

Commuter Transit Service Feasibility

West Michigan Transit Linkages Study



Submitted to: Ottawa County,
Michigan

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1. Introduction

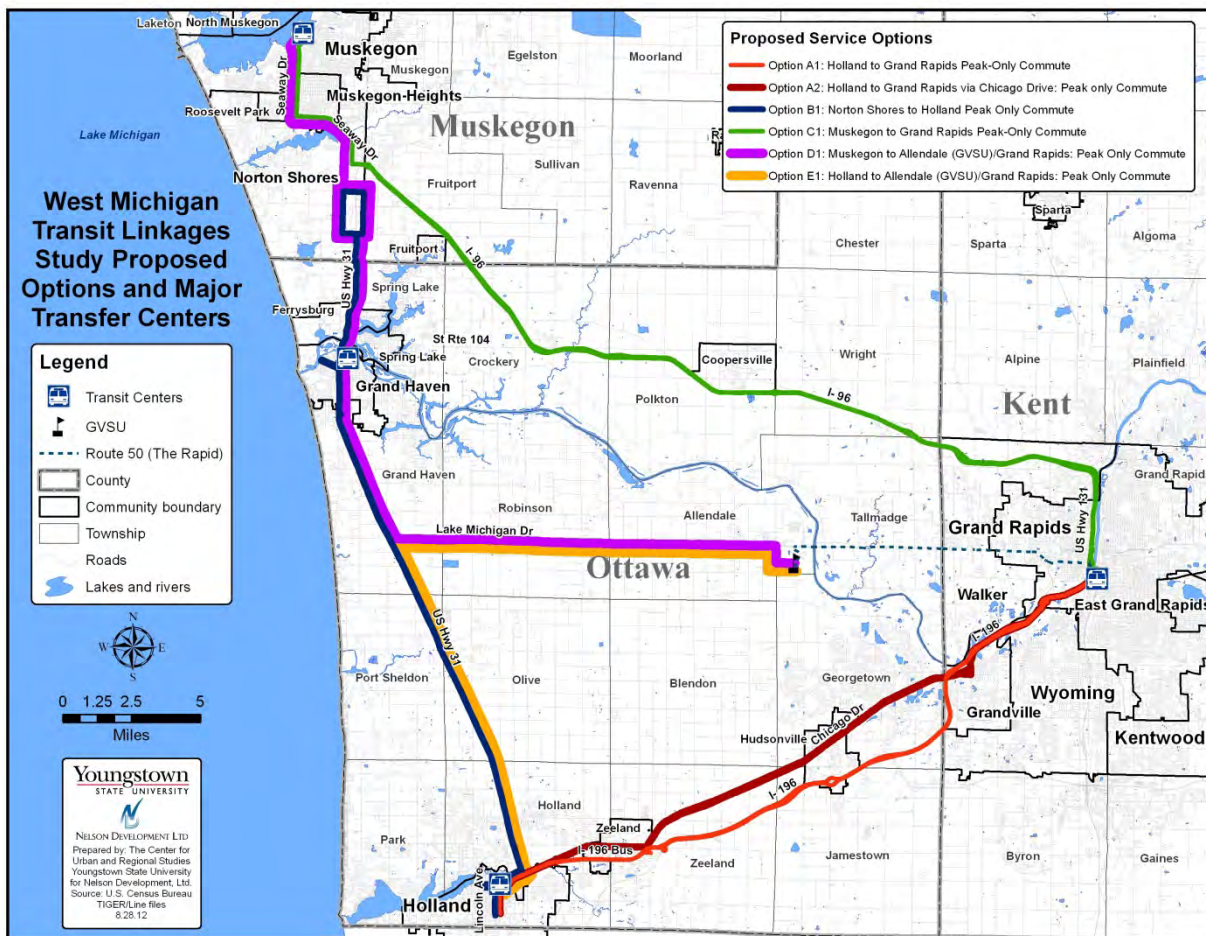
The potential for new intercity and inter-county public transit service exists in West Michigan. The purpose of this study is to determine whether such a peak hour commuter express transit service would be feasible (based on needs, costs, available funding, capacity of service providers, etc.) and if so, to provide operating and administrative alternatives and recommendations for the implementation of a new service.

