Grand Traverse

Mobility Management

Implementation Plan
DRAFT
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Completed in collaboration with the Michigan Department of Transportation, Michigan Economic Development Corporation and Michigan State Housing Development Authority.

Smart Growth America
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1 OVERVIEW & APPROACH

The Michigan Sense of Place Council, representing numerous state agencies under the direction of Governor Snyder, has partnered with Smart Growth America to provide technical advisory services to six Michigan communities to support and advance their livable communities initiatives.

The technical assistance progressed in three 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 third paper is a starting point, outlining broad actions for further exploration and pursuit. Specific implementation may require additional work and study. Approaches are based on the Strategies report, discussions from that meeting, and consideration of the unique characteristics of the Grand Traverse Region. The focus is on Traverse City, regional planning activity and the transportation network that connects regional communities. All strategies support the goal of a vibrant, sustainable and livable community, city and region.

Participants at the first stakeholders' meeting identified several important outcomes they would like to see from this project:

- They want to help achieve a paradigm shift in which the public and decision-makers perceive the region's transit providers as viable and important resources for sustaining and improving the region's economy.
- They want to make transit more usable. This echoes a goal articulated in the 2009 MLUI Report, which states that by creating a system that works for more riders, agencies will create a system that has more community support.
- They want to develop strategies with outcomes that are achievable within a relatively short timeframe so they can point to initial successes and generate momentum toward the big picture goals.
- They want to develop strategies that will position the region to receive available federal funding.

This implementation report seeks to serve the purposes to:

- Integrate updates on conversations and project directions since the strategies report into directions for implementation
- Outline clear, achievable one-year and 2 to 5-year objectives and steps for effective implementation to affect the most change based on community goals.

Key Issue: Coordination to Support Regional Mobility

Regional stakeholders focused on transportation see a wide range of possibilities in coordinating transportation resources and community planning. 'Coordination' is the primary theme throughout implementation recommendations. Coordination can bring about economic development and increased support of transportation services through linking tourism with community needs. Coordination can also make it easier to navigate the entire suite of transportation service options by providing more information about service, creating compatible service schedules for transferring, and allowing for pass systems that allow riders to use an array of transportation choices to get where they need to go. Finally, coordination can tie together regional land-use, transportation and other types of planning in the short and long-term to ensure a holistic approach is taken to connecting transportation with community development.

Goals

The project team and stakeholder group identified the following goals for mobility management and coordination in the Grand Traverse region:

1. **Improve coordination between transportation providers (public and private) and with businesses.**
   Build on the work that is already being done to plan and implement the next stage of coordination with a focus on eliminating barriers for customers who need to travel using multiple providers or modes.

2. **Incorporate infrastructure elements into mobility management implementation.**
   Design for the bus rider as well as the walker, bicyclist, and driver. Design bus stops into state roads, commercial areas.

3. **Develop multi-modal trip planning resources to serve all target populations.**
   Make it easy for customers to find the ride that best meets their needs,

4. **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.

Identified Strategies

For each strategic goal mentioned above, a series of strategies were determined based on the needs of the Grand Traverse region to address the goals. The goals and strategies from the Strategies document play a role in guiding the implementation phases of this plan.

Table 1: Mobility Management Strategies

Goal	#	Strategy
1	A	Coordinate service design to facilitate transfers.
	B	Explore strategies for fare coordination and fare sharing.
	C	Use a cost allocation model as a basis for developing budgets and

Goal	#	Strategy
		negotiating cost and revenue allocations
	D	Share data between demand response software
	E	Improve coordination with Indian Trails intercity and explore creating a connection to Indian Trails service on I-75 corridor.
	F	Coordinate with the tribe
	G	Explore water transportation options.
	H	Coordinate with other tourism opportunities
2	A	Use the development of each transfer facility, park-and-ride and bus stop as a place-making and economic development opportunity.
	B	Work with MDOT to identify barriers and solutions to siting bus stops on state highways.
	C	Explore the potential to share resources between counties and intercity bus to develop transit stations.
	D	Actively participate in planning efforts at all levels to ensure that bus stop and bicycle/pedestrian infrastructure opportunities are not missed.
	E	Increase capacity to serve bicyclists
3	A	Provide high quality web-based Find-a-Ride information on all transportation provider websites.
	B	Explore the possibility of creating a regional “one-stop-shop” website.
	C	Support and promote updated 211 service
	D	Effectively integrate bicycle and pedestrian information
	E	Determine the level of staffing that will be provided for find-a-ride services.
	F	Invest in on-board GPS units that allow real-time transit information
4	A	Identify leadership for the process and identify someone who can fulfill the role of mobility manager.
	B	Complete a coordination plan, transportation inventory, and assess unmet needs.
	C	Explore opportunities to work with non-emergency medical transportation (NEMT) and human service organizations to streamline funding and expand service for all customers.

2 PRIORITIES FOR IMPLEMENTATION OF A COORDINATED SYSTEM

This chapter includes a discussion of steps leading to a dynamic and coordinated Grand Traverse regional transportation network. From the list of goals and strategies in Chapter 1, these implementation steps were prioritized based on feedback provided during the last stakeholder meeting and refined. Other strategies can be implemented after accomplishing initial priorities.

Priorities are not necessarily listed in order of importance. Each priority includes corresponding steps, beginning with easy preliminary steps and continuing the more time-consuming long-term steps.

Many of the actions and alternatives presented in this chapter are based on the extensive regional transportation coordination efforts of the Northwest Oregon Transportation Alliance (NWOTA). This effort was initiated by a partnership of public transportation providers serving five largely rural counties along the Oregon coast and along the Hood River, west and northwest of Portland. The five NWOTA agencies and the Grand Traverse partners share many of the same goals and challenges. NWOTA seeks to foster collaboration, improve transit connections between communities, and share resources to improve the cost effectiveness of their services and programs. The effort was launched in 2010 with a special grant from the US Department of Energy (USDOE) General Innovation Fund. The grant allowed the transit alliance to launch a pilot program of regional strategies aimed at increasing transit use by commuters and visitors, and decreasing community dependence on fossil fuels. NWOTA leaders have been very generous in sharing information about their efforts and they are eager to continue to share information with the Grand Traverse partners.

Priority 1: Improve coordination between transportation providers (public and private)

The following actions address a wide range of strategies for achieving the Grand Vision goals of effective regional cooperation and integration. These strategies should provide economic and quality of life benefits for both Traverse City and outlying communities. For example, if residents in a community such as Kalkaska are faced with limited transportation options for accessing jobs and services in Traverse City they will be more likely to relocate to the Traverse City area. In contrast, if transit provides affordable and reliable transportation they will be more likely to stay in Kalkaska.

This priority is focused on sustaining and improving the region's economy by making transit more usable and expanding transportation options for both residents and visitors.

Goals and Strategies

This priority focuses on implementation of Goal 1 and corresponding strategies A-F in Table 1 of Section 1 above.

Identified Champions

Michigan Land Use Institute, NWMCOG, BATA, Grand Traverse Band (GTB)

Funding and Resources

Partnerships, creativity, and successful grant writing are key to identifying new funds. Funding strategies will vary between planning and ongoing operations, and will be a mix of FTA, other federal programs, state, local, and private sector opportunities. Initial targets for funding include MDOT FTA planning grants, FTA 5311(c) Tribal Transit

program, the GTB 2% program, and the Rotary Club. Key resources for pursuing ongoing funding are:

- Guides to applicable federal grant programs from the Partnership for Sustainable Communities and the Community Transportation Association of America
- Grants.gov – federal grants
- Foundationcenter.org – private funds
- Michigan DOT
- Local relationships and partnerships

Implementation Steps: Year 1

The implementation steps in year one focus on beginning to plan service improvements and expansion; and developing the data necessary for service planning, as well as for negotiating revenue sharing for multi-agency services. Year one actions also focus on building partnerships to create the capacity to expand service.

Build relationships with people in other regions, such as with NWOTA and Shoreline Explorer, to share successes in coordinated regional service design

Continue exploring different models for providing improved and expanded regional service. There are many factors that will need to be considered. The following examples highlight these factors:

NWOTA Model

The collaborative service recently launched between Benzie Bus and BATA's Village Connector is similar to the types of partnerships and services being developed by NWOTA in Oregon. The NWOTA partners are developing a high level of operational coordination and unified branding, and in some cases they are sharing capital assets. However, they are not creating a new regional service.

- **Routes, Coverage and Funding** – Inter-community services will be developed as needed by the partners who currently operate in the service area involved. In the NWOTA region, some connecting routes did exist before the project, but except for one route from Portland to Tillamook, all other inter-county travel on public buses required a transfer – usually in a remote area somewhere near the county line. There was some informal honoring of each others' tickets, but by and large, transferring to the next county also required payment of a new fare. Following are several examples of how the NWOTA partners are developing services to improve this situation:
    - **Two-Way Buses** – Benton and Lincoln counties were cooperating to provide "Coast to Valley" service from Corvallis to Newport. A bus from each county would travel to the county line and exchange passengers at a remote rest area then go back to their respective starting points. Now each county runs buses in opposite directions along the entire route with no transfer. This system is more efficient and is also equitable with no need for revenue sharing.
    - **Shared Operational Costs** – Between Tillamook and Lincoln counties, the transfer point used to be Otis (pop. 8), and the layover time was sometimes several hours. Now the Tillamook bus runs all the way into Lincoln City and Lincoln County Transit helps defray Tillamook's extra operational costs.
    - **Improved Transfer with Commercial Intercity Connection** – Between Clatsop and Tillamook counties, the transfer point has been a site south of Cannon Beach. Now the transfer site is being moved to a better location in mid-town Cannon Beach, where riders can also access a for-profit intercity passenger coach that serves Portland and the north coast.
    - **Direct Service from Intercity Rail** – Travel from Portland to Astoria on the northern tier of the system (along the Columbia River Highway US30) required three transfers and about 6-8 hours. Now Clatsop County is working on a significant operational improvement to provide direct service from the Amtrak station in Kelso, Washington, to Astoria without a transfer. However, there is still room for improvement between Portland and the coast via this route.
- **Unified Branding** – Over the coming weeks, NWOTA will be implementing regional branding that will provide a good example of how the Grand Traverse partners could create unified branding while still preserving their own unique agency brands. The NWOTA partners have agreed that a universal brand is essential for unifying and marketing their collective identity and services. This brand is "North by Northwest Connector" along with a logo and the slogan "Be Driven". They are currently working

on co-branding activities for all of the five agency partners. This involves redesign of their website home pages and printed schedules to carry the CONNECTOR branding graphics along with their existing logos. The new agency websites will be launched over the next few weeks. Bus stops improvements are also being installed at key locations in each county including bus stop signs with a CONNECTOR emblem as well as the individual agency's branding. All websites, hard copy materials, signs and bus graphics will use common graphic elements, colors and messaging to reinforce the idea that each agency's service is part of a larger system.

Shoreline Explorer Model
It is possible that including private transportation providers and human service agencies could offer the best opportunities to expand and improve regional transportation options. In this case, Maine's Shoreline Explorer model may be a good fit. The Shoreline Explorer is a public-private partnership between a regional public transit service, intercity bus, Amtrak and three private trolley services. It features unified branding, a centralized website, coordinated schedules and mobility management by a non-profit human services agency.

