which the objectives have been met is very hard to come by.

That being said, we can offer a few observations based on what we have learned. The first of these is that the traditional notion of coordination, of different agencies sharing resources and coordinating their vehicle operations, seems rare in practice, and it is not even clear that it is desirable. There are many reasons this is hard to do, which contribute to its rarity. But this is also a good example of a situation where the real potential for benefit seems to exist only in principle, not in any actual documented evidence. Certainly it seems obvious that a van carrying ten people will cost less per person than ten vans carrying one person each, but in practice the opportunity for this appears to be infrequent (aside from prearranged groups that are already done this way), and the costs of arranging it significant.

Coordinating vehicles is not a simple problem. The nature of this type of transportation is that it involves people who do not fit into the "one size fits all" auto and transit systems. To assume that we can have a "one size fits all" community transit system may be naive. People in wheelchairs, children, and the elderly cannot necessarily share vehicles; they physically, and perhaps emotionally, have different needs.

Another issue is that as vehicle utilization rates climb higher and higher, the odds of a late pickup increase, as do the odds that no space will be available at all (not to mention the amount of time that each passenger has to stay on the bus while it picks up and drops off others). The "excess" capacity that concerns many people may actually be

providing a valuable service to users, in terms of convenience and accurate trip times, even if it is at a substantial cost.

Perhaps a more realistic option within the realm of more efficient vehicle use would be to inventory all the vehicles that are currently underutilized, and develop a plan for inducing the owners to make them available for serving trips and people that are currently underserved. Again, it is not clear that there is really an opportunity here; there are many questions that would need to be answered. For example, are there actually idle vans out there, and could they really be made available for other purposes? Do the times when the vehicles are unused correspond to the times when other users need them? Who are the underserved populations who would use them? How can the two be connected without prohibitive "brokering"costs?

An even more realistic option for system improvement would involve ignoring vehicles for the moment and focusing on the various administrative costs that agencies incur while operating transportation systems. Many recordkeeping and reporting functions can be done more easily and accurately with good tools. These tools can be time consuming to develop, but there is no reason they need to be developed more than once, and then simply distributed. The New Mexico system described earlier is based on this approach. A couple of examples would be a listserv and website for providers to share and acquire information, and better data management software to simplify recordkeeping and reporting to funders.

A final idea that has been well received in other cities involves moving some recipients of specialized transit services onto the regular fixed-route system, at least for some trips. There are issues here with making sure that the two systems are somewhat equivalent for the users and trips in question; the users we talked to cited a variety of reasons why regular transit could be less appealing. But even if there is a cost to the user, this could be mitigated to some extent by the widespread distribution of free or low-cost bus passes to transportation-disadvantaged people, with "training" on how to use the system. A good model here might be the "U-Pass" program, in which some entity purchases a block of bus passes at some fixed up-front cost, and then distributes them according to some criteria. Obviously this would require a budget for the purchase of the

passes in the first place, but there is some likelihood that it would be made up by reduced demand on the specialized transit system (not to mention the benefits to the recipients, who could make additional trips as well). The trick might lie in figuring out who is saving money as a result of the program, and convincing them to chip in for the purchase of the passes.

Future research issues

While it is a joke that researchers always conclude that more research is needed, in this case it is even more true than normal. Considerable resources are being expended on promoting and implementing certain solutions; yet a 2003 report about the benefits of these programs made the astonishing (but apparently true) claim that "the measurable economic benefits of coordinated transportation services had not been measured previously." And while it is a topic for a different study, we can note here that even the benefits that are supposedly measured in that report are very often built upon questionable evidence or "creative" accounting.

Thus one major research objective might be to develop a better understanding of how much community transportation costs and why, and where reductions might be possible. This is really a long range objective; it can't be done without better data. A shorter term goal might be to work toward defining some more standardized ways of describing the various functions that these systems undertake, and standardized ways of describing how much they cost.

In terms of describing what systems do, this could include what types of clients they serve, what types of trips, the extent of group vs. individual trips, how long the trips are, what time of day, special conditions, and so on. The cost per trip in general will depend on all these things. Without knowing this, it is impossible to compare systems, or evaluate if a given system is efficient, or how far off it is and why. Indeed, in some ways it doesn't even make sense to talk about comparing systems when they all do different things. What would be more useful is a model for evaluating how much a given system "should" cost, given what it is doing.

The next necessary step would be a standardized way of describing how much systems cost to operate. For those systems that only do transportation this is easy in

principle; it is the total budget. But there are still complications. Some systems may have donated (volunteer) labor, or vehicles that were provided at a reduced or no cost; these things should be accounted for in some way. Some systems may be performing or receiving gratis services. The situation is even harder when an agency or government provides transportation as one among many activities. It is important to know the direct costs of operating the vehicles, but also the indirect costs of administration, fixed costs of vehicle ownership such as insurance, and so on. Using the model described in the previous paragraph to understand how much a system should cost requires a common set of accounting standards to understand what costs really are.

Ultimately imposing these standards would require mandates from funders or other authoritative entities. Providers complain about the amount of paperwork that funders impose, and it is not our desire to add to this. Our point here is not so much that more data is needed, as that the data needs to be defined and collected in a uniform way that will allow different programs and systems to be fairly compared, and that will make it possible to learn about what practices work well. There will almost certainly be problems with any standards that are developed, but this still seems preferable to the current situation in which uniform data is not being collected at all.

However, from our perspective the need for more research goes beyond just measuring benefits, to the question of whether the commonly cited problems with the system even exist at all, since in many cases not everyone agrees that they do. If one stakeholder group feels burdened by a problem, while the group that could do something about it doesn't believe that there is a problem, it will be hard to make progress toward a resolution. We feel that there would be considerable value, if only in bringing the two sides closer together, in trying to apply some more objective measurement to determine the real extent, nature, and severity of problems such as the following:

- Regulation and insurance restrictions; either that they are too costly to meet or that they make it hard to be flexible and work together.
- Funder reporting and billing requirements taking too much time.
- Vehicles sitting unused much of the time.
- Excessive costs per trip.
- Rude drivers, unpredictable pickup times.

Knowing more about these problems would help to build a stronger case for focusing on those that are most widespread or most costly. Another possibility is that some problems may derive more from perception and inadequate information; these could in principle be relatively easy to solve.

A final, more theoretical idea, is determining if the financial and other incentives under which providers work are somehow at fault. People naturally want to cooperate and make things better; they seem to do so naturally in almost every other walk of life. If they are not doing it here, perhaps we should look harder at what the reasons are. For example, if providers are skeptical about coordinating their vehicles with other organizations, this may reflect an intuitive understanding of the hidden costs of doing this, more than a desire to "protect turf." Unfortunately, only the successful systems tend to be documented; there would be much to be learned from a series of case studies of system improvement efforts that didn't work out.

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Web Sites

Coordinating Council on Access and Mobility:
http://www.fta.dot.gov/CCAM/www/index.html

Community Transportation Association of America: http://www.ctaa.org/

Americans with Disabilities Act: http://www.usdoj.gov/crt/ada/adahom1.htm

Administration on Aging: http://www.aoa.dhhs.gov/

State of Florida Commission for the Transportation Disadvantaged: http://www.dot.state.fl.us/ctd/

Pittsburgh ACCESS program: http://www.portauthority.org/ride/pgAccess.asp

New Mexico CRRAFT program: http://www.unm.edu/~atr/Huron_JPO2/index.htm

APPENDIX A

Community-Based Transportation Service Providers in the Twin Cities (as of spring 2003)

Inventory of service providers in the Twin Cities

ADA Providers

The region's ADA program complies with six service criteria established by the US DOT. They include service area, response time, fares, trip purpose, hours and days of service, and capacity constraints. The Twin Cities has four ADA providers listed below.

Metro Mobility
DARTS (Dakota Area Resources and Transportation for Seniors)
Human Services, Inc. (HSI)—Washington County
Anoka County Traveler

Title III Providers--MAAA (Older Americans Act)

The largest program under the Older Americans Act lays out responsibilities and requirements for State and Area Agencies on Aging.

West Metro Coordinated Transportation (coordinated and provided 89,782 rides in Hennepin County through 7 subcontracts)

American Red Cross of St. Paul (coordinated and provided 107,646 rides in Ramsey County through direct provision and 7 subcontracts)

DARTS

5310 Providers (Twin Cities metro)

The goal of the program is to provide assistance in meeting the special transportation needs of the elderly and person with disabilities residing in urban, small urban, and rural areas. The program seeks to enhance **coordination** of publicly funded programs and services in order to encourage the most efficient use of federal resources and achieve the national goal of improved mobility for elderly persons and persons with disabilities.
American Red Cross St. Paul
Carver County Transportation
Centro Cultural Chicano
City of Anoka
CLUES (Seniors Program)
DARTS
EarthStar Project
East Side Neighborhood Services*
Ebenezer Ridges
ElderRide (Hennepin County/Volunteers of America)
Hallie Q. Brown Center
Human Services Inc.
Indian Family Services
Jewish Community Center of St. Paul
Lifeworks Services Inc.
Lyngblomsten Foundation

* Funded in part through Title IIIB of Older Americans Act

MartinLuther Manor
Merrick Inc.
Minneapolis Indian Services Center
Moundsview Community Education
North Suburban Senior Council
Northeast Contemporary Services
Opportunity Partners
Owobopte
Pillsbury Neighborhood Services
Plymouth Metrolink
PRISM
Rakhma Grace home
Richfield Community Center and Lions Club
RISE
Roseville Area Senior Program
Senior Outreach Services-Masonic Homes
Senior Transportation Program
Sholom Community Alliance East Home
Sojourn Adult Day Services
St. Louis Park Public Schools
St.Olaf Residence
STEP (St. Louis Park)
University Good Samaritan
Volunteers of America-Senior Services Division
West Metro Coordinated Transportation
White Bear Area Senior Program/ISD#624
Women's Association of Hmong and Lao

