

# AN EXPLORATORY SURVEY OF POTENTIAL COMMUNITY TRANSPORTATION PROVIDERS AND USERS

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## ABSTRACT

This paper describes a large survey to better understand specialized transportation resources and how they are being used. The survey had two key characteristics. The first was to question both organizations that provide transportation, and those that do not provide it but are actively involved in purchasing or arranging it on behalf of their clients. The second was to be comprehensive; that is, to survey any organization that might be involved either in providing or arranging transportation.

The results fall into two broad categories. The first is the actual survey findings, which provide a broad and comprehensive overview of the types of transportation-related activities that organizations are engaged in. Most significantly, about 45% of the diverse organizations that were surveyed provide transportation in some form, and another 20% actively arrange transportation for their clients. This confirms the common belief that the true size of the specialized transportation “system” is far larger than the formal network that is known to transportation funders and regulators.

Because the survey was intended to be broad and exploratory rather than focused and definitive, the findings generally fall short of providing clear answers to specific questions. However, they often provide considerable insight into the types of details that future surveys should address with respect to various issues. Given this, perhaps the more important results are conclusions about how the findings of this survey, and the insights that they generate, can be used to develop more focused and definitive surveys of this type in the future.

## INTRODUCTION

Many agencies at all levels of government, and a much larger number of local organizations, are involved in providing transportation services to individuals who,

because of disability, poverty, or other reasons, are unable to routinely arrange for their own transportation. The belief that this “system” is both wasteful of resources and somewhat unsuccessful in accomplishing its objectives seems to be as old as the activity itself (General Accounting Office, 1991). As a partial remedy to this situation, studies in recent years have provided examples of actions by governments or individual providers that can serve as examples of possible improvements (Burkhardt, 2000, 2003)).

While improvements by particular organizations are one aspect of increasing efficiency, discussions with providers and funders inevitably turn to a more subtle aspect of the problem. This is the notion that a substantial fraction of the potentially available resources are in the hands of small organizations focused on non-transportation missions, which do not have either the demand or the expertise to use these transportation resources efficiently (Spahnake, 2001, Barnes, 2003)).

This is not so much a criticism of those organizations as of the lack of a more general structure to the provision of transportation services. Because there is not a well-developed “market” for these services, the argument goes, small agencies are often forced to acquire their own vehicles and train drivers. The result is objectionable in two ways: from a system standpoint valuable resources are being underutilized; while the agencies themselves are forced to maintain a transportation infrastructure that in many cases draws substantial resources away from their primary mission.

At a time of simultaneously tightening budgets and increasing need as the population ages, it is hard to ignore the possibility that there may in fact be plenty of resources available if only they were better organized and managed. The problem is that while anecdotes of vehicles driven “500 miles a year” come up frequently in conversation, there does not seem to be any objective and comprehensive study that describes the available inventory, who controls it, and how it is being used.

Thus, the primary objective of this survey was to develop a basic understanding of the types of organizations that provide or use transportation services and their inventories, operations, and attitudes. A second, and equally important objective given the exploratory nature of the project, was to also use the results to develop insights into how to improve future surveys of this type.

Our approach to the survey had two key characteristics. The first was to question both organizations that provide transportation, and those that do not provide it but are actively involved in purchasing or arranging it on behalf of their clients; with an eye to better understanding the relationships between resources and needs. The second was to be comprehensive; that is, to try to survey any organization that might be involved in either in providing or arranging transportation. The existing literature, as well as more informal discussions, tended to focus on the traditional transportation community known to government funders and regulators. We wanted to reach these organizations, but also to find the small social service agencies, housing service providers, and communities of worship for whom transportation is just an adjunct to a different mission.

Because we would be surveying agencies without a transportation focus, we did not have much idea of what we would find, either in terms of how many there would be or of what kinds of answers they would give. This affected our methodology in two important ways. First, we did a one-page “pre-survey” to get a general idea of the number

of organizations falling into the categories of provider, arranger, or neither, and used this to better target the mailing list for the full survey. Second, the questions on the full survey were very general. While this made it hard to develop definitive answers to specific questions, it seemed more important to focus first on understanding the general “lay of the land.” We and others can use this understanding to develop more targeted and effective surveys in the future.

This paper has three parts. The first outlines the general methodology of the survey, discusses the pre-survey results and how they were used, and gives an overview of the questions on the full survey. The second part discusses the results of the survey, broken out by whether the organization provides or arranges transportation. The third part, and an important one given the somewhat experimental nature of this survey, is a discussion of lessons learned.

