Michigan Livable Communities
Demonstration Project

Marquette

Mobility Management & Coordination Strategies

September 2013

Smart Growth America
Making Neighborhoods Great Together

Completed in collaboration with the Michigan Department of Transportation and Michigan State Housing Development Authority.

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Michigan Department of Transportation

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1 Project Overview

"Mobility management involves creating partnerships with transportation providers in a community or region to enhance travel options, and then developing means to effectively communicate those options to the public" (American Public Transportation Association, 2013)

The Michigan Sense of Place Council, representing numerous state agencies under the direction of Governor Snyder, engaged in a partnership with Smart Growth America to provide technical advisory services to six communities of Michigan pursuing livable communities initiatives. The six communities were the City of Marquette, the Southeast Michigan Council of Governments (SEMCOG), ReImagine Washtenaw (Washtenaw County), the Tri-County Council of Governments, the City of Grand Rapids, and the Northwest Michigan Council of Governments. As part of the Federal Partnership for Sustainable Communities program, the program seeks to coordinate federal funding directed to housing, transportation, and other infrastructure in communities to create more livable places where people can access jobs while reducing pollution and also saving time and money.

The assistance was in two primary areas – community mobility management and strategic transportation demand management (TDM). The focus of the effort for the Marquette livability effort was on mobility management. Through regular collaboration with a diverse group of regional stakeholders, and building off of existing institutions and transportation assets, the task was to develop implementable strategies to improve mobility for Marquette. Within the city core, the discussion focused on the 3rd Street corridor that connects the historic downtown, Northern Michigan University, and the hospital. Region-wide the discussion focused on better informing people about available services and coordination of service providers. The vision is a vibrant, sustainable and livable community, city, and region.

Mobility management is the state of the practice for planning and implementing effective coordination. This project has classified strategies into the key areas of tactical day-to-day activities that match riders and services, and strategic longer-term efforts to plan and coordinate across multiple stakeholders. The full range of mobility management services may include customer relations, marketing, planning, land use development, system integration, finance, administration, legal, compliance, human resources, multimodal operations, information technology, engineering, construction, and varied non-operating functions (Crain & Associates, Inc., et.al., 1997).

The project progressed in three distinct stages: 1) review of national leading practices and assessment of existing local resources and opportunities, 2) discussion of alternative approaches and strategies, and finally 3) development of an action strategy for implementation. This report is the culmination of these three phases and their associated findings.

2 State of the Practice

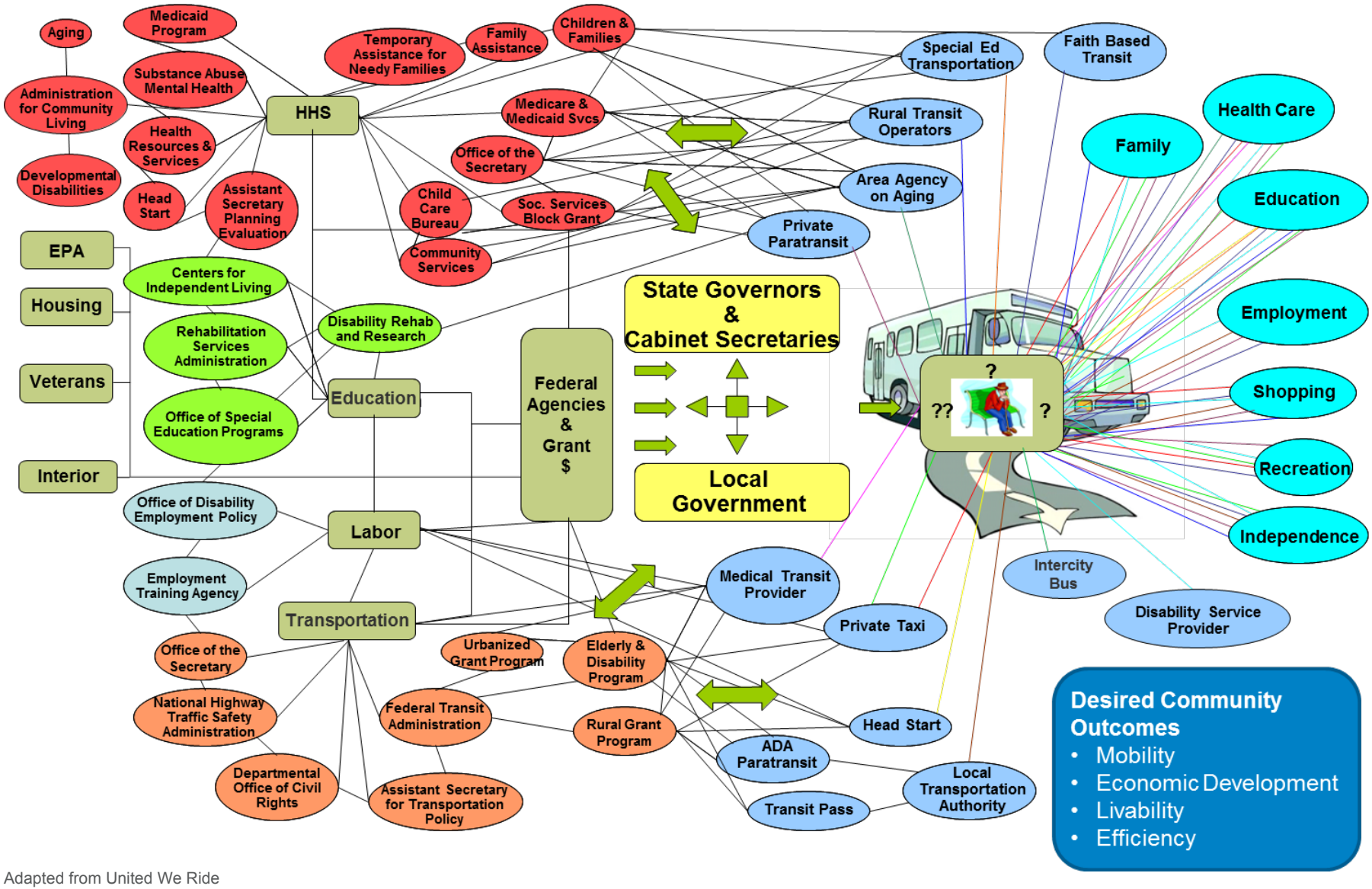
Mobility management is a paradigm shift under which transportation providers are not measuring their performance based on the cost efficiency of how they operate their fleet, but instead measuring their return on investment in terms of moving people and meeting community needs.

Communities across the country, including Marquette, are looking for ways to increase the quality of life and mobility of residents, seeking to connect residents, neighborhoods and downtown areas with multiple transportation modes. Mobility management strategies offer an effective approach to optimizing the value of transportation services through increasing access and reducing complexity. Mobility management encompasses and synthesizes a broad range of complementary strategies that include:

- Qualified, professional mobility management staff who coordinate public transportation and human service transportation
- Intelligent Transportation Systems (ITS) Technology designed and implemented using systems engineering
- Effective marketing and convenient service
- Creative, broad-based funding strategies including public-private partnerships, and strong community support and local funding that leverages federal and state funding
- Engagement in transportation demand management and local and regional planning efforts to ensure sustainable, transit oriented community design and growth patterns

Providing a coordinated, efficient transportation system requires great expertise in navigating through the complicated network of federal transportation funding sources and rules, and applying this understanding to the web of community partners and needs. In 2004 the Congressional Office of Management and Budget identified 62 federal programs that have transportation funding programs for the human service portion of community transportation. The spaghetti diagram in Figure 2-1 shows these programs, updated to include livability programs and other program changes. Layered onto the federal funding sources are the state and local governments, the transportation providers, and the supporting social services.

The person looking for a ride and the organizations offering rides can get lost in the complexity of navigating this network of often overlapping programs. In communities with poor coordination and a lack of expertise and the staffing resources to tackle this challenge, the result is typically low funding levels and missed opportunities, with duplicated transportation services in some areas and no service and limited hours in other areas.



Adapted from United We Ride

Figure 2-1: Complexity of different funding agencies, providers, and ride purpose.

As illustrated in Figure 2-2 below, to effectively achieve the goals of maximizing transportation options and service coverage while also being efficient and cost-effective, a mobility management system must successfully serve two key functions:

1) A mobility manager must **plan and coordinate region-wide and long term**, by building working partnerships, coalitions and business relationships between multiple transportation service providers, social service providers and other stakeholders.
2) On the short term, **day-to-day level** of serving individual riders and maximizing ridership, they must be effective at creating and managing systems and communication strategies that **help people find rides** and get where they need to go. Mobility management should be focused on both customer needs and cost efficiency so that find-a-ride services are unbiased in pairing customers with the most cost-effective transportation service that fully meets their needs. Based on these two criteria, the most appropriate ride for a given client may be with public transit, a human service agency, or a private operator.

Combining these two responsibilities, fundamental practices include:

- Ongoing coordination and relationship building between the mobility manager and other stakeholders to achieve positive outcomes.
- Providing access to information to all target audience members for a variety of uses
- Increasing the role of technology in providing information access
- Coordination at multiple levels including local, state and federal
- Coordination between the worlds of transportation and social services
- Coordination of marketing strategies
- Integration of mobility management efforts into local and regional planning efforts
- Assistance with managing financial and other resource allocations.
- Information, service, and infrastructure should be designed for all ages and all abilities.

A quality that communities pursuing effective mobility management efforts all share is that the lead governmental and non-profit agencies have organizational cultures that value cooperation and collaboration and are willing to invest in coordination because they have a shared vision as well as a practical understanding of the benefits that can be achieved.

The ideal community transportation system not only meets basic social service needs, but also provides significant economic benefit to employers, employees and commercial areas. Additionally, by maximizing ridership it should achieve meaningful reductions in traffic congestion and carbon footprint. To do this, services must be affordable and consist of routes and services that are designed using good data and stakeholder input to effectively serve a broad range of community needs.

