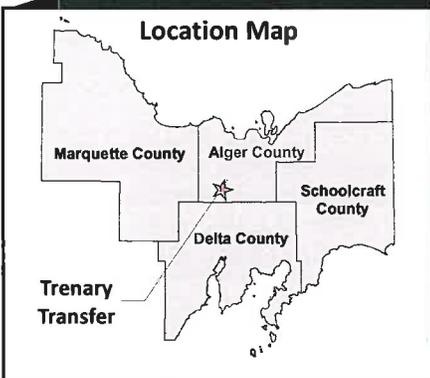
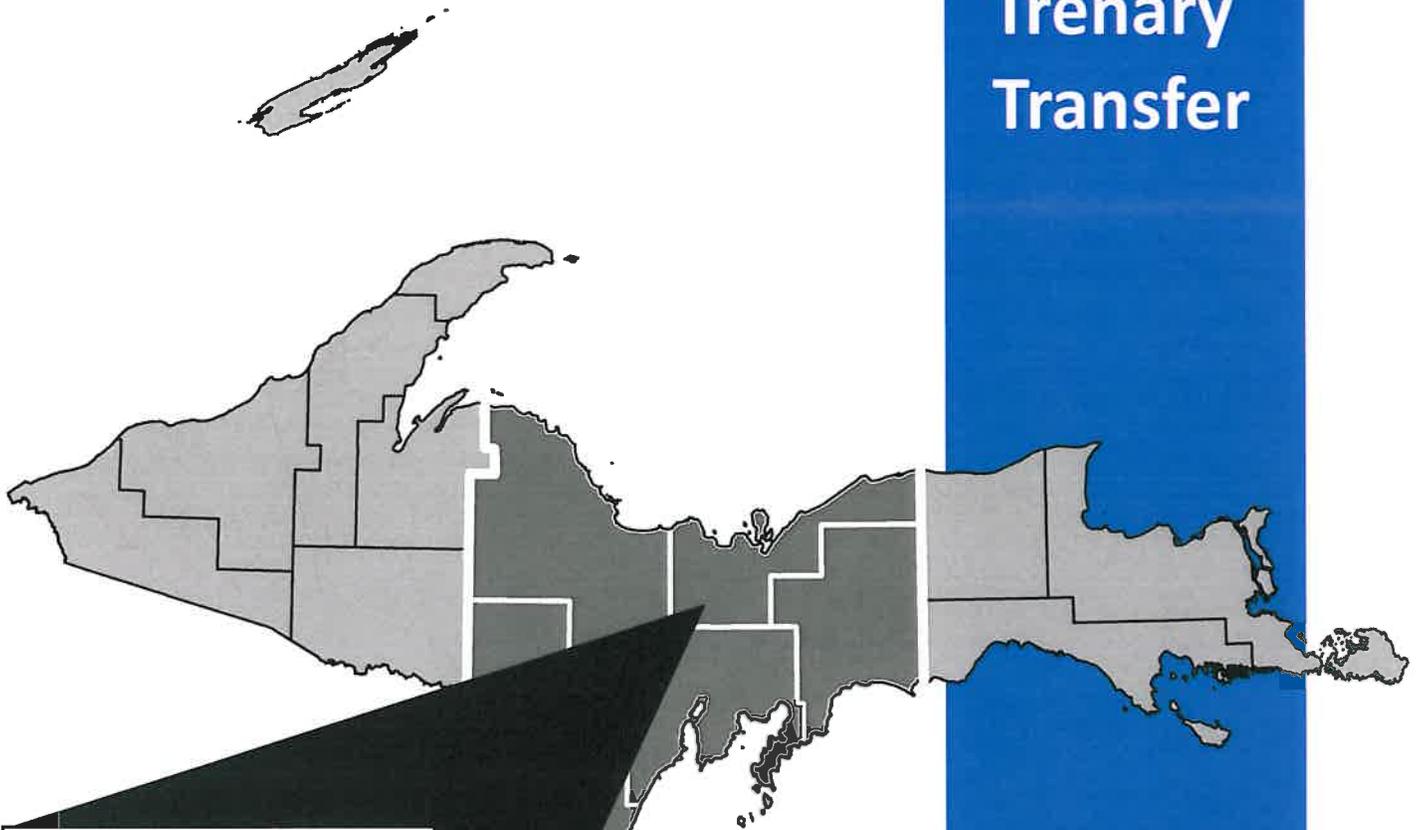