## GENERAL METHODOLOGY AND PRE-SURVEY RESULTS

The survey (including the pre-survey) was conducted throughout the state of Minnesota between November 2004 and April 2005. Because of our desire to reach any organization in the state that was involved in transportation, we constructed a very large mailing list from a variety of different sources. These fell into four broad categories, each of which was addressed with lists from one or more sources:

- Known transportation providers (Department of Transportation, Department of Health)
- Human service and other charity-based organizations (from several lists, primarily United Way)
- School districts and related programs (Department of Education)
- Churches and other religious organizations (Council of Churches, Lutheran Social Services, and Jewish and Islamic umbrella organizations)

This list, after removing duplicates, was over 11,000 names, mostly from the human services and religious categories. Our expectation was that a large fraction of organizations on our list would not be involved in transportation, so to save some expense and increase the eventual full-survey response rate, we did a preliminary screening with a one-page pre-survey. It also seemed that our objectives could be realized with a much smaller sample than we had available, so to help keep the project manageable given our resources, we randomly divided this list roughly in half.

The pre-survey consisted of three questions:

- Type of client (from a list)
- Organization mission (open question)
- Transportation role: provider, arranger (could choose both), or neither.

If the respondent indicated that the organization was not involved in transportation, then a sub-question asked for reasons (from a list).

We received about 1,500 responses to the pre-survey; about a 30% response rate. This may have been somewhat limited by the fact that the pre-survey went out during the

holiday season, and perhaps because a printing snafu omitted the postage-paid from the return envelopes.

The primary objective of the pre-survey was to use a large sample to develop a general understanding of how organizations of different types relate to transportation issues, and in particular how many organizations actually have the capability of providing transportation. Because we did not know in advance how organizations would naturally group into categories, and especially how the very large social service category would break down, we asked an open question about the organization mission. We used the answers to group the respondents into five broad categories:

- School districts (7.5% of total)
- Transit and paratransit agencies (4.5%)
- General social service (41%)
- Housing services/assisted living (30%)
- Churches and worship-based (17%)

We classified some social service agencies as transit if providing transportation was the primary purpose of the organization. The “general social service” category could perhaps be broken down further, although aside from housing services, no obvious divisions presented themselves.

A significant finding from this pre-survey was that over 65% of the respondents are involved in transportation either as providers or arrangers. Excluding churches, which primarily either arrange transportation or are not involved, about 45% of the remainder actually provide transportation. Given our initial list, of which around 7,000 were not churches, this implies that there are about 4,500 organizations in Minnesota that are involved in transportation for their clients, and more than 3,000 of these actually provide transportation.

Breaking the results down by organization type shows that these general findings hold across the board (Table 1). Over 50% of churches, 60% of social service agencies, and 70% of agencies providing housing services are involved in providing or arranging transportation for their clients. This is especially remarkable in light of the fact that there was no pre-screening; that is, we did not restrict the mailing to large organizations or to those that seemed likely to have transportation involvement. This provides striking confirmation of the widely-held belief that there is a large transportation market, both of providers and users, that is largely outside the “formal” government-regulated system.

**Table 1: Transportation Involvement by Organization Type**

	School	Transit	Social	Housing	Church
Provide	47%	70%	12%	20%	11%
Arrange	24%	6%	26%	25%	36%
Both	28%	24%	22%	28%	4%
Not involved	0%	0%	40%	27%	49%

Considering the fraction of respondents that fall into each organization type, the implication of Table 1 is that 75% of the organizations that provide transportation (the sum of “provide” and “both”) are not schools or agencies that specialize in providing transit, that is, the organizations that are typically thought of as transportation providers and formally included in policy discussions.

We were concerned that our response rate was relatively low and that perhaps organizations with transportation concerns might have been more likely to respond to the pre-survey, thus skewing the above results. To increase our confidence in these findings, we followed up with a smaller mailing to a new group of 200 recipients, and focused on attaining a much higher response rate. In this effort we got a 50% response rate but with identical results. In particular, the first 30% to respond were no different from the next 20%. This led us to conclude that willingness-to-respond was probably not a significant source of bias for these results.

After analysis of the pre-survey, we sent the full survey to those that identified themselves as a provider, arranger, or both; we excluded those that were not involved in transportation as the full survey did not ask any additional questions of this type. Providers and arrangers from the pre-survey gave a full survey mailing size of about 950, and we received about 450 responses.

The full survey was divided into two main parts, one for transportation providers and the other for organizations that arrange transportation from others. After a few initial descriptive questions, respondents characterized their organizations as providers and/or arrangers and were directed to the appropriate part of the survey. Those who were both filled in both parts.

## FULL SURVEY RESULTS: PROVIDERS

This group includes all organizations that answered yes to the descriptor “We provide transportation...” Some of these also purchase or arrange transportation from other agencies, but the answers given by those organizations did not differ meaningfully from those who were providers only.

There were 262 organizations in this category, over 170 were either general social service agencies or housing providers. The response rate for any given question was usually considerably less than the full number of survey respondents. In the tables below, the results are restricted to those respondents that actually answered that particular question.