Other Senior Providers

Anoka County Volunteer Transportation
Care and Share Group of Plymouth Senior
Cedar Riverside People's Center
Citizens Club
Cooperative Adult Ministry
Eden Prairie Senior Center
Five Cities Senior Transportation Program*
Interagency Elderride*
Jewish Family and Children's Services
Little Brothers Friends of the Elderly
Kibbitz and Ride
Lutheran Church of the Good Shepherd
Maplewood Senior Program (medical only)
Minneapolis American Indian Center*
Minnesota Center for Independent Living
Minnetonka Senior Services
Moundsview School District #621
Northeast Senior Citizen Resource Center
Pillsbury United Communities
Sabathani Senior Program
Senior Community Services (many cities*)

Southshore Senior Center
Volunteers of America Elderride

Other Social Service Providers

Anoka County Volunteer Transportation
Bloomington Bus Services
Bloomington Human Services
Community Action Council Transportation
Dorothy Day Center (homeless)
East Suburban Resources (ESR members only)
GAPP
Hennepin County Office of Volunteer Services
Hopkins Area Family Resource Center
Intercongregational Communities Association
Interfaith Outreach Community Partners
Just Friends (Hastings)
MIIGEWEYON
Minnesota AIDS Project
Minnesota Valley Transit Authority (MVTA)
Neighbors, Inc. (Dakota County)
Northeast Suburban Transit (NEST)
Pilot City Regional Center (residents only)
Plymouth Flyer
Presbyterian Homes of Minnesota
Pride Ride
Prism Express Transportation
PROP (People Reaching Out to Other People)
Ramsey County Community Human Services
Richfield Community Center
Trac Bus (Hastings only)
University Paratransit
United Cambodian Association of Minnesota
VEAP (Volunteers Enlisted to Assist People)
Vietnamese Social Service of Minnesota

Non-emergency Medical Transportation/Hospitals

Allina Medical Transportation Services
American Cancer Society
Fairview Southdale Hospital Senior Transportation Service
Fairview-University Medical Center Transportation Program
Glenwood-Lyndale Community Clinic (HCMC/Pilot City collaborative)
Green Central Community Clinic
Indian Health Board Clinic (vans)
Metropolitan Health Plan (Hennepin County)
Model Cities Health Center
Pilot City Health Center (Hennepin County—vans)
Southside Community Clinic
VA Medical Center

Private Providers

Better Care Lines, Inc.
Cardenas and Reynolds Enterprises
Cities Best Transportation, Inc.
Clair Mobility
HealthEast Transportation
Key Transportation, Inc.
Medi-Van
Mobilizers, Inc.
MODE (Mobility of Disabled and Elderly), Inc.
Northland Transportation
Outward Mobility
Patient Express Transportation, Inc.
T.L.C. Special Transportation, Inc.
Tranby Healthride
Twin City Transportation, Inc.
U C Transportation
Vitality Transportation Service
We Care Transport
West Wind Transportation, Inc.
White Knight Transportation

Dial-a-Ride

Anoka Traveler Dial-a-Ride
Edina Dial-a-Ride
Lake Area Bus Dial-a-Ride
Maple Grove Dial-a-Ride
Southwest Metro Transit Dial-a-Ride
Woodbury Dial-a-Ride

Other Information

Anoka County Transportation Coordination Program
Carver Area Rural Transportation (CART)
Senior LinkAge Line
Transportation Resource Center Collaborative

APPENDIX B

Presentation on Results of Provider and User Focus Groups

Community-Based Transportation: Designing a System for Minnesota

Provider & Rider Perspectives

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October 1, 2003

Community-Based Transportation: Designing a System for Minnesota

Provider Perspectives on Coordinated Transportation Systems

Objective

SLPP Project Goals	DHS Project Goals
♦Determine the desires of transit providers and users. ♦Identify opportunities and develop strategies for implementing system improvements in the near and long term.	♦Identify barriers and successes of coordination. ♦Identify information providers can generalize and share with one another. ♦Identify options for coordination.

Study Participants & Methodology

- Providers
  - Seven recipients of transportation grants from DHS participated in this project, including transportation providers from rural, suburban and urban areas.
- Individual Interviews
  - Grantees participated in interviews, providing responses by phone or email.
- Focus group
  - Five of the seven grantees participated in a focus group discussion.
- Data Analysis

Research Questions

- Describe examples of partnerships you have with other transit providers.
- What are the challenges related to coordination?
- What are the benefits of coordination?
- How does funding affect your ability to coordinate transportation?

Findings

- Providers are Coordinating
- Benefits and Barriers of Coordinated Systems
- Funding Challenges and Opportunities
- Information Sharing

Reasons for Current Transportation Coordination

- **Necessity**: Funding requirements
- **Reciprocity**: Common interests, location
- **Efficiency**: Limited resources
- **Stability:** Funding fluctuation

Examples of Transportation Coordination

- Providers coordinate with RSVP to recruit volunteers
- Providers coordinate with other counties to cross county lines
- Transit providers share information, primarily informally through phone calls and email.

Transportation Coordination

Key Benefits:

- Best practices
- Advocacy
- The greater good
- Quality and expertise

Key Challenges:

- Time and trust
- Identity and turf
- Feasibility concerns
- Serving customers

The Impact of Funding on Coordination

- Funding issues were identified as a issue concern for providers.
- Funding was directly and indirectly related to providers' opportunities for coordination.

Funding Challenges

- Efficiency
- Duplication
- Sustainability
- Understanding Providers' Needs
- Mandated Collaborations

Efficiency

"We get Title III Older Americans Act money and they don't allow us to charge for rides…we have to find creative ways of accounting so that one funding source doesn't dictate our entire way of providing service and charging for that service."

"You really have to be able to blend your funding or you have too many gaps in your service and you don't have a critical mass to put the bus on the road."

Duplication

"Senior homes get some kind of transportation funding, capital and operational. If we could do it, then we should get it. We could do more with the money than they could do with it."

"There are tons of busses out there that are 10 years old and less than 5,000 miles. Figure that one out."

Sustainability

"We struggle with the question of whether we can sustain this system if grants go away. A funding base is critical for this type of work."

"If you ask for operational funds, [funders] say, oh, gosh…that's not fun. Putting a bus on the road, that's fun…you can see the bus."

Understanding Providers' Needs

"The various data that is required to be tracked for different funding sources can be very time consuming."

"Funders have goofy reporting requirements…they all have their own form, they all ask for different things..it gets to be a logistical nightmare just to fill out reports to satisfy funders."

Mandated Collaborations

"Almost all of them expect it…it always is a good ground for getting the funding. Even Mn/DOT expects that we coordinate, that's one of their main objectives…I just think there isn't real teeth to it, it's one of those statements that has a lot of fluff in it, it sounds good, it feel good, it makes sense, but what happens when I want to borrow [another provider's] bus…it doesn't become a reality."

Funding Opportunities: DHS Community Services/Services Development Grant

- Encourages creativity
- Promotes shared rides
- Supports sustainability

Encourages Creativity

"The funding has enabled us to focus on identifying gaps and has given [us] a real opportunity to try something different…to really address service needs."

Promotes Shared Rides

"The DHS grant allows [us] to subsidize rides and also to really promote shared rides to community residents."

Supports Sustainability

"What I liked about the DHS funding was that it gave us the ability to put all age groups in there…"

Short-Term Solutions for Improving Information Sharing

Create Forums for Information Sharing	
Why promote information sharing?	**Suggestions for Information Sharing**
♦Promotes best practices ♦Saves time and resources for providers ♦Increase uniformity of information ♦Lays groundwork for more complex coordination	♦Identify a network of providers ♦Organize regional transit meetings ♦Develop a website for transit providers ♦Create a providers' chat room and listserv

Long-Range Strategies for Systemic Change

Strategies for Funders to Promote Coordination	
♦Examine the funding practices of organizations experienced in transportation coordination	♦Understand feasibility of coordination ♦Learn how to create incentives for coordination
♦Improve communication between transportation funders	♦Reduce duplication and fragmentation ♦Increase opportunities for standardization among funders
♦Review funding practices that may promote coordination	♦Longer term funding relationships ♦Flexible funding ♦Understanding the big picture

Community-Based Transportation: Designing a System for Minnesota

The Rider Perspective

Objective

- To learn from riders, as opposed to transit providers or funding agencies, about ways to improve quality and reduce the cost of specialized transit services.
- To find out from people who use the services what works well and also the challenges associated with using specialized transportation.

Research Process

- Facilitated focus group discussions with people who do not drive including seniors, people with disabilities, immigrants and people with limited incomes.
- Three of the four groups met in Minneapolis/St. Paul and one group was from suburban Hennepin county.

Focus Group Participants

- A total of 34 participants took part in the focus groups.
- People with disabilities, seniors, and people with limited incomes participated, including immigrants.
- Participants used a variety of modes of transportation including city buses, wheelchair accessible vans, senior vans, transportation provided by human service agencies, bicycles, taxi service, medical transportation, rides from friends and family, and walking.

Focus Group Questions

- Describe the type of transportation system you use most often during the week?
- What do you like about these systems?
- Does the current range of transportation services meet your basic transportation needs?
- What is the biggest problem you face regarding transportation?
- How could transportation systems be improved to better meet your needs?

Findings

- Population specific findings:
  - People with disabilities
  - Suburban residents
  - Low-income adults
  - Immigrants
  - Seniors
- Overall themes from focus group discussions.
- Users shared ideas for improving transportation systems.

People with Disabilities

- Riders value affordability, reliability, safety, efficient routes, same day scheduling, door-to-door service, and customer service (e.g. personal connection to schedulers and drivers).
- On-time service and convenience (e.g. same day scheduling) are important for maintaining a sense of independence and meeting basic needs.