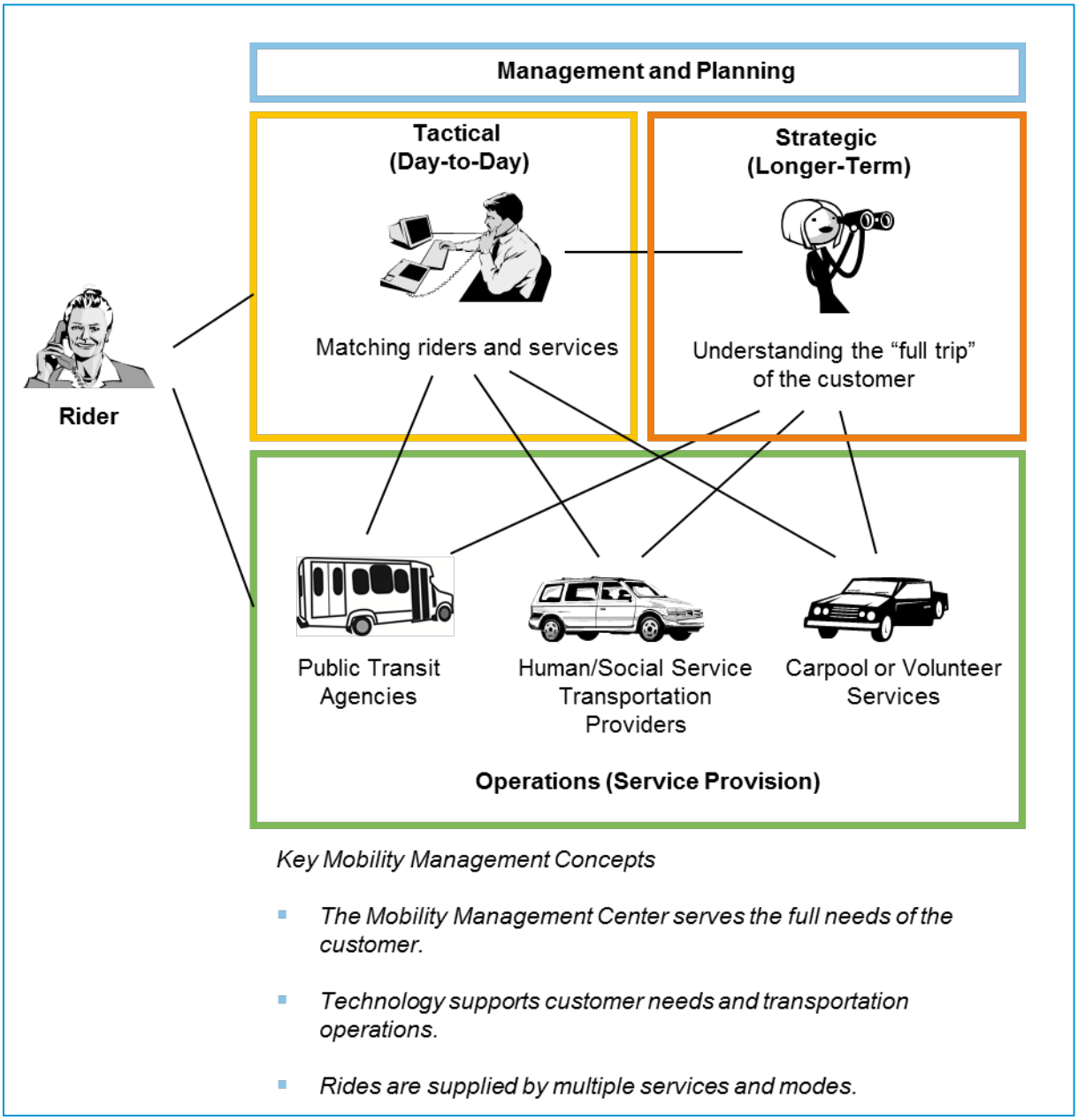


Figure 2-2: Mobility Management Concepts

Tools and Techniques for Strategic Mobility Management

The long term planning for mobility management encompasses all the tasks required to build and sustain an effective network of transportation services. These tasks include stakeholder coordination and partnership building; developing diverse, stable funding sources; and integrating transportation into community planning efforts. Tools and programs are summarized in the following table:

Table 2-1: Key Tools and Approaches for Longer-Term View

Approaches	Programs
Coordination	• Human Service Coordination Plan- MDOT requires this to access funding from the FTA Senior and Disabled grant program but recommends it for all recipients. Following the MDT outline, the plan paves the way to coordination between transportation and human service providers while assessing community needs • Develop a transportation inventory and assess resources • Integration of mobility management efforts into community development and other types of planning • Facilitate ways for different transportation providers to interact
Sharing costs and revenue	• Data tracking and analysis - miles, hours, rides, passenger-miles, costs, revenues. • Cost allocation - for fixed route, a cost allocation formula uses variables for miles and hours. For demand response, it also considers number of passengers and passenger miles. • Coordinated fare payment options, vouchers, and billing
Marketing	• Coordinated marketing appearance visually linking services • Referencing other service types on websites • Increasing the quality of customer service
Infrastructure	• Increasing the attractiveness of infrastructure such as benches, shelters, and bus stop signs • Road and site design to minimize buses travelling through parking lots
Integrating public transportation into sustainability and livability	• Engagement in multi-modal planning by all appropriate government agencies, decision-makers and other stakeholders engaged in promoting and planning improved and expanded options for transit and carpooling; walking and biking; and transit oriented development.

Tools and Techniques for Day-to-Day Tactical Work

The table below breaks down the mobility management concept into its specific functions for day-to-day tactical mobility management – matching people to rides. This refers to both fixed route and demand response.

We have seen many local systems fall far short of their potential because the public has a low level of awareness of the services that are available. Failure to provide a positive experience and to market services can have a substantial impact on ridership and can significantly limit the effectiveness of the FTA funding being invested in other aspects of the system.

Table 2-2: Key Tools and Approaches for Day-to-day Mobility Management

Approaches	Programs
Finding available services	• Help for people to find services through printed and electronic transportation guides, 2-1-1 and other one call-one click services, Google Maps and other trip planners, clear and up-to-date maps, and web sites designed to meet the specific needs of a transit rider • Share data that describes services, such as the General Transit Feed Specification (GTFS), for third party applications
Customer assistance	• Travel training and person-centered transportation plans • Facilitate client eligibility
Optimize operations	• Combine riders when possible on demand response systems • Holistic brokerage to help people reserve a ride and to lower costs • Technology tools to help fixed route riders such as actual arrival times. • Tools to operate demand response services more efficiently, like demand response software, vehicle tracking devices, shared data between services.

Organizational Structure

Mobility management can fall short for one or both of the following two reasons:

1. Qualified staff is hired but have so many responsibilities for operating the local transit system that they have no time for mobility management tasks such as pursuing new funding sources, or building and coordinating coalitions and partnerships.
2. Low salary and low expectations for professional skills result in hiring unqualified personnel.

Mobility management functions can be assigned to existing staff, or a new position can be completed. In this project we will loosely use the term “mobility manager” to apply to anyone carrying out some or all of the mobility management functions, regardless of job title.

There are many successful community or coordinated transportation systems serving rural, small urban, and metropolitan regions around the country. These systems can be categorized into three generalized structures as shown in Table 2-3. Regions can choose different organizational structures for different elements of their mobility management efforts. For example, the provision of trips can be through a brokerage structure, while planning is through a lead agency structure.

Table 2-3: Coordination Structures

Structure	Elements
Lead Agency	In the lead agency model, one local organization is responsible for coordinating transportation services and activities within a defined geographic area. The lead agency may be a private or non-profit organization, social service or related agency, or public entity.
Brokerage	In the brokerage approach, one entity acts as an agent to arrange rides for persons needing transportation among a group of operators that "bid" to provide services. Both the broker and transportation provider receive fees for services, which are rolled into transportation charges per capita, per trip or some unit, and/or per mile. Such charges are paid by individuals or insurance companies directly or via health and social service funding.
Administrative Agency	In the last type, an administrative agency is a public agency or entity (often a transit authority) that has responsibility to coordinate social service or specialized transportation, in addition to its role in providing public transportation.

Funding and Partnerships

Diverse and often creative and entrepreneurial funding strategies are necessary to build and sustain an effective mobility management system, and to take advantage of opportunities to expand and improve services. It is essential for mobility managers to understand transit system funding as well as human service funding because public transit and social service staff often do not have the time or training to "unravel the spaghetti" of transportation funding illustrated in Figure 2-1. A mobility manager can identify opportunities to share resources and leverage various funding sources only if they develop an in-depth understanding of transit funding as well as funding sources such as Community Development Block Grants (CDBG), Medicaid, and Michigan Works!/Department of Labor.

Transit system revenue comes from a combination of federal, state, and local funding sources plus farebox revenue. Operations funding for the Marquette Transit System (Marq-Tran) is fairly typical for small and medium sized systems in Michigan.

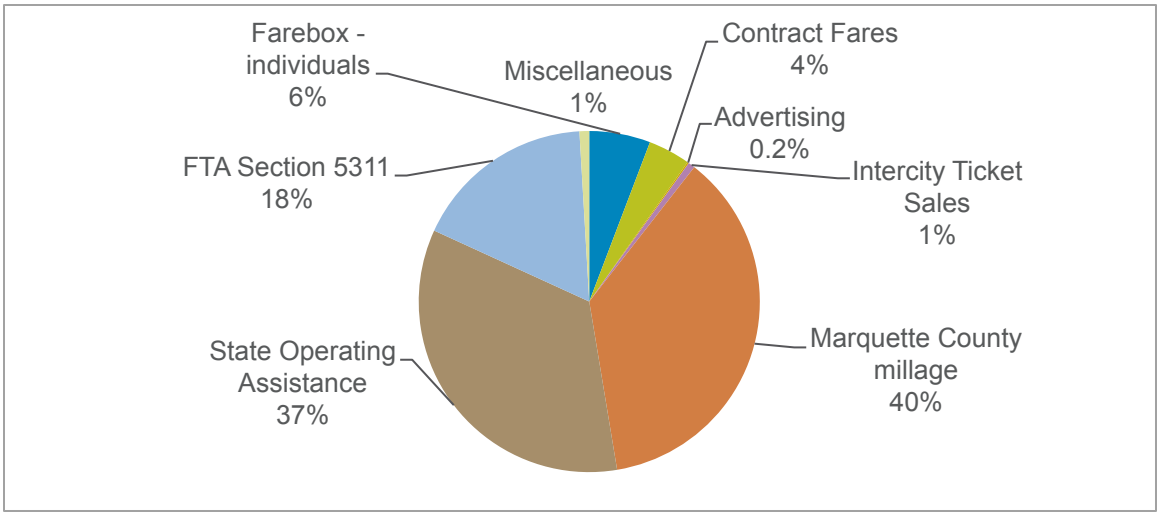


Figure 2-3: Approximate distribution of revenue for Marq-Tran

The Federal Transit Administration's (FTA) 5307 Urbanized Area Formula Program for communities with population more than 50,000 and 5311 Formula Grants for Other than Urbanized Areas are the principal funding source for public transportation in communities with fewer than 250,000 people.

MAP-21 (Moving Ahead for Progress in the 21st Century Act) became effective on Oct. 1, 2012 and will remain in effect until Sept. 30, 2014. Under MAP-21, mobility management is considered a capital expense, eligible for 80 percent federal funding. The definition of mobility management is unchanged from previous transportation law, SAFETEA-LU provisions. Mobility management continues to be an eligible capital expense in every FTA grant program other than Section 5309. Coordination with human services will remain a requirement for FTA grantees across the range of all non-rail FTA programs.

Communities with high performing transportation systems are proactive about negotiating contracts and contributions with a variety of partners. Whenever possible, these relationships should be negotiated for expanded service that serves both targeted populations and the general public. The choice of whether to negotiate a contract or a contribution can be made on a case by case basis depending on the needs and preferences of different partners such as **Universities, Colleges and other Educational Institutions**; **Large Employers; Social Service Agencies and Non-Profit Organizations**; and **Commercial Centers**.

Finally, these communities achieve efficiencies through coordination with human services. Public transportation funds by themselves cannot meet the entire needs of the community. Human services must also contribute funds to meet the whole community's needs.

3 Local Practices and Opportunities

The City of Marquette is located in the central region of Michigan's Upper Peninsula (UP). With a population of 21,335, it is the UP's largest community. In addition to being a population center, it serves as the regional center for education, health care, recreation, and retail. Northern Michigan University (NMU) and Marquette General Hospital are large attractions for the city.

In October 2010, Forbes announced their "Ten Best Small Cities to Raise a Family," and Marquette was designated #3 in the nation.[1] CNN Money identified the community as one of the top five "Best Places to Retire", citing an affordable median home price of $145,000 and a sizable senior population.