Develop a regional transit pass or other fare coordination policies
Regional passes and fare coordination will be a challenging aspect of creating an effective regional public transportation system. As with all mobility management strategies, the fare system needs to be designed first and foremost to meet the needs of the target customers. If a three-day pass is ideal for tourists and a monthly pass is ideal for commuters, then both options should be offered. Just as importantly, passes should be easy to purchase.

We recommend following NWOTA's process and creating a Fare Policy Committee (FPC) to identify priorities, establish goals and objectives for a regional fare policy, and make decisions regarding actions to be adopted.

NWOTA's committee is composed of two representatives from each of the five NWOTA jurisdictions, and one transit director and one board member representing each agency's decision-making body. Two Oregon Department of Transportation (ODOT) representatives serve on the FPC in an advisory capacity, while the transit agency members were decision-makers. FPC members met four times over five months to develop goals and objectives, fare policy language, and regional solutions, and to select a preferred regional strategy.

Regional passes could be an important tool for achieving a more coordinated, efficient transportation system that is easier to use for key populations. There are several regional pass options that may be a good fit for the Grand Traverse region:

- **Commuter-Focused One-Month Passes -** A commuter-focused regional pass was rejected by NWOTA because Oregon Department of Employment statistics showed there was very limited cross-county commuting between the five partner counties. In contrast, this may be a good option for the Grand Traverse region where there are a significant number of employees who commute from outlying counties into Grand Traverse County. Commuter-focused passes could be implemented between BATA and any other the county transit services that transfer riders to BATA's village connectors.
- **Tourist-Focused Short Term Passes -** Based on an analysis of their visitor travel patterns, NWOTA chose to implement three-day and one-week passes that give the buyer one roundtrip to and from the coast and then unlimited rides within three coastal county transit systems. Similarly, the Grand Traverse partners would want to customize their pass benefits based on data about regional tourism. One possible option may include a BATA/Benzie pass for destinations including Crystal Lake, Interlochen, Traverse City and destinations along the shore in Leelanau County. Another option could be a pass for BATA services along with transportation services provided by the Grand Traverse Band of Ottawa & Chippewa Indians, providing for travel between the tribe's lodging and casino properties and other destinations.
- **Multi-Purpose Discount Passes -** Ann Arbor has implemented a discount pass that includes discounts on transit fares and private taxi fares combined with discounts at a variety of businesses. This pass is largely funded through downtown parking revenues. This offers a different model for a pass that could be targeted toward tourists or commuters in the Grand Traverse region. Discount passes could be created for use across multiple agencies and in multiple communities, or for a single-agency in one community.

The viability of regional passes will be closely linked to the design of inter-county services, and there are many factors to consider. NWOTA's Fare Policy Memorandum identifies several important elements of a regional pass program:

- **Revenue Sharing** – Revenue sharing would need to be addressed using one of the strategies discussed in more detail in the Years 2-5 implementation steps below. For NWOTA, in the short term there is a considerable amount of trust between partners needed for the regional pass program to work. For the first couple years, accountability for tracking and reporting pass sales is left up to each individual agency. The agency selling the pass currently keeps that revenue. If the pass program takes off in the future as hoped, the group will work out how to share revenue from pass sales, likely settling up at the end of each fiscal year. Another option considered by NWOTA was to use all revenue from pass sales to support NWOTA's administrative costs for the first couple years of the program.
- **Routes** –The NWOTA partners have been working to create more efficient routes between service areas designed primarily to serve tourists. In all cases their goal is to eliminate or greatly improve transfers at county boundaries.
- **Where to Sell Passes** – NWOTA's Fare Policy Memorandum includes a detailed discussion of the pros and cons of options including having passes sold by drivers,

transit agencies, intercity transit hubs, transit agency websites and other online venues, and local retailers. The NWOTA Fare Policy Committee recommended limiting sales venues to onboard and transit centers in the short term. In their one to five year objectives, they recommended exploring on-line sales and third party sales by venues including airports, visitor centers and other intercity transportation hubs.

- **Pass Design** – NWOTA chose a design with an embedded strip of foil to help prevent counterfeiting. In addition, their passes are printed with unique numbers on each pass for tracking the number of passes sold, and for tracking which drivers have which passes to keep drivers accountable for protecting tickets from being lost or stolen. Because their passes would not have any electronic reader strips embedded in them they could be printed by most online or local print shops. The passes have a space on them for the driver or ticket agent to write the final day of validation.

Develop and share cost allocation models for each public operator and use models as a basis for developing budgets and negotiating cost and revenue allocations.
Whether service is demand response, fixed route, public, or private, sharing rides between providers will require a method to fairly share costs.

Cost allocation for non-emergency medical transportation (NEMT), when done right, can offer a good model. For NEMT trips in Washington, brokers pay transportation providers based on a pre-negotiated rate, which may include mileage, time, a flat fee, or other factors. The cost of moving a passenger when she is the only person on board simply requires following the process described for cost allocation in the strategies document. When arranging for shared trips, each funder is invoiced for their rider's portion of the trip.

Data is the backbone of any cost sharing structure. The simpler the system is for the rider, the more complex the system is for the provider. The best way to appropriately share costs and revenue is to have accurate passenger counts, passenger mile count estimates, and other statistical bases on which fare revenues are assigned. Electronic fareboxes and automatic passenger counters (APCs) that provide for accurate headcounts are two technologies that make this sort of data tracking much easier and should be considered in future procurements.

Coordinate local route timing to facilitate transfers where Indian Trails intercity buses stop in the region during local transit operating hours.
Intercity schedules cannot change to coordinate with local transit, but partners can investigate opportunities to adjust local routes to coordinate with the intercity services. Furthermore, the Grand Traverse region can include Indian Trails and Greyhound contact information in a service guide along with arrival and departure times and how to take transit to get to and Indian Trails stop.

Pursue new intercity connection between Traverse City and Grayling
The Grand Traverse region is served by Indian Trails Schedule 1484 between Petoskey and Grand Rapids, one round trip per day, seven days a week. Riders have less than an

hour wait for a transfer in Grand Rapids to travel to Chicago, Kalamazoo, Lansing, Flint, and Detroit. Indian Trails also operates once a day on its other north-south routes through the lower peninsula. However, there is no east-west connector in the northern lower peninsula, and once-daily operations usually is inadequate to keep transfers less than an hour at all potential transfer points. This means that residents in the Grand Traverse region do not have viable intercity bus access to the north central and northeast areas of the lower peninsula, and poor access to East Lansing, Battle Creek, and Ann Arbor. This issue is especially problematic for area residents trying to access Michigan State, the University of Michigan and the state's five VA medical facilities.

This issue can be illustrated by a trip from Traverse City to Ann Arbor, which takes 11 hours and 20 minutes by bus due to a long layover in Kalamazoo, compared to just under 4 hours by car. Under the current level of service, access to East Lansing and Battle Creek are also poor.

The Grand Traverse region can work with the MDOT intercity bus coordinator and Indian Trails to address this gap by investigating the viability of daily service on an east-west bus route from Traverse City to Grayling and Standish, or increasing existing north-south routes to twice a day. A quick assessment would consider schedules, costs, and the ability to significantly reduce travel times for people in northern Michigan. The following figure illustrates this, with mark-ups of MDOT's map of Michigan's intercity bus system indicating the four VA medical facilities and the potential new connection.

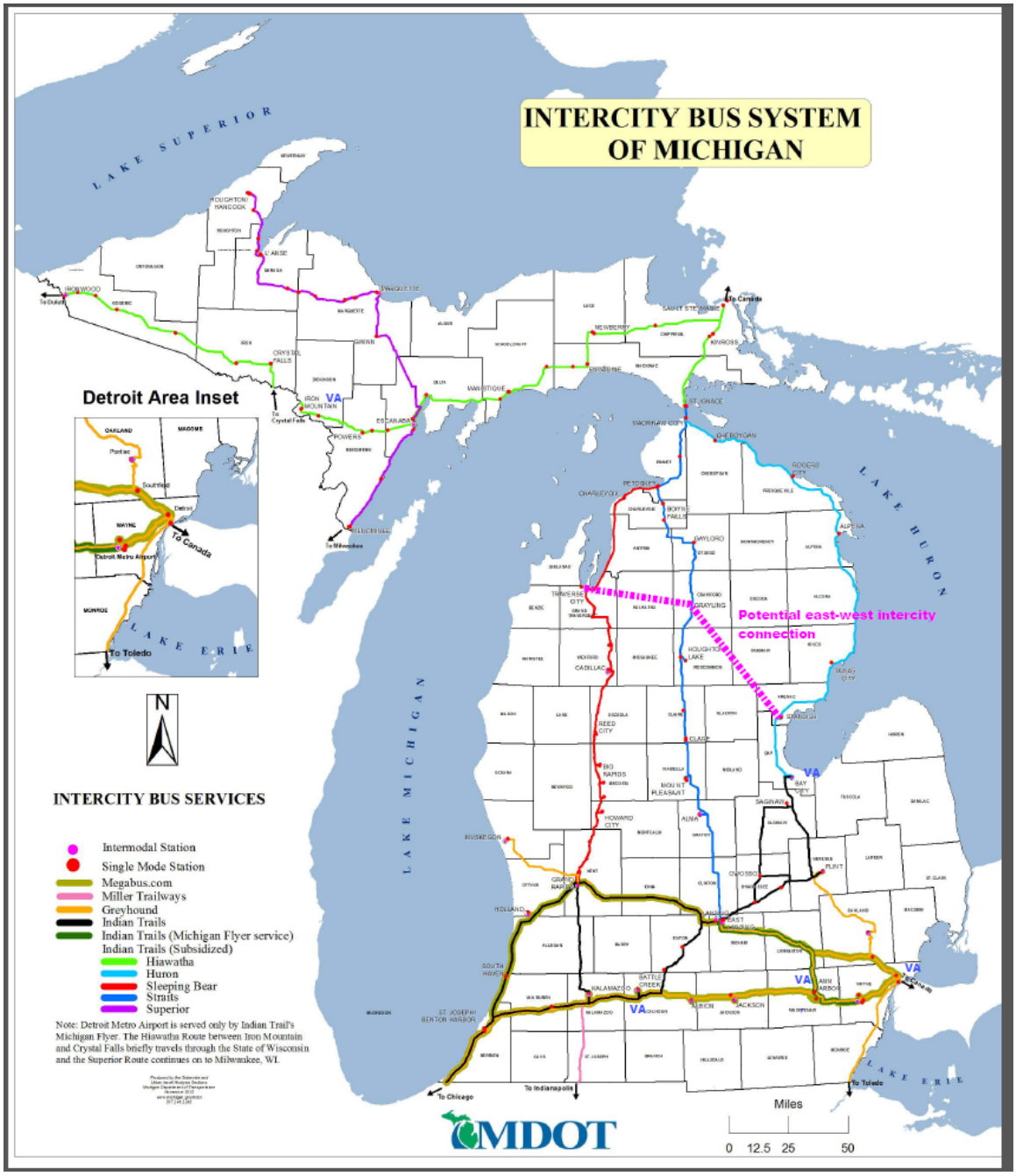


Figure 1: A new intercity route or increased frequency can shorten travel times by shortening distances or transfer times

If either of these options is viable, the FTA 5311(f) Intercity Bus program may help make them financially feasible. As usual, the available funding in this program is limited, and this need to reduce travel times for the region must rank higher than other needs in order to receive funding. Indian Trails is the primary recipient of 5311(f) funds in Michigan, but public transit agencies such as BATA and KPTA are also eligible to apply for Intercity Bus funds. Public intercity operators must meet requirements typically new to them

because effective service depends on interlining with the nationwide intercity bus network. This requires Federal Motor Carrier Safety Administration (FMCSA) authority to operate interstate, and typically requires a new insurance policy through the private sector instead of state pooled insurance that many local governments use.