Suburban Residents

- Transportation options are very limited—in some cases no local public transportation options.
- Children's activities depend on having transportation—lack of affordable transportation options limit children's activities.
- Public transit only works if you have a car to get to the transit station.
- Lack of transportation options means fewer job opportunities.

Seniors

- Seniors value polite, respectful, courteous and helpful drivers.
- Access to transportation systems helps seniors live independently and maintain control over their lives.
- Seniors value on-time service.

Adults with Limited Incomes

- Safety of public transportation systems is a big concern—personal safety (e.g. safety at bus stops and on the bus) and health considerations (e.g. walking long distances to and from bus stops).
- Lack of transportation options limits mobility and access to services, especially in the winter.
- Traveling with children is challenging.

Immigrants

- If you don't speak English, it is difficult to get information about routes and schedules.
- Using public transportation in the winter is challenging—many immigrants are not used to ice and snow.
- Interpreters and translated information on transportation is not readily available.

Key Considerations for Designing a Better System

- Customer Service
- Safety
- Access
- Reliability/On-Time Service
- Ripple Effects of Changing Systems
- Independence/Choice
- Meeting Basic Needs
- Affordability
- Efficiency
- Small vs. Large Systems

Customer Service

"If your going to be professional enough to drive around with disabled people everyday all day long than have a better attitude. They don't look at us as people, we are statistic to them. They do not know what it's like to have to depend on people.

- Woman who uses public transit and public transit ADA.

"[Public transit], yes they are now able to take wheel chairs but most of the drivers don't want to take the time to get you on and help strap you down. They are rude and make it not safe to take the bus." *–Man who uses public transit, public transit ADA, medical vans and taxis.*

Customer Service

"I like the [agency van] driver, he is a honey, he is courteous, just a nice man, comes right to the door, he helps me turn off my lights, just a great driver. *– Women who uses public transit ADA, and an agency van.*

"Because I ride different types of transportation I see how [public transit ADA] some drivers are lacking in sensitivity training. They should spend a few hours in chair to see what it's like. *–Man who uses public transit ADA, medical vans and taxi.*

Safety

"Sometimes the bus stop is too far from my house and I have experienced being assaulted and that is what scares me." *–Women who uses public transit and an agency van.*

"The shelters are also a problem. Many stops don't have them and babies get cold quick. *–Women who uses public transit, public transit ADA, taxis and an agency van.*

"I like taking [public transit] but in the winter I can't take [public transit] because it's too dangerous. The drivers can't help you, it's not their jobs." *–Women who uses public transit and public transit ADA.*

Access

"I lost my job three weeks ago, I was laid off and we've been without a car since last February. I'm in a situation that getting to the grocery store is difficult. To get to work I was relying on my legs or I was biking until they stole my bike. Being in the southwest suburbs, the transportation is difficult…it only works if you have a car to get there." *– Man who walks and used a bike until it was stolen*

Reliability/On-Time Service

"[Public transit ADA] will get you there because you need to get there but not because you have to be there at a certain time. However it's like a backbone; they are always going to be there for you." *- Man who takes public transit ADA, medical vans and taxis.*

"I live in St. Paul and I do temp jobs all over the place and right now I'm in Minneapolis. It takes so much less time to get on [public transit] and go from St. Paul to Minneapolis than if you drive. Even if I had a car I'd still take [public transit] to work." *–Women who uses public transit, taxis and an agency van.*

Ripple Effects of Changing Systems

"Like [public transit ADA], they have cut their hours, and the routes and the days they will come. They match their services to the city bus, so if I can't get a city bus, I can't get [public transit ADA]. We have been pretty much cut off. When I say anything about it they tell me to move. I've been told two or three times to just move. We'll I can't afford to move." *–Women who uses public transit ADA..*

Independence

"I know people don't understand…it's not easy being disabled, having to depend on other people or other modes of transportation to get from point A to point B because I can't drive…I'd like to spend more time with my kids and my parents but it's not possible because I'm so limited. And it's only going to get worse before it gets better.

- Woman who uses public transit and public transit ADA.

Meeting Basic Needs

"For me especially the route reduction has caused an increase in walking. It's not that it's long distances—maybe seven blocks instead of one—but if you have two bags of groceries instead of one or you have your kid with you…it's hard. The two and from places you go to meet your basic needs is difficult."*-Woman who uses public transit and an agency van.*

Meeting Basic Needs

"I desperately want to get a job but it's the transportation thing. I've applied for a couple of places that have been close but truthfully with me if I'm walking that far I'm going to be sweating up a storm, my makeup will be all over…We are willing to work but it's getting there and getting home." *–Woman relies on family and friends for transportation.*

Affordability

"The next problem is the $5 fee for the peak hours…When you're working you pay $10 a day just to get to work so you blow over half your pay check just getting to work. What gets me is the money piece…They [public transit ADA] is still cheaper than a cab but [public transit ADA] is costly." *- Man who uses public transit ADA, medical vans and taxis.*

Efficiency

"The fees and the time in between is a big problem…[public transit ADA] needs to overbook to make sure it gets enough money but then, at the same time, you may be the only person on the bus. They should geographically set the rides so they could pick people up along the way so the buses aren't running empty. What I hope happens with [public transit ADA] is that they will have a shot to get more reimbursement for medical rides."

- Man who uses public transit ADA five days a week and taxis.

Small vs. Large Systems

"[In big systems] there are always problems with communication and pick ups—there is no efficiency. The smaller company can do a better job, stay in control. Having smaller companies will work better, they will compete, and individually they will work great. They are personable. The companies might not work well with each other but they will provide better services. They will be familiar with you. Instead of treating you like cogs in a system a smaller company can provide services based on our needs and their abilities." *- Man who uses public transit ADA and medical vans.*

Ideas for System Improvement

- Car Sharing Programs
- Language Specific Services
- More Efficient Routing
- Improve Customer Service (e.g. sensitivity training for drivers)
- Small vs. Large Systems
- Public transit routes that meet basic needs (e.g. transit stops in front of grocery stores)

Concluding Thought

"[All the transportation systems] have their good points. You do eventually get home. It does sort of work. Do you fix something that is sort of broken and then break it even more or do you stay with what you have? With everything being cut and everything going up in price…are we being realistic in this meeting or are we dreaming?"

-Woman who uses public transit, public transit ADA and an agency van.

APPENDIX C

Report on Technologies for Improving Community-Based Transportation Services

Implementation Issues For Community Transit Technologies

Gary Barnes

Peter Langworthy

November 24, 2003

Introduction

The purpose of this report is to evaluate the potential role of technology in improving the efficiency of community based transportation (CBT) service. CBT is broadly defined as organizations that provide transportation services specifically to transportation disadvantaged individuals; that is, those who, due to disability, income, age-related, or other constraints cannot viably own or use automobiles. CBT providers receive funding from a wide variety of government or non-profit organizations whose area of service include one or more of the following:

- Non-emergency medical care
- Social services
- Job training/Employment assistance ("welfare-to-work")
- General transit service (Americans with Disabilities Act requirements)
- Poverty relief
- Care for the elderly
- School and head start

Community Based Transportation providers have two core functions, to provide rides, and to track rides and costs, and bill and report to the appropriate sponsoring agencies accordingly. Opportunities for efficiency improvements correspond to these two core functions. The basic activities that providers undertake typically include some or all of the following:

- Providing rides
- Tracking and verifying vehicle activities
  - After the fact, for reporting purposes
  - "Live," for real-time route changes
- Tracking who rides and why
  - Eligibility for third-party billing or use of special program funds
  - Reporting activities to funders
- Scheduling vehicles and drivers
  - Before the route start
  - Changes during the route
- Keeping records, generating reports, bills, etc. given that data is available.

Another aspect of improved efficiency has to do with providers working together ("coordination"). Thus efficiency improvements could be grouped into four categories:

- Improved operations working as an individual agency.
- Improved operations due to better coordination with other agencies.
- Better administration working individually.
- Better administration due to coordination with other agencies.

This report addresses information technologies that are available or emerging that could improve the performance of these functions. It is not intended to be a detailed or exhaustive evaluation. Rather, the intent is to provide a broad-brush review touching on larger policy and implementation issues. We focus especially on how technology can be used to facilitate coordination among providers, both in terms of vehicle operations and administration.

Information Technologies

There have been a number of recent comprehensive studies addressing intelligent transportation system (ITS) applications for demand-based paratransit operations. These studies primarily take the point of view of how individual providers can use technologies to enhance their own operations. Several reports and a website have been produced by the Institute for Transportation Research and Education at North Carolina State University (*1, 2, 3, 4*) as part of a project for the Transit Cooperative Research Program (TCRP). Multisystems, Inc. (5) has done another major comprehensive survey for the Federal Highway Administration (FHWA). Readers who are interested in understanding more detail about specific technologies and how to implement them should refer to these documents.

Here we take an approach that focuses less on the technical details and more on the implementation and policy implications of these technologies. We have organized technologies that can be applied to CBT operations into the following categories, ordered roughly from those that are aimed more at administration efficiency, to those that are more useful for enhancing vehicle operations. This also corresponds roughly to a ranking from simple to complex:

- General data management/accounting software
- Palmtop computers/Personal Data Assistants
- Electronic on-board payment systems
- Internet communications
- Scheduling software
- Mobile Data Terminals (MDT)
- Automatic Vehicle Locators (AVL)
- Communications (operations center to vehicle)

These technologies will be discussed in the following subsections. For each, an overview will be provided, followed by a summary of potential benefits relative to the core CBT provider functions of operations and administration, and relative to the potential to facilitate improved coordination among providers.

General Data Management/Accounting Software

Overview

This category is the most basic of those being reviewed. This type of system could be as simple as a custom database in Microsoft Access. The basic functions to be provided would include:

- Keep data on individual clients in terms of name, address, program coverage/eligibility, and special needs (such as wheelchair user, elderly eligible for specific programs, or other attributes of individual riders).
- Track and organize rides provided over given reporting periods according to funding source, organization served, general client category, or geographic area covered for general tracking of operations. With appropriate programming, bills and reporting forms could be generated automatically.
- Facilitate improved coordination between organizations through consistent data management and data systems that can be accessed (in agreed upon ways) by multiple organizations.