This is the fourth in a series of reports that have been prepared to assess the overall feasibility of commuter express transit service. The focus of this report is to establish the feasibility of the commuter transit service options presented in the Commuter Transit Service Options report. This study represents an objective analysis of the potential for integrating existing local and potential regional transit services to offer new commuter transportation options for residents, employees and major employers in the region. Stakeholders have described the possible benefits of regional bus service, including the economic development potential in attracting new jobs to the region; incorporation of isolated populations into the regional economy; connecting the residents of the cities and the non-transit communities to isolated or difficult-to reach job sites; and providing regional connections not only for employment and education trips, but also for occasional shopping or medical trips. These non-commute trips will be considered as part of this planning process to link communities and major activity centers. Key factors will be estimation of the actual demand for the services and the availability of adequate funding for a successful transit service.

2. Overall Cost

Six commuter transit service options were identified in the Commuter Transit Service Options report (Figure 2-1). These options were designed as routes linking the major employment and residential areas in the study area and structured to meet the requirements of the FTA's definition of commuter bus service. While the routes can be considered as a system, options can be implemented separately rather than all together. Consequently, the options will be evaluated individually for feasibility based on projected ridership, cost, funding, and community commitment. This section presents the overall capital, administrative, and operational costs necessary to implement and sustain commuter transit services on an annual basis and for a ten-year period.

Figure 2-1 Commuter Express Transit Service Options



2.1 Capital Cost

Capital costs associated with implementing commuter express options include:

- Buses to operate the service
- Facility to house maintenance and storage of buses and other equipment

- Construction or expansion of park and ride facilities
- Construction of new or Improvements to existing transit centers

2.1.1 Bus Capital Cost

Acquisition of buses will be the greatest capital cost for starting commuter express service. Discussions with local transit agencies indicate there is little likelihood of them being able to provide buses for peak hour service. Based on the proposed commuter bus routes, fourteen buses will be required for the service. (12 for service and 2 spare vehicles). Ordinarily, it would be prudent to have a backup bus for each service option, however, FTA and MDOT stipulations on backup vehicles place a cap of 20 percent spare buses (with the exception that systems with fewer than 10 vehicles can have more spares), so two backups are proposed, one in Holland and one at Harbor Transit or MATS.

At present, it is easier for a non-urban system to purchase buses from MDOT's bus contracts, though the buses currently available would not be the preferred type for commuter bus service. One preferred bus, MDOT's medium duty bus contract is currently out for bid, so current prices are not known, but the unit cost should be in the \$125,000 range. The seating capacity for these buses has traditionally been a maximum of 18-19 ambulatory passengers, with capacity for 2 or 3 wheelchair placements. Buses could be purchased via an established urban transit system which has an existing bus contract¹ for buses more conducive to commuter bus service. The MAX and MATS both have vehicles which have capacities of 29-32 ambulatory passengers with 2 wheelchair placements. The cost for this type of bus is substantially more than the medium duty buses MDOT will have under contract. Expected cost per unit for this type of vehicle is \$350,000 for a diesel, and up to \$430,000 for an alternative fuel such as Compressed Natural Gas (CNG). There is also a medium duty bus, rated with a ten – twelve year service life that currently costs about \$225,000. It is recommended that for system start-up the smaller vehicles be purchased given the projected ridership. Assuming 14 vehicles, the initial vehicle acquisition cost if new vehicles are purchased would be \$1,750,000.

Non-urban transit start-ups in recent years have had to rely on used buses purchased from other transit agencies. These have been purchased with local funds, sometimes for as little as \$1, though that is not always the norm. In some instances MDOT may be able to reassign under- utilized vehicles from other transit agencies as well in order to provide buses. While this would be more cost effective, and may be the only option in the near term to obtain buses for these services, the drawbacks include: increased maintenance costs, bus reliability issues, and less attractive fleet to attract riders.

2.1.2 Maintenance and Storage Facility

Depending on the type of system and administrative mechanism chosen for implementation, the cost would vary greatly for maintenance and storage. To keep capital costs low as service is implemented fully or in stages, it would be prudent to store buses at existing storage and maintenance facilities if

¹ Any public transit system in Michigan can enter into a bus contract with MDOT through which buses are purchased. MDOT has a standing bus contract from which non-urbans can purchase. Small and large urban systems usually purchase their buses locally through a contract approved by MDOT. The contract is awarded through MDOT, and is dependent on availability of funding (federal 80%, state 20%).

space is available. MAX and Harbor Transit indicated they could store several buses. In Muskegon, MATS indicated they are tight on space and it may be necessary to rent space, which is available in the area around the MATS facility. Because of the design of the service options (with origins 60+ miles apart) the optimum scenario would be having buses stored in Holland and Muskegon. If buses were stored and maintained at a current service provider's facilities, facility capital costs would be negligible. None of the transit systems indicated there would be an independent charge to for storing the vehicles.

