

INTERMODAL CONSIDERATIONS

A transportation system consists of more than just the roadways that traverse an area. The transportation network in the Twin Cities urbanized area includes non-motorized trails, paths, and sidewalks, rail for passengers and freight, aviation, harbors and waterways, as well as public transit service. In order to provide a comprehensive picture of the TwinCATS transportation system, the following chapter will provide an overview of various modes of transportation and the role they play in the greater TwinCATS network.

Non-Motorized Transportation

Non-motorized transportation can take many forms, such as bicycling, walking, and wheelchair. There are many benefits associated with non-motorized transportation, some of which include increased interaction with neighbors and other community members, improved health as a result of increased physical activity, and a consequential decrease in motorized transportation that improves roadway lifespan and reduces congestion and air pollution. However, despite these benefits and many more, the general public who have a choice do not frequently choose non-motorized transportation, outside of recreation. This lack of participation could possibly stem from the fact that in many areas in the United States, including the TwinCATS communities, infrastructure is not present for non-motorized transportation to be a safe and viable choice.

However, given the current economic climate, as the price of gasoline continues on a volatile but generally upward arc, non-motorized transportation is becoming an ever more practical choice. TwinCATS communities have increasingly expressed interest in expanding and connecting their non-motorized networks, and there are a number of funding sources that can provide the means to accomplish this task. The Michigan Natural Resources Trust Fund and the National Park Service Land and Water Conservation Fund are available to support the efforts of local units of government that have up-to-date recreation plans. MDOT Enhancement grants, MDOT Transportation Economic Development Fund (TEDF) grants, congestion mitigation/air quality (CMAQ) funds, and surface transportation (STP) funds are additional sources of state and federal revenue for non-motorized infrastructure. Furthermore, Section 660 (K) of Act 51 requires state and local governments to spend at least 1 percent of each year's highway

funds, over a ten year period, on non-motorized transportation. Whatever the funding source, TwinCATS and its member communities support and participate in non-motorized efforts at the state and local level, as described below.

State Trailway Efforts

At the state level, TwinCATS supports the efforts of agencies such as the Michigan Trails and Greenways Alliance (MTGA) and MDOT. MTGA is a non-profit organization that fosters and facilitates the creation of an interconnected statewide system of trails and greenways for recreation, health, transportation, economic development and environmental/cultural preservation purposes. In May of 2007, MTGA launched "Connecting Michigan: A Statewide Trails Vision and Action Plan," a plan that seeks to complete an interconnected statewide system of trailways in Michigan. In August of 2007, the TwinCATS TAC and Policy Committee passed a resolution to support the Connecting Michigan Vision. For more information on the Connecting Michigan trailways project, visit their website at: <http://www.connectingmichigan.org/>.

In December of 2004, the SWMPC was approached by MDOT to produce a new kind of map for the southwest portion of the state. Recent mapping efforts by MDOT have included a much wider range of transportation modes. Resources that relate to this variety of modes will be represented and supported through state-wide mapping, and in this case, MDOT worked with and funded the SWMPC production of a non-motorized transportation map to follow a *Bicycle Facility Map Prototype and Feasibility Study*.

The non-motorized map focused primarily on the nine counties of the MDOT Southwest Region (Allegan, Barry, Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph, and Van Buren) but also included portions of neighboring counties. It was intended to be useable while on the trails. Extensive effort was put into the labels and iconography, and the map was eventually printed in 2005 (http://www.swmpc.org/bicycling_walk.asp). The routes are identified based on the traffic volume, the road classification (primary, minor, limited access), and the presence or absence of a paved shoulder or bike lane. Because the map is seen as a resource beyond merely wayfinding, it also includes bike safety information, linear trail information, and contacts for area bike shops. Copies were distributed to SWMPC, local units of government, visitors' bureaus, chambers of commerce, road commissions, trail groups, bike shops, and more. This effort was very popular with the business community and trail enthusiasts alike.

Regional Trailway Efforts

Independent of the state's non-motorized efforts, the SWMPC strives to include non-motorized planning as a part of transportation planning in the region. To that end, the SWMPC has actively organized a regional coalition of individuals and organizations involved in non-motorized transportation and trail development known as the Southwest Michigan Alliance for Recreational Trails (SMART). SMART was created to promote the connection of trails among the nine MDOT Southwest Region counties and with neighboring regions. Regional collaboration allows for trails to expand beyond geographic boundaries and to create a connected system that links people and communities. SMART has facilitated member communities and organizations to continue to build trails in their own county in a way that is harmonious with a regional trail.

SMART seeks to do the following:

- Establish and expand partnerships that aid the development and connection of all types of trailways throughout southwest Michigan.
- Link existing and future trailways into a complete network which connects the southwest Michigan region with neighboring networks.
- Secure resources to sustain success.
- Increase public awareness, understanding, and an appreciation for trailways and the benefits trailways bring to communities.

SMART is currently in the process of updating the original MDOT bicycle map, expanding trailway efforts to include water trails and hiking trails, and organizing educational workshops that focus on planning for and managing trails. Partners are being sought to help fund the printing of the next nine-county non-motorized map, and the target completion date is fall of 2010.

In other regional trail efforts, as a part of its Greenways and Blueways Plan, the Northern Indiana Regional Planning Commission (NIRPC) is working with several units of government in northern Indiana, northern Illinois, and southwestern Michigan to develop a Lake Michigan Water Trail. According to the Greenways and Blueways Plan, a water trail is considered to be "a creek or river or lakeshore with several places where a paddler can put in or take out a canoe or kayak. These access points have interpretive signage that provides clear and accurate guidance to the paddler, so that he or she

knows what to expect along the route and what level of experience is necessary to traverse the route.” The Lake Michigan Water Trail will provide a lake kayaking route for the experienced paddler, and should joint initiatives with Michigan, Wisconsin, and Illinois prove to be successful, the trail will be approximately 1,000 miles.