Existing Studies and Efforts

The City of Marquette has a strong commitment to, and has made great progress toward its vision of achieving economic prosperity and a high quality of life by becoming a premier sustainable, livable, walkable community. Marquette's 2004 Community Master Plan includes extensive complete streets and walkability recommendations, many of which appear to have been implemented.

However, Marq-Tran, the primary public transit provider for Marquette County, has a relatively low profile on city websites and in planning documents. The City has an excellent website with a wealth of information, but when this project started there was no mention of public transportation except for links to Marq-Tran on the "Living" page and under transportation at the bottom of the "Visiting Marquette" page. There was no mention of public transportation on the Working pages[2].

City maps[3] include sidewalks, plowed sidewalks, intersections with ADA ramps, trails and many others, but do not include maps of public transportation routes and bus stops. Similarly, as discussed in more detail below, Marq-Tran is noticeably absent from the 2004 Community Master Plan as well as Northern Michigan University's website. Students participating in the 2004 master planning indicated use of public transit was not a useful tool in designing Marquette's future.

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[1] http://homes.yahoo.com/news/best-small-cities-raise-family-220607181.html
[2] Since this issue was raised during this project, the City has added more transit and transportation information to the Visiting, Living, and Working page on the City site. They have also requested to add Upper Peninsula 2-1-1. http://www.mqtcty.org/living.html
[3] http://www.mqtcty.org/maps.html

In contrast, public transportation services appear to have a much higher profile in the county as indicated by the prominent focus on Marq-Tran in the US 41 Corridor Plan discussed below.

Table 3-1: Related Plans and Policies in Marquette

Initiative	Overview
Community Master Plan (May 2004)	The CMP presents a strong vision for a walkable community with many recommendations for transportation infrastructure improvements to achieve this vision. Community themes included improving downtown transit connections and year-round walkability.
North 3rd Street Corridor Revitalization Grant Effort (June 2012)	The City of Marquette applied for a Housing Development Grant from the Michigan State Housing Development Authority for efforts to revitalize the Third Street Village Corridor. This comprehensive planning will focus on quality affordable housing and mixed use development while linking NMU with downtown Marquette and surrounding neighborhoods.
Complete Streets	The City's adopted complete streets policy calls for using context sensitive design and American Association of State Highway and Transportation Officials (AASHTO) design standards to integrate pedestrian, bicycle and public transit needs into the planning, funding, design, construction, operation and maintenance of new and modified streets.
US-41/M-28 Comprehensive Corridor & Access Management Plan (September 2010)	Plan provides detailed information on Marquette corridors including major shopping destinations. The plan also includes a variety of recommendations for improvement of transit services: • Chocolay Township – east of Marquette - Relocate bus stop shelter to an area better served by pedestrians and transit users (S). • Marquette Township – Improved pedestrian and transit access should be coordinated from Brickyard road to the City of Marquette (coordinated sidewalks/pedestrian facility) • Ishpeming – The City should consider a plan that addresses pedestrian, bike, and transit accessibility and landscaping improvements for the US-41/M-28 corridor. • Marquette Tourism – Marq-Tran should seize opportunities to service tourists that come to Marquette for recreation events by offering more visible information on services, such as a downtown kiosk. • Bus Stop Amenities, Information & Visibility – Bus shelters and signs would assist those unfamiliar with the system to try it out. Bus stop signs with schedules for the route and maps of where it goes are particularly helpful. The current system of "flag stops" can be difficult for those who are not familiar with the system or the area. • Stops at Trailheads and Carpool Lots – The existing routes should be reevaluated to ensure that trailheads, specifically the Iron Ore Heritage Trail, and also established carpool lots are included along the routes.
Other	Marquette has an approved transportation asset management plan from October, 2009. The most recent transit plan for Marq-Tran was completed in 2005 and provides some guidance for the period 2006-2010. The focus was on site selection for a new downtown transfer facility, leaving little opportunity to assess route-by-route performance and to consider service alternatives.

Transportation Providers

The City of Marquette and Marquette County have a variety of public and private transportation providers. Information about all providers is summarized in the following table. The public transit service Marq-Tran is described after the table, and more Marq-Tran details and descriptions for other major providers are discussed in Supplement A.

Table 3-2: Marquette County Transportation Providers

Provider	Described in Volume 2	Federal Funding					
		FTA /FHWA	HUD	HHS	Labor	Education	Other
General Public							
Marq-Tran, Marquette County Transit Authority	X	X					
Indian Trails Bus	X	X					
Sawyer International Airport	X						X
ALTRAN – Alger County Transit	X	X					
Elderly/disabled							
Marquette County Aging Services				X			
Governmental & Non-Profit Transportation Services							
None identified							
Private non-emergency medical transportation							
Wings of Mercy							
Michigan Transportation Services				X			
Taxi/Limousine							
Taxi Tycoon							
UpTown Taxi							
Apple Cabs							
Checker Cab / Checker Bus of Marquette							
Charter							
Checker Cab and Bus							
Spotlight Coaches							
Other							
First Student - *Students only*				X		X	
Wildcat Shuttle – NMU campus only (operated by Checker Cab and Bus)	X						
Rideshare Programs & Facilities							
Central UP Rideshare Office	X	X					
MichiVan	X	X					
Carpool parking lots	X	X					

Marq-Tran

Marq-Tran, operated by the Marquette County Transit Authority, is the Marquette area's public transit system providing fixed route and paratransit service to the City of Marquette and several surrounding communities. Marq-Tran uses a combination of fixed routes, a feeder, curb-to-curb, contract runs and specialized service runs. Marq-Tran also has specialized contracts and services which serve specific groups. Marq-Tran's fixed route buses operate throughout Marquette County every day of the week. Figure 3-1 shows the county-wide routes. Figure 5-6 shows routes in the city core. Marq-Tran operates paratransit service seven days per week including holidays.

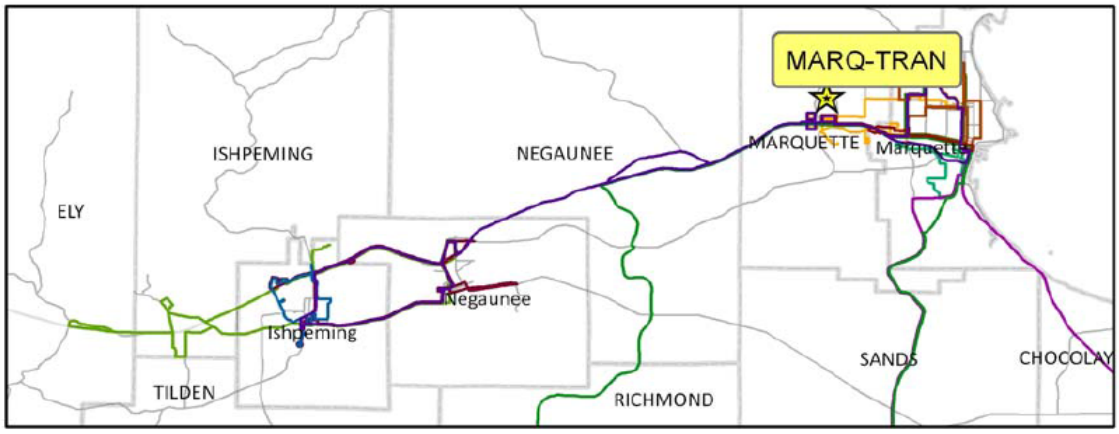

Figure 3-1: Various Marq-Tran Routes (per Corridor Plan)

Marq-Tran's Marquette-Sawyer-Gwinn route stops at Sawyer International Airport multiple times a day. Marq-Tran has experience operating under contract with Northern Michigan University, Northstar Academy, and Pathways Community Mental Health. Marq-Tran has not held contracts with Marquette General Hospital or other large employers.

Marq-Tran also has a medical call-back program. If a rider is transported to a medical appointment, the doctor's office can call when the appointment is finished and the bus will come back to pick up the rider. The door-to-door drivers will load and unload up to two bags of groceries as a service to passengers. However, they will not perform the functions normally provided by an aide. Dispatchers take reservations from 6:15 AM to 7:00 PM Monday through Friday and 8:15 AM to 4:15 PM on Saturday and Sunday.

The following data was reported to Michigan Department of Transportation (MDOT) for calendar year 2012.

Table 3-3: Marq-Tran Statistics

Line-Haul Unlinked Passenger Trips (Fixed Route)	279,074
Demand-Response Unlinked Passenger Trips	81,275
Total Trips [calculated]	360,349
Days Operated	366
Revenue	$3,157,151
Expenses	$3,516,404
Eligible for Reimbursement	$2,943,568
Line-Haul Vehicles	9
Demand-Response Vehicles	27
Vehicle Hours	47,967
Vehicle Miles	944,824
Cost per Trip [calculated]	$9.76
Cost per Mile [calculated]	$3.72
Cost per Hour [calculated]	$73.30
Passengers per Hour [calculated]	7.5

Marq-Tran has 36 transit vehicles of mixed sizes, and about half are fewer than two years old. All buses are lift-equipped and accessible to persons with disabilities. Most buses have bike racks for two bikes. In the winter the bike racks are removed and replaced with ski racks, which can hold up to 6 pairs of skis or 2 snowboards.

Figure 3-2: Marq-Tran busses at new Downtown transfer station

Marq-Tran is a flag service with limited signed bus stops. Existing stop signage is not visible and very little other infrastructure exists. The new downtown transfer station is an important, high quality addition to Marq-Tran's system as well as to downtown. The City's adopted complete streets policy includes transit and calls for using context sensitive design and AASHTO design standards to integrate public transit into the planning, funding, design, construction, operation and maintenance of new and modified streets.

Marq-Tran has a website that provides useful information about schedules and routes. The website could be further improved with 'above the fold' features, a trip planner, live tracking tool, mobile access tool, a riders guide, and applying ADA-compliant formatting to timetables for people with vision impairments.

Best Practice: Bay Area Transit Authority (BATA)

Serving Grand Traverse and Leelanau Counties, the Bay Area Transit Authority (BATA) is making major changes to achieve similar goals to the Marquette stakeholders' goals. Like Marq-Tran, BATA serves a rural region with a hub city. As in the Marquette area, a leading economic drivers is tourism. Successes and lessons learned from BATA's initiatives could provide valuable examples for the Marquette area.

The goal of BATA's service changes is to reduce the percentage of high cost-per-ride demand-response service, shifting those resources to improved and expanded fixed and flex route service. The changes are detailed in BATA's 2011 Transit Service and Coordination Study and include:

- Reconfiguring zone-based county service to increase the frequency and efficiency of "Village Connector" flex routes from outlying areas into Traverse City.
- Improving the efficiency of the fixed route system by making the route configurations more direct and spacing the stops more evenly.
- Adding a new fixed route connecting Traverse City and a number of tourist resorts to provide transportation for both employees and visitors.
- Creating new seasonal routes to serve tourist destinations.
- Working with the regional medical center and Northwestern Michigan College (NMC) to develop circulator and shuttle services.
- Improving the BATA website.