2.1.3 Park and Ride Lots and Transit Centers

The commuter express options have been developed to take maximum advantage of existing park-and-ride lots that have been constructed by MDOT. Further, the initial approach to add park-and-ride opportunities should be to work with property owners in each corridor to take advantage of existing parking space at commercial and/or retail establishments and centers. Further, the options have been designed to use existing transit centers currently in place for existing service providers. Given the limited number of bus trips that are projected, access to these centers would place limited pressure on capacity.

It is estimated that 30 bus stop signs will be needed if all the service options are estimated. These would cost approximately \$2,250.

2.2 Administrative Cost

Depending on the administrative option chosen, the administrative capital costs could be in the realm of negligible (sharing office space with another entity). It is estimated that one full time equivalent staff position would be required regardless of the administrative option chosen once the system is in place. If only one or two service options are implemented there may not be a need for a full time equivalent position. This position is estimated to be half-time in the first year to deal with things like grant applications, contracts, etc. This position will need to be funded once the decision is made to develop the system. Local funding will be required until the system begins operating and the administrative cost becomes part of the operating cost. If contracts with existing agencies are formed it may be possible to have a part-time position with the administrating entity and a portion of staff time from existing agencies.

2.3 Operating Cost

This section presents the operating cost for each of the commuter express options. For each of the options, the operating cost is presented in two ways, stand-alone and contracted. The stand-alone operating cost for an independent system is based on the average 2011 fully allocated hourly cost for a transit system in Michigan (\$81 per hour, rounded).²

Alternatively, service may be contracted with existing agencies (MAX, MATS, Harbor Transit). In this case, the respective hourly rates for each agency that would operate elements of the commuter express service and costs are based on FY 2011 data. [MAX would be \$49 (\$48.84 actual); MATS would be \$46 (\$46.20 actual); and Harbor Transit would be \$73 (\$72.80 actual)].

² "Fully allocated cost are the non-capital costs required to operate a transit system including administration, operations, marketing, maintenance, and supplies.

Stand-alone and contracted operating costs are presented for each commuter express option in Table 2-1. The stand-alone operating cost for the entire system of commuter express service would be \$1,532,844; the operating cost if service is contracted with existing transit agencies would be \$943,710. The stand-alone and contracted costs for each commuter express option are presented below.

Table 2-1 Operating Cost

Commuter Express Option	Weekday	Annual		
	Vehicle Trips per day	Vehicle Hours of Service	Stand-Alone Operating Cost	Contract Operating Cost
A1 / A2 - Holland to Grand Rapids	10 round trips	6,225	\$504,225	\$305,025
B1 - Muskegon / Grand Haven to Holland	4 round trips	3,486	\$282,366	\$207,417
C1 - Muskegon to Grand Rapids	5 round trips	3,237	\$262,197	\$148,902
D1 - Muskegon / Grand Haven to GVSU	4 round trips	3,486	\$282,366	\$160,356
E1 - Holland to GVSU	4 round trips	2,490	\$201,690	\$122,010
Total	---	18,924	\$1,532,844	\$943,710

2.3.1 Option A1/A2 – Holland to Grand Rapids

The total projected operating costs for Options A1/A2, based on 6,225 hours, is \$504,225 yearly for a stand-alone system providing operations from Holland (6,225 hours x \$81 per hour). As noted earlier, \$81 per hour represents the average operating cost of all Michigan public transit systems. However, it is noteworthy that if the MAX provides the service on a contractual basis, the cost for the same hours of service would be \$305,025 (6,225 hours x \$49 per hour).

This option would require 4 buses (2 for Option A1 and 2 for Option A2). For each vehicle required, depending on type purchased, the cost of acquisition (new) is \$125,000 to \$430,000, or \$250,000 to \$860,000 for two buses. A backup vehicle is suggested at Holland for Service Options A1, A2, and E1.