Opportunities exist to develop road designs that safely accommodate a wide range of transportation modes within the entire right-of-way. The “complete the streets” movement advocates for the needs of pedestrians, bicyclists, public transit, and the disabled population in road design. This movement has provided materials to help communities rewrite their design manuals to encompass all users <http://www.completestreets.org>.

The goals of the “complete the streets” movement can be applied to both new construction and to retrofit projects. Sometimes measures as simple as re-striping existing pavement, can have an enormous impact on the level of safety for the full range of users. Completing the streets in this and other ways has the capacity to touch all five of the overarching goals of the TwinCATS 2035 LRTP. TwinCATS can be instrumental in the promotion of this concept to local governments, street departments, and the Road Commission.

The City of Benton Harbor has added a section of complete streets within its Arts District. The road right-of-way includes a broad sidewalk with at grade crosswalk ramps for the disabled. Between curbs, the roadway is striped for pedestrian crossings and includes bike lanes on both sides along each street. Bike racks are also interspersed at high traffic nodes.

The Arts District node will ultimately connect to the transportation network of the Harbor Shores development. This network represents an opportunity to continue the theme of the complete streets already begun in the Arts District. A spine of well designed roadways from Harbor Shores that, in turn, link into downtown Benton Harbor could comprise a richly diverse network for transportation options and could strongly reinforce the connection between the downtown and the residents of Harbor Shores. The Harbor Shores plans include an internal ribbon of dedicated non-motorized trails.

The City of St. Joseph has been expanding their capacity to safely support non-motorized transportation. Recent resurfacing along BL-94 in St. Joseph includes striped bike lanes on both sides. The City has a 2.9 mile trail that begins along the St. Joseph River and extends along the lakefront to the pedestrian bridge that spans the CX railroad tracks behind the City water plant at the terminus of Lake Court.

Resurfacing of Washington Avenue in St. Joseph Charter Township has also included striped bike lanes from its intersection with Hilltop Drive to its project limits at the intersection with Glenlord Road.

The safety of users across all layers of the transportation network is an explicit goal of this plan. Raising standards for the design of roads to accommodate non-motorized users alongside motor vehicles is a vital measure of its success. Collisions where bicyclists have died in spite of verified efforts to wear reflective clothing, use lights, and follow the rules of the road have occurred in or around southwest Michigan. Responsible roadway design should acknowledge the range of users within the road right-of-way and take reasonable steps to accommodate them safely. Efforts like the “Complete the Streets” movement can save lives and increase the functionality of roads.

Within the TwinCATS study area, there is much diversity among communities that includes a broad range of opportunities for non-motorized transportation. Within city limits, sidewalks are generally plentiful, whereas in the townships, sidewalks are less available, and non-motorized facilities, if available are more likely to consist of paved shoulders. Many of the local units, as a part of master, recreation, or street planning efforts, have inventoried their non-motorized facilities and identified areas to further develop their network.

The following tables are the compiled existing and planned non-motorized facility information received from the local agencies. (**Tables 4.0 and 4.1**)

Additionally, as of November 21st, 2011, a full non-motorized plan has been amended into this long range plan. The TwinCATS Walk & Roll Plan, located in Appendix P starting on page 193, contains a list of road segments deemed especially important to non-motorized travel in the TwinCATS area. The plan also documents area conditions pertaining to non-motorized travel, and points to a number of facility design resources.

Table 4.0 Existing Non-Motorized Facility Information For Federal Aid Eligible Routes					
Municipality	Road Name	Limits	Mileage	Type of facility (i.e. sidewalk, paved shoulder)	Total
Lincoln Charter Township	Cleveland Road	John Beers Road North to Glenlord	2 miles both sides	Sidewalk	4
Lincoln Charter Township	Washington Avenue	John Beers North to Maiden Lane (both sides from Glenlord North to Maiden .5 mi)	2.5	Extended shoulders	3
Lincoln Charter Township	Glenlord Road	Cleveland West to Washington	.5 both sides .5 both sides	Sidewalks Extended Shoulders	1 1
Lincoln Charter Township	Glenlord Road	Red Arrow Highway West to Ridge Road	.5	Extended Shoulders Both sides	1
Lincoln Charter Township	John Beers Road	Cleveland East to 1/2 way to Lincoln	1.0 1 side	Sidewalks	1
Lincoln Charter Township	John Beers Road	Washington Avenue to Village	3.0	Extended shoulders	3
Lincoln Charter Township	Red Arrow Highway	Glenlord Road South to Marquette Woods Road	1.0 1 side	Sidewalks	1
City of St. Joseph	Botham Avenue	South State-Morton Ave.	0.43	Sidewalk	
City of St. Joseph	Broad Street	Ann St-Lake Boulevard	0.61	Sidewalk	
City of St. Joseph	Broad Street	Vine Street-Lake Street	0.12	Sidewalk	
City of St. Joseph	Cleveland Avenue	Hilltop Ave-BL 94	0.63	Sidewalk	
City of St. Joseph	Court Street	Hoyt to Broad Street	0.48	Sidewalk	
City of St. Joseph	Court Street	Pleasant Street-BL94	0.15	Sidewalk	
City of St. Joseph	Elm Street	State St-BL94	0.08	Sidewalk	
City of St. Joseph	Hoyt Street	M63-Court Street	0.06	Sidewalk	
City of St. Joseph	Kingsley Avenue	South State-M63	0.16	Sidewalk	
City of St. Joseph	Lake Boulevard	BL94-park Street	0.57	Sidewalk and Striped Biked Lane	
City of St.	Lake	Part St-Port Street	0.49	Sidewalk	