Using the program to enter data and generate reports is straightforward, given that an appropriate program has been set up in advance. Setting up this program, however, can be a non-trivial problem, especially for organizations with many funding sources and client and trip types. However, since many different organizations would want to do basically the same kinds of things, it is reasonable to think that a single sufficiently general program, written and distributed from a single centralized source, could meet the needs of a wide variety of users. This sort of functionality was the original heart of the CRRAFT program in New Mexico (*6*), which subsequently evolved to incorporate a number of other useful functions.

Summary of Potential Benefits

The primary benefit of data management/accounting software would be to help keep passenger eligibility, trip, and cost information organized for billing and reporting purposes; and to automatically generate appropriate bills and reports so that agencies don't have to do this "by hand." Another potential benefit of a centrally provided program would be to establish some degree of standardization among providers with regard to how records are kept; this could ultimately help to facilitate more interagency coordination. Central provision would also have cost advantages; hundreds of individual agencies, most of whom likely have little computer programming expertise, would not have to invest resources in developing a record-keeping program individually.

Palmtop computers/Personal Data Assistants (PDAs)

Overview

This general category of product is a small, handheld computer that can electronically reproduce driver manifests. It has emerged relatively recently as an option for community based transportation systems. Loaded with a day's worth of route information, a driver picks up the palmtop computer and enters operating information as he/she proceeds. At the end of the day, the driver returns the unit to the operations center, where the actual operations data is downloaded into the scheduling and recordkeeping system (7). This type of system would serve the same

basic function as a mobile data terminal (MDT). The benefit is that these units would be significantly less expensive than MDTs, at approximately $250 per unit (*1*). The disadvantage is that there is no real-time data link for dispatching and/or AVL applications.

The TCRP Report 76 (*1*) suggests that "Palmtop Electronic Manifest Devices" should be considered for small and medium CBT operations, and are not applicable for large CBT operations.

Summary of Potential Benefits

This technology is primarily one that would help slightly with efficiency and accuracy of data tracking and billing. Rather than a driver handwriting notes which are then typed into a database by office support staff, the driver would create notes directly in an electronic form. However, the schedule data has to be uploaded to the unit at the beginning of the day, and the notes downloaded from the unit, and processed in some way, at the end. Thus the overall time savings could be minimal; data entry time is to some extent just shifted from office staff to the vehicle driver. This could be beneficial if drivers typically have down time during which they could do this. Any benefits of this type of approach would have to be weighed against the cost of the units themselves, the training of the drivers, and the potential for lost data if the unit is damaged or malfunctions during the day.

Electronic On-Board Payment Systems

Overview

This category refers to systems that allow travelers to pay for transportation as they board the vehicle through the use of Smart Cards, bar codes, and magnetic strip cards. The on-board scanner can also register information regarding each passenger (name, address, eligibility status, etc.) to assist with the overall trip/data tracking efforts on the part of the CBT provider.

Detailed cost information was not available for electronic payment systems in the literature reviewed for this report. However, the TCRP Report 76 (*1*) suggests that fare media such as Smart Cards and similar systems are not feasible for small (less than ten vehicles), but should be considered for medium (10-30 vehicles) and large (greater than 30 vehicles) providers.

Summary of Potential Benefits

The primary advantages of this type of system are as follows:

- More convenience and speed of access for passengers (quality of trip provision)
- Eliminates in-route payment handling requirements for drivers
- Eliminates in-route paperwork requirements for drivers and associated potential for error
- Allows entry of each trip immediately and efficiently into a provider's overall data management system

In a more generalsense, it appears that one of the greatest benefits associated with the electronic fare payment systems may be to keep data regarding riders, eligibility, and rides provided organized when there is group of organizations coordinating together. Data can go directly from the rider's card to a central data system, rather than going through individual drivers and the various operations centers that they report to. As an example, the use of on-board

electronic benefits cards is an important component of the Client Referral, Ridership, and Financial Tracking (CRAFFT) system in New Mexico, which involves coordination between a very broad range of organizations (*6*).

Internet Communications

Overview

Internet CBT web sites can allow multiple providers to use a centralized and coordinated system without having to incur the costs and other development requirements associated with implementing their own individual systems. Such web sites can provide some combination of the following services: a) track and compile rider eligibility/background and trips provided information (this is also a fundamental element of the CRRAFT system), b) provide coordinated trip booking and scheduling (generate manifests); and c) provide real-time trip dispatching during operational shifts (*3, 5, 6*). The last of these functions relies on the use of "superphones," which are essentially small hand-held computers with two-way cellular phone capability and internet access. These systems use Cellular Digital Package Data (CDPD) through the TCP/IP protocol and can have electronic mail capability (*7*).

Summary of Potential Benefits

The use of centralized internet coordinating capabilities (e.g., CBT web pages) can enhance the performance of both the trip provision and data tracking/billing functions which CBT providers perform. The key benefit is that multiple systems can be linked together in a way that, in a broader sense, increases economy of scale in the overall operations. The potential gains must be weighed against a) system costs, b) overall electronic information system compatibility issues, and c) technology training requirements.

Scheduling Software

Overview

There are a number of products in this general category (sometimes referred to as Computer Aided Dispatching) with differing levels of capability and sophistication. The primary focus of this type of system is to automate the scheduling of individual trips and the design and scheduling of routes. Performing these activities manually can be very cumbersome, and the use of scheduling software is now relatively widespread, particularly among larger operations. Often these programs also have the ability to track individual trips provided and organize them according to funding source for billing purposes. Scheduling software systems also generally have Geographic Information System (GIS) capabilities to allow pickup and drop-off locations to be geo-coded. This is very useful for determining trip feasibility (scheduling), route assignment (dispatching), and distance-of-trip (billing) information.

The transportation department of the American Red Cross in St. Paul has a representative example of scheduling software. Under this system, which they have had since 1995, schedulers receive calls from clients directly. The clients request a ride for a certain time to a certain location. The scheduler can look up that individual on the scheduling system to determine address, program eligibility, mobility needs and history, and other types of information. The scheduler enters the desired trip into the program and the program rates the trip as green (no

scheduling problem), yellow (may cause scheduling problems), or red (probably not possible). Schedulers are instructed to book all "green" requests and get assistance from managers for others. Managers can use judgment to determine if non-green requests can be performed or not. Once all trips for a give shift have been booked, the scheduling program assigns them (based in part on criteria factored in by Red Cross staff) to individual routes/drivers. It also assigns pickup and drop-off times for each ride. At the beginning of each shift, drivers receive printouts that identify all of their assigned trips with corresponding pick-up and drop-off times. At the end of each payment period the program used by the Red Cross allows all trips to be compiled by funding source and by organization served for billing purposes.

Information regarding costs of scheduling software programs varies to a significant degree. Generally, however, purchase/installation costs for fully automated systems are in the range of $25,000 to $55,000**,** with annual software maintenance/upgrade costs of 15 to 25 percent of software costs per year (*2*). While this figure may be too high for small operations, the potential for productivity gains can be substantial. Transit Cooperative Research Program Report 76 (*1*) indicates that scheduling software is likely not economically viable for "small systems" (defined as less than ten vehicles), but should be considered for "medium" (10-30 vehicles) as well as "large" (more than 30 vehicles) systems. The manager of the St. Paul-based Red Cross Transportation Services (22 vehicles) indicated that their scheduling system is a critical component of their successful operations.

Summary of Potential Benefits

This type of system has substantial benefits that support both the trip provision and data tracking/billing functions of CBT providers. For paratransit operations of any significant size, these systems provide calculations regarding optimal allocation of rides to individual routes/drivers more quickly and efficiently than staff members working by hand. Most such systems also allow efficient tracking of rides by eligibility category and funding source for billing purposes.

Scheduling software could in principle also provide efficiency gains in situations where a number of small providers are trying to work together; trips could be efficiently allocated to the different vehicles rather than each provider individually scheduling their own. This would require, however, that the providers were willing to submit their vehicles to a central scheduling authority, at least to some extent.

Mobile Data Terminals (MDT)

Overview

Mobile data terminals are essentially on-board computers that provide a real-time digital data link between the dispatch center and individual vehicles. Drivers can receive communications and information through a message screen, and can quickly send information to the operations center through function keys with pre-programmed messages. In their most basic application, MDTs are used: a) to reduce the need for verbal radio communications between vehicles and operations centers, b) replace written manifests and the need for on-board note-taking (and associated potential for errors) by drivers; and c) supply real-time operating information to the operations center within an architecture which allows accurate and efficient operating data management (*8*).

Often, MDTs are used in conjunction with automatic vehicle location (AVL) systems and/or smart card systems. The MDT unit compiles the information taken in through these types of systems, and transmits it in real-time to the operations center. In the case of AVL, map information showing vehicle location relative to given routes and destination points can be provided to the driver on the display screen on more advanced models of MDT units.

Cost estimates for MDT systems are dependent upon assumed features of the technology and upon the amount of effort and cost required to integrate the MDT units into the overall information/software architecture of the provider. However, a general estimate of $3,000 per unit (including base station and communication software) was made in TCRP Report 76 (*1*). In addition, there would be ongoing software maintenance and upgrade costs. This report identifies MDTs as not being feasible for small (less than ten vehicles) or medium (10-30 vehicles) demand responsive transportation systems. According to this report, they should be considered for large (more than 30 vehicles) systems.

Summary of Potential Benefits

Used on their own (that is, without AVL or Smart Card components), the use of MDTs has the potential to improve the trip provision and data tracking/billing functions that CBT providers serve. MDTs allow communication between the operations center and individual drivers without the need to go through radio connections, and they represent "paperless manifest" systems. Drivers can document revisions to their routes/schedules directly into any central scheduling and/or data management system used by the provider. Additionally, MDT units facilitate the use of AVL systems and electronic on-board electric payment systems as discussed in the following subsections. The potential benefits must be weighed against the significant costs of these systems, and against the possibility that some of the benefits may be of limited practical value, or could be closely replicated through less expensive means.

