

# **Communiversality**

**PRISM Express Program Evaluation**

Prepared in partnership with  
People Responding in Social Ministry

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# PRISM Express Program Evaluation



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1-09-09

**The Problem:**

Transportation is a necessity that many people take for granted. We live in a mobile society that requires the ability to travel long distances within cities to meet our daily needs. However, there is a portion of the population who are unable to travel because they lack private transportation, and public transportation does not adequately cover their area or they are physically unable to use transportation due to disabilities and health reasons (Alsnih, 910). The elderly who are no longer able to drive or people with low incomes that cannot afford personal transportation have a difficult time getting to jobs, doctor and health appointments and GED and adult education classes. This lack of transportation can keep the poor in a cycle of poverty that they are unable to break.

Access to transportation and mobility is very important to the quality of life of seniors and the elderly (Alsnih). The suburbs have limited public transportation that make travel inconvenient or non existent. This program aims to create a system that provides a means of transportation for those who don't have it.

Driving can become a dangerous activity for our elders. They have relied on cars all their lives and now they have reached in age where driving is more of a danger than a necessity. "According to the U.S. Department of Transportation, the number of people age 70 and older killed between 1988 and 1998 increased from 3,716 to 4,934, or 33%" (Coughlin, 2000).

There is an increasing body of scientific studies that measure the life quality of seniors related to their independence. "The results for the individual-level resource variables show that persons with greater economic resources, more children, and better functional status are better able to maintain independence and are less likely to die or live in a nursing home" (Burr, Jeffrey A. & Mutchler, Jan E., 2007). PRISM Express provides

a necessary service to elders in the northwest metro by increasing their independence to get to medical and personal appointments without having to rely on family, friends and neighbors.

**Overview:**

PRISM, People Responding in Social Ministry, is a community-funded social service agency that provides families in need with food, financial assistance, transportation and other services in times of financial hardship. PRISM Express provides area residents with convenient, curb-to-curb transportation. It has a dial-a-ride service and also contracts with Families Moving Forward, a Twin Cities area homeless shelter, and with the Winnetka Learning Center to provide low-cost bus transportation for the families they serve. PRISM Express serves individuals whose residence and destination are within the service area of: Golden Valley, Brooklyn Center, Crystal, Robbinsdale, New Hope, and Plymouth East of 494. PRISM Express suggests a donation of \$5.00 per round trip, but no one is denied a ride for an inability to pay.

PRISM Express busses run from 8:30am to 3:00pm Monday through Friday, and on weekends to area churches who have contracted with PRISM for this service. In 2006 there were a total of 40,392 rides. These broke down as follows: 729 spouses' visits to nursing homes, 8,454 medical appointments, 3,355 quality of life appointments, 18,701 social service appointments, and 9,153 volunteering/work/education trips (PRISM Transit Funding 2007 Management Plan).

**Reasons:**

This project is the first major step in making coordinated transportation a reality in the metro area. "Small, community based transportation providers either need to coordinate or consolidate in order to offer efficient service in the western suburbs" (PRISM Transit Funding 2007 Management Plan). This project brings multiple funders

and two model agencies together to demonstrate the transportation coordination potential. The goal of this project is to create an efficient coordination model that can be replicated in different regions throughout the state. *“The current transportation system, and the institutions that manage and operate it, are unprepared to meet the mobility demands of the nearly one in five Americans who will be an older adult over the next three decades. The next 10 years present an opportunity to develop transportation policy for an aging society--one that will engage government, business, and individuals to set a new agenda, restructure institutions, and introduce technological innovation”* (Coughlin, 204). The results from this research can be used to make changes in program design and management for increased efficiency and effectiveness. It can also be used to bring together several transit companies in the metro area to efficiently coordinate services and cover a broader range of distances and a larger number of clients.

### **Independent Variables**

The services offered by PRISM that will be measured are through the PRISM Express Program. They offer transportation for elderly and low income people in Golden Valley, Brooklyn Center, Crystal, Robbinsdale, New Hope and Plymouth east of 494. Rides are scheduled by calling at least a day ahead of time. The driver will come to the client’s house with a bus and take them to their destination. When they need to be picked up, they call the driver’s cell phone and he will pick the client up and take them home. PRISM Express runs every weekday of the year from 8:00am to 3:30pm.

The independent variables include time, mileage and number of riders. The number of riders fluctuates per day depending on the schedule. The mileage that is driven also varies as well as how much time it takes for passengers to reach their destination. In the transportation industry these are called revenue miles. Revenue miles are the amount of miles driven per day with a rider present on the bus.

## **Dependent Variables**

The impacts that PRISM Express was designed to have are to provide transportation services for those who do not have access to transportation. Home bound elderly will be able to make medical appointments and other appointments that they wouldn't make otherwise. It will lead to a greater life satisfaction because it provides a means of transportation for the elderly who can be more independent and involved in the community.

The outcome objectives are a measure of the percent of revenue miles, and an increase of that measure. Currently, there is no system in place to accurately record the programs revenue miles. The hope is that a better understanding of the program's effectiveness will lead to improved performance and cost saving measures.

## **Research Question**

The research question is: How efficient is PRISM Express? PRISM Express is funded through many donors including the Metropolitan Council. These funders want to know how efficient the program is as a way to make funding decisions.