2.3.2 Option B1 – Muskegon/Grand Haven to Holland

The total projected operating costs for Option B1, based on 3,486 hours is \$282,366 yearly for a stand-alone system providing operations from Holland (3,486 hours x \$81 per hour). If the MAX provides the service on a contractual basis from Holland to Muskegon, the cost for half the hours of service would be \$85,407 (1,743 hours x \$49 per hour). If MATS provides the service on a contractual basis from Muskegon to Holland, the cost for the half the hours of service would be \$80,178 (1,743 hours x \$46 per hour). If Harbor Transit provides the service on a contractual basis from Muskegon to Holland, the cost for the half the hours of service would be \$127,239 (1,743 hours x \$73 per hour).

This option would require 2 buses. For each vehicle required, depending on type purchased, the cost of acquisition (new) is \$125,000 to \$430,000. If 2 vehicles are needed, those costs are doubled.

2.3.3 Option C1 – Muskegon to Grand Rapids

The total projected operating costs for Option C1, based on 3,237 hours, is \$262,197 yearly for a stand-alone system providing operations from Muskegon (3,237 hours x \$81 per hour). If MATS provides the service on a contractual basis, the cost for the same hours of service would be \$148,902 (3,237 hours x \$46 per hour).

This option would require 2 buses. The cost of acquisition (new) is \$125,000 to \$430,000 per bus.

2.3.5 Option D1 - Muskegon / Grand Haven to GVSU

The total projected operating costs for Option D1, based on 3,486 hours is \$282,366 yearly for a stand-alone system providing operations from Muskegon (3,486 hours x \$81 per hour). If MATS provides the service on a contractual basis, the cost for the same hours of service would be \$160,356 (3,486 hours x \$46 per hour).

This option would require 2 buses. The cost of acquisition (new) is \$125,000 to \$430,000 for each vehicle.

2.3.6 Option E1 – Holland to GVSU

The total projected operating costs for Option E1, based on 2,490 hours, is \$201,690 yearly for a stand-alone system providing operations from Holland (2,490 hours x \$81 per hour). If the MAX provides the service on a contractual basis, the cost for the same hours of service would be \$122,010 (2,490 hours x \$49 per hour).

This option would require 2 buses. The cost of acquisition (new) is \$125,000 to \$430,000 for each vehicle, depending on body style and fuel options.

2.4 Ten-Year Cost Projections

The cost projections shown in Table 2-2 are based on the following assumptions:

1. Implementation of all service options;
2. Purchase of new vehicles under the MDOT contract; 16% price increase for replacements;
3. Half time administrative position for system start-up; and,
4. Six percent increase annually in operating expenses (MDOT considers up to 15% reasonable).

Table 2-2 Cost Projection

Year	Capital	Operating (Stand-Alone)	Operating (Contract)	Administrative
2013	\$1,750,000 (buses)			\$37,500 (half-time system start-up)
2014	\$222,250 (signs/park-and-ride)	\$1,532,844	\$943,710	1 FTE/included in operating costs, which include administration.
2015		\$1,624,815	\$1,000,333	See 2014
2016		\$1,722,304	\$1,060,353	See 2014
2017		\$1,825,642	\$1,123,974	See 2014
2018		\$1,935,180	\$1,191,413	See 2014
2019		\$2,051,291	\$1,162,897	See 2014
2021	\$676,667 (replacement buses)	\$2,174,369	\$1,338,671	See 2014
2022	\$676,667	\$2,304,831	\$1,418,991	See 2014
2023	\$676,667	\$2,443,120	\$1,504,131	See 2014
TOTAL	\$4,002,251	\$17,614,395	\$10,744,473	\$37,500

Source: Mp2planning

The six percent annual cost increase is an estimate reflects an assessment of inflationary trends (2.77% over the last 11 years – see chart below), diesel fuel price trends (.8%), and personnel and overhead cost increases (estimated at about 1.5%). The overall cost presented here reflects and estimate of the maximum costs that would be incurred assuming implementation of all service options. Clearly, as outlined in this report there are many variables and ways implementation could occur which will have an effect on cost.

Table 2-3 Historic Inflation Trends

Year	Inflation Rate %)
2001	2.82
2002	1.6
2003	2.3
2004	2.67
2005	3.37
2006	3.22
2007	2.87
2008	3.82
2009	-0.32
2010	1.64
2011	3.74
Average	2.77

Source: Consumer Price Index

Table 2-3 Diesel Fuel Rate Increase Forecast

Year	Diesel Rate Increase (%)
2013	-8
2014	6.1
2015	3.3
2016	1.3
2017	1.4
2018	1.1
2019	0.5
2020	0.8
2021	0.9
2022	0.8
Average	0.82

Source: Annual Energy Outlook 2012

3. Itemized Cost

Table 3-1 presents the itemized cost for the service. These numbers are estimates based upon the best available information. The cost per ride (or passenger trip) are based on the ridership estimates developed and presented in the Commuter Transit Service Options report.