The following resources provide detailed information and updates about BATA's efforts:

BATA Transit Service & Coordination Study
http://www.michigan.gov/documents/mdot/MSU_mobility_options_final_report_3_19_2010_Part_1_383676_7.pdf

Grand Vision Transportation Network Transit Subcommittee web page
http://www.thegrandvision.org/transit

BATA website: http://www.bata.net/

Intercity Service

The bus stop for intercity service is at Marq-Tran's station at 1325 Commerce Drive. Daily intercity service is provided by Indian Trails (Trailways)[4]. Tickets can be purchased at the station, through Indian Trails, or through Greyhound. Web purchases are currently only available through Greyhound, but the Indian Trails website indicates that online purchases will soon be available. Indian Trails provides one daily trip between Marquette and Milwaukee. In the remainder of the state, it operates four daily trips between Chicago and Flint, with less frequent service throughout the rest of the lower and Upper Peninsula. A route map of available intercity services across the country is available at http://www.aibra.org/pdf/usmap.pdf.

Figure 3-3: Michigan Amtrak Routes (red – rail, green – Thruway bus)[5]

From Milwaukee or Grand Rapids, riders can access Amtrak by Thruway bus as shown on the map below. A full-priced round-trip ticket to Chicago costs $89, and Amtrak requires that the Thruway ticket to Milwaukee be purchased in conjunction with a train

[4] http://www.indiantrails.com/scheduled-service

[5] http://tickets.amtrak.com/secure/content/routeatlas/index.html

ticket. Indian Trails apparently operates as the Amtrak Thruway bus using the same service that is part of the national intercity bus network.

Other transportation providers are listed in the following table.

Table 3-4: Other Transportation Providers

Provider	Overview
Northern Michigan University	The Wildcat Shuttle Service is operated by NMU Public Safety and Police Services. This is an on-campus shuttle providing free service to students, faculty and staff. Currently NMU pays Checker Cab and Bus, a private provider.
Marquette County Aging Services	This organization offers ground transportation services to seniors age 60 and older. The RSVP Transporters provide seniors living in Marquette County with a ride to their non-emergency medical appointments. Occasionally this may also include a stop at the pharmacy to pick up needed prescriptions.
Veterans' Services	Transportation assistance is available to and from scheduled appointments through the Center Transportation Coordinator at 1-800-215-8262 or 906-774-3300, ext. 33849.
Non-Emergency Medical Transportation Providers	Mediride is a local provider and Michigan Transportation Services provides statewide service
Taxi Services	There are four known taxi services operating in Marquette
Sault Tribe Elder Care	Organization offering ground transportation services for Native American seniors to non-emergency medical appointments.
Upper Peninsula Health Plan	Organization offering ground transportation services for UP Health Plan members to and from medical appointments throughout all counties in the Upper Peninsula.

Funding

Marq-Tran's budget is fairly typical for a micropolitan community – a combination of federal FTA funding, state funding, a local mileage, university and other contracts, and farebox revenue. Additionally, in a community such as Marquette, a wide variety of other federal programs purchase transportation in various forms. Transportation assistance is typically provided for a wide range of individuals through Medicaid, Medicare, Workforce Investment Act (WIA - Department of Labor), Veterans' Administration (VA), Community Development Block Grants (CDBG), Department of Justice and other federal and state programs. In most communities, Medicaid is by far the largest of these funding sources. This funding flows through a variety of social service agencies and non-governmental organizations. Many of these organizations purchase bus passes or individual rides on public fixed route and paratransit services. However, in many cases rides are provided directly by these organizations or purchased through privately operated taxi services, private non-emergency medical transportation (NEMT) providers, or the funding is used to reimburse gas and mileage when a client rides with family or friends.

The following table provides a summary of estimated funding and funding amounts for 2012. Within the scope of this project we were unable to estimate the portion of social service funding that ends up as farebox revenue. In many cases it is difficult to find information on transportation expenditures and dollar amounts were provided by willing participants.

Table 3-5: Identified Transportation Funding Sources

Provider	Funder	Amount (2012)	% of Expenses	Funding Program	Notes
Marq-Tran Fixed Route & Paratransit 2012 Income $3,816,271 2012 Expenses $3,516,404 Eligible for Reimbursement $2,943,568	FTA Section 5311	$544,559	18%	Federal Transit Administration	
	Rural Technical Assistance Program (FTA)	$4,000	0.1%	Federal Transit Administration	
	Other Federal Transit Contracts & Reimbursements	$659,120	22%	Federal Transit Administration	
	State Operating Assistance	$1,087,463	37%	State	
	Marquette County millage	$1,162,731	40%	Local	Passes easily (over 60% voting yes). Recently reauthorized.
	Farebox - individuals	$182,895	6%	Local	
	Contract Fares:	$125,633	18%	Local	
	Intercity Ticket Sales	$20,170	1%	Local	
	Advertising	$4,600	0.2%		
	Miscellaneous: Interest Income, Prior Year Refunds and Credits	$24,148	1%	Local	
	Michigan Works /			Labor - Workforce Investment Act (WIA)	May purchase fares/passes
	School District			Education and HHS	May purchase fares/passes
	Department of Human Services			Medicaid	Non-emergency medical transportation
	Department of Human Services			Family Services (HHS)	May purchase fares/passes
	Department of Human Services			Temporary Aid for Needy Families	May purchase fares/passes
Marquette County Aging Services	not researched			not researched	
Veterans Service – Marquette Clinic	not researched			not researched	May purchase fares/passes

Rideshare programs

MDOT helps fund rideshare programs, carpool parking lots, and the MichiVan Commuter Vanpools. Statewide information is at: http://www.michigan.gov/mdot/0,4616,7-151-9615_11228---,00.html.

Among the options available for Marquette County are:

- A Local Rideshare Office
- MichiVan Commuter Vanpools
- Carpool parking lots
- The Guaranteed Ride Home Program (GRH). This program, operated through the Local Rideshare Office, offers reimbursement for taxi fare or car rental for registered carpool and vanpool participants who face an emergency or unexpected overtime.

Mobility Management Partnership Opportunities

Effective mobility management requires coordinating not just transportation providers but all the organizations that are stakeholders in addressing the area's transportation needs – including needs that are currently unmet. This section provides information about a wide range of potential coordination partners who do not directly provide transportation. Communication with these stakeholders provided opportunities to focus the outcomes of this project, improve service, coordinate planning efforts, and increase funding. These stakeholders and resources are also important to consider when planning meetings and other outreach during the Human Service Coordination Plan planning. This information should also be taken into consideration when considering partnering on line resources during marketing planning.

Table 3-6: Partners for Mobility Management

Partner	Opportunities
Call 2-1-1	Call 2-1-1 is a national 3-digit phone number set aside for information and referral services. Upper Peninsula Call 211 has information about transportation resources on their website and could enrich this information by coordinating with regional transportation services.
Marq-Tran	Marq-Tran is a central player in providing public transportation, and offers a website that could be expanded.
City Government	The Planning and Community Development Department, Planning Commission, Community Services Department, and Aging Services Advisory Committee should be considered as coordinating partners.
Northern Michigan University	NMU is a particularly important partner because the Marq-Tran website lists NMU as one of only three contracts, and typically, universities and student associations are significant funders for their local transit services. Students, staff and faculty also typically represent a large percentage of the ridership for transit systems in college towns. An estimated nearly 7,000 individuals commute back and forth to NMU on a regular basis. NMU actively contracts on-campus transit. NMU has 8 sustainability websites and none mention transportation. Partners could include the campus Sustainability Coordinator, Parking and Traffic Committee, Students for Sustainable Living, and student council.
Downtown Development Authority	Downtown Development Authorities have the power to conduct analysis of economic changes taking place in the downtown district; long-range planning for the downtown area; land acquisition and improvement; building construction, improvement, rehabilitation, maintenance and operation; and construction and maintenance of public facilities such as water and sewer lines, parking lots, streets, street lighting, convention centers, parks, and marinas; and channel funding through a variety of sources.
Transportation Coordinating Committee	Typically, TCC's focus on road transportation and have limited interest, engagement and knowledge about transit, ridesharing, walking, and biking. The level of engagement of the local TCC is yet to be determined.
MDOT Local Staff	Coordinate how local transportation funding is disseminated and work closely with transportation planners and providers
Non-Profit Organizations	Pathways Community Mental Health currently contracts with Marq-Tran. Alger Marquette Community Action Agency is located next to the Marq-Tran station and has identified transportation is a leading cause of chronic unemployment in low-income populations.

Partner	Opportunities
Other Partners	Lake Superior Community Partnership (Chamber of Commerce) Marquette Country Convention & Visitors Bureau Marquette County

4 Strategies and Alternatives

"Marquette - The premier livable / walkable winter city in North America" – 2004 Community Master Plan (CMP)

Marquette enjoys many assets that provide a foundation on which to build a more robust network of transportation services that support community goals. It is well suited to take on mobility management strategies that go beyond human service transportation and also integrate and improve service to meet the needs of tourists, students and the general public. The community's strong sense of partnership and shared commitment are evident in the city. The openness to work together to explore viable strategies to ensure the transportation mobility necessary for sustained economic success in the city is a vital cornerstone of any wide ranging and successful strategy.

The city further enjoys a vibrant year-round population and expanding major institutions who have demonstrated a vested interest in not only the 3rd Street corridor, but also the city core and University area as well. These institutions not only have the ability to make profound change based on their sheer size, but also based on the values and missions that drive them.

Change of any form, however, requires energetic leadership, relationship building and a continued diligence for progressive planning. There is a need to take this planning process to the next level by taking an in-depth look at transit for the city. In this arena too, the city is well positioned to chart and seize a holistic vision of mobility that serves residents, workers, visitors and students regardless of economic or physical ability. Marquette leaders at the citizen, city, and civic levels have shown the willingness to be bold in vision and committed in action. These leaders will be essential in sustaining the momentum and energy needed for what are often slow or sporadic advances.

Mobility management strategies tightly relate to the community vision laid out in the CMP and other planning documents. Mobility management typically focuses on human services, but Marquette has the opportunity to be innovative by designing strategies that integrate human service needs with many other goals the community has identified. The 3rd Street corridor can be a catalyst for implementing mobility management strategies with impact beyond the corridor. Mobility management stakeholders can leverage a timing coincidence with the in-progress update to the Community Master Plan by incorporating ideas and recommendations form this effort.

Based on stakeholder input, the State of Practice report, findings from the existing conditions research and interviews, and consideration of the unique characteristics of Marquette, the project team developed strategies to improve mobility for Marquette. The focus was on the city core, university, and the corridor that connects them, with strategies that affect the entire county. All strategies were designed to support the vision

of a vibrant, sustainable and livable community, city and region. These strategies took the shape of alternative approaches and were prioritized into implementation priorities for the next section of this report.

Goals

The following goals were developed for mobility management and coordination in the Marquette area:

A. Improve integration of public transit into Marquette's city core

Make public transportation an essential element of an efficient, functional, and connected transportation system that helps achieve the community goals of a diverse downtown; livable neighborhoods; walkable community; and all-season quality of life. A central focus should be helping to achieve the goal of making the North 3rd Corridor a vibrant, resilient, mixed-use corridor that links downtown Marquette, Marquette General Hospital, and other large employers with Northern Michigan University (NMU) and the surrounding neighborhoods.

B. Define and coordinate services to the community core provided by NMU and Marq-Tran. Expand future coordination with Checker Cab and Bus and other county services.

Hold a series of working group meetings between Marq-Tran, the university, and Checker Cab and Bus to assess how funding, vehicles and routes could be reconfigured to provide the best possible service.