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Joseph	Boulevard				
City of St. Joseph	Lake Street	Broad St-park Street	0.31	Sidewalk	
City of St. Joseph	Lakeview Avenue	Hilltop ave.-BL94	1.46	Sidewalk	
City of St. Joseph	Langley Avenue	Morton Ave-Ann Street	1.26	Sidewalk	
City of St. Joseph	Morton Avenue	Botham Avenue-Langley Avenue	0.08	Sidewalk	
City of St. Joseph	Napier Avenue	M63-East City Limits	0.46	Sidewalk	
City of St. Joseph	Park Street	BL94-Lake Boulevard	0.15	Sidewalk	
City of St. Joseph	Park Street	Lake St-Lake Boulevard	0.16	Sidewalk	
City of St. Joseph	Pleasant St	Lake Boulevard-Court Street	0.22	Sidewalk	
City of St. Joseph	Port Street	Lake Boulevard-BL94	0.15	Sidewalk	
City of St. Joseph	Ship Street	Lake Boulevard-BL94	0.15	Sidewalk	
City of St. Joseph	South State	Wallace Avenue-Kingsley Avenue	0.06	Sidewalk	
City of St. Joseph	State Street	Park St-Water Street	0.52	Sidewalk	
City of St. Joseph	Upton Drive	Whitwam Drive - Klock Road	0.80	Sidewalk	
City of St. Joseph	Vine Street	Lake Street-Broad Street	0.18	Sidewalk	
City of St. Joseph	Wall Avenue	BL94-South State Street	0.41	Sidewalk	
City of St. Joseph	Water Street	State Street-Lake Street	0.12	Sidewalk	
City of St. Joseph	Wayne Street	Broad Street-BL94	0.20	Sidewalk	
City of St. Joseph	Whitwam Drive	Upton Drive-East City Limits	0.60	Sidewalk	1
City of St. Joseph	Winchester Avenue	BL94-M63	0.28	Sidewalk	
City of St. Joseph	Wolcott Avenue	M63-Langley Avenue	0.55	Sidewalk	
City of Benton Harbor	Territorial	Water Street-Paw Paw Avenue	0.40	Bike lanes, sidewalks	
City of Benton Harbor	Water Street	Main Street-5 th	0.22	Bike lanes, sidewalks	
City of Benton Harbor	N. Shore Drive	Main Street-RR Tracks	0.50	Bike lanes, sidewalks	
City of Benton Harbor	N. Shore Drive	RR Tracks to City limits	0.44	Paved shoulder, sidewalk	
City of Benton Harbor	Wall Street	Market -10 th Street	0.43	Sidewalk	

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Harbor					
City of Benton Harbor	Highland Avenue	Market –Fair	0.82	Sidewalk, paved shoulder	
City of Benton Harbor	Market Street	12 th –Highland	0.70	Sidewalk, paved shoulder	
City of Benton Harbor	Colfax Avenue	City limits-Main Street	1.48	Sidewalk, paved shoulder	
City of Benton Harbor	Riverview Drive	Main Street-Empire	0.82	Sidewalks	
City of Benton Harbor	Paw Paw Avenue	City limits to Territorial	0.61	Sidewalk, paved shoulder	
City of Benton Harbor	Paw Paw Avenue	Territorial-Cass	0.11	Bike lanes, sidewalk	
City of Benton Harbor	Britain Avenue	Riverview-Fair	1.44	Sidewalk	
City of Benton Harbor	Broadway	Jefferson Ave-City limits	1.27	Paved shoulder, sidewalk	
City of Benton Harbor	Jefferson Avenue	Pipestone-Highland	0.26	Sidewalks	
City of Benton Harbor	9 th Street	Main-Market	0.24	Sidewalks	
Berrien County Road Commission	Red Arrow Highway	Bridgman City limits - Stevensville village limits	3.91	Paved shoulder	
Berrien County Road Commission	Red Arrow Highway	Stevensville Village limits-I-94	0.89	Paved shoulder	
Berrien County Road Commission	Jericho Road	Linco Road-Johnson Road	1.57	Paved shoulder	
Berrien County Road Commission	St. Joseph Avenue	Stevensville Village limits-Red Arrow Hwy	0.52	Paved shoulder	
Berrien County Road Commission	John Beers Road	Demorrow Road-Tilly Road	3.57	Paved shoulder	
Berrien County Road Commission	Cleveland Avenue	John Beers Road-Glenlord Road	2.01	Sidewalk	
Berrien County Road Commission	Glenlord Road	Cleveland Avenue-Washington Avenue	0.51	Sidewalk	
Berrien County Road Commission	Glenlord Road	Red Arrow Highway-M-63	3.83	Paved shoulder	
Berrien County Road Commission	Cleveland Avenue	Hilltop Road-Glenlord Road	2.57	Paved shoulder	
Berrien County Road	Washington Avenue	Hilltop Road-Glenlord Road	2.54	Paved shoulder	

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Commission					
Berrien County Road Commission	Lincoln Avenue	M63-Maiden Lane	1.46	Paved shoulder	
Berrien County Road Commission	Hollywood Road	M63-Glenlord Road	0.92	Paved shoulder	
Berrien County Road Commission	Colfax Avenue	Benton Harbor City limits-Nickerson Avenue	1.00	Paved shoulder	
Berrien County Road Commission	Nickerson Avenue	Colfax Avenue-Pipestone Road	2.22	Paved shoulder	
Berrien County Road Commission	Pipestone Road	Nickerson Avenue-Sodus Parkway	1.45	Paved shoulder	
Berrien County Road Commission	Yore Avenue	Sodus Parkway-Napier	2.02	Paved shoulder	
Berrien County Road Commission	Sodus Parkway	Yore Avenue-Pipestone Creek	0.20	Paved shoulder	
Berrien County Road Commission	Crystal Avenue	Napier Avenue-Territorial Road	2.19	Paved shoulder	
Berrien County Road Commission	Territorial Road	Benton Harbor City limits-Euclid Avenue	1.55	Paved shoulder	
Berrien County Road Commission	Pine Road	BL-94-Territorial Road	0.18	Paved shoulder	
Berrien County Road Commission	Paw Paw Avenue	Collins Avenue-Zoschke Road	1.84	Paved shoulder	
St. Joseph Charter Township	Trail Name?	Vineland Road North-to M-63	1.0	Trailway	
	Lincoln Ave and Eaton Park entrance	E into Eaton Park and connect to Palladium Avenue Trail	0.35		