# Trenary Transfer



**Regional Transit Hub Study**

**September 2012**

Prepared By:



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## **Recommendations**

1. Do not conduct a pilot study of a transfer hub at Trenary at the present time.
2. The four transit agencies should formally collaborate to gather and analyze information relating to the most cost effective operation/best practices.
3. At such time as a pilot study is determined to be worthwhile, the study should also include a secondary pilot study at Rapid River.
4. At such time as the pilot project is deemed worthwhile, the project should be fully funded for a period of time in excess of two years in order for the program to be sustainable.

## **Executive Summary**

Conducting a pilot study of a Trenary Transfer Hub appears to be premature. The main benefit of the study has been to increase the collaboration between the four transit authorities relating to rural transit issues, possibly leading to a formal collaborative arrangement.

The study produced a significant amount of information relating to transportation needs as well as to the viability of a transit hub at Trenary. The key points relating to the Trenary Transit Hub location are:

1. It will require at least 36 passengers per day to be cost effective, with 54 passengers per day being preferable.
2. Marketing will be extremely important in achieving cost effectiveness.
3. It is apparently not cost effective for the four transit authorities to revise their schedules to correspond to shifts at the major employers and to achieve optimum efficiency.
4. A second transfer point would be needed at Rapid River because of patients going to Escanaba from Schoolcraft Memorial Hospital.
5. The cost of a direct run by a single transit authority may be more cost effective than transferring riders from bus to bus.

Based on the data collected, it seems that it is premature to conduct a pilot project with transfer points located at Trenary and Rapid River. The consensus is that, allowing for time to market the pilot study, and the additional costs of operations, the pilot project would need to be fully funded for a period of time in excess of two years in order for the program to be sustainable.

The recommendation resulting from this study is to formalize the collaboration between the four transit authorities and to consider the various operational issues one at a time. It may be advisable to employ some type of mobility management program or to have one agency take a lead position to coordinate and monitor the operation of each authority as it relates to the other authorities.

Escanaba to Munising	63 miles
Escanaba to Grand Marais	118 miles

**Typical travel distances to the Transfer Hubs:**

Marquette to Trenary	35 miles
Manistique to Trenary	59 miles
Manistique to Rapid River	39 miles
Escanaba to Trenary	34 miles
Escanaba to Rapid River	15 miles
Munising to Trenary	28 miles

A passenger traveling from Manistique to Marquette would go fifty-nine (59) miles on one bus, transfer and go the remaining thirty-five (35) miles on a different bus. A passenger traveling from Manistique to Escanaba would be more likely to transfer at Rapid River instead of Trenary, cutting off an additional forty (40) miles of travel and roughly an hour of bus time (Rapids River to Trenary is twenty miles). This assumes that it is more cost effective to make a transfer than it is to ride one bus the entire distance.

It also became evident that if the transfer points were to prove cost effective, there will need to be modifications of the operations of all four transit agencies. As with the human costs associated with making a transfer, such as difficulty getting on or off the bus and the time involved as opposed to buses crossing into each other's territory, the scope of the modifications necessary to provide the optimum service was well outside of the scope of the study. The human costs, while identified anecdotally, probably should be the subject of a separate study by or for the transit agencies. More opinions were given relating to the need to change the operation of the transit agencies than to the value of the transfer points.

To be sustainable, the transfer points will require an increased ridership across the county borders. This was to be expected. The size of this increase is subjective and varies widely from transit agency to transit agency. Assuming that the overall marketing and service issues can be worked out, it is a consensus of the companies interviewed that the ability to transfer from one bus to another to reach points outside of the home county would be valuable and desirable. Concerns about long term funding to develop this ability may be premature. The question was repeatedly raised as to how long would the project require 100% funding to become viable and sustainable?