The provider questions were focused on understanding issues of vehicle resources and use, and attitudes to coordination; they fell into three broad categories.

- Vehicles and their use
- Client characteristics
- Resources and Coordination

## Vehicles and Usage

This category included six types of questions. Of these, questions about the busiest times (of the day, the week, and the year) did not provide any particularly interesting insights. A question about the average trip length was also disappointing, in that there was some ambiguity in how the question was asked, and some confusion on the part of the respondents about how to answer. The answers tended toward trip lengths that seemed far longer than was realistically possible, leading us to believe that respondents were reporting upper bounds, or perhaps the entire length of fixed-route runs.

A question about service-area restrictions was exploring the frequent provider complaint that legal or administrative restrictions in the areas to which they can provide service prevent them from serving certain customers, or create a need for time-consuming coordination to transfer the passenger to another provider. A substantial majority of all provider types did in fact indicate that their service area is restricted. Future surveys could probe this theme by asking if the restrictions are legally- or self-imposed, or merely guidelines; or about the extent to which the restrictions actually interfere with operations.

The remainder of the questions yielded results which are examined in more detail in the ensuing subsections.

**Vehicle Inventory.** To better visualize the distribution of vehicle inventories, we grouped the reported number of vehicles into five categories. Table 2 shows the number of organizations of each type that fell into the various categories of vehicle inventory.

**Table 2: Total Number of Vehicles**

	1	2 to 5	6 to 10	11 to 20	> 20	Unknown
Church	5	3	4	1		2
Housing	29	22	6	2	4	17
School		4	1	11	4	1
Social	16	31	13	13	13	11
Transit	5	12	3	9	6	3

(Entries show number of organizations in each category)

One interesting point here is that the majority of providers own five vehicles or fewer; between them they have a substantial inventory. Another observation is that a considerable number of social service agencies own a large number of vehicles. Some of this could be agencies that own vehicles that are primarily used for other purposes, or agencies that have a social service mission but a strong transportation speciality.

**Vehicle Occupancy.** We asked agencies about the average number of passengers that they transport each week. Again, we grouped the answers into categories to better visualize the distribution of answers (Table 3).

**Table 3: Total Passengers per Week**

	<20	21 to 100	101 to 1000	>1000	Unknown
Church	10	2	1		2
Housing	42	20	9		9
School	1	1	7	9	3
Social	24	31	26	7	9
Transit	4	6	15	10	3

(Entries show number of organizations in each category)

Perhaps the most noticeable point in this table is the large number of organizations providing housing services that own vehicles but provide relatively little passenger transport. The average auto owned by a family carries more than 20 “passengers” per week.

We used this information combined with the number of vehicles by agency to calculate the average number of passengers per week by vehicle (Table 4). Again, we grouped the results into categories so as to maintain information about the distribution of outcomes.

**Table 4: Passengers per Week per Vehicle**

	<3	3 to 10	10 to 50	50 to 100	>100	Unknown
Church	3	5	4			3
Housing	12	24	16	1	2	25
School	1		7	4	6	3
Social	11	19	31	14	3	19
Transit	3	6	8	3	13	5

(Entries show number of organizations in each category)

Vehicles carrying fewer than three passengers per week we have to assume belong to organizations that primarily use them for other purposes. Still, very few organizations, especially outside of the school and transit categories, carry more than 50 passengers per week per vehicle, which is roughly one per hour assuming a five-day week. And given that most organizations carry at least some group trips it appears that most vehicles do in fact sit idle much of the time. This doesn’t mean that these vehicles could be made available for other purposes, but it does at least indicate the theoretical possibility.

**Scheduled Hours and Actual Use.** One of our key questions asked organizations about the hours that their vehicles were scheduled to be available for use, either running a pre-set route or available for spontaneous requests. We categorized the answers based on whether they represented full or limited hours on weekdays, evenings, and weekends (Table 5).

**Table 5: Operating Schedules**

	Limited weekday	Full weekday	Limited evening	Full evening	Limited weekend	Full weekend
Church	45%	18%	27%	0%	82%	0%
Housing	33%	67%	11%	26%	21%	38%
School	68%	32%	5%	0%	5%	5%
Social	32%	67%	14%	18%	20%	24%
Transit	15%	85%	12%	15%	18%	21%

In general, relatively few organizations offer evening or weekend service, especially in the key categories of housing, social service, and transit. Many vehicles seemingly do sit entirely unused for substantial periods of time. Presumably some of this has to do with lack of demand, yet anecdotally at least, there is demand (elsewhere) for evening and weekend service that cannot find supply to accommodate it.