Table 4.1 Planned Non-Motorized Facility Information					
Federal aid eligible routes					
Municipality	Road Name	Limits	Mileage	Type of facility (i.e. sidewalk, paved shoulder)	Total
Lincoln Charter Township	Roosevelt Road Norht to John Beers Road		0.50	10 foot non-motorized path	
City of Benton Harbor	BL-94	Riverview to Fair Avenue	1.56	Sidewalk, bike lane	
City of Benton Harbor	Broadway	Jefferson to Empire	0.76	Bike lane	
City of Benton Harbor	Empire Avenue	Pipestone to Riverview Drive	1.27	Bike lane	
City of Benton Harbor	Highland Avenue	Pipestone to Fair	0.47	Bike lane	
City of Benton Harbor	Britain Avenue	Riverview Drive to Fair	1.44	Bike lane	1
City of Benton Harbor	Jefferson Street	Pipestone to Highland	0.26	Bike lane	
St. Joseph Charter Township	Hilltop Road	BL-94-East Washington Avenue	.75	Trailway	
St. Joseph Charter Township	Lu-Al Drive	Lu-Al Driev North-Jack Way Avenue	0.15		
St. Joseph Charter Township	Corner of Jak Way Avenue and Lu-Al Drive	Jak Way Avenue East-Napier Avenue	1.50		
St. Joseph Charter Township	Corner of Jak Way Ave and Fairplain Ave	Corner of Jak Way Avenue and Fairplain N-Napier Avenue	0.50		
St. Joseph Charter Township	Corner of Colfax Avenue and Napier	Corner West-Moccasin Trail	.60		
St. Joseph Charter Township	Corner of Colfax and Miami Road	Corner West-Napier Avenue	0.75		
St. Joseph Charter Township	Corner of Maiden Ln and Lakeshore Dr(BL 94)	North on Lakeshore Drive-Hawthorne Avenue	1.20		

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St. Joseph Charter Township	Corner of Hickory Creek and Maiden Lane	Maiden Lane East-Lakeshore Drive	0.30		
St. Joseph Charter Township	Corner of Maiden Lane and Hickory Creek	North on Hickory Creek-Washington Avenue	1.06		
St. Joseph Charter Township	Corner of Lincoln Avenue and Maiden Lane	East on Maiden Lane-Hollywood Road	0.75		
St. Joseph Charter Township	Corner of Hollywood Road and Maiden Lane	North on Hollywood Road-Palladium Avenue	0.25		
St. Joseph Charter Township	Corner of Hollywood Road and Palladium Avenue	West on Palladium Avenue	0.30		
St. Joseph Charter Township	Washington Avenue and Lincoln Avenue	Washington Avenue East-Lincoln Avenue	0.30		
St. Joseph Charter Township	Washington Avenue and Lincoln Avenue	Lincoln Avenue South West-Maiden Lane	0.15		
St. Joseph Charter Township	Washington Avenue and Lincoln Avenue	Maiden Lane North West-Washington Avenue	0.20		
St. Joseph Charter Township	Carronde Park	Follow Carrande park Norht-Lu-Al Drive	0.30		
St. Joseph Charter Township	Riverview Park	M-63 North East-Follow around and loop around Park	2.0		
St. Joseph Charter Township					

Aviation

The SWMRA is the only public airport in the study area. It is also the largest airport in Berrien County, and the only all-weather airport in Berrien, Cass, and Van-Buren Counties. Additionally, it is one of only twenty Michigan airports to have a full Instrument Landing System (ILS). Founded in 1934, the airport was overseen by an airport board until the Southwest Michigan Regional Airport Authority formed in 1997. The Authority is responsible for the overall operations of the airport, and its board of directors is composed of representatives from the cities of Benton Harbor and Saint Joseph, and Benton Charter, Lincoln Charter, Royalton, and Saint Joseph Townships.

Airport safety plans and activities

The airport is located in Northeast Benton Harbor at an elevation of 643 feet above sea level. There are 66 aircraft based on-site and more than 400 US and Canadian companies use the facility annually. Total aircraft operations for 2007 were 36,372. There are three runways. The first is 2,498 feet by 100 feet; the second is 3,661 feet by 100 feet; and the third is 5,107 feet by 100 feet. A runway of at least 4,500 feet in length qualifies an airport to be a transport facility, which means jet aircraft can be handled. Scheduled airline service is not currently available. The Authority is currently involved in land acquisition for Runway Safety Area (RSA) improvements to lengthen the main runway, and provide 1,000 feet safety areas at each end with an overall length of 6,000 feet.

The SWMRA has on-site parking available for airport users in a completely fenced-in area. Avis and Enterprise offer car rental services at the airport with advance notice. Other operations: Coast Guard activity; Just-In-Time (JIT) delivery; air courier delivery (UPS); and executive travel by local and visiting companies. In 2007, approximately 510,000 gallons of jet, and aviation fuel were sold at the airfield. Additionally, the airport is used as a logistical base for medical emergencies and search and rescue operations.