## Methodology

The methodology of the study consisted of assembling the four transit agencies, developing a mail survey to employers in the four counties which was approved by all four county transit systems prior to mailing, conducting face to face interviews of the two major employers in each county, and analyzing the data obtained. The required ridership was obtained by having each of the county bus companies identify the ridership they felt would be necessary to make the transit hub viable, and by analyzing the

## Daily Ridership

The time of year appears to have a significant impact on ridership as does the day of the week. Some destinations such as the hospitals have a relatively fixed ridership. Persons with daily needs such as dialysis or a similar therapy may become regular riders.

Other ride generators, such as colleges, are seasonal with ridership from these sources decreasing during the summer. The main ridership generators appear to be medical trips, shopping trips, recreation, work, and educational ride generation.

### Ridership Needed to Break Even

The break even ridership requirement, like the other factors in this study, varies with each transit authority. Assuming no subsidies, an hour long trip appears to range from five (5) to twelve (12) riders. Based on the data obtained, indications are that at least 10 riders would be required for all transit agencies to break even without any subsidies.

## Findings

### 1. Pilot Study Feasibility

The most important finding of the study appears to be the perception by transit agencies that a pilot study of a transfer hub at Trenary and at Rapid River, while perhaps technically feasible, is premature. While there is a recognized potential service benefit, the transit agencies are in agreement that there is much that needs to be done before a pilot study is undertaken, in order for a pilot program to be cost effective and sustainable.

### 2. Ridership Needed to be Cost Effective

Each of the Transit authorities was requested to provide input as to the number of riders they would need to make the Trenary Transfer Hub viable. The ridership needed to be cost effective, ranged from 5 to 22 riders depending on several variables such as price per ride. In addition, based on the comments made in the surveys and interviews, it was determined that optimum coverage would consist of a morning trip, a noon trip, and an evening trip. Without subsidies, the minimum ridership perceived by the transit authorities would be 10 passengers per trip to break even.

Using the operational cost per hour data, and the cost of a passenger vehicle operating on the same route, the estimated optimum number of transfers necessary to make the transfer hubs economically viable appeared to be 14 riders per trip. Using the aggregate data of known potential riders and the optimum number of trips, it would appear that to make the transfer points viable would require an increase in ridership. The cost of operating a bus appears to

6. Coordination of Services

The transfer hub would require coordination between all four authorities. For at least one transit authority, the return on investment on transfer hubs at Trenary and Rapid River would have to be immediate in order to be sustainable.

7. Synchronization of Services

There is substantial interest among the four transit companies in collaborating to improve service cost effectiveness. The four companies have different ride generators, different secondary subsidy providers, different pricing and different operation formats. It was identified that someone would need to take a lead position and do the necessary monitoring. This may be the company being the most benefited, or it may be an independent Mobility Management program.

8. Pilot Study Timing

All four transit authorities agreed that all future actions should be taken slowly, in small steps, to address issues. The Trenary Transit Hub Pilot Study is a somewhat lesser issue than other matters relating to optimizing the service to the region in a cost effective manner. While the pilot study is considered to be of some value in the future, the consensus of the transit authorities is that now is not the time to conduct the study.

### Ridership Survey Findings

While the results of the ridership survey did not alter the previous findings, several useful pieces of data were obtained and are being treated separately. Even though there are recognized problems with the data collected, certain trends can be identified. Identified problems included the inability of some riders to fill out the forms, the time of year and the multiple destinations identified.

The ridership survey was skewed to some extent because a significant number of riders, particularly from assisted living and similar sources, were not capable of reading, understanding, or filling out a survey. While in some cases these riders were assisted by the drivers, maintaining schedules precluded this assistance in all cases. This accounts, in part, for the low number of surveys returned.

A second factor recognized is that school/college was not in session when the survey was conducted. A similar survey conducted in the late fall or winter would likely show increased ridership to school and probably increased ridership in general due to inclement weather.

The third factor which impacted the bus survey was that many of the riders used the bus to travel to various locations, but only filled out one survey. To compensate, each separate destination was treated as a separate trip. In total 126 surveys were completed, of which 24% of the destinations identified were local trips within the county. The remaining 76% indicated actual or desired travel across county lines.

Of the responses, 33% said they use the bus daily, 20% said they use the bus at least one or more times per week, 35% said they use the bus one or more times per month, and 12% said they use the bus less than once per month.