To be considered intercity bus service, the service must meet all of the following conditions:

- Connects two or more urban areas not in close proximity.
- Provides regularly scheduled fixed route service with limited stops.
- Has the capacity for transporting baggage carried by passengers.
- Provides meaningful connections to other intercity passenger services (if available).

MAP-21 includes a provision for private carriers such as Greyhound and Indian Trails to provide in-kind match if a carrier meets the following requirements:

- Proper operating authority and insurance
- Should be operated preferably 7 days a week but no less than 5 days a week
- Should not duplicate existing subsidized or unsubsidized intercity bus service
- Feeder service should allow for proper ticketing and (incidental to passenger service) package express service

Information about local feeder services should be available to all customers of the nationwide through participation in the National Bus Traffic Association.

If MDOT has maximized its intercity bus budget, or if this gap in service is deemed low priority, partners can explore other methods of jointly funding service from Traverse City to Grayling. While not optimal, this service could be launched as a pilot project operating once or twice a week to test whether there is adequate demand.

Implementation Steps: Years 2-5

Expand Village Connectors across county lines

Current public transportation in the region stops at the county line, where a passenger must transfer to another service. Regional connections such as the Rail Runner in New Mexico and Bay Area Rapid Transit are most effective when local governments pool resources for a unified service. A shared regional intercity service could include the following elements:

- **Routes and Coverage** – Service could consist of routes radiating out from Traverse City with at least one route serving each of the outlying counties. The routes could be fixed or deviated fixed routes. However, it would probably be ideal to have a limited number of fixed stops sited near community centers with good bicycle/pedestrian access and high quality bus stop infrastructure. This would achieve reliability, efficient travel times for commuters and other riders, and would provide a comfortable and convenient experience. A significant benefit would be that transfers

at county boundaries would be eliminated, increasing efficiency and avoiding making riders from outlying counties wait for buses twice in bad weather.

- **Funding and Management** – Funding could be shared by all the partners and the service could be managed by an organization governed with representation from all the county transit agencies. Although it would be challenging to determine fair funding contributions from each county, that challenge could be less complex than determining fare sharing and revenue sharing for regional passes or services operated by one county serving adjacent counties.
- **Branding and Marketing** – All of the county transit agencies could continue to operate their local services **with** their current branding. However, the regional connections would have its own consistent brand throughout the region. For Grand Traverse, a unified brand that would be recognizable by visitors throughout the region would be particularly effective for making transit a bigger player in the regional tourist economy. As with NWOTA, a centralized website could be created.

Implement strategies for fare coordination and fare sharing.

Following the year one tasks of developing a cost allocation model along with procedures for periodically updating key data, the partners will have the information they need to take the next step of determining how to share revenue and costs for multi-agency projects such as new and improved inter-county services and regional passes.

The five-county NWOTA system is unique. The only systems NWOTA planners encountered that covered multiple agencies were in urban areas with highly integrated, technological data collection systems, such as a SMART card system. It is not reasonable to compare these systems to the NWOTA system because of the large investment in technology that would be required for NWOTA to make a smart card system work. In addition, they found that even with large amounts of data, sophisticated technological tracking, and personnel to process and analyze the data, these other systems encountered problems in administering interagency fare systems.

Since this high-tech urban approach was not viable for the region, several alternative options were identified for distributing the revenues among the agencies. However, it is important to note that in all cases the handling of revenues would need to be consistent with the requirements of grants – such as federal 5311, 5311(f) Intercity, and 5310 senior and disabled funding – received by regional partners.

- The agencies could continually track each pass user's trip origination/destination to aid in fare reconciliation at the end of the month or quarter;
- The agencies could divide the pass revenues evenly (thereby reducing the burden of tracking the location of boardings and alightings); or
- After covering the basic administrative costs for the regional pass program, NWOTA could use the remaining revenue to support the CONNECTOR operating costs. By investing this money in the nonprofit NWOTA organization, the pass revenue could be used as a grant match or could be applied to long-term strategies for growth and continued success.

The integration of the NWOTA fare system will require each agency to determine an average fare rate for its agency and to select a site manager for the system. The Fare Policy Committee determined that managing and administering the system could be done by NWOTA administrative staff.

Even though they found no other systems similar to the one they were working to create, they found that revenue sharing case studies from different systems (including a rail line between Delaware and Pennsylvania) offered relevant and valuable lessons including:

- Fare revenue sharing can be done with low technology solutions.
- Precise equity is only possible with extensive, reliable ridership data. Even between two robust transit systems, data collection may not be good enough to ensure that both agencies can be certain that they are fairly compensated.
- The NWOTA partner agencies must be realistic about their data collection efforts and their efforts to fairly share fares.
- Revenue sharing relies on good data collection. Without good rider data by segment, this revenue sharing system would not work.
- The partners need to agree on two key items: (1) average fare rate (this would average the cost of fares across zones and types of fares), and (2) reimbursement rates (this is a percentage to compensate the provider based on the cost of delivering service).
- Administrative resources are required to consolidate fare data, apply formulas for reimbursement, and distribute revenue.
- Regular intervals of revenue sharing should be established up front (e.g., quarterly or annually).

Use a cost allocation model as a basis for developing budgets and negotiating cost and revenue allocations.

Periodically update the cost allocation model using the latest data. Data quality should improve over the five year implementation period as the partners implement and refine data collection and sharing procedures.

Develop a data-sharing network

Implement and refine data collection and sharing procedures.

Coordinate with Indian Trails intercity

- Work with Indian Trails to coordinate and improve bus stops so that local and intercity buses use the same bus stops whenever possible, and to ensure that bus stops have good quality infrastructure and signage. These bus stops should be located near community centers with good bicycle and pedestrian access as well as vehicle parking.

- Launch and market pilot service to improve intercity travel time.

- Work with Indian Trails to explore potential funding sources to increase the frequency of service.

Priority 2: Integrate transit with the tourism economy

"Part of Traverse City's popularity -- in addition to its breathtaking natural surroundings -- is its charm. It's no wonder Traverse City is consistently voted as one of America's most charming small towns."
– Traverse City Convention & Visitors Bureau

The transportation community has the opportunity to work with the full spectrum of leaders in the regional tourism and events economy to tap into their creativity and identify opportunities for partnerships and expanded service. A targeted conversation can explore opportunities involving events, businesses, and locations that are attracting people who are already predisposed to riding a bike or riding a bus, getting around without a car. Another opportunity is to look at events that are creating congestion and parking problems.

Both long-standing events and attractions such as the National Cherry Festival, Sleeping Bear Dunes, Film Festival, casinos, and Grand Traverse Resort; and more recent additions such as the Microbrew & Music Festival, TC Cycle Pub represent opportunities for partnerships.

Goals and Strategies
This priority focuses on implementation of Goal 1 and corresponding strategy H in Table 1 of Section 1 above.

Identified Champions
Michigan Land Use Institute, NWMCOG, BATA, Grand Traverse Band (GTB)

Funding and Resources
Building partnerships within the tourism economy may be a good way to increase resources.

Implementation Steps: Year 1

Assess potential for partnerships and service expansion by reaching out to leaders in the tourism and events economy.
Year one should focus on relationship building and collecting ideas. A series of one-on-one interviews with 20 key stakeholders would serve as an effective mechanism to accomplish this, followed by a well-organized community event. Outreach should include both long-established leaders as well as new players. Stakeholders include the following:

- **Grand Traverse Band of Ottawa & Chippewa Indians -** The partners should work with the tribe to explore options for collaborating to expand and improve regional transportation services. The Grand Traverse Band of Ottawa and Chippewa Indians is a key coordination partner as one of the largest employers in the area, the operator of key tourism destinations, an organization whose members need transportation, a potential funder, and a potential transportation operator. The tribe would be eligible for FTA's Tribal Transit Program Section 5311(c) as well as any other FTA program open to governments serving rural areas. The Tribal Transit Program (TTP) provides direct funding to federally-recognized Indian tribes for the purpose of providing public transportation service on and around Indian reservations in rural areas. Eligible projects include capital, operating, and planning studies. Funding is available at 100% federal share, although FTA is interested in the Tribe's financial commitment to proposed projects and the ability to leverage other funding. Funds are competitively allocated (Federal Transit Administration, 2012).

Sleeping Bear Dunes pathway

- **Sleeping Bear Dunes National Lakeshore Park System** - As a unit of the National Park Service, the Sleeping Bear Dunes park system potentially offers significant funding opportunities for expanding and improving tourist oriented services that include this destination. BATA can work with park officials to analyze visitation data and explore the best structure for their relationship – such as an intergovernmental agreement. We recommend against a concessionaire relationship since that removes flexibility to use FTA funds for operating.
- **Major employers** – The lodging industry in particular likely has significant needs for reliable and affordable employee job access. Services developed in partnership with this industry could potentially be shared with other large employers.

- **Event organizers and leaders of tourism** – Event organizers and other tourism leaders including the lodging industry, are important partners to engage for exploring service expansions and modifications along with funding strategies for convenient transportation options for tourists and other customers. These discussions should include developing strategies for improving transit service to the airport.

TC Cycle Pub

- **Private transportation providers** - Meet with private transportation providers to explore opportunities to collaborate and coordinate services. Such opportunities could include cross-advertising on websites; service to festivals and other events; increasing service to high-demand destinations; and possibly public/private fare passes such as those discussed above.

Find opportunities to practice coordination around events

BATA is already coordinating with organizers of the National Cherry Festival to provide shuttle services. This can be expanded to other events, especially those that are already promoting other forms of transportation. Establish relationships and contracts documenting services with tourism attractions.

Improve transportation information on the Internet

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, both tourists and locals. In Michigan there is an effort to create 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 they implement a statewide upgrade of the 2-1-1 website. It will be important to both continuously maintain up-to-date information for all transportation providers and to make it easy to find this website. There should be links to the revised 2-1-1 site from each public transit website, all human services websites and possibly other stakeholder websites. This link should also be included on hard copy materials such as bus schedules.

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)

Additional information on web-based tools and models for coordination can be found in Appendix B.

Educate Prospective Transit Users

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.

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.

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.

Finally, a travel training program focused on people with disabilities helps people to improve the knowledge of routes, stop locations, fares, and other aspects of fixed route bus service. Transit advocacy organizations have teamed up with transit providers in other parts of the country to host live demonstrations of how to board the bus, pay, navigate transit schedules and other information, and properly place a bike on the bike rack. These educational events have been highly successful when staged as a component of a larger community gathering including fairs, outdoor concerts, and festivals.

Take Advantage of Media Opportunities

Include all transportation options, or a link to them, on all community websites describing transportation services. The approach can be described as "no wrong door". Identify opportunities to market transit access to tourist destinations, including advertising transit access to biking and boating opportunities in hotel rooms.

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.

Priority 3: Consider Water Transportation

The region, led by the Grand Traverse Band of Indians, has started investing in boat docks that can be used for ferry service between the peninsulas and to islands in Lake Michigan. This service could cut down travel time extensively. For example, travel between tribal headquarters in Peshawbestown and Old Mission State Park is 39 miles by road, or 50 minutes without traffic. By comparison the trip is 6 miles, or 30 minutes by boat. The GTB is interested both from the perspective of carrying tourists to its resort and casinos and from providing more convenient transportation for tribal members throughout the region to access tribal resources at its headquarters in Peshawbestown. The following map shows potential routes. The orange route was selected to begin exploring financial feasibility.