The majority of airport revenue is derived from fuel sales, hangar leases (both T-hangar and corporate hangars), and millages from participating jurisdictions. The success of the SWMRA provides primary and secondary economic benefits to the community at large. The economic impact (according to the Bureau of Transportation Planning,

Intermodal Section of MDOT) of the SWMRA to the community is estimated at slightly below \$10 million as of January 2004. Additionally, the airport is directly linked to 101 full and part-time jobs.

Table 4.3 represents Southwest Michigan Regional Airport 2009-2013 five year plans.

SWMRA SEVEN YEAR DEVELOPMENT PLAN

YEAR	DEVELOPMENT ITEMS	FEDERAL	STATE	LOCAL	TOTAL	Proposed Federal Funding Source
2008	Fruit Market Appraisal and Phase I ESA	\$72,200	\$1,900	\$1,900	\$76,000	3507 Grant
	Acquire 10 parcels-consultant costs	\$122,550	\$3,225	\$3,225	\$129,000	
	Acquire 10 parcels Rwy 27 Approach	\$166,250	\$4,375	\$4,375	\$175,000	
	Update Exhibit "A" for Areas 1-3	\$14,250	\$375	\$375	\$15,000	
	*Aviation Easements - Area 4 CAI consultant fees	\$1,520,000	\$40,000	\$40,000	\$1,600,000	
	*Aviation Easements - Area 4 Mead & Hunt - Exhibit "X" drawings	\$166,250	\$4,375	\$4,375	\$175,000	
	*Aviation Easements - Area 4 Abonmarche - property survey & objects elevations	\$166,250	\$4,375	\$4,375	\$175,000	
Year Total	\$2,227,750	\$58,625	\$58,625	\$2,345,000		
2009	Land Acquisition - Fruit Market	\$1,900,000	\$50,000	\$50,000	\$2,000,000	2009 NPE & Discretionary funds
	*Aviation Easements - Area 4 acquisition of easements	\$1,235,000	\$32,500	\$32,500	\$1,300,000	
	Shift & Extend Rwy 9/27 & Twy- Phase I including tree clearing/fencing in Areas 1,2 & 3	\$5,652,500	\$148,750	\$148,750	\$5,950,000	
	*Tree Removal & Pruning Area 4	\$855,000	\$22,500	\$22,500	\$900,000	
	Rehabilitate airport beacon & tower	\$19,000	\$500	\$500	\$20,000	
Year Total	\$9,661,500	\$254,250	\$254,250	\$10,170,000		
2010	Shift & Extend Rwy 9/27 & Twy - Phase 2	\$4,227,500	\$111,250	\$111,250	\$4,450,000	Discretionary

	Year Total	\$4,227,500	\$111,250	\$111,250	\$4,450,000	
2011	Shift & Extend Rwy 9/27 & Twy - Phase 3 including ALP update	\$2,688,500	\$70,750	\$70,750	\$2,830,000	Discretionary
	Install Fencing for Animal Control on north side of airport	\$237,500	\$6,250	\$6,250	\$250,000	
	Year Total	\$2,926,000	\$299,500	\$299,500	\$11,980,000	
2012*	Site Preparation for Hangar Development	\$475,000	\$12,500	\$12,500	\$500,000	
	Infield Drainage Rehabilitation	\$95,000	\$2,500	\$2,500	\$100,000	
	**SRE - Snow Blower	\$475,000	\$12,500	\$12,500	\$500,000	
	Install New Airport Entrance Sign	\$19,000	\$500	\$500	\$20,000	
	Land Acquisition for Rwy 32 RPZ-Phase 1	\$93,000	\$2,447	\$2,447	\$97,895	
	PE for Shift Rwy 14/32 for RSA Compliance	\$57,000	\$1,500	\$1,500	\$60,000	
	Convert Runway 18/36 to Taxiway	\$266,000	\$7,000	\$7,000	\$280,000	
	Year Total	\$1,480,000	\$38,947	\$38,947	\$1,557,895	
2013	Shift RWY 13/31 for RSA Compliance (370' South) & Rehab existing surface	\$1,662,500	\$43,750	\$43,750	\$1,750,000	
	Land Acquisition & AE Area 6 - Rwy 31 RPZ	\$427,500	\$11,250	\$11,250	\$450,000	
	Land Acquisition for Rwy 14/32 approach-Phase II	\$93,000	\$2,447	\$2,447	\$97,895	
	Design Shift Rwy 14/32 for RSA compliance	\$57,000	\$1,500	\$1,500	\$60,000	
	Tree Clearing/Pruning Rwy 14/32	TBD	TBD	TBD	TBD	
	Expand Terminal Ramp	\$380,000	\$10,000	\$10,000	\$400,000	

	Year Total	\$2,620,000	\$68,947	\$68,947	\$2,757,895
2014	Shift Rwy 14/32 for RSA compliance (370' south) and Rehabilitate existing runway surface and lighting	\$205,000	\$42,750	\$42,750	\$1,710,000
	Year Total	\$205,000	\$42,750	\$42,750	\$1,710,000
	GRAND TOTAL (SEVEN YEARS)	\$19,120,250	\$763,019	\$763,019	\$30,520,790

Source: SWMRA five year development plan was prepared by Mead & Hunt.

Marine

The St. Joseph River Harbor serves as a focal point for both recreational and commercial uses, both of which have grown over the past five years. Recreational boating has risen in popularity as the amount of tourism for the area has steadily increased. Marinas can generate revenue to an area through boat and slip rentals, sales of related recreational supplies and services, and other expenditures. There are approximately seven public and private marinas that provide service in the TwinCATS area illustrated in **Table 4.4**.