#### Purpose of Trips

The purposes for which people made the trips were varied. The percentages may change once school is in session, as student ridership is anticipated to increase. During the period of July 16 through July 30 the purposes for which persons rode the bus were as follows:

Shopping	37%
Medical	21%
Travel to Casino	14%
Travel to School	14%
Travel to Work	9%
Other Travel	2%

### Secondary Findings

In addition to the information regarding establishing a transit hub at Trenary, a substantial amount of information was obtained by the surveys and interviews that related to the current transit authority operations. While a portion of the data obtained is probably not feasible nor cost effective to achieve, the secondary findings do provide a picture of the way the transit operations are perceived. This information is valuable, in that, it provides the four transit authorities with a basis to conduct their marketing activities on behalf of the Transfer Hub as well as on general transit. While the focus of the study was on the feasibility of a transfer hub located at Trenary, the substantial amount of information regarding ridership in general may serve as a basis for future modifications in the operations of the transit agencies in general. This information is distilled below.

1. There seems to be potential to increase ridership based on the employer interviews and comments. Each of the employers interviewed had employees that traveled from outside of the county to get to work.
2. Marquette County Transit (Marqtran) has an agreement with Northern Michigan University to provide transportation within the county to students and staff.
3. The biggest obstacle to providing bus tokens as a part of a salary agreement is the structure of the companies. Some, like the Marquette and Munising Correction facilities have state employment contracts, while others have union agreements that preclude providing bus tokens as part of a wage agreement.
4. The greatest problem with public transit perceived by employers appears to be matching the schedules with shifts of the employers. Almost all of those interviewed have at least four shifts,

## Conclusions

1. Conducting a pilot project with hubs at Trenary and Rapid River is probably premature and not cost effective at this time.
2. It appears that the collaboration between four transit authorities has significant value.
3. The perception is that to increase ridership and optimize the transfer hubs at both Trenary and Rapid River, the transit authorities need to make schedule changes that better conform to shifts at the major employers. The transit authorities have looked at this option in the past and have found that it is not cost effective to try to make the additional runs necessary in view of the additional staffing, down time, and other operating costs.
4. There may be some value in either developing a collaborative management program or identifying a lead authority to deal with transit issues, or contracting with an independent mobility management program.
5. There will need to be a concentrated marketing effort to increase ridership for any pilot project relating to a transfer hub.

## Data Analysis

The attached spreadsheets seek to analyze the data obtained in as effective a way as possible. Much of the information is subjective, based on the views and perceptions of the person who filled out the survey, and is reflective of only a portion of the potential ridership generators. Likewise, the Ridership data is a knowledgeable estimate made by the four transit providers. At the present time the feasibility of a transfer hub cannot be confirmed until a pilot study of the hub takes place. At this time, the consensus is that there are other more pressing issues relating to rural transit.

Exhibit 1: Survey and Interview Data Analysis

Exhibit 2: Estimated Increase in Ridership Analysis

Exhibit 3: Transit Operator's Analysis Question Responses

Exhibit 4: Survey of Riders

**Exhibit 1:**  
**Survey and Interview Data Analysis**

**EXHIBIT 1 SURVEY AND INTERVIEW DATA ANALYSIS**

**Trenary Transfer mail out survey responses**

Mailed 120 return 33 27.5% return

Question 1 Do you have employees/clients that would use the bus service if they could make a connection.

<b>1</b>	6 yes	24 no	2 no answer or not sure
	0.1875	0.75	0.0625
	18.75%	75%	6.25

**2** Would having bus service available make finding employees easier?

	6	24	2
	18.75%	75%	6.25%

**3** How much do you feel your employees would pay to use public transportation (origin to final destination)

\$6 one way	6	more than \$6 one way	0	purchase a pass allowing	9	unlimited use	11	None of the choices/no answer
	0.1875				0.28125		0.34375	
6=18.75%					28%		11=34.4%	

would not use  
6= 18.75%

**4** Given the choice would your employees prefer (23 responses)

Bus Transit	6	Van pooling	4	Car pooling	9	other	4
0.26087	0.173913	0.173913	0.173913	0.391304	0.173913		
6= 26.1%	4=17.4%		9=39.1%	9=39.1%	4=17.4%		