Another critical question in this vein asked agencies how many hours their vehicles were actually in use in a given day. That is, a nursing home vehicle might be available for its residents to use 14 hours a day, but might only be used for one or two hours. This sort of situation is common in anecdotes but we knew nothing about its prevalence in reality.

The notion of a vehicle being underutilized in this context is a function of the number of hours it is scheduled to be in service. Thus we considered two categories of organizations: those that reported full weekday but no evening service, and those that reported full weekday and at least some evening service (Table 6).

**Table 6: Hours of Vehicle Use Compared to Scheduled Hours**

	Full daytime service only		Full daytime and any evening service	
	Average hours of use	Number of orgs	Average hours of use	Number of orgs
Housing	3.6	19	4.6	32
School	4.2	5	5.3	6
Social	5.4	27	6.2	43
Transit	7.2	13	8.2	21

Even organizations providing housing, who might be expected to have the most limited demand for transportation and hence the lowest level of vehicle use, still report that their vehicles are in use nearly half the available hours on weekdays. Other types of organizations use their vehicles even more intensively. This indicates that focusing on periods when vehicles are not used at all, such as evenings and weekends, might be a more promising tactic for increasing transportation supply, if demand exists during these times.

There may be a significant number of exceptions to the general rule that vehicles are well used. About a quarter of the agencies offering full weekday service reported that they actually used their vehicles less than three hours per day on average.

### Client Characteristics

We asked about the characteristics and special needs of the organizations' passengers. Generally this did not provide great insight. We provided a list of possibilities (elderly, physical disability, poverty, etc.) and simply provided a yes/no choice for each one. Not surprisingly, most organizations checked several choices. A question about frequency or the importance of the characteristic to the transportation mission would have been more valuable.

Trip destinations do not appear to follow a clear hierarchy. Medical destinations are ranked of greater importance by all organization types, perhaps because there is often specific money available to reimburse these trips. However, personal activities also seem to be well served.

To better understand how vehicles were being used, we asked providers to indicate the percentage of their vehicle trips that served large groups (five or more people) and individuals or small groups (four or fewer people). There appear to be a surprising number of group trips for all organization types. Because we expected this number to be small, we did not ask follow-on questions about the nature and frequency of the group trips. This would be an interesting area for further exploration.

### Resources and Collaboration

This category explored questions about resource usage and interaction with other organizations.

**Resource Adequacy.** We asked providers an attitudinal question about the adequacy of their available resources to meet demand (Table 7). The possibility of using excess capacity to meet other demands hinges in part on whether the agency perceives itself to have excess capacity.

**Table 7: Resource Adequacy**

	Not enough vehicles	Just enough vehicles	More than enough vehicles	Enough vehicles, not enough money
Church	8%	58%	25%	8%
Housing	25%	39%	22%	14%
School	19%	67%	5%	10%
Social	27%	45%	9%	21%
Transit	18%	41%	12%	32%

Most organizations believe that they have just enough vehicles. Only in the church and housing categories do a significant fraction believe that they have more than enough. The more transportation-focused types are far more likely to believe that their resources are inadequate, especially with regard to funding.

We analyzed this question further by breaking the results down the number of agency vehicles rather than by the organization type. The idea here was that smaller agencies might have less flexibility or sophistication in terms of managing their vehicle fleet, and thus might be more likely to have excess capacity. However, the results did not support this hypothesis. Assessing oneself as having “not enough vehicles” was strongly associated with agencies with more than 20 vehicles; perhaps a counterintuitive result. Similarly, agencies with more vehicles were much less likely to believe themselves to have “more than enough.”

We also analyzed the results by passengers per vehicle, our measure of operational efficiency. Again, the hypothesis was that those agencies with light passenger loads might be more likely to perceive themselves as having excess capacity. Here finally the expected trend was observed: the probability that an agency would consider itself to have “more than enough” vehicles was strongly and inversely related to the passenger load per vehicle.

We also asked about the sources of the funding used for transportation. A relatively large fraction of agencies are reimbursed for specific rides, most likely from medical sources. A substantial number, especially of housing and transit, receive vehicles and materials, while cash grants seem surprisingly uncommon. We have heard providers complain that funders are eager to provide vehicles but reluctant to provide money to operate them, and our findings support that to some degree.

**Existing Collaboration.** We asked agencies about whether they provide rides to other customers outside of their primary clients. This question didn’t necessarily make sense in the context of transit agencies, where anyone that gets a ride is, by definition, a client. However, for the other organization types, where transportation is secondary to some other organizational purpose, the notion of an outside customer has more meaning.

In every case except transit, more than two thirds of providers only serve their own specific clientele. For those that do serve others, the majority cited a specific organization or situation for which they provide trips. Although we did not ask directly, in most cases these appeared to be informal, voluntary relationships. A more in-depth study of how these relationships arose and are maintained might provide some insight.