Table 4.4 Active Marinas in the TwinCATS Area

Brian’s Marina Service	Private
Eagle Point	Private
Harbor Isle Marina	Private
New Harbor Condominiums	Private
Pier 33 Marina	Private
Pier 1000 Marina	Private
West Basin Municipal Marina	Public

The Twin Cities area, specifically the City of Benton Harbor, has determined the importance of the waterfront area to economic recovery primarily through a study completed in 1999. This study highlighted the importance of recreational uses in future waterfront development plans.¹¹

Commercial shipping has existed in the TwinCATS area for almost as long as the area has been settled. In 1974, the Cities of Benton Harbor and St. Joseph combined with St. Joseph Charter Township and Benton Charter Township, as well as Berrien County, to form the St. Joseph River Harbor Authority that is still currently the governing body for the harbor. The Authority also has commercial and recreational representation.

Several issues have confronted the harbor area in the past few years. An application was made in 1988 to the State of Michigan for port authority status; this application was denied. There have also been problems with where to dispose of dredge disposal materials, which require an approved Department of Natural Resources site. The Corps of Engineers recently completed a study that investigated whether or not there was sufficient commercial and federal interest to deepen the Paw Paw River from where it

¹¹ Paw Paw River, Benton Harbor and St. Joseph Michigan Reconnaissance Study, Army Corp of Engineers

joins the St. Joseph River northeast to the CSX railroad bridge to permit barge access. Although the study concluded there was little interest in this project for barge traffic, it did conclude there was possible interest to pursue the work for other commercial vessels.

Although the amount of commercial users has decreased from five primary users (in addition to commercial fishing) in 1970 to three users presently, the total tonnage of commodities has increased. Commercial fishing was discontinued in 1975. City Service Oil (later Enterprise Oil Company) went out of business in 1975 and Horan Redi-Mix, Inc. also ended operations in 1984. This has left three businesses—McCoy Concrete, Inc., Consumer Asphalt Co., and the LaFarge Corporation as the remaining commercial users of the harbor. In 1970, a total of 532,806 tons of commodity was imported into the St. Joseph Harbor. As of 1998, that number had risen to 759,431 tons. The commodities currently consist of salt, cement, limestone, sand, gravel, stone, and other aggregate. Salt currently comprises 24,684 tons or 3.25 percent of the total. Cement comprises 263,677 tons or 34.72 percent. Limestone, sand, gravel, stone, and other aggregate make up 471,070 tons or 62.03 percent. Current efforts to further develop the waterfront including the Edgewater Development Project will increase the value of the recreational and commercial assets of the harbor.

Rail

Rail use in southwest Michigan is an important link in the transportation network. As the cost of energy increases, alternatives to over-the-road freight and passenger options are more carefully considered. Over-the-road freight volume has increased considerably since the last TwinCATS LRTP was approved. The increased volume drives an increased interest in rail alternatives.

The southwest Michigan region is impacted by its proximity to Chicago. Chicago is the largest rail hub in the country. According to the Federal Railroad Administration (FRA) More than 1,200 trains pass through the City daily while carrying 75 percent of entire nation's freight. The FRA projects a 79 percent increase in the total number of rail freight cars passing through the City each day <http://www.fra.dot.gov/us/content/1486>. CSX operates a rail line that runs across Michigan from Detroit, to Lansing, Grand Rapids, and south through Benton Harbor.

Ultimately the line exits Michigan south of Grand Beach and runs northern Indiana to Chicago.

Over the last thirty years, as the national Gross Domestic Product (GDP) and employment grows, rail freight tends to parallel that growth. The volume of rail freight in the upper Midwest is even more closely tied to manufacturing and agriculture (grain production) than the GDP. As Michigan's manufacturing sector falters, it stands to reason that rail volume will decrease. However, given the potential shift from less fuel efficient means of transporting freight as fuel costs increase, the comparative efficiency of rail freight may counteract the projected downward trend.

Passenger Service

The National Railroad Passenger Corporation (otherwise known as Amtrak) is a government-owned corporation that was organized on May 1, 1971 to provide intercity passenger rail services in the United States. Amtrak connects 500 destinations in 46 states on 21,000 miles of track that are primarily owned by freight railroad companies. Amtrak's fiscal year 2008 statement shows that there was an 11.1% total increase in ridership and 14.2% total increase in ticket revenues. There are many potential reasons for this increase among them is gasoline cost, highway congestion, airline delays and environmental concerns.

Michigan's three Amtrak lines are the Wolverine, Blue Water, and Pere Marquette. Together they recorded record breaking ridership totaling nearly 800,000 in 2007, a 6% increase from the previous year. Ticket revenues increased more than 10% in 2007. It is understood that figures would have been higher if Amtrak had more cars to add to the lines. Amtrak's request for funding new cars and to repair sidelined cars has not been fully funded in the past. There is no U.S. assembly line from which to order conventional rail passenger cars; therefore it would take at least two years to produce passenger cars once funding became available.

The 97 mile segment between Porter, Indiana and Kalamazoo, Michigan, is the longest segment of track owned by Amtrak outside of the Northeast Corridor. The Federal Railroad Administration (FRA) has designated the Detroit to Chicago corridor as a high speed corridor. The ultimate goal of the high-speed initiative is to reduce the total Detroit-Chicago travel time from the current 5½ hours to 3½ hours. In January of 2002,

Amtrak began speed increases with the ultimate goal of reaching 110 mph. Currently Amtrak is reaching speeds of 95 mph between Porter, IN and Kalamazoo, MI. Speeds are expected to reach 110 mph in early 2009. Amtrak has partnered with the FRA and the State of Michigan to develop a radio-based train communication system, called the Incremental Train Control System (ITCS), which is designed to allow trains to operate safely at higher speeds. The ITCS is currently in place for high-speed revenue service on Amtrak-owned track in Michigan and works to prevent train-to-train collisions, train over speed conditions, and protect on-track roadway workers.