Efficiency is determined by measuring the program's revenue miles. A high percentage of revenue miles mean that the program has a high level of efficiency. If the percentage is low, then the program directors must look at ways to increase performance.

## **Research Design**

The research design is created to measure program performance. The standards are based upon mileage and time. The project measures how many miles and how much time PRISM Express buses travel with passengers, and how far they travel without passengers. The research measures how many miles are traveled and for how long and compares that with the number of passengers on and off the bus.

Revenue miles are collected for every trial and an average is found over a three month period. Revenue and non revenue time was collected and an average over time. This data will then be compared to the same collected data for a different transportation company. The results will be to show similarities and differences in program design and efficiency.

The weakness to this approach is that it may not be the most effective way to measure efficiency. There may be outside variables that cause these numbers to be skewed that are outside of the researcher's ability to control. Weather conditions or national holidays could skew the data from what would be considered an average day.

### **Measures**

The data to be measured are time, and miles. The researcher will mark starting mileage and time of day. Then the researcher will mark how many miles and how much time the bus travels with passengers. Then when the passenger leaves and the bus goes to another location the researcher will record how many miles and time elapsed going to the next location. Limitations from this method are that there can be internal exceptions like a driver getting lost or an outlier that does not reflect normal usage.

### **Data Collection**

The data was collected by the researcher, Matt Toburen, for three months. The researcher rode along on a bus every Tuesday through the entire day's route recording mileage and time. The researcher recorded the data in a spreadsheet to use for further analysis. The mileage and time was recorded before the bus leaves the garage. This was recorded in the UNLOAD column. At the point the bus stops to pick up a passenger the mileage and time was recorded in the Load column. At the point the bus dropped off all

passengers than that time was recorded in the unload column. This process will be repeated throughout the entire route.

**Data Analysis**

**Trial A**

<b>Load</b>		<b>UnLoad</b>		<i>SUM Total Load</i>		<i>SUM Total Unload</i>	
Mile	Time	Mile	Time	Mile	Time	Mile	Time
		790	7:20			8	15
798	7:35	820	8:52	22	77	5	23
825	9:15	828	9:31	3	16	1	5
829	9:36	839	10:01	10	25	6	21
845	10:22	857	11:00	12	38	1	5
858	11:05	869	11:44	11	39	6	25
875	12:09	876	12:17	1	8	5	28
881	12:45	888	1:03	7	18	26	57
914	2:00	921	2:35	7	35	6	18
927	2:53	959	3:55	32	62	5	10
		964	4:05				

Total Miles: 174

Total Load Miles:105  
60% revenue miles

Total Load		Total Unload	
Miles	Time	Miles	Time
105	318	69	207

Total Time:525

Total Load Time: 318  
61% revenue time

Step 1: The miles driven with riders and the miles driven without riders were added to reach the sum total of miles with and without riders. In trial A, above, the total miles driven were 174. The total revenue (load) miles were 105, and non revenue was 69 miles.

Step 2: The next step was to sum the total revenue minutes and non revenue minutes.

There were a total 525 minutes with 318 revenue minutes and 207 non revenue minutes.

Step 3: The percent of revenue and non revenue miles was found by dividing revenue miles over total (revenue/total), and non revenue over the total (non revenue/total). Trial A had 60% of all miles revenue miles and 40% non revenue.

Step 4: The percent of revenue and non revenue time was found by dividing over the total time. In trial A there was 61% revenue time and 39% non revenue time.

Step 5: The averages for every trial was taken and graphed.

Step 6. The next step was to find the average of every trial.

Step 7. Researcher traveled to Senior Transportation Services, a similar but different program to PRISM Express. The researcher rode along for a day and conducted all of the same measurements that were collected in steps 1-6.

Step 8. Current costs per mile, hour and ride were found by comparing total costs with the average miles, hours and rides per month.

## **Results**

8 trials were completed between the months of September – December 2007. The results are:

Total Average Revenue Miles: 56%

Total Average Revenue Time: 48%

2007 Total Operating Expenses:

Cost per Hour: \$38.56

Cost per Ride: \$15.65

Cost per Mile: \$2.46

## 2005 – 2007 Comparison:

## Cost per Hour:

2007: \$38.56

2006: \$24.52

2005: \$25.85

## Cost per Ride:

2007: \$15.65

2006: \$18.02

2005: \$14.97

## Cost per Mile:

2007: \$2.46

2006: \$2.59

2005: \$1.99

**Timeline**

1 <sup>st</sup> Month	2 <sup>nd</sup> Month	3rd Month	4 <sup>th</sup> Month
Meet with Researcher, Program Director and Executive director to discuss project plan.	Researcher and Program Director meet every two weeks to discuss project progress.	Researcher and Program Director meet every two weeks to discuss project progress.	Researcher analyzes final data and prepares final report.
Researcher and Program Director meet every two weeks to discuss project progress.	Researcher collects data every Tuesday by riding with a different driver each week.	Researcher collects data every Tuesday by riding with a different driver each week.	Researcher meets with Program Director and Executive Director to report results.
Researcher collects data every Tuesday by riding with a different driver each	Researcher enters data into spreadsheet and sends to Program Director.	Researcher enters data into spreadsheet and sends to Program Director.	

week.			
Researcher enters data into spreadsheet and sends to Program Director.			

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