A follow-up question asked about the frequency of providing transportation to outside customers. Relatively few of the organizations that claimed to provide transportation to others answered this follow-on question, and generally the outside provision seemed to be very infrequent.

The converse question asked providers about the frequency with which they refer their own clients to other transportation providers. This appears to be quite common among housing and social service organizations. In the majority of cases outside referrals were to specialty transportation providers, either fixed route transit, or more commonly, wheelchair-equipped providers. Specialized medical transport services were also frequently cited. This indicates that many providers may only be equipped to serve a limited range of trips and degree of disability.

**Collaboration Interest and Barriers.** We asked providers their attitudes about “improving your transportation services through collaboration with other organizations”

(Table 8). A follow-up question asked if they were aware of restrictions that would hinder or prevent such collaboration.

**Table 8: Interest in Collaboration**

	Not interested	Somewhat interested	Very interested	Aware of restrictions	Count
Church	50%	33%	17%	42%	12
Housing	43%	38%	12%	33%	69
School	57%	24%	19%	67%	21
Social	22%	41%	36%	47%	85
Transit	15%	35%	41%	24%	34

There was no particular pattern in terms of awareness of restrictions being related to interest in collaboration. That is, people seemed to separate their theoretical interest in collaboration from their practical feelings about its implementation; those who were very interested seemed as aware of restrictions as those that weren't.

The cited restrictions were interesting. In a number of cases they reflected organization-specific restrictions based on special client needs or confidentiality issues. However, many of the cited barriers had to do with real or perceived administrative or procedural restrictions, which are in principle open to reform. These could be grouped into three main categories: constraints imposed by insurance, legal restrictions imposed on certain types of providers (such as schools and transit agencies), and the desire to avoid being subjected to a new regulatory system.

## FULL SURVEY: ARRANGERS

This group includes all organizations that answered yes to the descriptor “We purchase or arrange transportation...” Some of these also provide transportation themselves, but the answers given by those organizations did not differ meaningfully from those who did not provide transportation.

There were 264 organizations in this category, over 200 were either general social service agencies or housing providers. As in the provider section, the response rate for any given question was usually considerably less than the full number of survey respondents. In the tables below, the results are restricted to those respondents that actually answered that particular question.

Transportation arrangers were defined as agencies with clients for whom they play some role in arranging or paying for transportation. Specific examples that we gave included purchasing transportation from another organization, reimbursing clients for costs such as bus fare or mileage, renting vehicles for events, and using employees or volunteers who drive own vehicles. Generally the questions in this section paralleled similar themes in the provider section, with the obvious exception of questions about vehicles, and the responses overall were not greatly different from those given by providers. Thus the results in this section are summarized much more briefly.

## **Arranged transportation**

Organizations that purchase or arrange transportation for their clients use a variety of transportation sources; none is particularly widespread, nor is any rare. This could reflect differing transportation needs across organizations, budget constraints, or opportunities.

We asked about the busiest times for arranging rides, in the hope of identifying complementarities between when provider vehicles were underused and when arrangers need rides. However, the busiest times tend to be when services are provided. But this may reflect possibilities rather than preferences, since we asked about what the busiest times are, as opposed to what they would be if service were always available.

We asked about the number of passengers per week for whom rides are arranged, and the cost per week of purchased rides. This did not give much useful information since we did not distinguish among trips involving money outlay as opposed to those for which the agency merely helps with arranging. Given this, the average costs that we calculated seemed relatively high. This could be because the rides that agencies arrange (as opposed to letting the client handle it themselves) might focus on the more difficult and expensive cases, such as specialty medical transport or long-distance travel.

We also asked arrangers if there were any geographic restrictions on where they would arrange trips, or a limit on what they would pay. This seems to be much less of an issue for arrangers than for providers. Organizations arranging transportation, who are not as bound by legally- or administratively-defined service areas, are more open about the types of trips that they will consider funding.

## **Client Characteristics**

From a pair of questions asking about characteristics of the organization's clients in general and the characteristics of those for whom it arranges transportation, it appears that efforts to arrange or purchase transportation might focus on those clients with physical disabilities, while those with other barriers are less likely to be served in this way. This could reflect a couple of possible explanations. One is that many arrangers are also providers, and they may seek outside providers for those trips that they are not equipped to serve themselves, for example, those requiring wheelchair or other disability accommodation. Conversely, the lower likelihood of arranging transportation for other groups may in some cases reflect those groups being better able to arrange their own transportation (for example, youth and low income).