Amtrak has two corridor passenger services in Michigan’s NATS region including the Wolverine, and the Blue Water. The Wolverine passenger service is a 304 mile line that offers three daily round trips from Chicago to Pontiac Michigan, with a stop in Niles, Michigan. The Wolverine operates over tracks owned by Norfolk Southern Railway, Amtrak, Conrail, and Canadian National Railway. The Blue Water is another service that makes a daily stop in Niles, Michigan from Chicago to Port Huron, Michigan. A new station is expected to be opened in New Buffalo with stops on both the Blue Water and Wolverine services. The Blue Water operates on a 319 mile line that Norfolk Southern Railway, Amtrak, and Grand Trunk Western Railroad own. The 97 mile segment between Porter, Indiana and Kalamazoo, Michigan, is the longest segment of track owned by Amtrak outside of the Northeast Corridor.

Amtrak Fiscal Year 2008 (Oct. 1, 2007 through Sept. 30, 2008)						
Corridors	Ridership			Ticket Revenue		
	FY08	FY07	% change	FY08	FY07	% change
Wolverine Service	472,393	449,107	+5.2	\$16,243,510	\$14,934,656	+8.8
Blue Water	136,538	127,642	+7.0	\$4,158,742	\$3,557,216	+16.9

The Niles train station, formerly the Michigan Central Railroad station, is located on Dey Street. The station services the Wolverine and the Blue Water lines connecting Illinois, Indiana, and Michigan. The structure was built in 1892 and is listed in the National Register of Historic Places.

Amtrak operates an engineering department branch that maintains the 97-mile track segment between Kalamazoo and Porter, Indiana. Through this branch, employees

maintain the track for high-speed service and are continuing work on increasing speeds along the Amtrak-owned segment.

Amtrak has one corridor passenger services operating daily in Michigan’s TwinCATS region, the Pere Marquette line. The Pere Marquette is a 176 mile line that connects Chicago to Grand Rapids, Michigan, making stops in St. Joseph and New Buffalo, Michigan. The Pere Marquette operates over Norfolk Southern Railway and CSX owned tracks and is funded in part by MDOT.

Amtrak Fiscal Year 2008 (Oct. 1, 2007 through Sept. 30, 2008)						
Corridor	Ridership			Ticket Revenue		
	FY08	FY07	% change	FY08	FY07	% change
Pere Marquette	111,716	104,819	+6.6	\$2,975,391	\$2,666,416	+11.6

The St. Joseph-Benton Harbor Amtrak station is located on Vine Street in the heart of downtown St. Joseph. Opened in 1913, the St. Joseph-Benton Harbor station features free parking and a restaurant. In FY 2008 there was a 6% increase in ridership from the previous year. (Rail Map in Appendix H)

The Future of High Speed Rail

The Michigan Association of Railroad Passengers, Inc. (MARP) was established in 1973 as a consumer advocacy group to passenger rail services, improved travel conditions for passengers, and the preservation of historic rail stations. MARP is working with the Midwest High Speed Rail Association to achieve high speed rail throughout the Midwest. They hope to achieve this by creating a national proposal and by campaigning to our legislature for help. MARP has three key focuses at this time:

1. To increase capacity on each train (additional passenger cars), and to mitigate sold-out conditions on many trains.
2. Increase the frequency of trains on each route to provide more consumer options. The first priority is to add a morning train from Chicago to Grand Rapids with return in the evening.
3. To expand the high speed corridor east and west. Amtrak has designated the high speed corridor as one of its top priority investments. Further

improvements will continue to reduce travel time on this popular line between Detroit and Chicago.

Momentum is growing across the Midwest and in Congress for greater investment in passenger rail service amid concerns over rising gas prices, climate change, and traffic congestion. On October 16, 2008, President Bush signed into law H.R. 2095, a combined rail safety and Amtrak reauthorization bill. The bill enabled \$12.9 billion in funding for the FY 2009-2013 period. This amount almost doubled the current annual spending for Amtrak, intercity passenger rail, and high speed rail programs. The authorization includes \$1.9 billion for state grant programs for capital investment in intercity passenger rail programs. (Note: Congress will have to appropriate the funds in the FY 2008/09 budget).

Governor Granholm convened the Transportation Funding Task Force (TF2) to review the adequacy of surface transportation, aeronautics service provision, and their finance in Michigan (see the website www.michigan.gov/tf2). The Intermodal Passenger Subcommittee of the TF2 Citizen Advisory Committee acknowledges several factors favoring expansion of urban transit and intercity passenger rail: gasoline prices, aging population, road congestion, air pollution, and the need to attract young college-educated professionals to our urban centers. Recommendations include: (1) expansion of intercity rail over a 10-year period, doubling both capacity and frequency for the Blue Water and the Pere Marquette routes and (2) new facilities serving intercity bus and rail as a stimulus to community redevelopment. This scenario would require an annual increase in funding of \$532 million over the current \$241 million. To achieve a "significantly enhanced regional (interstate) passenger rail service" would require a doubling of that amount.

Michigan participates as a member of the Midwest Regional Rail Initiative and the States for Passenger Rail Coalition to coordinate technical and policy issues. MDOT, the Governor's office, the legislature, and the public have representatives on this body (see www.miprc.org). An economic analysis completed in 2007 projects benefits to users and communities over the 40-year life of the expansion project of \$1.80 for every \$1.00 invested – benefits that translate directly into jobs and economic development (see Michigan brochure at http://miprc.org/Portals/0/pdfs/MWRRRI_Michigan_brochure_2007.pdf).