Figure 2: Potential ferry routes

Goals and Strategies

This priority focuses on implementation of Goal 1 F and G in Table 1 of Section 1 above.

Identified Champions

Grand Traverse Band (GTB)

Funding and Resources

Planning is eligible under various Federal Highways and Federal Transit programs including FTA 5311(c) Tribal Transit. Ongoing operations may be self-supporting. If not,

services must be carefully designed to avoid charter regulations in order to receive FTA or FHWA funds.

Diversity can be the key to success. In a California example, a tribe partnered with a National Park to attract planning funding for a river transit service that also served visitors.

Implementation Steps: Year 1

Select a service lead
The organization leading creation of the ferry service could be the Grand Traverse Tribe, a public land agency, a local or regional transit member, or a private party. Depending on the service lead, costs and restrictions on funding availability may vary.

Consider all the possible parties that may be interested in connecting to a water ferry
Besides tribal members and facilities, other interested parties may be those tied to tourism, human service agencies in Leelanau, Antrim, and Charlevoix Counties, economic development, MDOT, and businesses currently operating ferries.

Create a Water Ferry Service Plan
This may be contracted out. The plan should include the following tasks:

1. Begin with pre-planning outreach to all public and private transportation service and tourism service providers that may be interested in tying in to the new water service
2. Outline a service vision and corresponding service goals
3. Define proposed service including schedules, routes, preliminary service stops, and phasing
4. Determine watercraft type
5. Determine if additional facilities are needed
6. Perform service operations cost modeling (The Volpe Ferry Lifecycle Cost Model is recommended: http://www.volpe.dot.gov/coi/ppoa/publiclands/projects/busandferrycost.html) and add costs for facilities if necessary. Keep in mind that costs can vary widely depending on watercraft choice, fuel costs, how the service is managed and operated and other factors.
7. Formalize training program, outline licensing, and define insurance supplier
8. Determine ticket sales and marketing strategy that includes initial and long-term objectives

Pursue funding in preparation for start of service
For example, the Yurok Tribe used funds within its economic development office to invest in a new river transportation operation on the Klamath River in northern California. The plan concluded that ongoing operating costs may be negligible if the tribe successfully markets to tourists and uses profits from this part of the business to subsidize use by tribal members.

Investigators will need to coordinate with FHWA ferry programs and tribal or rural FTA programs to work through nuances and specific concerns relating to using DOT funding for water transportation.

Purchase boats
For example the Yurok Tribe purchased an existing business including its boats.

Years 2-5 Steps

Formalize service and financial commitments and expectations in agreements with partners/service locations
This can include marketing, ticket sales, concessions, boat docks, operators.

Implement a first phase of service at the beginning of the tourist season
Begin with a simple route and schedule and expand over time. Instead of letting demand for the service drive growth, grow only as fast as proper training and administrative support can be maintained.

Expand services as the business plan is updated
Initial operations will help build a more accurate estimation of costs and revenue, and will help refine successful partnerships and procedures.

Test new visitor services
Visitor services may include interpretive tours, private events, cocktail cruises, and other common water services in addition to scheduled trips.

Estimated Costs

It is beyond the scope of this project to study the feasibility of ferry service. However we were able to develop a ballpark estimate using the *Ferry Lifecycle Cost Model for Federal Land Management Agencies* developed by the Volpe Transportation Center (Kay 2011). This spreadsheet-based model estimates capital, operating, and total costs for various vessels that could be used to provide service on a specific route. Using Peshawbestown to Old Mission, we assumed 60 passengers per day and 3 round trips. We also used the model's default values. The model outputs:

- Between $360 and $501 per vessel hour including operating and capital costs, depending on boat size.
- If assumptions are correct, the cost per passenger trip is $19 to $27.
- Three 12-30 passenger skiffs or two 31-50 passenger pontoons would be required to operate this route, including a spare.
- $130,000 per year to operate 114 days per year, 3 hours per day using passenger skiffs. This equates to 3 round trips.
- The more service, the lower the cost per hour because of efficiencies of scale.
- If passenger loads or safety considerations lead to larger boats, the cost per vessel hour increases; cost per passenger may not since costs are divided between more passengers. The ability to transport cars increases costs.

User inputs and a summary of outputs is included in Appendix A. This model and the user's guide can be valuable in developing a business plan or feasibility study.

Priority 4: Integrate Transportation with Regional Planning

Transit works best when supported by good land use, road connectivity, and complete streets. The lack of coordination has resulted in commercial development site designs that require buses to drive through parking lots to drop off and pick up passengers. In many locations there is no bus stop infrastructure on the state highway and no safe way for passengers to walk between the road and the entrance of the commercial buildings. Driving through large parking lots typically causes significant travel time increases and also increases safety concerns as drivers negotiate unpredictable parking lot traffic and pedestrians.

This is illustrated by the Interlochen Loop Route. Initial reports from the launch of BATA's new Village Connector service indicate that most of the Village Connectors are operating with efficient travel times because they have a limited number of stops linking residential/commercial nodes in rural areas on roads that are largely without commercial strip development. In contrast, on the Interlochen Loop Route that is coordinated with the Benzie Bus, travel time is a barrier for riders seeking to use the service for commuting to work. This appears to be the result of the development patterns and the need to travel through parking lots.

It will be important for the region to take steps to prevent these issues from reoccurring in other areas. The following short, medium and long term strategies and implementation actions are recommended to address these issues.

Goals and Strategies

This priority focuses on implementation of Goal 2, strategies B and D in Table 1 of Section 1 above.

Identified Champions

Northwest Michigan Council of Governments, Michigan Land Use Institute, MDOT

Funding and Resources

For new construction, developers can often cover the cost of shelters and connectivity. Street side improvements may be incorporated into road construction costs with minimal impact when identified during the planning phase. After-the-fact application of these principals will require dedicated funding through FTA 5309 Capital Improvements, competitive livability grants, or creative funding such as described under Priority 1.

Implementation Steps: Year 1

Consider modifying services to include express commuter service and regular midday service until bus stops can be moved out of parking lots

To meet job access needs in the short term, an effective approach may be to provide both express commuter and regular midday service on some of the routes that go through multiple parking lots. Express service could operate during peak hours, would have fewer stops and would not include any stops that required driving through large parking lots. The regular service would continue to operate as the route is currently designed. The two services would probably need to be named and marketed as separate services.

Improve bus stop infrastructure at two pilot locations

Identify two locations where bus stops could be relocated so that they meet the following criteria:

- Efficient road-side location with a safe bus pull-out.
- Feasibility of installing high quality infrastructure including signage, a bench, and a shelter.
- Safe and convenient bicycle/pedestrian/wheelchair access exists or could be created both along the road, and from the road to the front door of nearby commercial destinations.

The short term tasks would be identifying the locations and communicating with MDOT and private landowners adjacent to the site to ensure that they are willing to collaborate on project implementation. The following diagrams illustrate the concepts for connectivity from Transit Cooperative Research Program (TCRP) Report 19: *Guidelines for the Location and Design of Bus Stops* (Texas Transportation Institute, 1996).

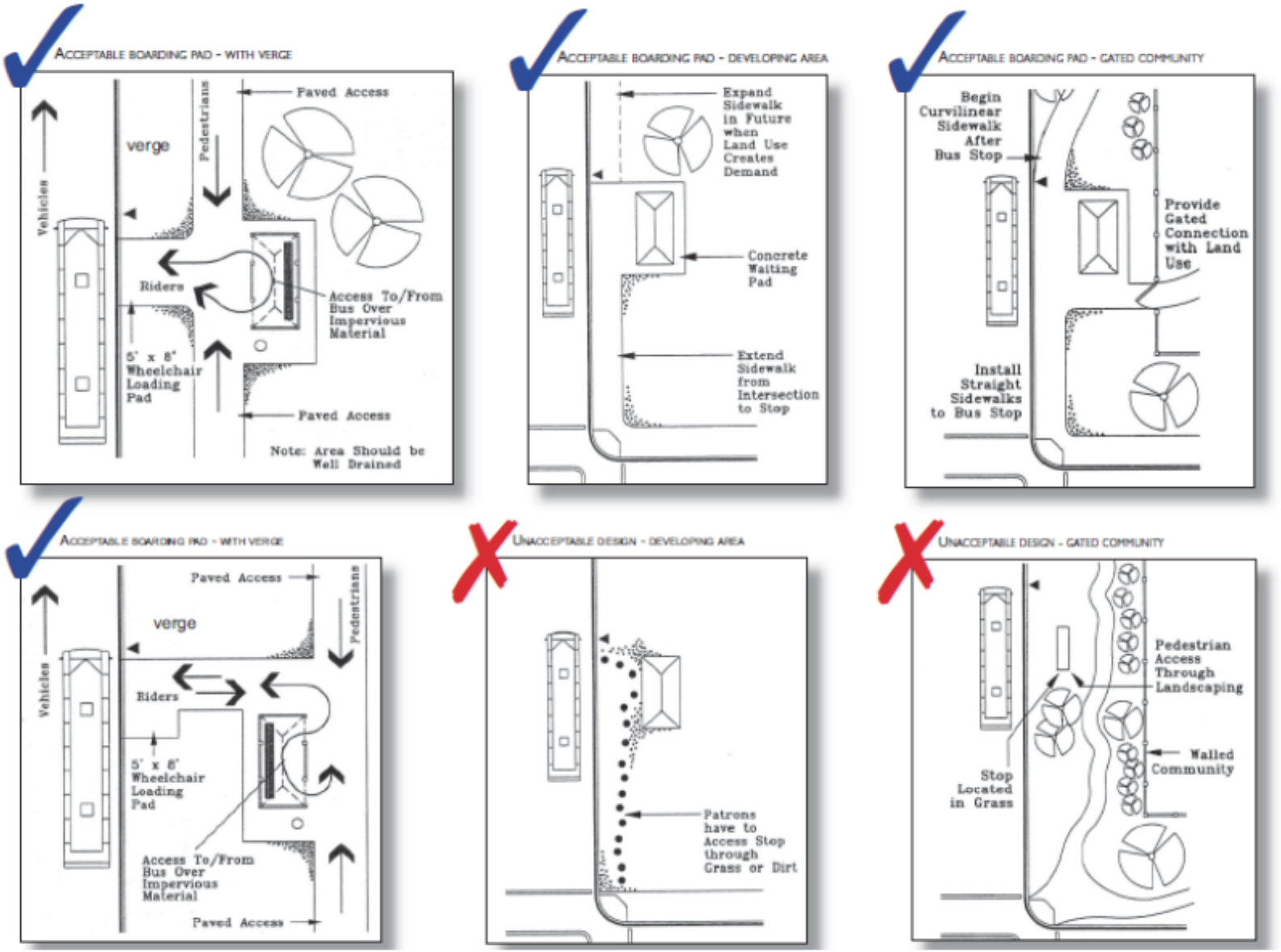


Figure 3: Pedestrians including people using wheelchairs have paved surface access to the bus shelter and the bus.