We asked arrangers about the typical number of passengers on the trips that they purchase or arrange. We were somewhat surprised to see that arranged trips tended to serve smaller groups than did provider trips, for all organization types. We had expected that organizations might be more likely to provide individual trips themselves and contract out for larger group trips. A couple of possible explanations come to mind. One is that organizations with frequent group trips may come to feel that it is worth buying their own vehicle to serve them, and thus are not in the "arranger" category at all. Another possibility is that large vehicles are difficult and costly to arrange and so these types of trips just aren't served as often. In other words, we cannot know if the discrepancy is a benign difference in needs or a real problem with the system.

## Resources and Collaboration

We asked arrangers about the adequacy of their transportation resources. There was an even split overall between adequate and inadequate. The nature of the inadequacy took different forms across organization types.

As with providers, we asked arrangers about their attitudes toward additional collaboration, and their knowledge of barriers that would make this difficult (Table 9).

**Table 9: Attitudes to Collaboration, Barriers**

	Not interested	Somewhat interested	Very interested	Aware of restriction	Count
Church	29%	63%	8%	0%	24
Housing	18%	53%	30%	22%	80
School	40%	47%	13%	25%	15
Social	12%	39%	49%	34%	106
Transit	36%	18%	45%	58%	11

In the three categories of interest, arrangers tend more toward the upper two, while providers tended toward the lower two. This may reflect differing assumptions about what coordination would involve; arrangers may perceive themselves as the beneficiaries, while providers might expect to be the contributors. We did not specify what “collaboration” would involve; future surveys should explore responses to specific types of collaboration proposals.

## LESSONS

Our objective in this survey was not really to develop definitive answers to specific questions about the specialized transit community. Because we did not know much about the types of organizations that we were likely to encounter, the types of models that they would operate under, or the relative frequencies of the various activities and attitudes in the field, it seemed premature to try to focus on specific knowledge until we had a better sense of the “lay of the land.”

Thus our primary objective was to develop this general description of the field. With a better knowledge of the range of activities being pursued, a sense of what issues and activities are common enough to justify further study, and a clearer idea of the complexities inherent in how different types of organizations approach the transportation problem, we could approach more detailed surveys with much more confidence. Our secondary objective, deriving from this, was to learn about how to conduct future surveys of this type.

Our primary lesson was that future surveys should be more specialized to different types of organizations. School districts, for example, operate under a fundamentally different model than do nursing homes, and so asking them all the same questions is not effective at exploring the subtleties of the different models. While this seems somewhat obvious in retrospect, it was not necessarily so going in. For one thing, we didn’t know what the appropriate categories would be; this was something that we wanted to let the data tell us rather than imposing on it. Second, asking everyone the

same questions and then observing where differences or ambiguities arise in the answers actually has helped us to understand more about how the operational models differ from each other. If we had assumed these differences from the beginning we could not have known if they were real or simply a reflection of our own preconceptions.

One example of this approach would be surveys specialized to the type of organization, for example, school, social service, etc. This could also address whether the organization has a major focus on transportation. Many of the questions in this survey were based on an implicit idea of a social service agency with clients to whom it would sometimes provide transportation. Because of this, some of the questions may not have been appropriate, or appropriately phrased, for other types of transportation providers such as transit agencies and school districts, or even for social service agencies with a transportation specialty. For these organizations, their clients *are* their transportation customers; their relationship to transportation is fundamentally different, and the survey questions should reflect this.

It would also be useful to have separate surveys for providers and arrangers of transportation, with clearer criteria for distinguishing between the two. There is really a continuum of both of these activities, as a function of the frequency with which they are done; there needs to be an explicit threshold for membership in each category. Having separate surveys would make it feasible to go into more depth in each one. More importantly, it would add clarity for those organizations that do both, in terms of keeping the different activities separate when they answer questions. Because we asked many of the same questions in both parts of our survey, we were not always confident that respondents were not mixing the two activities together in their answers.

As a final general lesson, we asked a fair number of yes/no questions. In future surveys, we would avoid these. One point is simply that there are other relevant possibilities, such as “don’t know” or “don’t want to say.” Another, more significant issue, is again that there is a continuum of behaviors and attitudes. It would be more useful to have a sense of frequency or perceived importance, rather than simply whether something is done.

### **Pre-survey lessons**

In our effort, the primary purpose of the pre-survey was to simply to reduce our sample size. We had found ourselves with a very large database of over 11,000 organizations. We expected that a large fraction of these would have no involvement with transportation, and we did not want to waste the expense of printing and mailing a full 20-page survey if most of the recipients would have no reason to respond, or would provide no information if they did. So we used the one-page pre-survey as a way of filtering out organizations with no transportation interests.

However, in doing this we encountered a couple of important accidental benefits that would justify the use of a similar pre-survey in future efforts as well. First, we got a very large sample from which to draw conclusions about the number and types of organizations involved in transportation, and the nature of their involvement. This was the one key question of our study, and the short survey made it possible to maximize the response rate to this specific topic.