The Passenger Rail Work Group (PRWG) convened by Frank Busalacchi, Wisconsin DOT, released the report "Vision for the Future: U.S. Intercity Passenger Rail Network Through 2050," which specifically calls for upgrading the existing Chicago-Detroit route to 79-100 mph on a separate track (see www.dot.wisconsin.gov/projects/state/rail-vision-2050.htm). Recommendations of the PRWG were incorporated into the final report of the National Surface Transportation Policy and Revenue Study Commission. The Commission is a bipartisan organization formed in 2007 with 12 members appointed by the president and Congressional leaders to examine national surface transportation needs and mechanisms for funding these needs (see www.transportationfortomorrow.org).

Speaking to the annual meeting of the MARP in September 2008, Ross Capon, Executive Director on the National Association of Railroad Passengers, stated that development of rail corridors – such as the Chicago-Detroit corridor – is a national priority expressed in the Amtrak reauthorization bill. This bill was subsequently combined with a rail safety act, approved by large majorities in both houses, and signed into law by President Bush on October 16, 2008.¹²

Freight

The freight transportation system including trucking and rail benefit consumers and producers, while improving economic activity. The following sections include a description of each mode's issues, needs and the value of strategic transportation investments to facilitate freight movement.

CSX Corporation

The CSX Corporation is based in Jacksonville Florida and is one of the nation's largest rail transportation providers. There are operations and networks in 23 states, the District of Columbia, and the Canadian provinces of Ontario and Quebec. (Rail Map in Appendix H)

¹² Michigan Association of Rail Road Passengers, Rich Vavra-Musser
Amtrak Southwest Michigan, James Derrick

In Michigan the CSX line is a class one carrier that connects the east to the west making many stops including Detroit, Lansing, and Grand Rapids. The CSX line from Grand Rapids travels along the lakeshore through southwest Michigan and on to Chicago. There are seven to eight trains traveling along the tracks on a daily bases. There is a mix of both passenger and freight. Utilization of their track in southwest Michigan has gone down from past years. CSX transports a wide variety of products including coal, iron, steel, passenger vehicles, and auto parts. Western coal is the majority product shipped over the rail lines. Major companies that use CSX include TechniSand Inc. in Bridgman and Arlington Metals Corporation in Sawyer. Amtrak operates passenger train cars on CSX tracks on a regular basis.

According to CSX there are no major future projects for CSX at this time, but if gas prices continue to increase and the development of alternative fuels continues there would be an increased need to move raw products through CSX's transportation rail services. CSX has made a commitment to improve fuel efficiency of their rail transportation system to make it the most efficient way to move goods and passengers on land. Measures must be taken in conjunction with local jurisdictions, businesses and industries, and the rail carrier itself to ensure that this transportation linkage exists well into the future for the benefit of all involved.

Amtrak is a federal agency that is charged with the provision of rail passenger service throughout the nation and where necessary, the freight railroads (in this case CSX) are required to host Amtrak in exchange for reimbursement of costs.¹³

Trucking

The efficient movement of freight within and through the TwinCATS area is important to industry, retail, and agriculture for international and regional trade. Over the road trucking is a vital component of the freight movement process. It provides an important direct and indirect contribution to the local economy. Average annual daily freight traffic is shown in the following **table (4.5)**.

¹³ CSX corporation, Tom Drake

Table 4.5 TwinCATS Region Commercial Annual Average Daily Traffic						
Route	From	To	2000 CADT	2004 CADT	2007 CADT	% Change from 2000-07
I-94	E JCT I-94 BL ST JOE	JCT I-196 UAL ST JOSEPH	58670	60400	56570	-3.58
I-94	JCT I-196 UAL ST JOE	FRIDAY RD	35160	37850	35346	0.53
I-94	NAPIER AVE	E JCT I-94 BL ST. JOSEPH	56420	55800	50671	-10.19
I-94	PIPESTONE RD	NAPIER AVE	57900	56300	42838	-26.01
I-94	RED ARROW HWY SCL BRIDGMAN	GRANDMERE RD SCL STEVENSVILLE	40900	38200	37928	-7.27
I-94	SAWYER RD	RED ARROW HWY SCL BRIDGMAN	40020	38400	36746	-8.18
I-94	W JCT I-94 BL ST JOSEPH	JCT M-63	52470	51250	44289	-15.59
US 31	BUCHANAN RD.	US 31 BR (WALTON RD)	12890	14943	9922	-23.03
M-139	JCT I-94	NAPIER AVE.	13936	11902	14426	3.52
M-139	NAPIER AVE.	PIPESTONE AVE.	12300	9009	11638	-5.38
M-139	PIPESTONE AVE	BEGIN DIVIDED N OF EMPIRE ST	10509	11144	10503	-0.06
M-139 SB	SCL BENTON HARBOR	JCT I-94BL BENTON HARBOR	5740	4825	4650	-18.99
BR-94	CLEVELAND ST.	LAKE BLVD	8453	12856	10747	27.14
BR-94	ECL BENTON HARBOR	JCT M-139	6755	9059	6596	-2.35
BR-94	JCT M-139	BEGIN DIVIDED @ URBANDALE	6170	6150	5376	-12.87
BR-94	LAKE BLVD	S JCT M-63	12375	16341	11558	-6.6
BR-94 EB	N JCT M-63	WAYNE ST	6043	4685	4899	-18.93
BR-94 WB	N JCT M-63	WAYNE ST	5612	4373	3727	-33.59
BR-94	PAW PAW ST	ECL BENTON HARBOR	12587	11322	10621	-15.62
BR-94	PIPESTONE AVE.	PAW PAW ST	11279	10520	8317	-26.26
BR-94	SCL SHOREHAM	NCL SHOREHAM, SCL ST JOSEPH	14092	12505	10684	-24.18
BR-94	W JCT I-94 ST JOSEPH	SCL SHOREHAM	15782	12585	14734	-6.64

* Source: Michigan Department of Transportation Traffic Monitoring Information System (TMIS). The estimated mean daily traffic volume for commercial vehicles. Values are calculated using the same procedures as AADT.