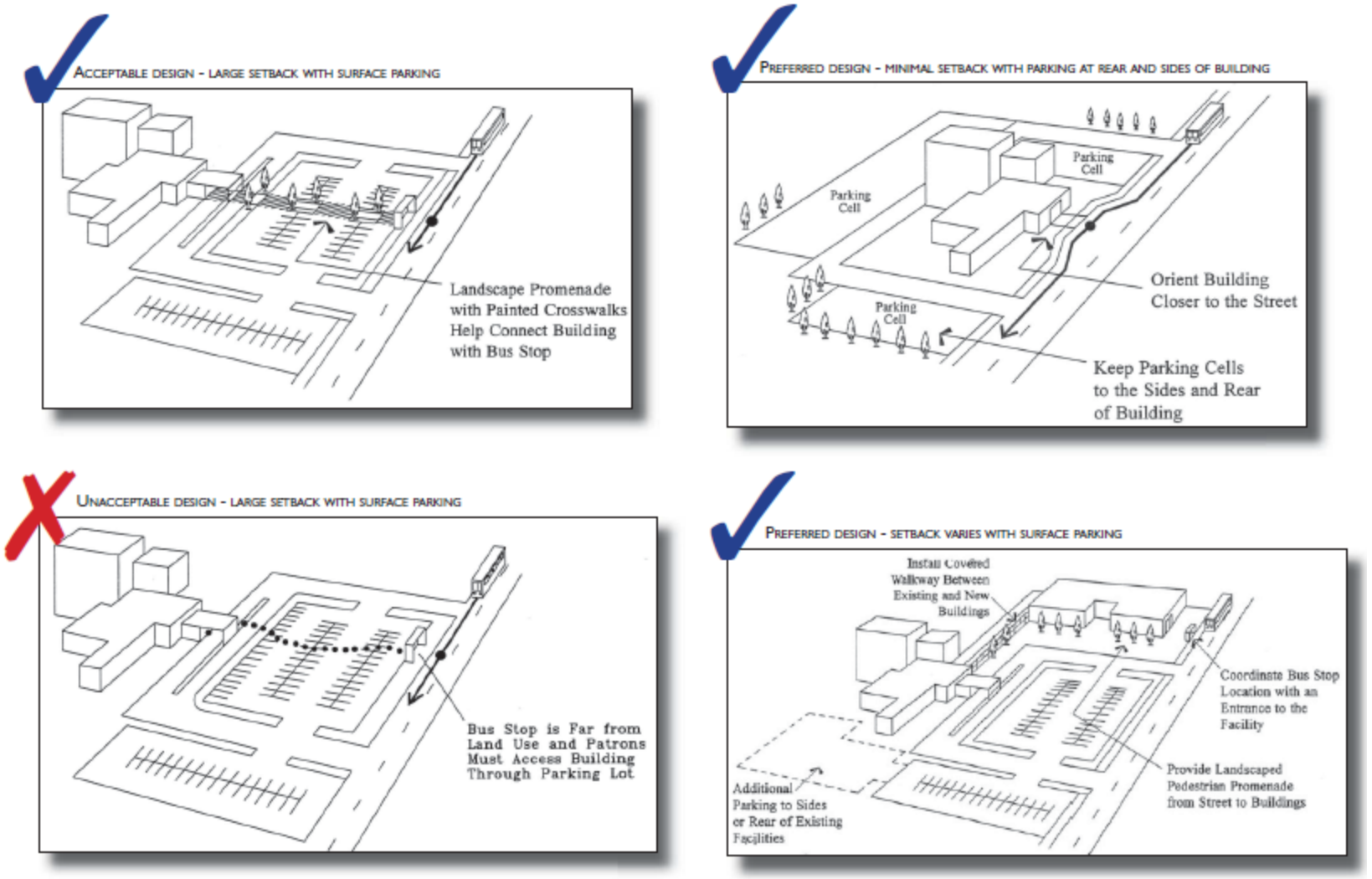


Figure 4: Safe pedestrian access between the bus and the front door without travel through the parking lot.

Develop local guidelines for transit stops and development review

Establish a working group with the stakeholders necessary to draft guidelines for bus stops and development review that will have a strong chance of being adopted by government decision-making bodies. These guidelines would be designed to ensure that infrastructure for bus stops, bicyclists and pedestrians is fully considered and integrated as part of the planning process for road construction and upgrades, as well as new residential and commercial development. This effort should also address both the siting and site design of important government and commercial destinations. Finally, the group could explore policies to encourage development of commercial and residential nodes instead of strip development.

TCRP Report 19 provides detailed information that serves as a good starting point. Across the country examples exist that build upon this report and includes more recent concepts from ADA and complete streets literature, such as Missoula, Montana; Pierce County, Washington; and Louisville, Kentucky. Oregon DOT recently published a primer for transit in small cities which includes a good discussion of transit stops on highways, and examples of design that supports transit use (Oregon Transit and Growth Management Program, 2013).

Figure 5: Plan for improvements on Main Street in Yachat, Oregon, which is also U.S. 101

Implementation Steps: Years 2-5

Build more well-connected bus stops

Secure funding, design, and build more model bus stops. These projects could include building sidewalks, trails and/or bike lanes, as well as parking lot modifications to safely connect bus stops to the entrance of commercial destinations.

Implement guidelines for transit stops and development review

Work with local government bodies to adopt policies. Then participate actively in the development review process to implement the policies on a case-by-case basis. Active, constructive, collaborative participation in the process is essential for developing

procedures for effective implementation, and for troubleshooting issues that will inevitably arise and that could have the potential to derail the policies.

Continue to implement and improve policies and procedures, and use models developed and lessons learned through the pilot projects to implement infrastructure improvements and transit-friendly development patterns region-wide.

Priority 5: Regional Leadership

As they take steps to expand and improve transportation options in the region, the Grand Traverse partners will need to decide whether to continue with the current informal leadership structure or whether to create one or more formal organizations to provide leadership.

There are a number of Mobility Management tasks that could be handled by a regional organization including:

- Inter-county route planning.
- Coordinating data sharing.
- Coordinating regional funding efforts and revenue sharing
- Building relationships and facilitating stakeholder meetings with the private sector, human services and others to broaden and strengthen partnerships.
- Marketing, including developing and maintaining one-call one-click services such as a centralized website similar to Get Around the Western U.P.

Additionally, Transportation Demand Management (TDM) efforts could be handled by a regional organization. TDM and mobility management are closely related and complementary, so they could potentially be handled by the same organization. Both revolve around helping people find transportation options and better coordinating those options. However, TDM typically focuses on commuters and large employers, while mobility management typically focuses on people with disabilities, seniors, and people with low incomes (we have included tourists and event goers as an additional market segment for mobility management). It is important to recognize the differences between the needs of the user groups and to tailor services, marketing, and coordination with the key players appropriately.

Goals and Strategies

This priority focuses on implementation of Goal 4 Strategy A in Table 1 of Section 1 above.

Identified Champions

Northwest Michigan Council of Governments, Michigan Land Use Institute, transit providers

Funding and Resources

Many communities had used FTA 5316 New Freedom funds for their mobility management, which was consolidated into the general public transportation programs

und MAP-21. This means that the costs of mobility management now must show cost savings or increased access to compete for FTA 5311 rural general public funds against bus operations.

Where mobility management is tied to transportation demand management, Congestion Mitigation and Air Quality (CMAQ) funds can be used, especially in areas of non-attainment. Mobility management is an eligible cost under most FTA operating grants, including the rural general public program and the tribal transit program. Grants often are available through other federal programs outside the Department of Transportation. For example, Northwest Michigan and the Greater Yellowstone have leveraged Department of Energy grants. The new Administration for Community Living, part of the Department of Health and Human Services, may become interested in this type of work. Funds can also come from a partnership with local businesses. In short, finding funding requires the ability to successfully apply for and implement grants from public and private sources, and creativity in developing partnerships.

Implementation Steps: Year 1

Research types of formal regional organizations that could be created under current Michigan statutes.

The regional leadership approach taken by the Grand Traverse partners will likely be determined by the scope and ambitiousness of the regional mobility management actions they decide to implement. It is important to note that the following models are not necessarily exclusive of each other. For example, in Oregon a non-profit foundation was created as a separate but complementary organization to support NWOTA's efforts. Similarly, the non-profit organization envisioned by MLUI could be complementary to any of the models presented below.

Staffing for regional mobility management could be incorporated into any of the models below. Many of the most effective mobility management programs around the nation are operated by non-profit organizations with a strong focus on human services coordination. In the Grand Traverse region, the most effective strategy for developing funding for mobility management may be to focus on programs that will expand and improve regional transportation options for job access and for enhancing the tourism-based economy.

- **Non-Profit Mobility Management and TDM Organization -** The Michigan Land Use Institute (MLUI) is working on a four to five-year plan for creation of a new non-profit organization that would help facilitate and implement mobility management and TDM strategies with a focus on job access and economic development. The organization would build relationships with employers and would work with public transportation providers, the tribe and MDOT to design and implement programs.
- **Friends of Regional Transit Foundation -** The Grand Traverse partners could explore the potential to follow the Oregon model of creating a non-profit 501(c)(3) foundation that will serve as a "friends of transit" group assisting with fundraising for

multi-modal transportation projects and programs. In NWOTA's service area, the North by Northwest Transportation Foundation is governed by a board of community members representing businesses, higher education and other civic interests in all five counties. Their goal is that the partnership between the Foundation and NWOTA will play a key role in supporting the success and sustainability of the regional system. As NWOTA identifies needs that the Foundation might be able to help fund, a formal request to the Foundation will be made for each individual project or activity. They have created the foundation as part of a long term goal of overhauling the current grant-dependent funding model for transit and achieving true sustainability through a departure from dependence on unsecure revenue sources and the creation of reliable funding streams.

- **NWOTA Model -** The Northwest Oregon Transit Alliance was formed by intergovernmental agreement (IGA) and is considered a separate public entity under Oregon statute. When originally formed, one of the five partners was named as fiduciary for the purposes of administering their initial grant funding. NWOTA is now going through an amendment process to re-define the fiduciary provisions of their IGA. While not yet final, the new provisions should allow them to operate independently so that they don't have to use one of their parent agencies as a financial pass-through. NWOTA members are willing to share their insights about the process of creating a regional organization. One of the partners who played a lead role in this process is Jay Flint, who is a licensed attorney in addition to his roles as Executive Director for Sunset Empire Transportation District and Chair of NWOTA.

- **Regional Transit Authority (RTA) -** If creation of an RTA is provided for under Michigan law, or if the partners want to lobby to create this authority, this option would go a step further than the NWOTA model. An RTA or something similar to it would likely be necessary for implementing a new regional intercity service as described in concept above under Priority 1.

  A good example is the Rio Metro Regional Transit District in New Mexico. The Rio Metro RTA Board of Directors consists of 17 elected and appointed officials representing three counties and eight communities that operate local public transportation systems. The RTA was built based on longstanding relationships within the regional COG. The stakeholders worked through several sessions of the New Mexico legislature to pass the statutory authority to create an RTA. The RTA operates the regional Rail Runner Express rail service and also has authority to allocate bus transit funding between the member transit systems.

- **Leadership through COG, MLUI and Working Groups -** The partners could continue to proceed with their current, somewhat dispersed leadership structure. Improved and expanded regional transportation services would be implemented by collaboration and memorandums of understanding between two or more of the public transit agencies, also potentially including partners such as the tribe and private transportation providers.

Decide whether one or more formal organizations or informal working groups should be formed to lead ongoing efforts.
Don't let this process delay implementation of beneficial short term actions that don't require regional leadership, such as service improvements that can be coordinated between two adjacent counties.