We also observed that the pre-survey could be an effective way to filter responses, in order to more effectively target the full survey. In our case we only used it to filter out those organizations who were not involved in transportation. However, in the future we would use it to focus specifically on categorizing possible respondents in order to send more specialized surveys, based on organization type, geographic location, or other criteria of interest. Given our conclusion that the full survey should be specialized to different operational models, the pre-survey is almost a necessary component of this.

### **Provider survey lessons**

In addition to creating provider surveys that are specialized to different types of organizations, so that for example schools will be asked different questions than nursing homes, we also learned a number of other lessons about how to better define the issues of interest in order to reduce ambiguity and eliminate irrelevant situations.

The first point would be to create much clearer criteria for defining what a provider is. We simply asked whether the organization provides transportation, but did not place any formal constraints on how to interpret this. In part this was again because we did not want to impose our own preconceptions on the definition of the concept, but wanted to let the data inform us on how to best define it. From this we learned a couple of important lessons.

First, vehicles that are owned by staff and perhaps occasionally used to give rides are an important phenomenon, but one that needs to be considered separately from true agency-controlled vehicles. We did not specifically exclude these situations, or include them as a separate category, so in the end we did not have a sense of the prevalence of this activity.

Second, some organizations have vehicles that are owned by the organization, and sometimes used to transport clients, but which have some other primary purpose. For example, a church might have a car for the pastor to use for visits, or some social service agencies might have vehicles that they use to bring meals or other services to their clients at home. As with staff-owned vehicles, these situations need to be explored, but kept separate from vehicles that are actually intended primarily for transporting passengers. In both cases, the major problem is that it becomes very hard to determine how efficiently vehicles are being used for passenger transport when multi-use vehicles are lumped in to the total count.

Another major category of information related to understanding the efficiency of resource use is the nature of the transportation that is provided, and the clients that are served. One such distinction is between pre-set routes versus on-demand service; another is the provision of individual versus group trips. Both of these could significantly affect the cost per trip and the average trip length. There are also organizations that provide specialty services, such as long-distance rides to particular destinations, and distinguishing these from ordinary local-area providers is important to maintaining the integrity of the data.

Another aspect of resource efficiency is the type of client. In our survey we just listed a number of characteristics and asked the respondent to check all that applied. This was not that helpful in that most organizations checked most of the boxes. We really

wanted to know something more about the frequency with which particular characteristics are encountered, and providing frequency categories rather than a simple yes/no choice would be one way to get at this. But beyond frequency, we also want to know if some passenger characteristics are primary, while others are merely incidental. For example, schools primarily serve youth; some of them may be disabled or low income, but these are secondary factors that they must accommodate, not their primary mission. A focus on a particular type of client, or a need to accommodate certain characteristics, will affect the attainable efficiency level.

A final important aspect of understanding transportation providers and resource usage is their relationships with other organizations and attitudes toward working with others. A fair number of providers did indicate that they provide transportation on behalf of other organizations at least occasionally, and understanding the circumstances of these relationships would be valuable in identifying opportunities for additional collaboration. Conversely, it would also be useful to know more about the reasons and constraints that motivate the large number of providers that do not ever provide rides outside their own organization.

Many organizations indicated an interest in more collaboration with others, but indicated the presence of barriers that make this difficult or impossible. Our write-in option on this question provided a good list of possible barriers, and further exploration of the prevalence of these would be very helpful in better understanding this often-cited problem. Another interesting possibility would be to probe further into the details of what kind of collaboration organizations are interested in, or what constraints they might want to impose upon any such collaboration.

Finally, as a general point of improvement, we asked a lot of questions about what providers do, but none about what they would like to be able to do but can't, that is, how the system is not working and how coordination might make it better.

### **Arranger survey lessons**

We were somewhat disappointed with the results of the arranger part of the survey. Our thinking going in was that we would ask questions that would basically parallel the provider questions, and then use differences in the answers to develop an understanding of why some organizations arrange transportation rather than providing it. We also imagined that differences in the answers might make it possible to identify opportunities where provider resources and arranger needs might be brought together in a productive way.

While this approach did point to a few intriguing differences between providers and arrangers, in general the two groups seemed fairly similar. Whatever motivates some organizations to provide their own transportation and others to arrange it was not apparent in the questions that we asked. Neither were possible complementarities identified. By focusing our questions on what arrangers do, rather than on what they would like to do but can't, we merely developed a description of the status quo, rather than an agenda of unmet needs.

Part of the problem was the sheer variety of activities that constituted "arranging" transportation by our survey definition. As noted for providers, there would be

considerable value added by explicitly defining the different activities and treating them as separate issues in terms of the survey questions. There is a big difference in resource usage between an agency that sometimes helps a client figure out how to get somewhere on the bus, versus one that regularly pays for taxi rides or medical transportation.