Automatic Vehicle Location (AVL) Systems

Overview

Automatic vehicle location systems locate and track individual vehicles using Global Positioning Systems (GPS) and relay this information to the central operations center. The AVL system requires not only GPS receivers, but also some method to transmit the data to the operations center.

A consideration with AVL systems is that GPS relies on signals from the satellites reaching the receivers. Signals may get degraded under the following conditions:

- Areas with tall buildings, such as high-density downtown areas
- Heavily wooded areas
- Dense fog or cloud cover
- GPS does not work at all in tunnels.

As with MDT systems, cost estimates for AVL systems depend upon assumptions made about the capabilities procured and data/communications linkages. However, a range of $1,000 to $3,000 per vehicle was reported in TCRP Report 76 (*1*). This report identifies AVL systems as not being feasible for small (less than ten vehicles) or medium (10-30 vehicles) community

based transportation systems. According to this report, they should be considered for large (more than 30 vehicles) systems.

Summary of Potential Benefits

The primary benefit of AVL is the support it can provide for the efficient delivery of trips by large CBT providers such as Metro Mobility. As explained to by a representative of Metro Mobility (which currently has scheduling software but does not have MDTs or AVL) there would be two aspects of this scheduling benefit. First, detailed and precise vehicle movement/operational data generated over time would provide Metro Mobility with helpful information that they could use to more effectively route drivers. Route planners could clearly understand how long given certain links actually take, where and when there are bottlenecks in the system, and other operational aspects of the system, to optimize scheduling parameters and maximize the efficiency of daily manifests given to drivers. The second primary scheduling benefit from AVL would be the enhanced ability to schedule and re-schedule "on the fly." Once drivers are sent out, occurrences such as trip cancellations or unanticipated traffic congestion take place that require deviation from the original schedule. Knowing precisely where all the vehicles are in a network in real-time through AVL/MDT linkage, would allow the central operations center to adjust to these circumstances in an efficient way.

Another operational benefit of AVL/MDT systems is that drivers can be provided with maps to help them locate given destinations. These maps can be shown on the screen of the MDT unit based upon GIS information through the AVL system.

It is important to be somewhat cautious regarding the potential benefits of AVL to CBT providers. When asked about the desirability of AVL/MDT systems for American Red Cross operations, a representative of the Red Cross Transportation indicated that they would view this approach as a nice "luxury," but not something which would have significant enough operational or other benefits to justify the costs. They are quite satisfied with their demand responsive transit software scheduling system, and Hudson's Street Guides which their drivers use are more than adequate to locate given addresses.

The representative of Metro Mobility indicated that he had conducted an extensive review of AVL/MDT systems for potential implementation in 2001. The outcome of that review was that there were too many uncertainties regarding the actual benefits that would be realized from such an approach to move ahead with implementation. This is significant for an operation of this size; 260 vehicles and over 1 million trips provided per year. The representative from Metro Mobility indicated that sometimes transportation organizations get enthusiastic about "cool" technical systems and lose perspective on whether these systems will provide real value in terms of enhancing operational and other types of organizational performance.

Communications

Overview

Communications refers here to wireless information flow between central operations centers and individual vehicles, as well as between different vehicles. Information can be audio (voice) and/or data. Communications can be through radio (leased air time from commercial services) or through cellular telephone services. The basic considerations regarding selection of a communications technology for CBT providers would be:

- Cost
- Consistent coverage and service throughout the operating area
- Data transmittal capabilities
- Compatibility with, or utilization of, any existing communication systems/capabilities
- Compatibility with systems used by other operators for coordination purposes

The widespread availability of relatively low cost cellular telephone services allows even small operators to have basic wireless communications between dispatch personnel and drivers. In addition, Cellular Digital Packet Data (CDPD) systems allow data files to be separated into a number of packets and sent through idle channels of existing voice networks.

Summary of Potential Benefits

Having a communications system that allows appropriate levels of communications between central dispatch and the individual drivers will facilitate efficient operations in the field. When trips are cancelled, new requests come in, or circumstances on the road change for other reasons, routes can be adjusted accordingly. A number of sources, including those interviewed for this report, stressed that the communications technology selected for a given CBT must be compatible with all information technology components of that organization's operations.

Implementation Issues

In general, it seems reasonable to suppose that specialized transportation providers are doing the best they can in terms of technology, given the limitations that they face in terms of the scale of their operations and the technical expertise that they have available for implementing and operating particular technologies. Most technologies are aimed either at saving labor or simplifying complex tasks, but for the many small providers with simple operations, neither of these is likely to be enough of an issue to justify the often-considerable expense and effort involved in implementing new technologies.

There are, however, potential gains in the context of providers working together. In terms of increasing operational efficiency, there are possible improvements to be made by small providers coordinating to make better use of underutilized vehicle capacity. To accomplish this in a cost-effective way will require some technological innovations. For reducing administrative costs, improvements could potentially be achieved through the central development of software that could be used to streamline administrative activities such as tracking rides, matching rides to funding sources, and generating bills and reports. Such software, once developed, could be almost costlessly distributed to many agencies, to the benefit of all.

Potential Operational Improvements

To get the performance improvements associated with most technologies aimed at increasing operational efficiency, there must be a sufficient level or extent of operations to support the cost associated with that technology. Also, more sophisticated and expensive technologies may provide functions that simply do not have value for small operations. For example, AVL likely would not have great value for a provider that only has five or ten vehicles, which can be relatively easily tracked by a dispatcher in any given shift.

However, Metro Mobility, with its 260 vehicles, is also not convinced at this point that AVL would be a worthwhile investment. This raises another important point, which is that there may be fundamental limits on operational efficiency; the idea of using technology to fill excess vehicle capacity may be unrealistic. Increasing the number of passengers per vehicle can be hard for a variety of reasons:

- Demand is generally sparse. Increasing passengers requires having several people going from roughly the same origin to roughly the same destination (or points in between) at very nearly the same time. Empirically, in the absence of special events, this simply doesn't happen that often. Metro Mobility, with its 260 coordinated vehicles, only averages about 1.8 passengers per vehicle-hour.
- Providers may be limited to certain types of passengers or types of trips. This limits the underlying rate of trip generation for a given provider.
- From the other side, passengers may need a certain type of vehicle; a provider may not be able to carry a given passenger because of this.
- More passengers means worse service, as those who are already on board are delayed by picking up or dropping off others. Ultimately, the common constraint that no passenger should be on board for more than one hour will limit the number of stops that can be made.

Another key point is that the gains from increased passenger loads may be limited by the fact that many of the costs of operating a vehicle are incurred regardless of how much it is driven. That is, it is expensive to have a vehicle and a driver, but once they are in place, it is not that expensive to actually use them. Having one van carry six passengers while five other vans and drivers sit idle would not save that much money.

In general, the more sophisticated and expensive technologies are aimed primarily at squeezing relatively small efficiency improvements out of big operations that are already efficient. This could very well be useful if these improvements make it possible to avoid purchasing additional vehicles and hiring more drivers. But from a broader system standpoint, the more significant issue is that many vehicles are not used at all for considerable amounts of time; many agencies may have a vehicle to serve their own clients, but only use it a few hours a week.

Underused vehicles are problematic from a system funding standpoint because many or even most of the costs of owning a vehicle are fixed; that is, they will be incurred at the same level regardless of how much the vehicle is driven. Supporting these high fixed costs for a large number of lightly used vehicles creates a drain on limited funds that could be used for other purposes that actually create value for clients. Using technology to facilitate and support a system that can bring unused vehicles and other resources into use could potentially have significant benefits both in terms of better service in the short term, and reduced costs in the longer term.

Reducing Administrative Costs

At a simpler level, all types of providers could hope to benefit from reduced administration costs. Most or all providers, to varying degrees, need to do the same kinds of things, for example:

- Tracking rides

- Eligibility checking
- Reports to funders
- Third party billing

All of these activities could be automated to a large extent; but this involves a large fixed cost; either in developing software to perform the needed functions, or in purchasing custom-developed software from an outside vendor. The alternative is keeping records using whatever ad hoc methods have arisen over the years, and figuring out a way to deal with non-routine events like reports to funders as they come. This latter method seems to be what most providers do, and they do in fact complain of the labor spent on producing different reports for different funders.

While it seems like a waste of resources to have dozens or hundreds of individual providers all expending significant effort to generate the same set of funding reports, it would be even more inefficient for all of them to invest in software to automate this and other functions. However, software, once developed, can be distributed more or less costlessly. This would be a public good. It wouldn't make much sense for individual providers to use their own resources to develop this software, only to then give it away to others. However, it would make sense for it to be centrally developed and distributed, perhaps by a consortium of funders; as funders are the beneficiaries of improved efficiency, and at some level the original source of the problem of excessive paperwork.

The standardization of recordkeeping that would result from centrally developed administrative software would have the additional benefit of possibly making coordination between providers easier; they would not be held up by incompatible data systems.

Some Implementation Ideas

A relatively straightforward idea for implementing technological improvements would be for some centrally funded organization to develop record keeping and report generation software of the type just described. This sort of program was the original heart of the CRRAFT program in New Mexico referenced earlier. In that case, the program is implemented on a central server accessed through the internet; this is better in terms of updating the software and correcting errors. In the New Mexico case it also facilitated the expansion of the system to incorporate more sophisticated information sharing functions, such as checking eligibility for different programs. However, central administration is more technically difficult and more expensive; there would still be considerable value to be gained in the short term from stand-alone software distributed to providers from a central source.

A more difficult problem is using technology to facilitate interactions and coordination among providers. Probably the greatest potential improvement in the short term, as discussed earlier, would be to develop a system by which unused vehicle capacity (and/or trained driver availability) could be made available to other agencies needing rides for their clients.