Implementation Steps Years 2-5

Organize and establish the organizational structures and groups necessary for providing leadership.

Implement moderately ambitious, achievable actions such as a centralized website and regional transit branding.

As the leadership structure matures, focus on tackling more ambitious actions and also focus on addressing long term financial sustainability for improved and expanded regional transportation.

Changes over time

All of the goals and strategies identified in Chapter 1, and prioritized in this chapter, are useful for coordination of transportation and community assets and resources in the region. As coordination evolves through additional meetings and strategies are implemented, the transportation coordination environment is expected to change. In response to these changes, a couple of things will occur:

- Strategies may be able to be pooled together so multiple strategies can be implemented during a new project.
- As coordination continues, new emerging champions may allow some strategies to be implemented faster than anticipated.
- The direction of coordination planning through this document, and corresponding goals and strategies, may change. This plan will need to be improved and updated over time to ensure it continues to provide accurate and up to date guidance.

APPENDIX A: FERRY TRANSPORTATION CONCEPTS

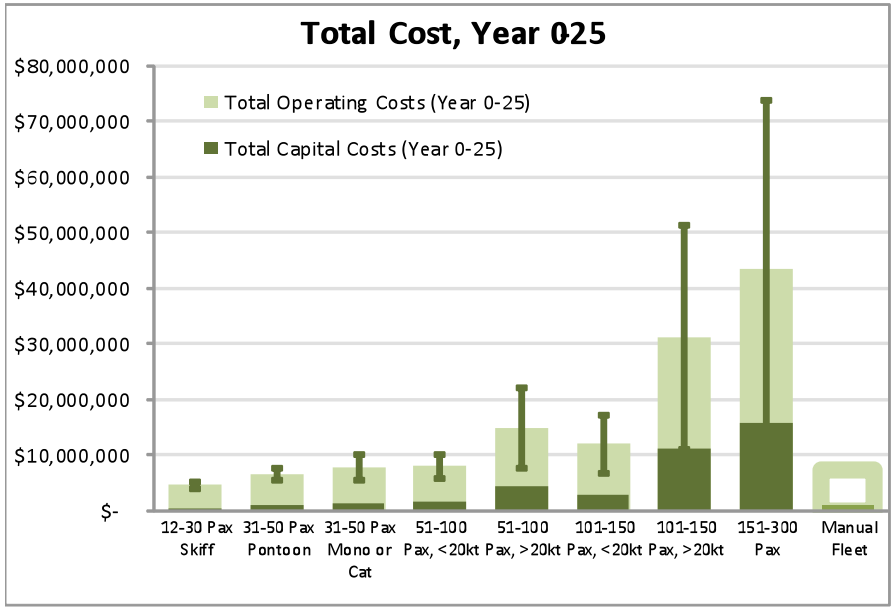
The following tables show model output for the route shown in orange between Peshawbestown and Old Mission. We assumed 60 passengers per day and 3 round trips, then used the model's default values. A summary of model outputs:

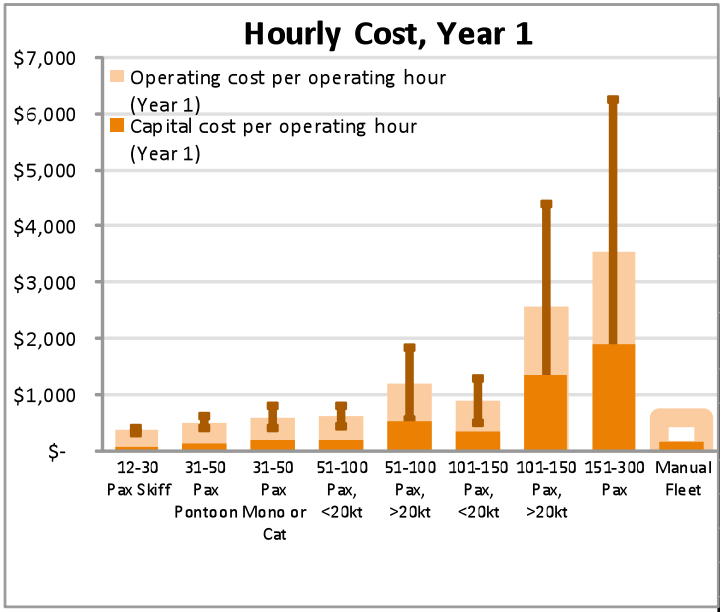
- Between $360 and $501 per vessel hour including operating and capital costs, depending on boat size.
- If assumptions are correct, the cost per passenger trip is $19 to $27.
- Three 12-30 passenger skiffs or two 31-50 passenger pontoons would be required to operate this route, including a spare.
- $130,000 per year to operate 114 days per year, 3 hours per day using passenger skiffs. This equates to 3 round trips.
- The more service, the lower the cost per hour because of efficiencies of scale.
- If passenger loads or safety considerations lead to larger boats, the cost per vessel hour increases; cost per passenger may not since costs are divided between more passengers. The ability to transport cars increases costs.

User Inputs

ENTER VALUE			SELECT APPROPRIATE VALUE (OR DEFAULT)	
Is this a new service, or will it be a new route added to an existing system?	New Service		Service Speed/ Max Speed=	0.8
What is the estimated round-trip route distance in nautical miles?	12		Stop Time (min)	5
How many stops will there be?	2		Labor Overhead Rate	20%
Will the ferry transport vehicles?	No		Crew Hours/Vessel Operating Hours	1.25
If yes, how many during the peak hour?			Captain Hourly Wage Rate	$ 21.23
Peak Season			Deckhand Hourly Wage Rate	$ 12.89
How many days in the peak season?	90		Diesel Fuel Cost/Gallon	$ 2.95
What is the estimated peak hour passenger demand on the peak segment?	25		Annual Change in diesel cost/gallon	10%
What is the estimated daily passenger demand?	60		Lubricant Cost/Gallon	$ 8.00
How many hours per day will the service operate during peak season?	3		Annual Vessel Depreciation (as % of vessel purchase price)	2.3%
Shoulder Season			Annual inflation	2.0%
How many days in the shoulder season?	24		Loan period (years)	20
What is the estimated peak hour passenger demand on the peak segment?	25		Loan Interest rate	6%
What is the estimated daily passenger demand?	60		Annual Marketing, Admin cost per passenger	$ 0.60
How many hours per day will the service operate during shoulder season?	3		Is a spare vessel needed?	Yes
Can spare vessels be used elsewhere during the shoulder season?	No		Vessel owner equity / down payment (as % of vessel costs)	20%
Off-Season			On average, how old will the vessels used for the service be?	6-10 Years
Will the service operate year-round?	No			
If not: How many days will the vessels operate on other routes/services?	-			

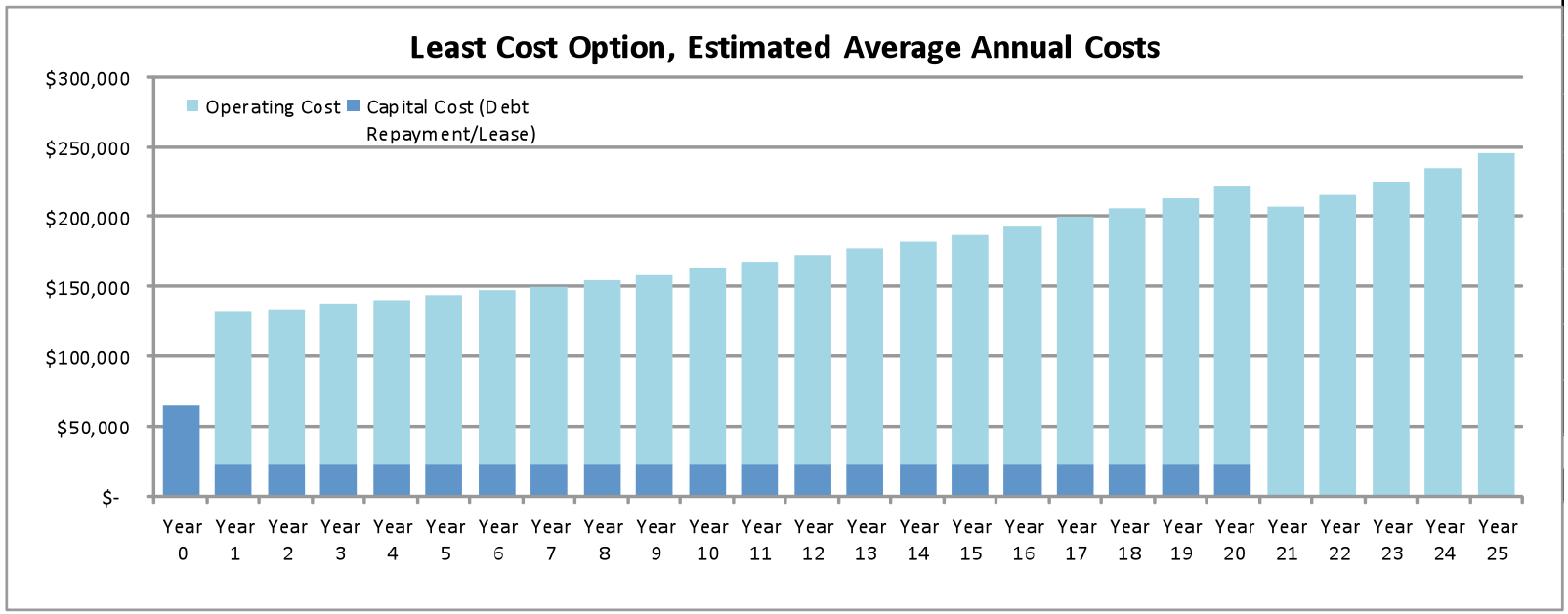
What is the estimated annual passenger demand	6,840	Average age of purchased vessels	7.5
Total operating hours on this route/service	365	Price of vessels as % of new price	83%