Another important distinction is between those organizations whose involvement in transportation is occasional and as-needed, versus those that have an ongoing and formal involvement. Both situations are important and worthy of study, but they represent fundamentally different business models that require different lines of questioning to understand.

Yet another point is that some organizations only arrange transportation, while others both provide and arrange. Our survey did not really help us to understand the differences between these types, because we asked only descriptive questions about operations rather than asking organizations directly about why they fall in one category or the other. For those that do both, the important point is to understand why some rides are provided internally while others are arranged from outside. Our survey did provide some possible insight here, but more explicit examination would be valuable. For those that only arrange transportation, understanding why they do not own their own vehicle and what constraints this creates are the important details.

In general, the main lesson here is the same as for providers. That is, to identify the different possible operational models and develop specific surveys or sets of questions to examine each one separately. The second key lesson is complementary to that for providers. That is, while the focus for providers is on identifying underused resources, the focus for arrangers should be on identifying unmet needs; these are a possible application of underused resources. While it is important to understand what arrangers do and why, it is also important to know if this is due to preference or constraint.

## CONCLUSION

The primary objective of the survey was to develop a basic understanding of the types of organizations that provide or use transportation services and their inventories, operations, and attitudes. A second, and equally important objective given the exploratory nature of the project, was to also use the results to develop insights into how to improve future surveys of this type.

We arrived at a few important findings about the current state of the specialized transportation system. Primary among these was that involvement in providing or arranging transportation for disadvantaged clients is indeed very widespread. Among the very large sample in our pre-survey, which included a wide range of different types of organizations, about 65% were involved in their clients' transportation, and excluding churches, around 45% actually provide transportation themselves. Given our sample size, this implies that there are over 3,000 specialized transportation providers in the state of Minnesota. And 75% of these are not schools or government transit agencies that are formally regulated by the state; but are organizations such as churches, nursing homes, and social service agencies.

Another important finding regarded the types of organizations that are involved in transportation. We did not impose any structure on this, allowing organizations to describe their missions directly. The descriptions, however, did fall into five broad types, which could serve as the basis for more specialized surveys in the future. Churches and other worship-based organizations are generally focused on their own parishioners, although some go beyond this. Agencies that provide housing services again generally focus on their own clients. These are of special interest because they were far more common than we expected, and seemed in general to use their vehicles less intensively than other organization types. Schools also mostly carry their own students, and seem especially constrained legally on how they are allowed to operate. General social service agencies were the largest category, and provided the broadest range of operating models. Finally, transit agencies, while they are the main focus of discussions of improving community transit, are a small minority of the transit providers in operation.

With regard to questions of the efficiency or lack thereof in vehicle usage, our findings were mixed. Passenger loads per vehicle varied widely; part of this may have been due to a lack of precision on our part in defining which vehicles we wanted to be counted. In looking at vehicle schedules, we found that while weekdays are well served, that evenings and weekends are much less so, although it was not clear how much this simply reflected realities about demand. We also learned that in many cases vehicles are only used about half or less of the hours that they are scheduled to be available, indicating that there may be significant blocks of time when they could in theory be used for other purposes.

Finally, in examining how organizations interact with each other and their interest in additional collaboration to improve their transportation services, our results were also mixed. Most organizations serve only their own clients, or provide transportation to other organizations very rarely. Many organizations were also uninterested in collaboration in principle as well. While a reasonable number of organizations were interested in more collaboration, many of them cited barriers that make such interaction difficult. Significant among these, from the standpoint that policy could address them, were insurance restrictions, legal constraints on how particular organizations (e.g. schools or transit agencies) can operate their transportation services, and the desire to avoid becoming subject to additional regulatory structures.

Our second main class of conclusions was an improved understanding of how to do better surveys of this type in the future. Chief among these was that future surveys should be more specialized to different types of organizations. Important criteria for this type of specialization are the organization type (school, social service, etc.), the degree of involvement in transportation (occasional, as needed, or formal and ongoing), and whether the organization provides or arranges transportation. We would also provide more explicit criteria for distinguishing between providers and arrangers.

Another key finding was the value of the pre-survey in filtering respondents, in order to more effectively target these specialized full surveys. The pre-survey also proved to be an effective tool for reaching a very large sample on one important question. In our survey this issue was developing an estimate of the total number of providers and arrangers in the state. In future surveys we might focus on variations of this theme, but

with more tightly defined categories, or measurement of the frequency of specific activities or problems.

Finally, while this survey was very focused on what organizations actually do with regard to transportation, future surveys should also explore in more depth what they would like to do, and why they are not able to do it. While it is important to understand what organizations do, and why, it is also important to know if this is due to preference or constraint. This is where the possibilities for policy improvements lie.

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