Ultimately, achieving greater operational efficiency in the sense of utilizing currently underused vehicles is less limited by technology than it is by the fact that small providers have no institutional framework for working together to share resources. One obvious point is that they would need a legal and financial system in place for compensating each other for rides, or for defining an in-kind trading scheme.

But there are also significant technological issues. The most notable is the simple point that potential riders, who may be coming from a multitude of different agencies or even as individuals, have to be matched to providers with unused capacity, the appropriate type of vehicle, and an interest in providing the ride. There is a generally held belief, based on a fair amount of evidence, that providers will be reluctant, at least at first, to simply submit their vehicles and drivers to a central scheduling authority. A politically more feasible option would be a brokering system, in which ride requests are referred to providers with the potential capacity to handle them; the provider then decides whether to give the ride.

While this solves the political problem of allowing providers to maintain control over their own vehicles and drivers, it is a more complex system in that a given ride request can't simply be assigned. First the opportunity must be offered to several providers; then there is a wait to see if one or more respond, then if there are multiple responses it must be assigned to one based on some criteria. To have a human executing this would be an expensive proposition; such a system would likely use up a substantial fraction of the gains achieved through greater vehicle utilization.

In principle, much of this function could be automated through creative use of email and a form-based website. However, some work would have to be done up front to determine if users and providers would be comfortable working with such a system, and to understand the details of how it would have to be implemented to gain general acceptance.

Conclusion

As has been frequently demonstrated in the literature, there are substantial inefficiencies associated with CBT services that have to do with the complex and fragmented nature of this "system." There are many funding sources at various levels of government, many different client groups, and many different service providers. The overlapping and at times inconsistent agency requirements, client needs, and provider capabilities make streamlining and general improvement of CBT services a daunting task.

A basic finding of this report is that there are information technologies available that are helping CBT providers perform their core functions more efficiently and effectively; we have identified the primary categories of these technologies along with preliminary information regarding capabilities and cost/implementation issues. While CBT providers should receive support to continue to assess and implement these information technologies consistent with their existing programmatic and operational parameters, there do not appear to be technologies that would lead to "breakthrough" gains in service performance. It appears that CBT providers are generally aware of the information technologies that are available to them.

In a macro sense, the most potential for significant gains in the efficiency and effectiveness of CBT operations will be through improved coordination at the funding and provider levels. We believe that a key in assessing and implementing information technologies is the question of how they would help improve operational and data tracking coordination with other organizations and better allow multiple organizations to work together. All of the categories of information technologies reviewed in this report could help existing operations be improved from efficiency and effectiveness perspectives, but perhaps more importantly, could also facilitate increased coordination between CBT organizations.

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APPENDIX D

Proceedings of Community-Based Transportation Conference, October 1, 2003

SECOND CONFERENCE ON

COMMUNITY-BASED TRANSPORTATION

Designing a System for Minnesota

October 1, 2003 • St. Paul, Minnesota

A Summary Report

The University of Minnesota has been engaged in a major study of community-based transportation systems for the past year. The research has focused on understanding how to improve the productivity of these systems through better coordination of efforts across providers and human service agencies. While some improvement is possible through agencies working on their own, the research supports the widely held belief that there are major systemic barriers to coordination across agencies, including regulatory and insurance requirements and restrictions on how funding is used.

Ultimately, systems-change cannot happen unless the institutions and people who influence the system can be identified and involved in an ongoing dialogue. The purpose of this conference was to begin this dialogue as a first step toward an expanded and continuing discussion that could eventually lead to a better system. The agenda included a review of the University's research and several sessions on important topics identified by the research, with an aim toward identifying opportunities and developing strategies for implementing system improvements both in the short and long terms.

Sponsored by:

- **Center for Transportation Studies, University of Minnesota**
- **State and Local Policy Program, Hubert H. Humphrey Institute of Public Affairs, University of Minnesota**
- **Hennepin County Transit and Community Works**

Introduction and Welcome

Speakers: **Robert Johns**, *Director, Center for Transportation Studies (CTS), University of Minnesota*, and **Gary Erickson**, *Assistant County Administrator, Hennepin County Public Works*

In his opening remarks, Robert Johns touched on the history behind this conference, noting that in the time since the first community-based transportation (CBT) conference was held in 2001, a clear definition of CBT has emerged. Community-based transportation, he explained, is transportation provided by means other than mainline buses or private vehicles, for people who cannot drive or do not have access to vehicles.

"Our hope with the first conference was to raise awareness of this important issue," Johns said. The catalyst for that initial meeting stemmed from a United Way agency survey in which transportation was cited as the organization's "number one challenge," he said. That awareness led to several efforts, including a partnership between Hennepin County and the University of Minnesota to conduct a multifaceted CBT-related research project.

Gary Erickson explained that Hennepin County has a particular stake in CBT because it funds many social service programs, for which total transportation-related costs exceed $10 million. But, he said, CBT issues are by no means limited to Hennepin County; they are regionwide.

"One of the goals [of this conference] is to begin breaking down our own biased thinking that no one else knows what our clients need," Erickson said. "The time has never been better to get together to solve these problems, especially considering the current budget crisis we are all in. We have to do more with less. This conference is designed to gather feedback from you as stakeholders in hopes of improving transportation options and ensuring that the transportation needs of a needy population are met."

Robert Johns

Gary Erickson

Keynote Presentation—Coordination of Community Transportation Resources: A Tool for Access

Speaker: **Dianne McSwain** (via teleconference), *Special Assistant to the Director, Office of Intergovernmental Relations, U.S. Department of Health and Human Services*

Health and human services providers often encounter significant challenges in getting their clients into service sites, yet these challenges don't always make it into the policymaking arena. "All of these services are useless if people can't get to them," Dianne McSwain said. To that end, she explained that since 1986, a coordinating council between the Department of Health and Human Services and the Department of Transportation has been working to address these issues. Although, she added, the reality of limited resources and turf matters that often arise in such an environment still result in agencies that are reluctant to engage in cooperative efforts.

Fortunately, attempts to coordinate transportation services have recently attracted the interest of Congress, McSwain said. "Last May, there was a joint committee hearing on transportation coordination at which several departments were asked to testify. That hearing has spurred additional activity, and I'm pleased to say we'll be expanding the coordinating council to include the Departments of Education and Labor, and later, other departments as they indicate interest."

She went on to say that there are approximately 70 federal sources of funding that can be used to support CBT efforts. These sources are spread throughout many federal departments and independent agencies, which, admittedly, makes reporting and regulation requirements a challenge, McSwain said. "We are trying to identify the worst barriers, but we have found no federal regulations that prohibit coordinative activities for CBT...coordination is doable and is more about the will to do it than it is about regulations."

"We are trying to identify the worst barriers, but we have found no federal regulations that prohibit coordinative activities for CBT."

McSwain believes the principal issue at hand is not just about getting people to services, but is also about giving transportation-disadvantaged citizens the opportunity to contribute to their communities. "If you can't get there, you can't work and you can't volunteer. If you can't get to

activity, you become isolated, and there's a strong link between isolation and health and well-being," she said.

McSwain also discussed the challenges facing rural transportation service providers. "In Washington, we make policy based on our education and experiences, and unfortunately most of that education and experience is urban and suburban, which creates a bias that makes it more difficult for rural communities. The folks who design transportation programs are very urban in their thinking; they are used to moving chunks of people around and aren't used to moving smaller rural groups of people."

Finally, she briefly discussed the National Transit Resource Center, which is a clearinghouse of information with "everything you ever wanted to know, A to Z, about moving people from A to B." [For more information, visit the Community Transportation Association of America (CTAA) Web site at www.CTAA.org or call 800-527-8279.]

Opportunities and Barriers for Community-Based Transportation in Minnesota

SPEAKERS: **Lee Munnich**, *Director,* and **Gary Barnes**, *Research Associate, Hubert H. Humphrey Institute of Public Affairs, State and Local Policy Program, University of Minnesota*

"There have been a number of studies on transportation and economic benefits showing that mobility is related to economic well-being," Lee Munnich reported. Interest in this idea led to a University research project funded by the Federal Transit Administration (FTA) through a grant to Hennepin Community Works.

Gary Barnes, who led the research effort, pointed out that there is not currently much CBT research being conducted. Over the course of working on the study, Barnes said he and his research team found that the subject was "an unusually hard thing to get our hands around." One of the main challenges, he explained, is that there are many different funding sources and regulators, which results in a confusing web of rules and makes it difficult for providers to work together. "We're all trying to do the same thing for different reasons and with different pots of money," he said.

Barnes and his team worked with a variety of funders throughout the project and found that these organizations believe a more efficient system could mean more and better service. The team also talked to service providers, many of which were from rural Minnesota. They learned that these providers are already coordinating their efforts with other community organizations to some extent. But Barnes wanted to find out why these coordination efforts didn't go further.

"Maybe the legal and regulatory structure requires change. Even if [rules] don't specifically forbid coordination, there are too many regulations to wade through."

"Some providers believe the variety of rules and reporting requirements is too burdensome and makes it difficult to provide needed services or to work together with other providers," Barnes explained. "Sometimes, in rural areas, there's just no one else to coordinate with." These providers also indicated a need for better information, as there are few formal opportunities for interaction with other providers. This isolation often forces them to continually "reinvent the wheel."

Barnes and his team also surveyed CBT users, who were most concerned with how the "system" treats them and how they could maintain their independence and not feel dependent on others. "These people feel vulnerable enough as it is," Barnes said. "They want to be treated with courtesy, and they value having a number of different providers with whom they have a personal connection."

Lee Munnich

Gary Barnes

Barnes supplied some examples of how different regions are dealing with CBT challenges. He highlighted Florida's centralized system and use of local brokerages; Washington's use of brokerages for Medicaid trips; New Mexico's efforts in human services and rural transit coordination; and the City of Pittsburgh's system of screening users, negotiating rates, and paying eligible providers.