**5** If you are a non-employer would you find it easier and cheaper to take the bus than to drive.

yes	7	no	8
-----	---	----	---

15 responses

0.466667      0.533333  
47%            53%

Comments:

- a. When going to other towns from manistique, I combine many stops in one trip. I would not be able to do that on a bus.
- b. Great idea. The more options we can offer employees the better, especially with the cost of gas.
- c. I see this helpful for medical purposes.
- d. Since there is no direct route from Trenary to Witch Lake, the service would be unused by me or my employees.
- e. Bus times are often inconvenient, especially to families with small children.
- f. Our customers and employees would not need or use these services.
- g. The current bus route to Republic of one day per month does not offer us much to schedule our appointments. Republic needs daily bus transportation to Marquette as much as anywhere in Marquette county.
- h. The one-way would be the same cost to drive 30 miles a 20 mpg at \$4/gallon. Thus, if two people + could commute together, driving would be cheaper and most flexible.
- i. The bus is probably a great idea-It just doesn't really apply to my business at this time. We only have 2 employees both local.
- j. I don't feel that I would do you good by answering this survey as we do not use the Bus service at all.
- k. I have never used the DATA bus so I don't know if it would work for our employees that have to be at work at 6:00 A.M.
- l. This really doesn't apply to our company as all of our or employees live in the Escanaba/Gladstone Area.
- m. These questions were hard for me to answer because I do not have any employees who would use this service.

I, personally, think it is a great idea.

### Responses from Business Interviews

#### 1. Are you familiar with the county Transit system

All companies interviewed were familiar with the Transit system in their county.

#### 2. Do any of your employees drive in from outside of the county

Numbers varied. NMU has 35000-40000 riders per year and 23000 fixed route riders during academic year.

New page has some employees from marquette county but most come from Norway,

Iron mountain, and Niagra due in part to closing the Niagra mill.

OSF said a couple from nearby counties

Marquette Prison has less than ten

Munising Prison has 30+ employees from outside the county.

Schoolcraft Memorial Hospital has 14 from Delta county 1 from Alger and 1 from Marquette

Manistique papers has employees that drive from outside of the county.

Neenah Papers has approximately 20 employees that drive from outside of Alger county.

#### 3. Do any of your employees use County transit to get to work?

NMU has 35000-40000 riders per year and 23000 fixed route riders during academic year.

New Page has 3-4 from the Gwinn/Rock area only one rides DATA

Schoolcraft Memorial didn't know about current employees but felt that if hours were more in line with the hospital shifts ridership would increase.

Munising Prison has employees that use county transit but was unsure of how many (5?)

Marquette Prison has employees that use county transit to get to work, not sure how many.

OSF is not aware of any employees that use the transit on a regular basis.

No Manistique Papers employees use public transit to get to work

Neenah Papers has three employees that regularly use Transit to get to work.

#### 4. Would your employees use county transit as a means of getting to work if they could transfer.

All companies but one indicated that they didn't know but a change in hours to meet shifts would increase ridership.

NMU said that both employees and students would like longer hours, perhaps to 8 p.m. the others simply identified shift hours that need to coincide with bus schedule

Manistiques papers said their employees would not use transit.

5. Would your company consider offering transit tokens to your employees as part of a salary agreement. All companies interviewed except one said they would not consider offering transit tokens. Marquette already has a program in place that in effect provides the tokens within Marquette County. The main reason for not being willing to offer the tokens is due to company structure.
- New Page said it would look at the option.
- The primary reason is either union regulations or the fact that there are multiple work sites.

6. There were no questions concerning the local transit service but all employers interviewed would like the local transit system to send information on their service.

7. Comments:

Schoolcraft County would like to have the possibility of changing to a 7 day week examined.

OSF : We have patients from Delta County who sometimes need medical care at other UP facilities, typically marquette and sometimes to the VA in Marinette for radiation. For these persons the availability of a bus would be very helpful.

Munising Prison: If you make the route too much of a milk run (have too many stops) you will lose ridership.