C. Improve integration of public transportation into the Marquette area's tourism economy

Make public transportation an essential element in the growth and vitality of the area's tourism services and attractions including the airport, beaches, boats, and trails

D. Coordinate and integrate human services transportation into a broader mobility management effort.

Achieve efficiencies and serve unmet needs – especially to maintain independence for the rapidly growing demographic of seniors with transportation challenges.

E. Increase the focus on public transportation and mobility management in community planning, decision-making and marketing.

Ensure that mobility management goals and objectives are included in the upcoming Community Master Plan update and other efforts to plan and implement community improvements. Also, work to increase overall community awareness and consideration of public transportation.

F. Improve marketing and communication about services

Make it easier for the public to understand and access information about transportation options.

Identified Strategies

For each strategic goal mentioned above, a series of strategies were determined based on the needs of Marquette to address the goals, as outlined in the table below. Shaded strategies were prioritized and further developed for implementation.

Table 4-1: Mobility Management Strategies

Goal	#	Strategy
A.	1	Within the city core, design and implement improved and expanded transit service based on an assessment of needs and available funding.
	2	Explore Transportation Demand Management (TDM) and Parking Management strategies
	3	Develop and implement strategies to increase commuter use of transit, carpooling and vanpooling.
	4	Improve snow management on sidewalks and at curbs
	5	Make the North 3rd Street corridor a vibrant mixed-use corridor connecting many important resources
B.	1	Define and coordinate the roles of NMU's transit system, operated by Checker Cab and Bus, and Marq-Tran's service to the community core
	2	Marq-Tran expansion of services along 3rd Street could allow further consolidation of some NMU services. Timetables should be adjusted to coordinate with class schedules. Outreach to NMU student, faculty, and staff to identify needs and build support.
C.	1	Identify optimal locations to connect transit to water transportation and bike/ped.
	2	Coordinate with other tourism opportunities
D.	1	Identify leadership for the process and identify someone who can fulfill the role of mobility manager
	2	Complete coordination plan and assess unmet needs.
	3	Identify areas where transportation services for the general public and for transportation disadvantaged populations can be combined
E.	1	Incorporate transit into community planning
	2	Incorporate bus infrastructure into design reviews, codes, and engineering standards.
	3	Infuse mobility management into the decision-making process and the organizational culture.
	4	Include buses, taxis, walking and biking when describing Marquette's transportation options.
F.	1	Find-a-Ride information on websites
	2	Continuously improve bus schedules and ways to understand how to use the bus
	3	Take advantage of opportunities for free media coverage and other free publicity
	4	Invest in on-board GPS units that allow real-time transit information

Supplement B includes a description of strategies that were discussed by the project stakeholder group but deemed to be of lower priority than those ultimately developed into recommendations.

5 Recommendations and Implementation

Marquette participants chose to focus on pursuing implementation steps by blending goals and strategies in Chapter 4 into three primary approaches:

- Complete of a Human Service Coordination Plan
- Improve marketing, information, communication, and coordination
- Build partnerships and community focus on moving forward to improve transportation and community planning along and around the 3rd Street corridor

This chapter includes a discussion of these top priorities. Each priority shows the goals and strategies they are related to from Table 4-1.

The timelines to implementation for the top three priorities listed below are expected to begin in year 1. The timeline for all other strategies mentioned in Chapter 4 are projected to be between years 2 and 5.

Priority 1: Human Service Coordination Plan

Goals and Strategies

D2; This report, a start to a complete Human Services Coordination Plan, includes all identified goals and strategies listed above, and may potentially include other goals and strategies as new conversations and coordination occur.

Identified Champions

Superior Alliance for Independent Living (SAIL), Michigan DOT, Marquette County, Marq-Tran, City of Marquette

Additional Outreach

This information is provided in Supplement A.

Implementation Steps

Inventory of Providers and Services

This information is provided in Chapter 2 of this report. A complete survey of service providers and their services is recommended. If the region wants to maintain the coordination plan as a living document, we suggest conducting this inventory by an online survey tool. To make it easier for each contact to complete the survey, the inventory administrator should pre-enter information that is already known so when the stakeholder opens the inventory known data is already entered.

We conducted research to determine appropriate tools for maintaining an ongoing inventory and chose LimeSurvey. A key advantage of this open source surveying tool over Survey Monkey, the most prevalent online survey tool, is the ability to update and import previously created data. We developed a survey tool for the Lansing region that, because of previous data collection, includes more data than the minimum required in the database. Marquette could follow a similar approach to the survey administered in Lansing at relatively low cost.

Creating an inventory electronically opens opportunities to coordinate data with other efforts to inventory and describe transportation resources. Key among these is Upper Peninsula 2-1-1, the region's information and referral service, 2-1-1 uses a standard taxonomy for classifying transportation services, and they dedicate resources to keeping information up to date.

While most 2-1-1 centers are associated with the United Way, the Upper Peninsula Commission for Area Progress (UPCAP) operates 2-1-1 for the Marquette area. At the state level, the federal Veteran's Transportation Initiative is consolidating the regional 2-1-1 databases into one statewide source of information consistently following the North American standard for indexing and accessing human services resource.[6]

The 2-1-1 center dedicates a resource specialist to keep the database updated. Typically, at least annually, each agency in the database receives a complete document of their information for review and corrections. Once the 2-1-1 center receives the updated information, it is processed within two weeks. The resource specialist also can attend community collaborative meetings and is on meeting distribution lists to learn of updates that happen throughout the year.

Coordination Meeting

A coordination meeting, leading to agreement on top strategies and necessary actions will be necessary to ensure cooperation during the implementation phase.

Documentation

The information in this report will need to be combined with the additional information collected to document the Locally Developed Public Transportation-Human Service Coordination Plan. The outline for this in included in the supplemental report Section A.

Priority 2: Marketing, information, communication, and coordination

It is unlikely that any of the strategies proposed in this document will be highly successful unless they are supported by strong efforts to make it easy for the public to learn about and use transit services as well as other transportation options. One of the

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6 www.referweb.net/up211/Subcategory.aspx?49855;Marquette;15254;;;0;2959;Shelter/Housing/Transportation

central goals of mobility management is to help people "find-a-ride". Ideally, a newcomer to your community should be able to easily find the information they need regardless of whether they are a tourist, a senior citizen, a new NMU student, a disabled veteran or a new hire at the hospital. Whether they need to find a Marq-Tran fixed route to the grocery store, a carpool for commuting, a dial-a-ride service to get to their doctor, a taxi to their hotel, or the nearest bike trail they should not have to go on a completely different and difficult search for information on each different type of service. For many people, the web will be the first place they look, but hard copy information is important as well – especially bus schedules and bus stop signs.

Goals and Strategies
A3, B1, B2, D1, D2, E3, E4, F1-4

Identified Champions
Marq-Tran, students at NMU, NMU Facilities, City of Marquette, city and county government, MDOT, SAIL

Implementation Steps
Based on recent conversations with transportation providers and NMU staff, the project team suggests the following steps for continued coordination:

Marketing Plan and Branding
Rebranding and marketing can help improve the image of transit in the Marquette area. Small transit systems across the country such as Bozeman, Montana (see Figure 5-1) offer examples which could be implemented in Marquette. Branding could include a new name, new logo, new slogan, and making buses more attractive.

Marketing goes far beyond the branding and promotion. A formal marketing plan should focus on the "Five-Ps" of marketing included in the widely-used "Marketing Mix" model. This marketing mix also highlights the importance of the quality and price of the service – in this case, public transportation.

1) **Product** – The products or services offered to your customer: Their physical attributes, what they do, how they differ from your competitors and what benefits they provide.
2) **Price** – How you price your product or service so that your price remains competitive but allows you to make a good profit.
3) **Place** (Also referred to as Distribution) – Where your business sells its products or services and how it gets those products or services to your customers.
4) **Promotion** – The methods used to communicate the features and benefits of your products or services to your target customers.
5) **People** – the level of service and the expertise and skills of the people who work for you, and how they can be used to set you apart from your competitors.

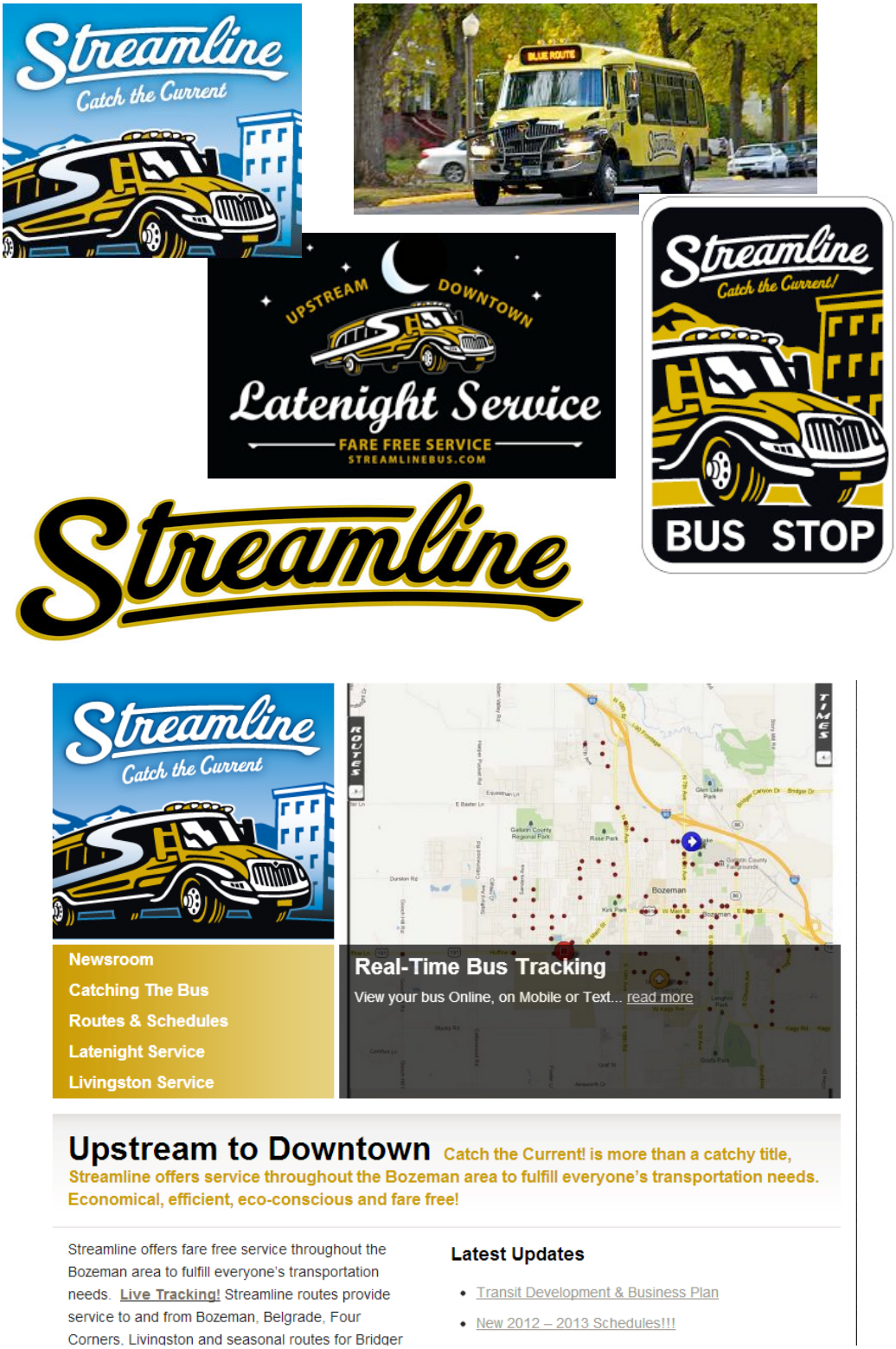

Figure 5-1: Bozeman Montana serves as a good example of a small college community with a comprehensive brand, an attractive web presence, and good community support.