Table 3-1 Commuter Transit Service – Estimated Itemized Cost

Option	Capital Cost*	Annual Administrative Cost	Annual Operating Cost**	Estimated Passenger Trips	Cost per passenger trip ***
A1 – Holland to Grand Rapids	\$375,000 (MDOT Contract), 3 Medium Duty 18-19 pax buses (one is a spare) \$100,000 (Park-and-ride improvements) \$375 (Bus stop signs)	During the first year of implementation there would be a cost of \$37,500 for a half-time administrative position. Once the system was implemented administrative costs would be part of annual operating costs, which includes non-capital costs such as administration, operations, and maintenance associated with running a transit system.	\$252,112 (stand-alone) \$152,512 (contract)	26,700	\$9.44 (stand alone) \$5.71 (contract)
A2 – Holland to Grand Rapids	\$250,000 (MDOT Contract), 2 Medium Duty 18-19 pax buses \$375 (Bus stop signs)	(See A1)	\$252,113 (contract) \$152,513 (contract)	17,800	\$14.16 (stand alone) \$8.56 (contract)
B1 – Muskegon / Grand Haven to Holland	\$375,000 (MDOT Contract), 2 Medium Duty 18-19 pax buses, 1 spare \$375 (Bus stop signs)	(See A1)	\$282,366 (stand alone) \$207,417 (contract)	24,618	\$11.47 (stand alone) \$8.42 (contract)
C1 – Muskegon to Grand Rapids	\$250,000 (MDOT Contract), 2 Medium Duty 18-19 pax buses \$120,000 (Park-and-ride improvements) \$375 (Bus stop signs)	(See A1)	\$262,197 (stand alone) \$148,902 (contract)	9,624	\$27.25 (stand alone) \$15.47 (contract)
D1 – Muskegon / Grand Haven to GVSU	\$250,000 (MDOT Contract), 2 Medium Duty 18-19 pax buses \$375 (Bus stop signs)	(See A1)	\$282,366 (stand alone) \$160,356 (contract)	4,419	\$63.90 (stand alone) \$19.86 (contract)
E1 – Holland to GVSU	\$250,000 (MDOT Contract), 2 Medium Duty 18-19 pax buses \$375 (Bus stop signs)	(See A1)	\$201,690 (stand alone) \$122,010 (contract)	8,074	\$24.98 (stand alone) \$15.11 (contract)
TOTAL ESTIMATED COST	\$1,972,250	\$37,500	\$1,532,844 (stand alone) \$943,710 (contract)	91,235	\$16.80 (stand alone) \$10.43 (contract)

4. Funding

Transit funding in Michigan is currently provided to eligible public entities via the Comprehensive Transportation Fund in Public Act 51. Eligible non-urban agencies may receive up to 60% of their eligible operating expenses in reimbursement from State Formula Operating funds. However, only once since the 60% cap was enacted (1997) has the percentage been reimbursed at that level. The current reimbursement rate in state operating funds is 37.37 percent. Federal operating funds from Section 5311 are also available to eligible entities. The current rate of reimbursement is 16%. For FY 2013, just over 52% of a transit agency's operational funding will come from state and federal funding. The balance is made up of farebox revenues, contract fares, and local revenue, usually from a dedicated transit millage or other local appropriation.

The impact of the latest reauthorization of the Federal Transportation funding legislation, Moving Ahead for Progress in the 21st Century (MAP-21), is uncertain; though it appears that capital funding for non-urban transit agencies in Michigan will be severely impacted. This means that the local units of government could be responsible for providing funding for the purchase of vehicles, park-and-ride improvements and the other improvements identified in the report. It should be noted that of the existing agencies only MATS expressed the possibility of providing vehicles.