These examples illustrated that there are many different ways to efficiently and effectively run CBT systems. One problem is that the word "coordination" is used to refer to all these methods. Using a single word to describe so many different types of activity makes it hard to think systematically about how to design and implement system improvements, Barnes said. He then identified several specific questions that must be answered in order to develop a plan for system improvements:

- What problem are you trying to solve?
- What scope do you want the system to have?
- Once you identify a problem to solve, what method will you use to solve it?
- What administrative structure will you use?

The research uncovered a number of perceived barriers to coordinating CBT, including the existence of conflicting rules

and regulations, inadequate resources and fragmented funding, and the lack of opportunity to develop communication, trust, and cooperation. All groups surveyed saw the need to better use resources to meet more service requirements as well as the need to have a collective voice in planning and lobbying efforts.

Despite the obstacles, there are tools and technologies—such as data management software, electronic on-board rider tracking systems, and scheduling software—available to help ease the challenges. But, Barnes stated, a lot more of what is needed to overcome barriers falls on institutions and under regulatory rules. "Maybe the legal and regulatory structure requires change. Even if [rules] don't specifically forbid coordination, there are too many regulations to wade through." These things get into the more speculative realm of the research, Barnes noted, and are the long-term issues ripe for further study.

Nonetheless, Barnes and his team were able to create a set of short- and long-term recommendations. Short-term, he said, CBT stakeholders should focus on the improvements that can be created by a few people but that will benefit many. They also should develop a specific mission and a budget toward that end. Additionally, he suggested implementing improvements that involve better communications, using data management software to simplify record keeping and reporting to funders, and working to distribute free or low-cost bus passes to transportation-disadvantaged people and training them on how to use the system.

For long-term, systemic changes, Barnes urged stakeholders to start small and test any new concepts before broadening the scope. "We also need a better understanding of the technical and political issues in developing more formal systems for coordinating rides and resources and of the impact regulation and funding rules have on creating a better system," he said.

Concurrent Sessions

Brokerage Systems: Examples and Opportunities

MODERATOR: **Gary Barnes**, *Research Associate, State and Local Policy Program, Hubert H. Humphrey Institute of Public Affairs*
SPEAKERS: **Fausto Iglesias**, *Customer Services Manager, Metropolitan Health Plan*, and **Barbara Green**, *Director of Transportation Services, American Red Cross*

Fausto Iglesias and Barbara Green

The Hennepin County Integrated Transportation Project was started in a joint initiative between Metropolitan Health Plan (MHP) and Hennepin County to address fragmented transportation services. According to Fausto Iglesias, this initiative has three main objectives. The first is to improve and simplify client access to healthcare and to simplify the system for transportation and medical providers as well as for county employees. The second is to make the best use of funds by controlling administrative costs, promoting use of the least costly transportation modes, and by controlling provider and client abuse and fraud. The third is to integrate all Hennepin County transportation systems.

One of the first steps taken toward achieving these goals was to establish a single phone number that clients and providers can call for service-related issues. Equally important was educating clients about the transportation options for which they are eligible and can receive reimbursement. As a pre-paid medical assistance health plan for Medicaid clients, MHP provides transportation services to qualified Hennepin County residents using a brokerage-type system. MHP also provides customer service, record management, and economic assistance on behalf of Hennepin County. "Our customer service representatives are trained to know about all of the county services available so they can effectively answer our clients' questions," Iglesias said.

"The medical side is where the biggest need is, so that's what we started with. In the future, we want to capture all transportation services whether they are medical or social."

Currently, this initiative is in what Iglesias called the "demonstration phase." "We've started small and want to learn and grow in a controlled way," he said. Although the current focus is on non-emergency medical transportation, Iglesias said there are several other areas that eventually will be incorporated into the program. "MHP is being used as a focal point to coordinate all of Hennepin County's transportation needs. The medical side is where the biggest need is, so that's what we started with. In the future, we want to capture all transportation services whether they are medical or social."

According to Iglesias, one of the remaining challenges is getting the various county departments to buy into the idea of centralization. "Some people don't want to change the way they are doing things," Iglesias reported. "We also

have some clients who are a little reluctant about us because they've received not-so-great service in the past."

Barbara Green discussed the American Red Cross's use of a partnership-based transportation model in the Twin Cities. The Ramsey County Coordinated Transportation program, which is part of the Red Cross, and the West Metro Coordinated Transportation (WMCT) program, which is part of Volunteers of America Minnesota, work together to provide a variety of transportation-related services via subcontracts and partnerships with other organizations.

Although the Ramsey County program offers technical assistance to ride providers and develops new services and resources by identifying service gaps and then finding the funding to fill them, Green talked mostly about how it coordinates transportation services using a ride purchasing program. Both paid and volunteer drivers provide rides to such things as medical appointments, adult day care facilities, English-language and independent living skills classes, and grocery shopping outings. The program depends on a variety of funding resources including donations from passengers, various foundations and corporations, hospitals and HMOs, and others. In addition to providing actual rides, the program also bills the hospitals and HMOs on behalf of the ride providers and distributes the money back to the subcontractors. "We're one of the few programs to do this," Green explained.

On the other hand, WMCT outsources all rides to subcontractors who are funded through Federal Housing and Urban Development (HUD) grants, the state medical assistance program, and various city programs. WMCT also provides technical assistance and offers other resources such as a transportation directory and bimonthly newsletter, which is available at www.voamn.org.

Although its partnerships enable the Red Cross to deliver services at a lower cost than other transportation programs, it is not immune to budget cuts. "As [the Red Cross] gets cut in other areas, we have to use more and more United Way dollars," Green said. "We've closed routes and cut back staff because we can't afford to keep all of our routes and vehicles operating."

Measuring the Outcomes and the Value of Community-Based Transportation

MODERATOR: **Gina Baas**, *Manager of Communications and Conference Services, Center for Transportation Studies*
SPEAKERS: **Jennifer Menke Blanchard**, *Washington County Community Services,* and **Emily Schug**, *Hennepin South Services Collaborative*

Results of a study that looked at the current state of specialized transit revealed that some providers are coordinating, but are frustrated by their inability to do more. Riders likewise would welcome changes, as long as those changes took their needs and concerns into account and didn't make the systems harder to use.

Jennifer Menke Blanchard and Emily Schug conducted the study to determine what transit providers and users wanted, and to identify opportunities and strategies for making system improvements in the near and long term.

On the provider side, study participants—who served rural, suburban, and urban areas—described partnerships they had with other transit providers, the challenges and benefits related to coordinating services with other providers, and the effect funding had on their ability to coordinate.

The responses revealed that some providers currently are coordinating—to recruit volunteers, cross county lines, and informally share information, for example—often out of necessity or because of shared common interests or geographic locations. Coordination is helping providers learn what is working for other agencies. In addition, rural agencies said that their experience in coordinating gave them a level of expertise that could benefit metro-area agencies, Schug said.

Jennifer Menke Blanchard and Emily Schug

Providers' opportunities for coordination, however, are influenced directly and indirectly by funding, Schug said. For example, some funds cannot be blended, even though agencies could avoid gaps in service by blending. Providers also reported that while money might be available for start-up, it's often lacking when needed to sustain and operate a program. Providers were also frustrated by the time-consuming nature of meeting different funders' reporting requirements.

The researchers identified several ideas for improving information sharing. In the short term, these include identifying a network of providers, organizing regional transit meetings, developing a Web site for transit providers, and creating a providers' chat room and listserv. Long-range strategies for systemic change include improving communication between transportation funders, reviewing funding practices that could promote coordination, creating incentives for coordination, and offering more flexible funding.

As the users of specialized transit ser-

vices, "riders are the most important stakeholders," Blanchard said. In focus groups, riders expressed the challenges of using these transit services as well as ideas for improving them.

Study participants were seniors, people with disabilities, people with limited incomes, and immigrants, all of whom used a variety of non-auto modes of transportation—city buses, wheelchair-accessible vans, senior vans, taxis, medical transportation, rides from friends and family, and walking.

People with disabilities cited affordability, safety, efficient routes, same-day scheduling, door-to-door service, and customer service (e.g., having a personal connection to schedulers and drivers) as important. "They value having choices in order to maintain a sense of independence," Blanchard said.

For suburban residents, transportation options are very limited and sometimes nonexistent. "These participants felt they had no choices—and that limited their lives," Blanchard said. For example, children's activities usually depend on having transportation.

Seniors value polite, respectful, courteous, and helpful drivers. For seniors, "customer service is equated with safety," Blanchard noted.

For immigrants who do not speak English, it is often as difficult to get information about services (such as routes and schedules) as the services themselves.

Among adults with limited incomes, the safety of public transportation systems is also a major concern. A lack of transportation options limits their mobility and access to services, especially in the winter. In addition, traveling with children is challenging—for example, from home to daycare and then on to work.

Blanchard reported that for immigrants who do not speak English, it is often as difficult to get information about services (such as routes and schedules) as the services themselves. Also, using public transportation in the winter is challenging for immigrants not used to a cold climate.

Some common issues did surface among all the groups, and these should be considered when it comes to designing a better system, Blanchard said. Among these, the "overarching theme" was customer service. Many riders prefer using smaller systems for the personal, one-on-one experience and because they believe smaller systems offer better on-time service, better communications, and more control. "When we first started [this research], we assumed people would value having one number to call, but that's not been the case," Blanchard said. Rather, riders don't want to see large bureaucratic systems created.

Some ideas for improvement include car-sharing programs, language-specific services, more efficient routing, improved customer service (such as sensitivity training for drivers), and public transit routes that meet basic needs (e.g., transit stops in front of grocery stores).