A marketing plan is designed to reach the target user groups: nearby residents, people who work near the services, students, the hospital community, and visitors. The primary goal of marketing should be to ensure that the community and visitors are aware of the service and perceive the service as safe, convenient and enjoyable to use. Success will depend on marketing strategies that employ cost-effective tactics to reach prospective customers, convert them into first-time customers, and in turn, repeat customers.

Figure 5-2: Sales Funnel

Error! Not a valid bookmark self-reference. (Gerber, 2005)shows the relationship between the potential for customers (the target market) and the actual customer (sales). The marketing strategy should define tactics to identify the target market, generate leads, and convert them to customers.

The marketing plan would include the development of new brochures. According to a community survey we recently conducted in Helena, MT a good brochure is the most important communications tool for the public transportation providers' current riders and was second only to the website for people who are currently not riding. Quality maps, schedules, and brochures with good information design can ease use of the system and are key in building the brand. A brochure should be attractively designed and should include one or more maps showing fixed route services, easy–to-read schedules, and a riders' guide explaining how to use the service. Color-coded route names are useful to ease understanding of the service, but be aware of the needs of people with impaired vision and color blindness when deciding how color-coded routes are described. A link to the Marq-Tran website should be included on Marq-Tran schedules and other hard copy materials.

A media strategy would also be included in a marketing plan. Transit advocacy organizations have found a wide variety of creative strategies to include transit in the media, and have acted as key players to making sure the media is aware of important events (i.e. the unveiling of newly-acquired buses). Buses have been included in parades with on-board dance parties to show them off as community-friendly forms of transportation. Buses and bus systems have also been included in radio show discussions and as off-schedule tools to get people between parking lots and fun events.

Bus stops can be the second most visible aspect of a transit business, behind the bus itself. Posting time tables at each stop is a straight-forward way to expand the communications reach of a service. Shelters in high use areas provide additional a higher level of visibility.

Other components of this section could also be included in the marketing plan.

Coordinating across providers to have transit information everywhere

The first step to attracting new ridership is to make it easier to find information about the service. Whether it is using paper products, electronic data and web pages, or even the buses and bus stops themselves, the overall approach is to make it easy to find and use transportation services.

The web, accessed from either a computer or a mobile device, is generally the first source where today's travelers will look for transportation information. It will be important to both continuously maintain up-to-date information for Marq-Tran and all other human service providers and make it easy to find this website. There should be links to other transportation resources from the Marq-Tran website, and possibly human services and other stakeholder websites. All community websites describing transportation services should include Marq-Tran. The approach can be described as "no wrong door".

Put information where visitors can find it

Good public transportation access can be a great selling point for a tourist destination, a business or a school, but only if you make it part of your sales pitch. Not only do you need to make sure people know public transportation is available, you also have to provide information that is both easily accessible and easy to understand that explains how to use the available services.

The team should identify opportunities to market transit access to tourist destinations, including advertising transit information in hotel rooms and conference packets. Furthermore, the Visitors Bureau should include transit information on their website. Providing transit resources on websites related to other types of information can play an important role in reaching out to web users that may not think to look for transit services. Encouraging other Marquette institutions to link to transit information would also increase the number of people finding transit service.

Trip planning

We recommend developing a General Transit Feed Specification (GTFS) for Marq-Tran. Put simply, this describes fixed route service in a standard way so it can be used by multiple systems, most commonly a trip planner. Once the GTFS is set up, the task of adding the free Google Trip Planner to the web site is simple. Within the next few years this capability may also become available for demand response services.

Besides GTFS, the other big effort in Michigan is 2-1-1, a web-based, one-stop-shop for human service transportation information through the statewide Veteran's Transportation Initiative, Michigan 2-1-1, United Way, and the Information and Referral Service. As illustrated in Figure 5-3 below the goal of a one-call or one-click service is to simplify access for customers and match their varied needs with appropriate options.

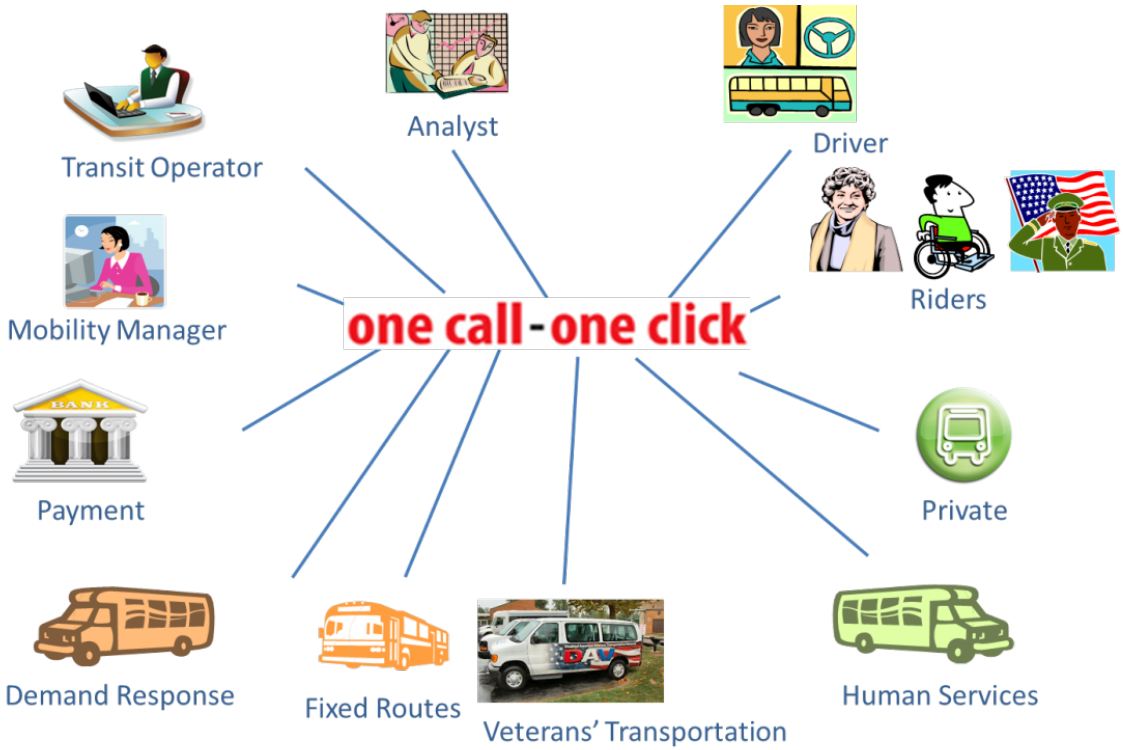

Figure 5-3: One Call – One Click

Marquette can expect and prepare for this basic capability through the Veterans Transportation Initiative, and Marquette's mobility management strategies should encompass this capability and determine how best to implement and promote the system.

A good web presence when coupled with good service and comprehensive branding can help build the stature of a bus system in a community. In updating the Marq-Tran website, the designer can refer to the existing conditions report, which includes best practices for transit websites in small communities. Recommended components include Google's transit trip planner and adding Google Translator to the website for use by non-English speakers and as required in updated FTA civil rights guidance.

We recommend working with someone who has experience with transit web sites, GTFS, and small transit systems. Building on a content management system, such as Word Press, makes it easy for Marq-Tran staff to quickly update information.

Transit service guide

The Humboldt Transit Authority in California used funds one year to design a newspaper insert, a transit services guide for transit throughout Humboldt County. The insert was included in a paper distributed throughout the county, and also distributed by hand using local transit advocacy organizations to a wide range of popular community resources and destinations.

Real-time information

Within the next five to ten years we expect that riders (especially younger riders) will expect to have access to actual arrival times for any transportation provider regardless of size. The on-board GPS units and web-based software are currently available at a cost of $30 to $60 per bus per month. Any of these real-time traveler information systems will allow access to real-time bus arrival times by web and text message. For high-volume bus stops and other strategic locations, departure times can be displayed on monitors or LED displays.

Systems engineering process

The best way to avoid procuring or developing technology tool that doesn't perform as expected is to start with a planning process for technology. Follow an abbreviated systems engineering process to understand the relationship between the different systems and to understand needs. These relationships are shown in the following figure.

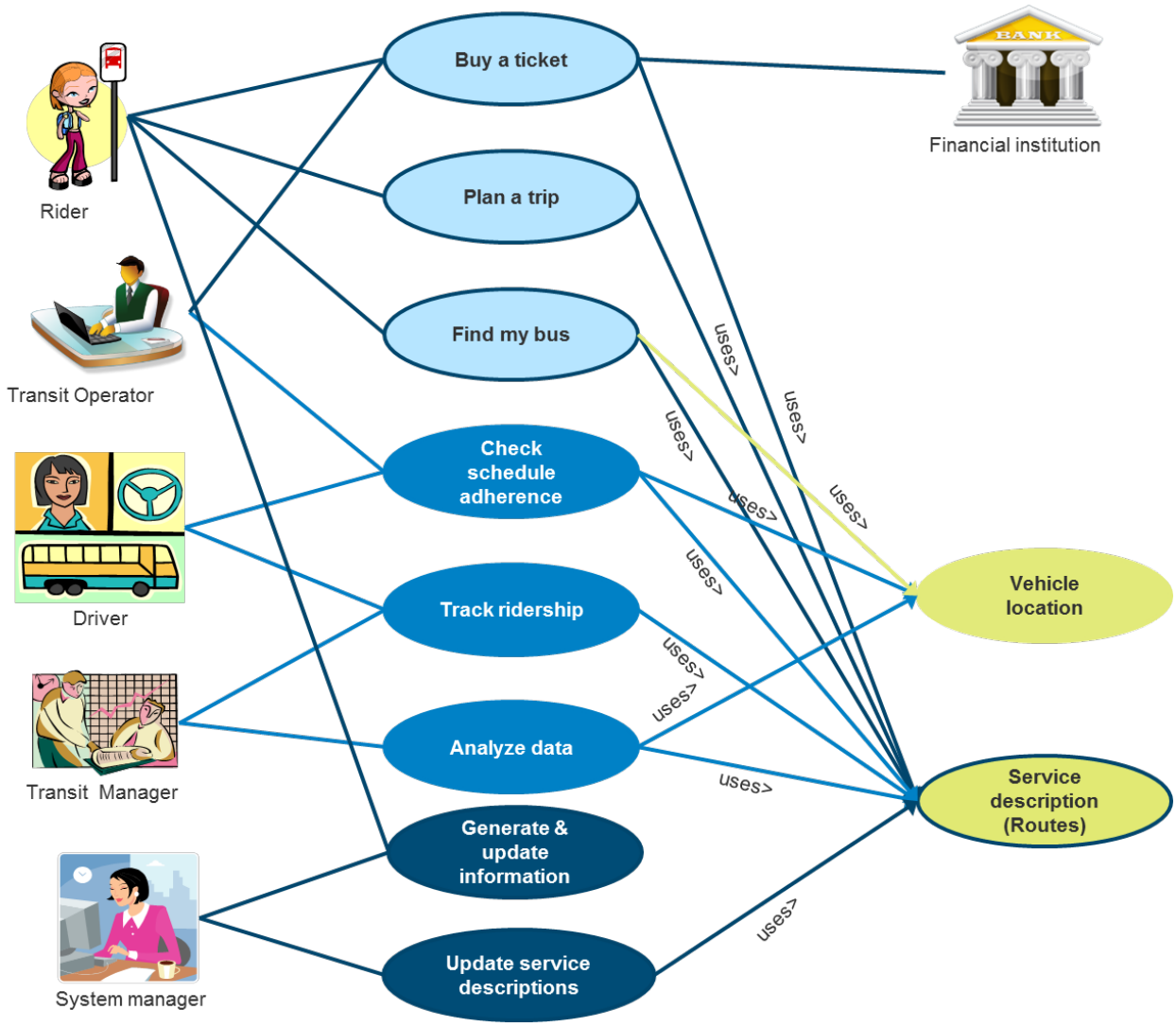

Figure 5-4: Users and activities where technology may play a role

Examples

Beyond the Marq-Tran website, examples of transportation-focused web resources include:

- Get Around the Western U.P. (http://www.getaroundwup.com/)
- Oregon TripCheck (tripcheck.com)
- Ride Connection (rideconnection.org)
- SF Bay Area 511 Traveler Information System (511.org)
- Humboldt County Transit Service Guide
- Streamline, Bozeman, Montana

Examples of successful web-based coordination tools from other areas, including other Michigan communities, are included in Supplement D of this report. Supplement E

includes information about bus stop and shelter designs. Supplement F provides a sample transportation guide from Humboldt County.

Priority 3: 3rd Street Transit Corridor

Toward the beginning of this effort, many stakeholders involved in the project identified investigating a new or modified fixed-route bus route on Marquette's 3rd Street Corridor as a major priority for this initiative. After further discussion, the group deemed this priority a longer-term goal due to current lack of available funding. Pursuing Priority 1 (developing a Human Service Coordination Plan) and Priority 2 (marketing and outreach) were identified as short-term steps that would help to maximize existing resources and build the necessary ridership and demand to warrant the proposed new 3rd Street route.

Pursuing a new 3rd Street transit route would involve four stages:

- Marketing: Better utilize the existing Marq-Tran and NMU services.
- Assessment: would look at transit needs including new stops and changes in schedule, would consider the 3rd Street parking assessment recently completed, and would consider funding options.
- Service Design: would involve stakeholders working closely with Marq-Tran to redesign services within the city core to meet the identified needs.
- Implementation: can be flexibly integrated into the existing system based on the types of needs and designs that arise during the earlier two stages.

Goals and Strategies

A1, A5, B2

Identified Champions

Downtown Development Authority (DDA), City of Marquette, student leaders at NMU, Marq-Tran

Implementation Steps

During a bus tour with stakeholders toward the end of this effort, discussions between participants and the driver led to a preliminary route design that would run on a 20 minute frequency. Both the university and the hospital are going through planning processes that could be synergetic with a bus route, and which would influence a final route layout. The university may shut down the road through campus to cars. It may be useful to leave this road open to buses, emergency and service vehicles to continue serving the campus interior.

Following a bus tour with stakeholders toward the end of this planning, the 3rd Street Corridor focus fell to a position of lower importance because no one has money available for improvements, and everyone agreed there is opportunity to maximize what they already have. Pursuing Priority 1 (Human Service Coordination Plan) and Priority 2 (marketing and outreach) would help to maximize existing resources.

Better market existing services between downtown and NMU

Incorporate community and stakeholder outreach, and future planning of the 3rd Street corridor into implementation of Priority 1 and 2. Given the interest by stakeholders to promote existing resources and pursue regional planning that integrates mobility strategies that connect people and resources, using the marketing tools and next steps recommended for marketing and development of a Human Service Coordination Plan will meet these community directions.

Assessment

First, the champions would organize a transit needs assessment focusing on target populations and locations including those discussed during the first working group meeting. Target populations could include current public transportation riders; tourists; NMU students, faculty and staff; downtown area employees; evening bar and restaurant patrons; human services agency clients; and residents who live in or near the city core. The objectives would be to identify needs; to assess the extent to which current services are meeting needs as well as barriers to using current services; and to identify options for improving and/or expanding service to best meet needs. It would be particularly important to identify high priority locations for transit stops as well as times when there would be the greatest demand for service – for example: connections to the North 3rd Corridor; connections to beaches, parks, and other in-town recreational destinations; and service for large events in the community core. The assessment can be as simple as a few meetings with key players looking at a map, or it could be expanded to be the focus of a full transit development plan.

It would be important to correlate the transit needs assessment with a consideration of the recent 3rd Street parking assessment and an assessment of parking capacity on campus, at beaches and parks, and downtown. This would help identify opportunities to attract tourists and others that may otherwise drive, who are frustrated by limited parking. It could also help guide implementation of parking-related transportation demand management strategies discussed below.

This stage would also include a two-part assessment of potential funding options for expanding and improving transit service in the city core. The first part would be a system-wide analysis of Marq-Tran's performance measures by location, time of day, and weekday/weekend to determine which routes and services are least cost effective. This data could then be compared to the estimated cost effectiveness of expanded service for the city core, providing the basis for a discussion with Marq-Tran to determine whether it would be possible to shift resources. This analysis could be conducted at any time, and could be one of the first actions taken. The second part of the funding assessment would be working with stakeholders in the city core to identify potential new funding sources. These discussions would be most productive once the needs and parking assessments are completed and there is a clear picture of the potential opportunities and benefits of expanded transit service.

Table 5-1 shows the parameters to consider when estimating costs. Based on a $60 per hour rate, the cost of adding one bus operating 12 hours a day, five days per week, would be $184,000. This does not include capital costs of bus purchase, nor does it include the cost of bus stop furniture.

Table 5-1: Assumed Values for Parameters Key to Route Design and Cost

Design Parameter	Value
Operating cost per hour (per Marq Tran)	$60
Operational Speed (mph)	12
Holidays (no service)	5
Annual weekdays in operation	256
Saturdays	52
Sundays	52
Daily hours in operation	12
Additional operational cost: 1 bus, 12 hours per day, weekdays only	$184,000

Service Design

In this stage, stakeholders would work closely with Marq-Tran to redesign services within the city core to meet the identified needs. It would be important to prioritize the needs so that, if necessary, service changes can be limited and/or staged to stay sustainable relative to available funding. As discussed at the first working group meeting, redesigning transit service within the city core will likely include priorities such as:

- Drive and time the route to develop a schedule and more accurate cost estimation.
- Determining the best stops for NMU and the North 3rd corridor, likely including a stop at the beginning of NMU's campus.
- Designing routes and identifying stops that integrate transit into the bicycle and pedestrian network, focusing on bicycle and pedestrian connectivity for students, commuters, and tourists, and identifying locations that currently have or should have bicycle parking.
- Exploring the idea of a city circulator route that changes twice a year so that it is focused on serving student needs during NMU's spring and fall semesters, and focuses on tourist needs in the summer.
- Exploring the potential for creating a late-night route for bar and restaurant patrons.
- Designing routes in consultation with large employers including hospital and NMU.
- Ensuring that routes access other destinations that meet needs of choice riders and transportation disadvantaged riders, including human services destinations, shopping, and connections to residential areas in or near the community core.
- Redesigning other Marq-Tran routes to align with the new community core routes.

Figure 5-5 shows a concept for a downtown-campus 3rd Street route. This should be considered a starting point for discussion, not a final design. The 3rd Street conceptual route is 3.8 miles round trip, starting at the Marq-Tran Transit Center at 3rd & Spring, north on 3rd to a stop near the Berry Events Center parking lot, around to the NMU University Center, past Marquette General Hospital, and back North on 3rd to the Transit Center. Not all suggested stops are shown. Assuming a 12 mph design speed, one bus could run this service with 20-minute frequency. If the route operated 12 hours per day, 6 days per week, 9 months out of the year, it would cost approximately $166,000 (see Table 5-2). Any additional capital and infrastructure costs are not included in this estimate.

In the summer the route could be modified to serve popular parks and beaches. The core portion of this route is 6.3 miles (orange), with a possible 2-mile extension to Presque Isle Park (red). We recommend running at least 2 buses in opposite direction to avoid the pitfalls of loop routes (a short travel time in one direction, long in the other). A 6-mile route running a bus in each direction (two in total) would have 30-minute frequency in each direction. A nine-mile route would have 45-minute frequency with two buses, which is a difficult frequency to communicate and connect with other services. An extended 12-mile route would have hourly frequency with two buses, or 30-minute frequency with four buses. Cost for a 6-mile route with two total buses (one running in each direction), 30-minute frequency, operating 7 days per week, 3 months per year, would be approximately $130,000. Any additional capital and infrastructure costs are not included in this estimate.