4.1 Funding Sources

4.1.1 Federal Funding Sources

Federal capital funding for buses and bus facilities prior to reauthorization had been Section 5309. Under MAP-21 that section has been changed to funding for fixed guideways (rail, light rail, bus rapid transit). Federal Transit Administration programs pertinent to rural areas are the following:

- Section 5311 Formula Grants for Rural Areas
- Section 5339 Bus and Bus Facilities
- Section 5310 Enhanced Mobility for Seniors and Individuals with Disabilities

The new sources for non-urban capital funding appear to be Section 5311 (which also provided capital funding prior to the new bill) and Section 5339. MDOT is still analyzing the new legislation for its impacts on Michigan transit, but much of the bill's focus appears to be on urban areas and states with growing populations. However, the funding distribution for federal programs is generally similar to FY 2012 levels. However, differences are explained, in part, by the fact that the Federal Transit Administration is using Year 2010 Census data in its apportionment formulas for the first time. Consequently, areas that have increased in population and density will receive higher apportionments than they had when Year 2000 Census data was used.

The former Section 5309 program, which funded rail modernization, new starts rail and bus and bus facilities, is now solely new starts rail with a limited bus rapid transit component, effective 2014. Consequently, bus and bus facility purchases for urban and rural systems will no longer be supported by Section 5309.

4.1.2 Section 5311 Formula Grants for Rural Areas

MAP-21 increases the Section 5311 rural transit program by 30 percent from FY 2012 to FY 2014. New changes in the allocations will include factors based on the relative shares of rural transit revenue vehicle-miles and of non-urban low-income populations. The program continues to provide capital, planning and operating assistance to states for rural areas with populations less than 50,000.

4.1.3 Section 5339 Bus and Bus Facilities Formula Grants

To augment the additional capital funding available for buses due to increases in Section 5311, MAP-21 allots \$422 million to be available via the following methodology: \$65.5 million will be allocated to all states and territories, with each state receiving \$1.25 million. The remainder of the program's funds will be distributed to states and urban areas using the same formulas as Section 5307. But, once again, funding in this program will not be available for purchase of buses and bus facilities.

4.1.4 Section 5310 Enhanced Mobility for Seniors and Individuals with Disabilities

This program formerly provided funding to states for the purchases of vehicles by non-for-profit human service agencies to support transportation for seniors and individuals with disabilities. The new program changes in several ways:

- Vehicle support for not-for-profit human service agencies continues
- The FTA Section 5317 New Freedom program is eliminated and is now part of the 5310 program.
- States continue to receive formula allocations, but funding for urbanized areas over 200,000 will now be allocated directly to urbanized area.

However, the 5310 program would not be a source of funding for commuter express services.

4.1.5 State Capital Funding

State capital funding has primarily been used for matching federal funds (20%). If funding for buses and bus facilities is reduced, the State may end up using some of the match to purchase capital, though this would be a change in policy.

4.2 Gap Funding

Funding from an appropriation or dedicated millage will be required to balance the operating budget of any system commuter express option or set of options that is selected and implemented. As mentioned above, local funds are a required element in transit funding in Michigan. "Gap" funding for the short term during a startup period may be required for primarily capital expenses (buses and other equipment). Capital funding for bus purchase takes several years from time of application to grant award to bus manufacture to actually receiving vehicles. Additionally, if the decision is made to implement the service there will be a need for administrative support for grants, coordination with MDOT, etc. from the beginning. It is estimated that this would require one half-time equivalent position and initial funding would be required to cover this position.

MDOT may be able to assist in possibly reassigning older buses from existing transit agencies, but the most expeditious manner is to purchase used vehicles. If an entire fleet of 14 buses were to be purchased used from other transit agencies or bus dealers, an amount in the range of \$150,000 to \$400,000 would likely be needed. Used bus costs could range from the low end (purchase buses from other transit agencies) to a higher end (purchase used or demo from a dealer). One issue that results from this type of startup is that a mix (in style, size, and condition) vehicles are usually placed in service, and it takes time to develop a uniform fleet.

4.3 Revenue Sources to Eliminate Funding Shortfalls

The most efficient way to eliminate a funding shortfall is to develop retained earnings (reserve funding). The most successful transit agencies are able to expand on local funds. With a conservative operational budget that plans for slow expansion, a system normally does not run into budget shortfalls. Contacted services with existing public transit agencies could reduce the level of need for local funding.

Farebox revenue is an important part of any local funding. Fares need to be low enough to attract riders, but steady enough to provide a guaranteed revenue stream percentage to the system. By its nature, commuter transit service is unlikely to have contract fares, though this type of fare also provides a base level of fares that can be counted on. Advertising on buses can be a source of income to a transit system, though transit systems in Michigan have had varying levels of success in doing so. Some have generated significant revenue via bus advertising, while others have not. For the routes and miles projected for commuter transit service, exploring advertising as a revenue source is recommended.