Least Cost Optior 2 12-30 Pax Skiff Vessels

**Note: All costs in year 2010 dollars*



AVERAGE COSTS

	12-30 Pax Skiff	31-50 Pax Pontoon	31-50 Pax Mono or Cat	51-100 Pax, <20kt	51-100 Pax, >20kt	101-150 Pax, <20kt	101-150 Pax, >20kt	151-300 Pax
Service Overview								
Number of Vessels (including spare)	2	2	2	2	2	2	2	2
Service Speed (knots)	20	14	16	13	22	14	22	21
Round-Trip time (min)	64	76	72	81	61	76	61	63
Minimum Headway (min)	64	76	72	81	61	76	61	63
Maximum Headway (min)	64	76	72	81	61	76	61	63
Average Cost Summary								
Estimated Cost per Vessel	$ 160,000	$ 330,000	$ 480,000	$ 510,000	$ 1,430,000	$ 910,000	$ 3,600,000	$ 5,060,000
Equity Investment	$ 64,545	$ 132,400	$ 193,635	$ 202,738	$ 570,975	$ 364,100	$ 1,439,850	$ 2,022,410
Payment	$ 22,300	$ 45,600	$ 66,700	$ 69,800	$ 196,400	$ 125,300	$ 495,200	$ 695,600
Direct Operating Costs	$ 1,169,000	$ 2,215,000	$ 2,450,000	$ 2,630,000	$ 4,043,000	$ 4,192,000	$ 7,418,000	$ 11,287,000
Indirect Operating Costs	$ 2,610,000	$ 2,858,000	$ 3,083,000	$ 3,116,000	$ 4,465,000	$ 3,707,000	$ 7,647,000	$ 9,780,000
Fixed Operating Costs	$ 283,000	$ 501,000	$ 697,000	$ 726,000	$ 1,906,000	$ 1,243,000	$ 4,689,000	$ 6,555,000
Total Cost (Year 0-25)	**$ 4,600,000**	**$ 6,600,000**	**$ 7,800,000**	**$ 8,100,000**	**$ 14,900,000**	**$ 12,000,000**	**$ 31,100,000**	**$ 43,600,000**
NPV of Total Cost (Year 0-15)	$ 3,300,000	$ 4,800,000	$ 5,600,000	$ 5,800,000	$ 10,600,000	$ 8,600,000	$ 21,900,000	$ 30,700,000
Total Operating Costs (Year 0-25)	$ 4,100,000	$ 5,600,000	$ 6,200,000	$ 6,500,000	$ 10,400,000	$ 9,100,000	$ 19,800,000	$ 27,600,000
Total Capital Costs (Year 0-25)	$ 500,000	$ 1,000,000	$ 1,500,000	$ 1,600,000	$ 4,500,000	$ 2,900,000	$ 11,300,000	$ 15,900,000
Operating cost per operating hour (Year 1)	$ 299	$ 376	$ 414	$ 422	$ 655	$ 551	$ 1,203	$ 1,642
Capital cost per operating hour (Year 1)	$ 61	$ 125	$ 183	$ 191	$ 538	$ 343	$ 1,358	$ 1,907
Cost per passenger trip (Year 1)	$ 19.19	$ 26.70	$ 31.82	$ 32.72	$ 63.66	$ 47.70	$ 136.58	$ 189.26
Cost per vessel-hour (Year 1)	$ 360	$ 501	$ 597	$ 614	$ 1,194	$ 894	$ 2,561	$ 3,549
Depreciated Fleet Value after Year 25	$ 137,000	$ 281,000	$ 411,000	$ 431,000	$ 1,213,000	$ 774,000	$ 3,060,000	$ 4,298,000

APPENDIX B: MIX OF TRANSPORTATION SERVICES IN GLACIER NATIONAL PARK

The strategies report discusses the ability of Glacier National Park to provide good information to the rider, which led to discussion during the strategies meeting about operational details. Different services are described here.

Glacier National Park offers both shuttle service and interpretive tours.

The National Park Service Shuttle System provides transportation in the most congested parts of the park. Once the normal entrance fee is paid, visitors have free and unlimited access to the shuttle. The system is operated under a cooperative agreement with Eagle Transit and Flathead County. In turn, Eagle Transit cooperates with the Blackfeet Tribe to hire tribal members for supervisor and driver positions on the east side bordering the reservation.

The selection of a smaller vehicle on the alpine section of the west side was dictated by the narrow width of the road. Standard sized buses are used on the east side and lower portions of the west side. Operating costs are funded with a $7 per car entrance fee. Capital costs were funded through a combination of federal highways and transit programs.

SAFETEA-LU included the Paul S. Sarbanes Transit in the Parks program, which for the first time established DOT funds for the capital costs of transit. This program did not cover operating costs and was eliminated under MAP-21. Operating costs within a national park are eligible for other FTA programs, such as 5311 rural grants program, if the service is operated by an eligible sub-recipient, a.k.a. a local government or non-profit organization such as BATA, but using this funding source puts the park in competition with all other transit needs, and where there are limited resources.

A list of funding programs for which alternative transportation projects in and around fedral lands may be eligible is available at the TRIPTAC web site:

http://www.triptac.org/TRIPTACResources/OtherFundingSources/Default.html

Primary options after the repeal of the Transit in the Parks program in MAP 21 are FTA's tribal transportation program, FTA's other programs such as the rural transit program (5311), and Federal Highways Federal Land Program.

The tours are operated under a contractual agreement between the park and the concessionaire.

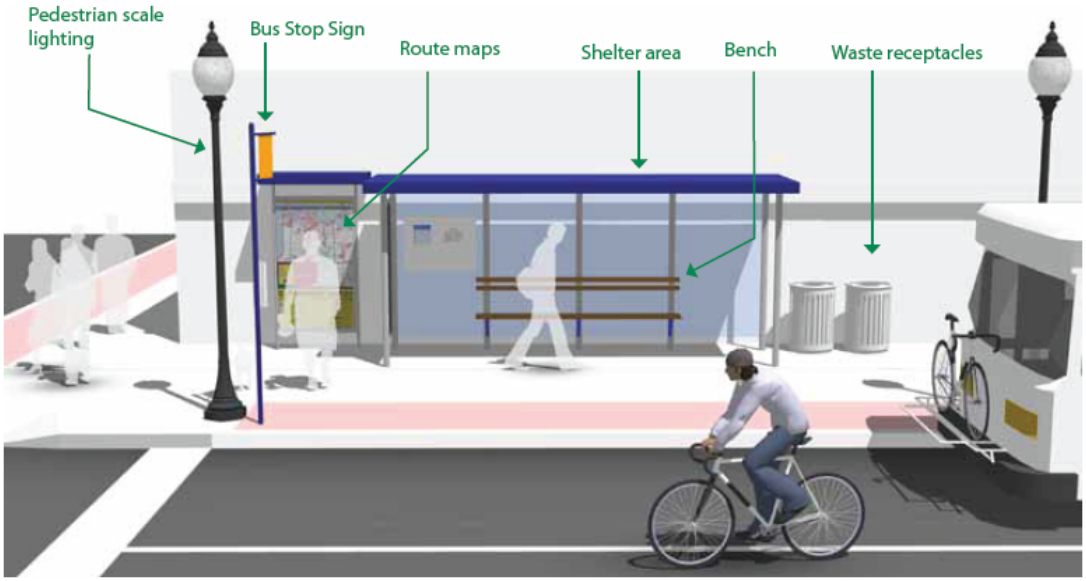
The red bus tour is part of the contract with Glacier Park Incorporated, the largest concessionaire in the park. The historic red jammers were restored from 2000-2002 by Ford Motor Company and are owned by the park and leased to GPI. A typical fee for a 4-hour tour is $60.

Besides this tour service, GPI provides lodging accommodations, food and beverage services, retail operations, and taxi-like transportation between the park and the Amtrak station. It also operates a fee-based shuttle connecting the less-visited points away from the Going to the Sun Road and into Waterton National Park in Canada.

GPI does not make money on their transportation operations but provides it based on contractual obligation to the park service. In effect, profits from other part of the concessionaire's contract cover the transportation losses.

The second tour operations, Sun Tours, also operates as a concessionaire. The business is owned by a member of the Blackfeet tribe and provides a Blackfeet perspective tour over the Going-to-thepSun Road. The buses are owned and operated by Sun Tours. A typical price for a 4-hour tour is $40.

APPENDIX C: BUS STOP, SHELTER, AND CONNECTIVITY EXAMPLES



Components of a bus stop
http://www.mtnapa.org/images/Montana%20Complete%20Streets%20Toolkit-August_23_small.pdf

Accessibility improv
Transit in Small Cities
www.oregon.gov/LCD

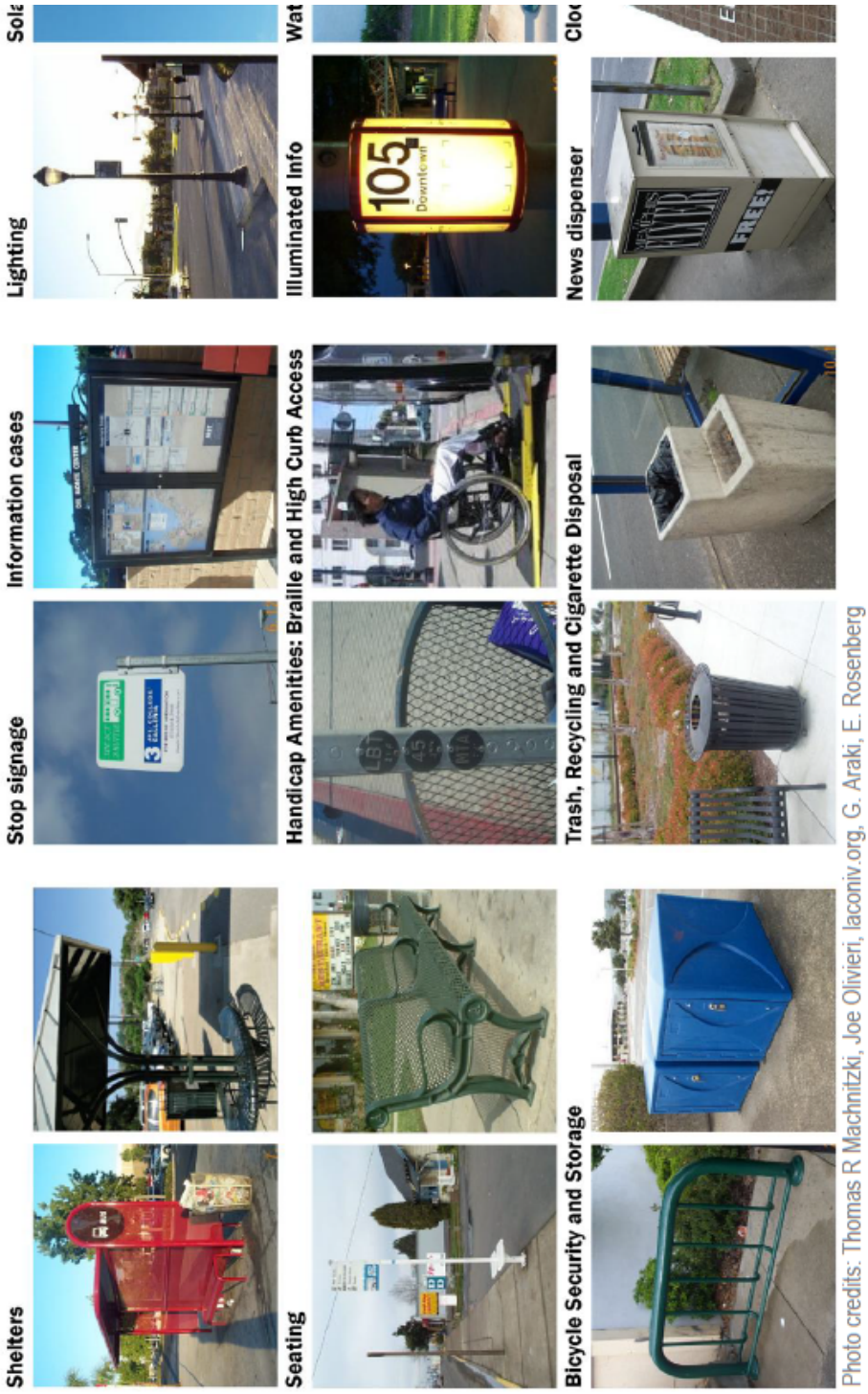


Photo credits: Thomas R Machnitzki, Joe Olivieri, laconiv.org, G. Araki, E. Rosenberg