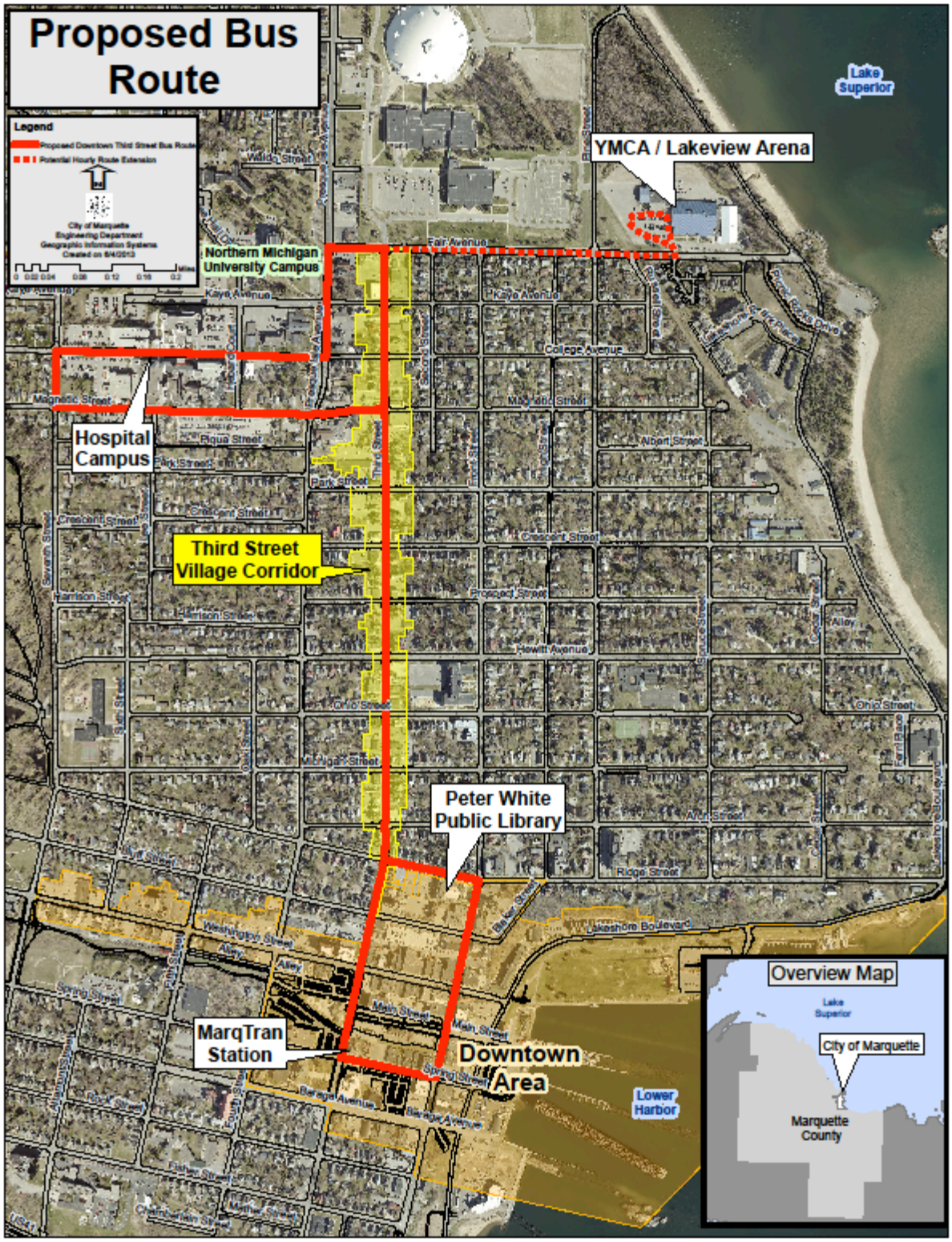

Figure 5-5: Planning Concept for Third Street

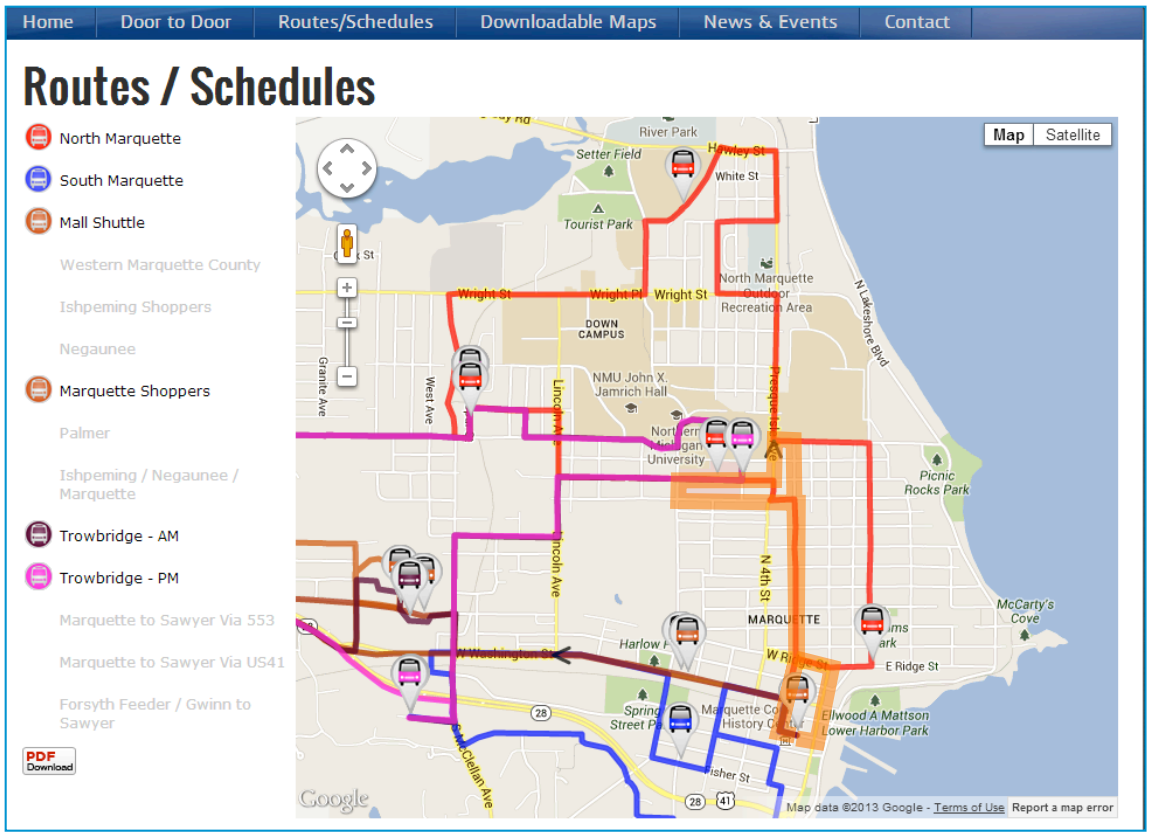

Figure 5-6: Marq-Tran city routes, with Third Street route overlay

Table 5-2: Rough Cost Estimate for Third Street Route

Design Parameter	3rd Street Trunk Route	Summer Shuttle	Total
Conceptual route length (miles)	3.8	6.3 with optional 2-mile extension	
Route length for estimate (mi)	4	6	
Vehicles in operation	1	2	
Days of service per week	6	7	
Hours per day	12	12	
Months per year	9	3	
Frequency (minutes)	20	30	
Operational cost (no additional fixed cost)	**$166,000**	**$130,000**	**$296,000**

Possibly start small

As noted above, as long as priorities have been clearly established and funding sources have been realistically assessed, there should be flexibility and opportunities for staging implementation. For example, implementing a late-night service three evenings per week can clearly be implemented before starting a full route that runs six days a week, twelve hours per day. Implementation may also be driven by funding or infrastructure

considerations. If restaurants, bars and NMU students are highly motivated for late-night service and provide funding for it, this could be the first change to be implemented. Or if the North 3rd Corridor is the first area to install high quality bus stop infrastructure, implementation could begin in that area. However, it is important to note that frequent route changes are not recommended because of the transit management and operations problems they create, and because this can be confusing and frustrating to riders. It is best to make changes no more frequently than once a year.

Timing Bus Schedules

Initial timing indicates that the bus route can operate on a 20-minute cycle, but further refinement is needed. The following guidance is from "About.com: Public Transport" (MacKetchnie, 2013).

Overall round trip running time equals the time it takes a bus to run a route, plus any required layover at the end of the route. Layover, where the bus waits at the terminus location before starting the next trip, serves two major purposes: it helps to maintain on-time performance and it serves to give the driver a break.

Initial running time is estimated by driving the route at a maximum speed of five mph below the speed limit. Drive at least three different times of day, and if feasible drive different times of the year. To take into account time at stops, either multiply the time required to drive the route by 1.3, or add 30 seconds multiplied by the number of stops.

A layover percentage equal to 10% or less of the total one-way trip time is adequate to make sure the return trip leaves on time. At some systems, the layover is the driver break time. At these systems a rule of thumb is to have a layover percentage at the end of the line between 15 and 20% of the total one-way trip time. If the one-way trip time is relatively short, less than thirty minutes, then almost all the layover time may optimally be scheduled at one end of the route as long as at least a couple of minutes are scheduled at the other end to ensure on-time performance.

To operate routes on frequencies that are divisible by 60 (i.e. buses every 10, 15, 20, 30 or 60 minutes), it is desirable to operate routes that have cycle times that are in multiples of 30 - 60. Cycle times that do not fit this pattern will result in layover percentages that are either too high or too low, which will result in unproductive layover time or deadheading to different locations if interlining is not an option.

Operator

This route could be directly operated by Marq-Tran or could be contracted out. The Third Street Connector must provide a positive customer experience. Convenience and user-friendliness includes on-time performance; clean, well-maintained vehicles; well-planned services; comfortable, attractive, well-maintained bus stops for customers waiting for rides; hard copy and web-based schedules that are easy to use; and an attractive website that is easy to navigate. Potential customers must be able to easily find and purchase tickets. Personnel who interact with the public in person or over the phone

should be friendly, knowledgeable and trained to work with people with disabilities. For information on transit marketing, please see the marketing section above.

Infrastructure

Choices regarding the location, aesthetics, and amenities of the starting point facility affect the project budget and feasibility overall, but are also critical for use by tourists. A significant proportion of tourists, especially those travelling in private vehicles, are likely to make their decisions of where to go and what to do fairly last minute, and the impression the facility makes could have a major impact on those decisions. The facility itself could possibly become a tourist attraction, offering a nice spot by a coffee shop or park with shelters and picnic tables, tied to the proposed nearby visitor center, and offering cultural tourism attractions like a small museum or a replica of a traditional dwelling. At a minimum, the facility should be clean, organized, well maintained and project a sense that “getting on this bus with my family will be safe and fun”.

In areas where parking is limited, visitors and community members provided with a transit option to a major downtown destination with good walking facilities may opt to leave the car outside of the downtown area and take transit in for a more convenient experience. In this case, it is important to provide stop locations with clear guidance on where the bus travels, how much it costs, and other information to enhance to experience of efficiency,

Bus Stop Infrastructure

The development of bus stops and shelters was a stakeholder priority. Developing and implementing a plan for fixed route bus stop improvements should be a high priority over the next five years. The following sections present an overview of bus stop infrastructure elements.

Bus Stop Signs

Bus stop signs are an important element of a transit system, making the system easier to use for customers, especially new riders. Bus stop signs are also one of the most cost effective forms of marketing. Unlike advertisements or brochures, they provide permanent visibility with minimal ongoing cost. Moreover, they target potential customers in a specific area served by the bus. Stop signs, wherever possible, should be placed even with the front door of the bus to let riders know where to stand and to serve as a guide for the operator. Trash receptacles may be mounted on the sign posts as well.

Bus Pull-outs

We recommended seeking bus pullout locations in safe sites along the road and working with MDOT and other roads project managers when roads are redesigned.

Seating at Bus Stops

Seating is an important infrastructure at bus stops. For many elderly and disabled riders they are essential, and overall they make a bus system more convenient, more visible,

and more enjoyable. Many low-maintenance, vandal-proof designs have been developed in communities around the country.

Shelters

The need for shelters at high-use bus stops was frequently cited in our public and stakeholder input. We recommend budgeting to install shelters at Marq-Tran and NMU's most important bus stops as well as locations that receive high use by seniors and that are more exposed to wind. More than any other bus stop infrastructure, attractive bus shelters provide effective high-visibility marketing, creating awareness of the bus system and sending the message that public transportation is an important part of the community.

Nine or ten shelters should be provided in the first year of service followed by additional shelters in future years. Costs can vary significantly; low-cost shelters are estimated to cost approximately $8,000 per shelter. Larger shelters, shelters with protection on three sides, and shelters with an architectural design to tie into a development's architecture or a historical district can cost more than twice that amount.

Lighting at Bus Stops

Lighting is an important consideration for high-use bus stops with benches or shelters. Lighting is important for customer safety, and is also important for marketing as it improves visibility and public awareness and helps create a welcoming atmosphere at bus stops.

Bike Racks

Transit systems nationwide are seeing increased use by bicyclists, leading to the common occurrence of demand for on-board bike racks exceeding capacity. Besides using 3-bike racks instead of 2-bike racks on the front of the bus, bike racks should be installed at stops with high bicycle use.

For design examples and cost information related to bus stops and shelters, please see Supplement D.

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