Table 4-1 summarizes weekday and annual operating characteristics that determine the annual operating cost of stand-alone services for each of the commuter express options and the total cost of providing full commuter express services. Basically, the table presents the overall operating costs, estimated state and federal funding, and the local funding required. (Local funding required takes into account farebox revenue and is the actual amount of cash required on an annual basis). At this time it is not anticipated that MAP 21 will have a major impact on state and federal contributions to transit but, as noted earlier, the amount of funds available for capital could be severely impacted.

Table 4-1A summarizes the same service through contracting (purchasing service) from the existing transit agencies in the region. Fare revenue is estimated at \$1.50 per passenger trip. This is the highest fare currently charged in the region. Higher fares may result in higher farebox revenues although ridership would likely be lower. As an example, at \$1.50 farebox revenue is \$136,851. At \$2.00, assuming the same ridership level, the fare revenues would be \$146,868 and at \$3.00 the amount would be \$220,302.

**Table 4-1
OPERATING AND FINANCIAL CHARACTERISTICS – STAND ALONE OPERATING COST**

Commuter Express Option	Weekday			Riders	Annual					
	Commuter Workflow	Vehicle Trips per day	Vehicle Hours of Service		Operating Cost	Federal Funding	State Funding	Local Funding	Farebox Revenue	Local Funding Less Farebox
A1 / A2 - Holland to Grand Rapids	11,972 / 5,983	10 round trips	6,225	44,499	\$504,225	\$80,676	\$188,429	\$235,120	\$66,749	\$168,372
B1 - Norton Shores / Grand Haven to Holland	8,284 / 6,716	4 round trips	3,486	24,618	\$282,366	\$45,179	\$105,520	\$131,667	\$36,927	\$94,740
C1 - Muskegon to Grand Rapids	3,237 / 1,252	5 round trips	3,237	9,624	\$262,197	\$41,952	\$97,983	\$122,262	\$14,436	\$107,826
D1 - Muskegon / Grand Haven to GVSU	337 / 341	4 round trips	3,486	4,419	\$282,366	\$45,179	\$105,520	\$131,667	\$6,629	\$125,039
E1 - Holland to GVSU	240 / 451	4 round trips	2,490	8,074	\$201,690	\$32,270	\$75,372	\$94,048	\$12,111	\$81,937
Total	---		18,924	91,234	\$1,532,844	\$245,255	\$572,824	\$714,765	\$136,851	\$577,914

*Note: "Local funding less farebox" represents the local subsidy required to match state and federal funds less the farebox revenue, which is considered part of local funding by MDOT.

**Table 4-1A
OPERATING AND FINANCIAL CHARACTERISTICS – CONTRACTED OPERATING COST**

Commuter Express Option	Weekday			Riders	Contracted Operating Cost	Annual				
	Commuter Workflow	Vehicle Trips per day	Vehicle Hours of Service			Federal Funding	State Funding	Local Funding	Farebox Revenue	Local Funding Less Farebox
A1 / A2 - Holland to Grand Rapids	11,972 / 5,983	10 round trips	6,225	44,499	\$305,025	\$48,804	\$113,988	\$142,233	\$66,749	\$75,485
B1 - Norton Shores / Grand Haven to Holland	8,284 / 6,716	4 round trips	3,486	24,618	\$207,417	\$33,187	\$77,512	\$96,719	\$36,927	\$59,792
C1 - Muskegon to Grand Rapids	3,237 / 1,252	5 round trips	3,237	9,624	\$148,902	\$23,824	\$55,645	\$69,433	\$14,436	\$54,997
D1 - Muskegon / Grand Haven to GVSU	337 / 341	4 round trips	3,486	4,419	\$160,356	\$25,657	\$59,925	\$74,774	\$6,629	\$68,146
E1 - Holland to GVSU	240 / 451	4 round trips	2,490	8,074	\$122,010	\$19,522	\$45,595	\$56,893	\$12,111	\$44,782
Total	---		18,924	91,234	\$943,710	\$150,994	\$352,664	\$440,052	\$136,851	\$303,201

*Note: "Local funding less farebox" represents the local subsidy required to match state and federal funds less the farebox revenue, which is considered part of local funding by MDOT.

