Improving Transportation Services for Disadvantaged Populations

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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 Cities 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:
  
  o 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.
  
  o 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.
  
  o 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.
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.” Un fortunately, 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.
REFERENCES


**Web Sites**

Coordinating Council on Access and Mobility:  

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