: Cost ranges

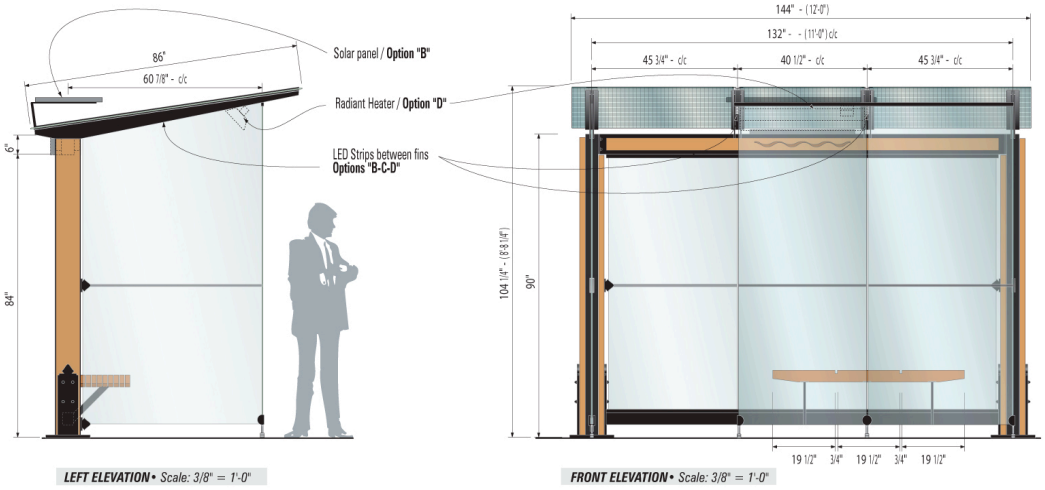
Description		
1- Shelter		
2- Solar panel		
3. Bench Wood, plastic, or steel		
4- Map frame or totem 32" x 32"	none	$375
Bike rack	none	$500
Trash receptacle	none	$500
Load and transport	none	$1,752
Concrete foundation	$320	$320
Installation	$3,500	$6,300
Total	**$9,270**	**$27,947**

Maintenance estimate per shelter

Janitorial cost estimates			
Cleans per week		1	
Weeks per month		4.33	
Cleans per month		4.33	
Time per cleaning		0.75	hours
Salary	$	12.00	per hour
Overhead multiplier		1.75	
Cost per hour	$	21.00	
Estimated monthly cost	$	68.20	
Error value per month	$	20.46	30%
Monthly janitorial cost estimate per shelter	$	88.66	

Brasco 5' x 10'shelter with tinted acrylic hip roof, powder coated blue. Charlotte NC. Cost: about $5,000, not including installation, concrete pad, power, bike rack (not shown) trash receptacle

Locally designed and sourced bus shelter in Bozeman, Montana. Cost estimate: $17,000 including installation, concrete pad, trash receptacle, and bike rack.



Custom shelters for Jackson, Wyoming were selected to maximize transparency and minimize elements that could obstruct scenic views. Cost: $24,300 installed.

Enseicom 85” x 144” shelter, solar panel, bench, map frame, & transport: $18,000 (not installed). Double shelter: 85” x 276”: $32,000 (not installed). Jackson has stringent design standards; design minimizes elements that would obstruct views of the mountains that surround town.

APPENDIX D: WEB-BASED COORDINATION TOOLS FROM OTHER AREAS

Get Around the Western U.P.

Serving five counties in Michigan's Western Upper Peninsula, the "Get Around the Western U.P." website appears to be a good model for the Marquette region. Unlike many one call – one click resources, it is not primarily focused on human services transportation and offers a homepage that appears welcoming and relevant for tourists and commuters as well as seniors and people with disabilities.

We believe the Marquette area could make a number of improvements on this model. Most significantly, Get Around the Western U.P. lacks true trip planning capabilities for fixed routes and ideally should connect with Google Maps trip planning capabilities. Other improvements could include a stronger, more explicit tourist/visitor emphasis; eliminating the large amounts of wordy text on some pages; and providing maps that are easier to use online. Additionally, it would be easier to use if it incorporated data elements such as those included in Oregon's TripCheck described below.

Trip planner example from the Upper Peninsula
http://www.getaroundwup.com/

Oregon TripCheck

Oregon's Trip Check was among the first in the country to take on regional trip planning including human service transportation. As described in a 2003 planning document,

> *"The long term goal is to develop a system that will allow anyone wishing to take a trip within the region to log on to an internet site, access a kiosk, or from their PDA and easily get information on multiple travel options, plan the trip itinerary, and reserve/pay for that trip. In the event that no public transit services are available or the user is interested in other available options, the system will be able to provide rideshare, carpool or shuttle/taxi choices."*

Oregon Trip Check

TripCheck has been developed in stages. The first stage was a web-based clearinghouse. As stated in its System Recommendations document, it included:

- Interactive tools to locate appropriate service provider:
  - Map based interface to identify a list of transit service providers by clicking on a map of the state
  - Zone-to-zone intercity carrier identification based on the trip origin and destination (trip origins/destinations can be selected via a map or through a pick list of cities)
  - Map based interface to identify demand responsive/dial-a-ride service providers through a map of service area boundaries
- List of all public/private transit service providers within the State of Oregon, organized by sub-regions, including:
  - Heavy rail

- Long distance bus service
- Local public fixed route service providers (IntraCity)
- Private fixed route intercity providers
- Demand responsive services
- Special need brokerages
- Shuttle/taxi services
- Web-based rideshare or service planning services offered by partner agencies
- Links to sites with useful content
- Comprehensive transit data for each of the transit providers
- Announcements/holiday schedules
- General service area map and description
- Contact information, service hours, etc.
- Routes, schedules, stops, time points, fare structures, connection points
- Maps of routes/patterns
- Maps of stop locations
- Ticket sale locations
- Interactive GIS maps and tools
- Service area boundaries for all transportation providers
- Bike maps and trails
- Key landmarks and activity locations.

For a website like this, the data collection and database design is essential for the ultimate vision to be reached. One of the lessons learned from the implementation of this project was that ODOT identified the importance of using automated tools for importing and maintaining the data.

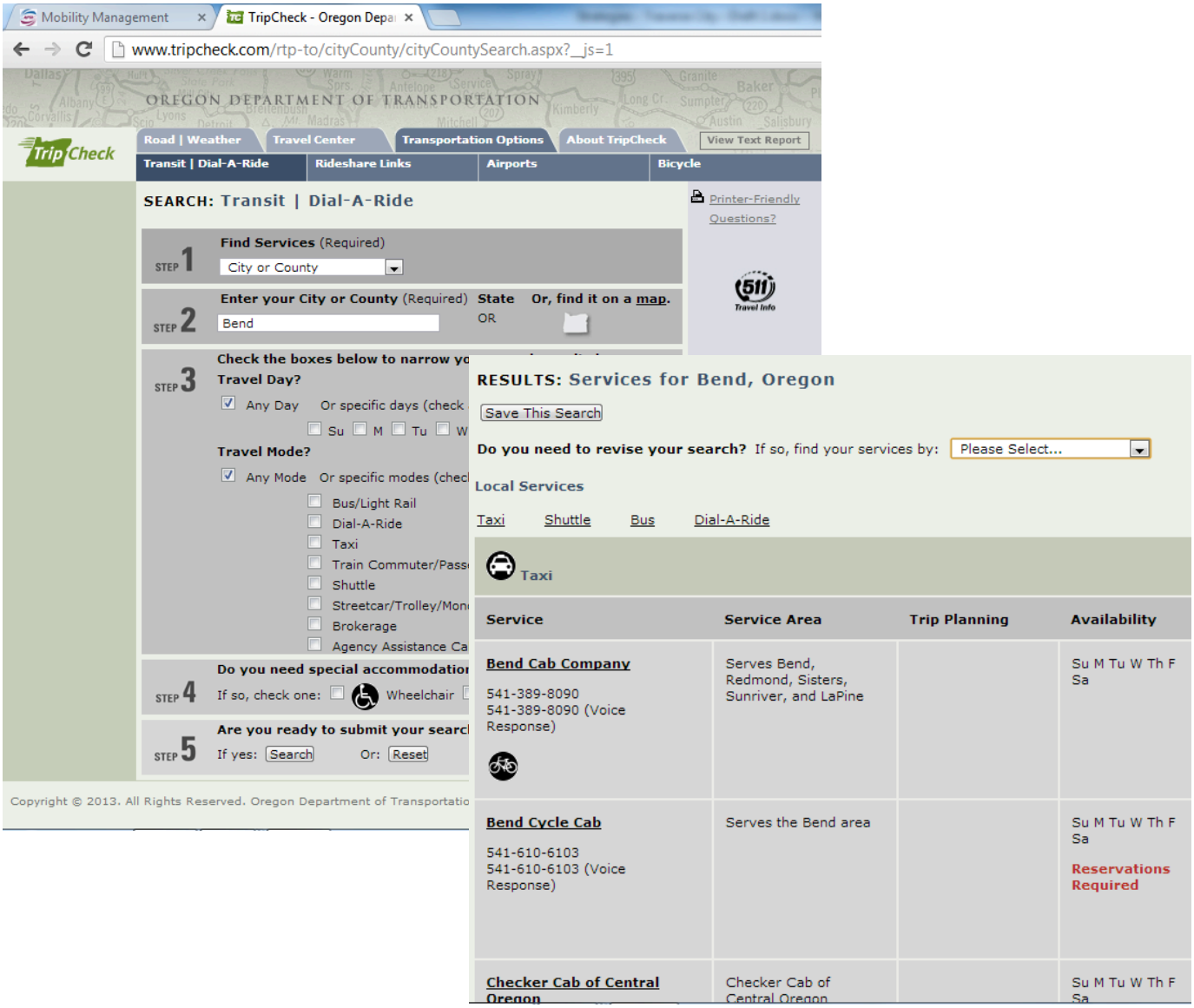
The second phase of TripCheck's trip planning capabilities allowed the traveler to automatically generate a trip from their origin to their destination. This capability included trips using multiple providers. (Kamm 2003)

This was made more feasible by Google Transit coming onto the scene in 2007. Oregon assisted all of its transit providers in developing a GTFS feed by putting together a contract for developing those feeds; northern California and Idaho also put together contracts for this data development. As a result, more west coast transit systems have GTFS feeds than anywhere else in the country. According to City go Round, as of April 23, 2013, 62 of 128 California transit agencies have open GTFS data; 30 of 39 Oregon transit agencies have open data; 14 of 30 Washington agencies have open data; all Idaho transit agencies use GTFS but none have open data.

We recommend that transit services be described with data elements that match those that are used by Oregon Trip Check human service providers, and that all fixed routes are put into GTFS.

The following example shows TripCheck's trip planning capability for options within or near Bend. Options for travelling between cities look similar to those within a city but

include a trip planner and links to the transportation options within the communities where the trip begins and ends. Public transportation options between cities utilize the Google trip planner. If the option is Greyhound or Amtrak, Trip Check links to their trip planners.



Oregon Trip Check search and results for transportation options within a community

Mobility Management Center for Santa Clara County

The Mobility Management Center for Santa Clara County has produced a document summarizing mobility management capabilities for the rural part of the county: http://www.outreach1.org/public/OutreachMobilityManagementPlanningStudy.pdf. This

document is among the most thorough we have seen as it relates to the functionality of a mobility management center. It describes the relationship to 2-1-1, 511, and mobility management. It is important to note that although this area is considered “rural” it is very different from the Marquette area – it covers the area in and around Gilroy, population 90,000, which is within 20 minutes of the 10th largest city in the country.

APPENDIX E: EXAMPLES OF TRANSIT INFORMATION OUTREACH

Humboldt Transportation Services Guide
http://www.trilliumtransit.com/trillium-wordpress/wp-content/uploads/2010/01/Humboldt-County-Transportation-Guide-FINAL-low-resolution.pdf

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