Blanchard pointed out that the study participants didn't have unrealistic expectations; they understood what was necessary, such as shared rides. Despite its inefficiencies, most knew how to make the system work for them and were wary of changing it. This point was illustrated by one study participant, who said that with the current system, "you do eventually get home. It does sort of work. Do you fix something that is sort of broken and then break it even more, or do you stay with what you have?"

Leveraging Existing Systems

MODERATOR: **Frank Douma**, *Research Fellow, State and Local Policy Program, Hubert H. Humphrey Institute of Public Affairs*
SPEAKERS: **Dee Molean,** *Manager, Transit Information, Metro Transit,* and **Byron Laher**, *Director, Public Policy and Labor Services, Greater Twin Cities United Way*

Frank Douma, Byron Laher, and Dee Molean

Though transporting disadvantaged populations around the metro area has posed significant challenges to our communities, some innovative transit alternatives and the implementation of new technologies are easing the strain a bit and may even improve the community-based transit system.

Metro Transit, for instance, has found several ways to include a broader spectrum of riders in fixed-route transit, according to Dee Molean, transit information manager with the organization.

Molean pointed out that the Metro Transit system, originally developed along old trolley lines in a hub-and-spoke design, has responded to demographic shifts, technological advancements, and funding limitations in a way that has brought major changes to what had been considered a pretty static environment. Better organization, coordination, and customer service, all combined with new technologies, have contributed to greater access to transit.

Chief among recent Metro Transit accomplishments, Molean said, has been the completion in June of a decade-long initiative to make all buses fully lift-equipped. But the list goes on. Personal-care attendants ride for free with proper

identification. Customer service advocates, with help from a video and workbook titled *Riding the Bus*, will make site visits to teach the basics about using Metro Transit. What's more, Metro Transit is coordinating services with Metro Mobility and training those users to ride the bus. Moreover, each bus has been outfitted with a global positioning system, or GPS, to track exact locations, and that data can be used for scheduling as well as to better address passenger and driver safety and health concerns.

Molean also discussed Metro Transit efforts to include information from all metro-area bus services in its databases. Transit information, she said, is available by phone and on the Web (www.metrotransit.org). In fact, 125,000 trips are planned each month through the Web site, which also features a guide for new riders. Soon, real-time route information (via GPS data) will be available via phone, as well as the capacity to replenish SmartCards, which will be offered as a means to access a variety of transit modes. In addition, Metro Transit introduced Spanish-language signs and guides two years ago, and has progressed to using Hmong and Somali drivers in certain areas and for special events.

Chief among recent Metro Transit accomplishments has been the completion in June of a decades-long initiative to make all buses fully lift-equipped.

Next, Byron Laher, public policy and labor services director with the Greater Twin Cities United Way, outlined the United Way's lease-to-own program, which has made donated vehicles available at an affordable rate to low-income families in need of safe, reliable transportation. 3M donated 73 cars previously driven by executives. United Way has partnered with six area social service agencies to identify potential participants in the program, which involves training in basic finances and routine maintenance. Participants, who lease the vehicle at low rates, must purchase their own insurance and provide basic maintenance on the vehicle.

Laher said the lease-to-own program is looking for another source of vehicles because 3M now leases vehicles instead of buying them. He also cited other challenges, such as the high cost of bonding and liability insurance for the program. Nevertheless, such programs, Laher added, show a lot of promise because they reduce the burden on social service agencies, which typically pay $15–20 per trip instead of an average of pennies per mile with the lease-to-own program. Finally, he concluded, lease-to-own programs are just beginning to catch on nationally.

What Policies are Needed to Move Forward?

MODERATOR: **David Johnson**, *Executive Director, Metropolitan Health Plan*
REPORTERS: **Mark Hoisser**, *Vice President, Dakota Area Resources and Transportation for Seniors;* **Dana Rude**, *Project Administrator, Metropolitan Council;* **Micky Gutzmann**, *Grant Specialist Coordinator, Minnesota Department of Transportation*
PANELISTS: **Louis Moore**, *Director of Community Relations, U.S. Representative Martin Sabo;* **Connie Kozlak,** *Manager, Transportation Systems Planning, Metropolitan Council;* **John Kowalczyk**, *Policy Consultant, Medical Assistance and Medical Transportation, Department of Human Services*

Reporters Mark Hoisser, Dana Rude, and Micky Gutzmann opened the session by summarizing the discussions of the preceding concurrent sessions. This was followed by moderator David Johnson asking Louis Moore directly if the federal government has time to spend on community-based transportation issues, given all of the other issues—a sluggish economy, homeland security, and the war in Iraq—it is currently dealing with.

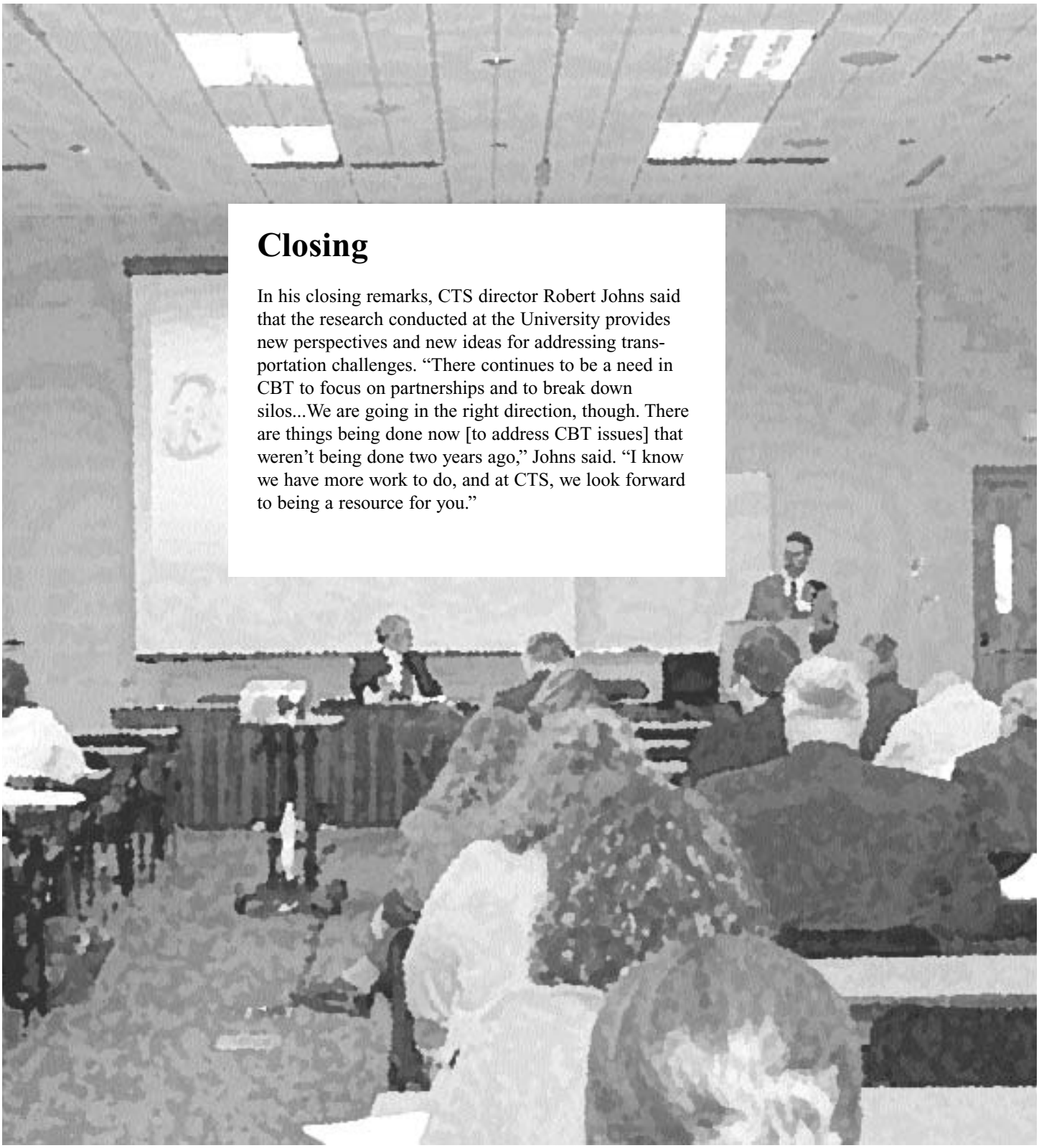
John Kowalczyk, Connie Kozlak, and Louis Moore

"At this time, it will be a real challenge" Moore stated. "Money will be one of the biggest challenges for quite a while. Nonetheless, this is an issue that Representative Sabo is aware of; he serves the largest metropolitan district in the area and knows that many people will be greatly affected by these challenges."

Connie Kozlak agreed that at the federal level—as well as the state and local levels—money is one of the biggest challenges. "People who ride Metro Transit regularly have already taken notice," she said. "We've been changing routes and trying not to spend more money. In some cases, this means people aren't getting to where they want to go as fast as possible. We know there are communities located beyond our current routes who need our services, but we can't afford to expand to those areas right now. We also know that these things ebb and flow with the economy, so we hope things will change for the better in the future."

These funding and other logistical challenges mean states and counties need to consider new approaches for providing service, added John Kowalczyk, whose job involves finding the "least expensive, most appropriate form of transportation" for clients needing medical services.

"Transportation accounts for one percent of the Medicaid budget—that's over a billion dollars a year," Kowalczyk said. "We recognize that we need to use telemedicine, tele-home care, mental health services, etc., in which the provider goes to the client rather than the other way around." Another option is the use of brokerage systems, which has become more common among states in the last decade, he said.



Closing

In his closing remarks, CTS director Robert Johns said that the research conducted at the University provides new perspectives and new ideas for addressing transportation challenges. “There continues to be a need in CBT to focus on partnerships and to break down silos...We are going in the right direction, though. There are things being done now [to address CBT issues] that weren’t being done two years ago,” Johns said. “I know we have more work to do, and at CTS, we look forward to being a resource for you.”

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