Munising Prison: There needs to be carpool points where riders can pick up the bus. Munising Prison has only two employees who live outside of Schoolcraft County. From our experience employees do not like the idea of using a carpool or other means of traveling to and from work. The main reason is that they work a variety of shifts, may have to work additional hours or shifts, have errands to run after work and do not want to wait for others to get off work.

Neenah Papers was meeting with Altran to work on schedule issues.

Tendercare Health Center was not given the interview form as the interview was conducted at another meeting and was not officially scheduled.

Tendercare comments:

Tendercare has interest in improving bus routes to outlying communities. Tendercare clients often have family members that are unwilling or unable to drive to visit. This would make a positive impact on tendercare staff and those families. In addition, those staff members that live in the outlying communities would also benefit.

**Exhibit 2:**  
**Estimated Increase in Ridership Analysis**

**EXHIBIT 2 ESTIMATED INCREASE IN RIDERSHIP ANALYSIS**

Riders Required	monthly	Daily	Transfers Needed per trip Min	per trip optimum	6 Trips/day From interviews	5% increase
Ridership						
Altran total riders	21950	243.8889	9		36	1.8
Data Total riders	41302	458.9111	9		36	
Schoolcraft total riders	12067	134.0778	9		36	
Marqtran total riders	25110	836.8778	9		48	
Average per day optimum		754 total per day.	36		156	156
					39	44

Assuming 9 passengers per county per trip transferring.

Assuming 11 passengers per trip transferring

average ridership per day optimum B.E 9  
 estimated increased ridership require per trip =8.75%

Elderly riders % of total passengers 14%  
 Persons with disabilities 56%  
 Elderly with disabilities 5%

Cost /hour 49.75  
 Cost per trip 100  
 cost/mile 16.66666667  
 99.5 rounded  
 1.92

Distance to Trenary from:

Marquette 35 miles  
 Escanaba 35 miles  
 Munising 28 miles  
 Manistique 58 miles

48 new passengers  
 66 new passengers

total for all 4 authorities	156 miles
average distance	39 miles
Travel assumed to be 3 hours.	\$ 150.00
travel subsidized @ 50%	27 passengers are necessary to achieve costs of less than \$5.85
3 trips per day	75 14 passengers per trip
	42 passengers per day to break even
Cost/passenger unsubsidized	5.56
Gas-25 mpg car	1.56 gal
Gas @\$3.75/ga	5.85
Subsidy =54% (27 x .54)=	5.56
Daily Minimum riders required	42

**Note: Additional subsidies will reduce the required ridership but for purposes of analysis, it must be assumed that no additional subsidies exist.**

**Exhibit 3:**  
**Transit Operator's Analysis Question Responses**

## Exhibit 3: Transit Operator's Analysis Question Responses

### OPERATOR'S RESPONSES

#### 1. How many riders do you need to break even without subsidies?

- a. For an hour of service at \$5.00 a ride 9 riders, if the trip is 2 hours then 18 riders if the fare is \$5.00 This is for a long trip, in the city without subsidies and 2.00 a ride we would need 22 riders.—ALTRAN
- b. 10-12—DATA
- c. I would need 5-6 passengers per trip --MARQTRAN

#### 2. How many riders do you have on a typical trip?

- a. Trips are defined point A to B, some trips are only 2 blocks others are 45 miles, some in between, I can only answer this on deviated routes, e.g Harvey run winter time 18-24 passengers on the bus for 70 miles round trip 2 hours, 1 hour of door to door in a 2 mile radius, probably 5-6 depending if there are wheelchairs....a w/c pick up in Munising going to the medical center in Munising takes 20-25 minutes.—ALTRAN
- b. Many times it's 1 but other times is 20. So 3 is a good number. —DATA
- c. It varies as we have 9 fixed routes and Door to Door service not sure what you are calling a trip. On Door to door 2-3, people on fixed route 5-30. —MARQTRAN

#### 3. How many riders do you generate on a daily basis?

- a. Depending on the time of year, Sunday's we only do job trips so in May we had 7,108, on Memorial day we did only dialysis which was 18, M-F we averaged 302, Sat we averaged 92 and Sunday an average 21(which is low because in May many of tourist business haven't open yet. —ALTRAN
- b. 200 --DATA
- c. 920 average, 33,5895 passengers/365days --MARQTRAN