A sample summary operating budget for the proposed stand-alone system is outlined below:

Total Expenses	\$1,532,844
State Funding (37.37%)	\$572,824
Federal Funding (16%)	\$245,255
Projected farebox	\$136,851
Local Funds Needed to Balance	\$577,914

Based on a projected ridership of 91,234 for full commuter express services, at a fare of \$1.50 per one way trip, farebox revenues would be \$136,851. This amount will likely be significantly less at start-up however. Ridership at that level will not happen immediately, and most likely will take a year or more to achieve that level of ridership and resultant revenues. In addition, a method for increasing ridership is offering multi-ride passes or monthly passes for a flat fee, which would reduce the per trip revenue generation. In any effect, a millage or local appropriation sufficient to purchase buses and build up retained earnings will be needed. Millage rates for a number of rural transit agencies in Michigan are levied at a quarter mil rate, which for most is sufficient to provide the local share needed for both operations, build up a small retained earning reserve, and provide for capital expenditures not provided via Federal and State grants.

The tables below summarize the impact on local funding with an incremental fare increases from the \$1.50 fare as used above.

5. Transfer Stations

Commuter express services have been designed to use the transit centers operated by existing public transit service providers in the study area. Since the level of commuter express service is limited, it is likely that sufficient capacity exists for operation into the transit centers. However, if capacity constraints exist, even at just certain times of the day, operations can be configured so that commuter express buses are able to stop adjacent to the transit centers. This should not increase costs beyond the cost of a sign. A key consideration is that commuter express riders should have as short a walk as possible to make connections between commuter express and local bus service.

6. Major Employers

6.1 Modified Hours and Shift Schedules

Many of the major employers are manufacturers that have multiple work shifts. For these employers, most of them indicated that work hours for office/administrative staff are between 8:00 AM and 5:00 PM. For the production employees, shifts vary. Some employers indicated 24-hour production schedules (some with 12-hour shifts, 6:00 AM to 6:00 PM and 6:00 PM to 6:00 AM), although most of them have three shifts. Typical shift schedules are 7:00 AM to 3:00 or 3:30PM, although some employers have schedules that begin between 10 and 30 minutes earlier than this standard shift. A couple of employers indicated a first shift from 5:45 AM or 6:00 AM to 2:00 or 2:15 PM.

Given the complexity and variation in work shifts, major employers are not likely to modify work shifts to accommodate commuter express service, or any public transit service for that matter.

6.2 Willingness/ability to Contribute to the System Financially

An employer survey was conducted in 2009. Approximately 100 employers were identified as candidates for the survey. Chambers of Commerce in the region assisted with the survey distribution. Twenty-four completed surveys were obtained. In response to a question about whether employers would support a transit service financially, no respondents said they would be interested in paying for the service with five responding no. Nine employers said "maybe." It should be noted that in the consultant team's experience participation of employers financially in transit programs is limited, particularly in areas without severe parking or congestion problems.

6.3 Willingness/Ability to Initiate Commuter Incentive Programs

Only one employer responded that they participate in any type of commuter incentive program. All employers that responded stated they offer free parking. In the consultant's experience, few companies actually participate (e.g., offer transit tax credits) much less participate in commuter incentive programs outside major urban centers with severe parking or congestion issues.

7. Service Providers

7.1 Willingness/Ability of Transit Service Providers to Provide Commuter Transit Service Options

The four public transit service providers in the study area have participated in the study and have offered input. They may be able to provide portions of the service options identified in this report but in most cases, the local match for the service will need to be provided. It is unlikely any of the providers will provide the local share needed. That said, during informal discussions held throughout the study, providers have indicated the willingness to consider transit connections in the region that may go beyond the options explored in this study.

7.2 Willingness/Ability of Demand-Response Providers to Provide Coordinated Service to Each of the Transfer Station Options

Each of the public transit services offer some form of demand response transit. They may be able to provide transportation to and from their transit station to coordinate with any commuter transit service option operating through Grand Haven due to the flexible nature of their trips and their fairly quick response time (about 20 minutes for a real-time request for service). One issue would be the cost. Without additional subsidy commuters using the demand response service to connect would have to pay additional fare. Nevertheless, it is felt that because of the nature of the commuter trip and the ridership projections demand for these connections would be very low.

7.3 Willingness/Ability of Major Employers to Provide Pick-up and Drop-off Service

Because of the low ridership projections anticipated for these services, it is unlikely that employers would offer shuttles. That said, if a viable service was implemented and ridership grew, employers with existing shuttle services may take advantage of it and link their shuttle to the service.