#### 4. What/who are your main ridership generators?

- a. In May we had 4,678 regular riders, Senior 1,168 regular Disabled 730 and Senior Disabled 532.—ALTRAN

b Medical, shopping, recreation, work --DATA

c. SR (seniors) , Students, GP (general passengers) --MARQTRAN

## 5. What subsidies do you receive and from who?

a Federal, State, millage from COA for senior Transportation, the City of Munising and Sault Tribe.—ALTRAN

b. None, but rides are paid for some riders by DHS, Pathways and other agencies that buy tickets. —DATA

c. Operations: Federal 16%; State36.24%. -- MARQTRAN

## 6. Is it cost effective for the transit company to match shift schedules?

a. Depends on how many people from those shifts, hours, miles it takes to transport.—ALTRAN

b. Only for guaranteed riders to fill a bus or if it is during normal hours we are open. —DATA

c. Not sure. Drivers are scheduled for service hours. For passengers schedules yes. --MARQTRAN

## 7. What are your average daily costs of operation?

a. \$45.00 an hour.—ALTRAN

b. \$5000.00 —DATA

c. MARQTRAN (YET)

## 8. Do you think that the Trenary transfer hub should be postponed until a later date?

a. Yes, we are not ready, this study has not prepared for any determination if it could work, but I think we have other options and we need to be looking at more than work.....medical is a big piece and student transportation. We need to look at mapping, what kind of population is along the routes, what passengers would be regular and what are only few days or just once in awhile, there is a lot of work in this area to be done before we can move forward.—ALTRAN

b. Unless funding is available for a set startup period or we have guaranteed riders. —DATA

c. Yes one step at a time.-- MARQTRAN

9. Do you think that a formal collaboration between the 4 transit authorities should be pursued?

a. There needs to be more information gathering before we go formal, the investment is very costly and right now no one has reserves to take on this with local money and equipment. Other resources would have to be found. That piece should be part of this project, there are options out there, but most of us Directors at the moment are on overload. Is there a need in the region? I believe there is, but it has to be much more comprehensive. One step would be looking at a mobility manager. —ALTRAN

b. Yes. —DATA

c. Yes -- MARQTRAN

**Exhibit 4:  
Survey of Riders**

## EXHIBIT 4 SURVEY OF RIDERS

### Bus Borne Survey Analysis

Upon collecting the data, it was pointed out that in each county, there were a significant number of riders who were not literate, or who were unable to interpret the questions. This was especially apparent in the portion relating to pick up and drop off points, which were confused enough as to make the data unusable for the most part.

There were a significant number of surveys returned that identified more than one destination. In these cases, each destination is considered a separate survey response

Marquette to:	Alger to:	Schoolcraft to:	Delta to	
Delta	11 Delta	11 Alger	Alger	1
Schoolcraft	6 Marquette	16 Delta	11 Schoolcraft	0
Alger	10 Schoolcraft	6 Marquette	7 Marquette	8
other	2 other	5 other	1 other	0
Totals	29	38	19	9

Of the surveys returned, the follow trends were identified.

Marquette to:	%	All trips were assumed to have return travel.
Delta	38%	
Schoolcraft	21%	
Alger	34%	
Other	7%	

Alger to:	%
Delta	29%
Marquette	42%
Schoolcraft	16%
Other	13%

Schoolcraft to:	%
Alger	0%
Delta	58%
Marquette	37%
Other	5%

Delta to:	%
Alger	11%
Schoolcraft	0%
Marquette	89%
Other	0%

Total trips across county lines	95	76%
Local trips	31	24%
Total trips	126	100%

Usage	More than	one or more	Less than
Daily	daily/week	per month	once a month
30	18	32	11
33%	20%	35%	12%

Local trips 31 24%

Purpose	Trips	% of trips identified by purpose
Purpose Identified as shopping	16	37%
Purpose Identified as medical	9	21%
Purpose identified as casino	6	14%
Purpose identified as school	6	14%
Purpose identified as work	4	9%
Purpose Identified as other	2	5%

Some trips had multiple purposes and many did not identify the reason for the trip